# HP OpenView Performance Agent

For the Sun Solaris Operating System

Software Version: 4.61

## Installation and Configuration Guide

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# Contents

# 1 Installing or Upgrading OpenView Performance Agent

## Introducing OV Performance Agent

HP OpenView Performance Agent (OVPA) captures performance, resource, and transaction data from your Solaris system. Using minimal system resources, the software continuously collects, summarizes, time stamps, and detects alarm conditions in current and historical resource data across your system. You can analyze the data using spreadsheet programs, Hewlett-Packard analysis products such as OV Performance Manager (OVPM), or third-party analysis products. Also, OV Performance Agent provides data access to OV Performance Manager and sends alarm notifications to HP OpenView Network Node Manager (NNM) and OpenView Operations (OVO).

OV Performance Manager (OVPM) in this document refers only to versions 4.0 and later. The name OVPM 3.x is used throughout this document to refer to the product that was formerly known as PerfView.

OV Performance Agent uses data source integration (DSI) technology to receive, alarm on, and log data from external data sources such as applications, databases, networks, and other operating systems.

The comprehensive data logged and stored by OV Performance Agent allows you to:

- Characterize the workloads in the environment.
- Analyze resource usage and load balance.
- Perform trend analyses on historical data to isolate and identify bottlenecks.
- Respond to error conditions.
- Perform service-level management based on transaction response time.
- Perform capacity planning.

- Solve system management problems before they arise.

For a comprehensive description of OV Performance Agent, see the *HP OpenView Performance Agent for UNIX User's Manual*.

# Installation Requirements

Before installing OV Performance Agent, make sure that your system meets the requirements described in this section. Certain system and configuration prerequisites are necessary for OV Performance Agent to operate properly on your system.

## Hardware

OV Performance Agent runs on x86 hardware platform supporting the operating system.

## Software

This version of OV Performance Agent requires the Sun Solaris 10 on x86 operating environments or later.

## Communication Protocols

OVPA for Solaris 10 on x86 supports only the HTTPS data communication mechanism.

DCE and NCS data communication protocols are not supported for Solaris 10 on x86.

## Disk Space

OV Performance Agent installs in the `/opt/OV/ and /opt/perf/` directories and creates its log and status files in the `/var/opt/OV/ and /var/opt/perf/` directories.

- For first time installation of OV Performance Agent, 70 MB of disk space is required in the `/opt/OV/ and /opt/perf/` directories.
- For OVPA databases and status files, allow for 125 MB of disk space in the `/var/opt/OV/ and /var/opt/perf/` directories.

If you do *not* have enough space in your `/opt/perf` and/or `/var/opt/perf` directories, you must install OV Performance Agent on symbolic links. Refer to Installing OV Performance Agent on Symbolic Links on page 12.

For a description of how the `parm` file is used to limit and configure log file data storage, see the "parm File" section in Chapter 2 of your *HP OpenView Performance Agent for UNIX User's Manual*.

# Installation Procedures

OV Performance Agent comes on a CD installation media. The size of the product is approximately 70 MB, including the product documentation.

If you have previously installed version of OVPA or GlancePlus on the system, stop any performance tools or processes that may be running. For instructions, refer to the section, Stopping Active Performance Tools or Processes. For installation instructions, refer to the section, Installing OV Performance Agent.

## Stopping Active Performance Tools or Processes

1. Log in as user **`root`**.
2. Run `perfstat` to check for active performance tools by typing:

   **`/opt/perf/bin/perfstat`**

   If `perfstat` reports any active performance tools such as GlancePlus, stop them. (Make sure that users have exited these tools before doing so.)
3. If a previously-installed version of OV Performance Agent is running, you must stop it by typing:

   **`/opt/perf/bin/mwa stop`**

Customized configuration files such as the `parm` and `ttd.conf` as well as any customized log files will *not* be overwritten by the new installation. The new configuration files are installed in the `/opt/perf/newconfig` directory.

4. If you stop `ttd`, any ARM-instrumented applications that are running *must* also be stopped before you restart `ttd` and OV Performance Agent processes. Run `perfstat` again to ensure that no performance tools or processes are active. When all tools or processes have been stopped, proceed with the installation.

## Installing OV Performance Agent

While installing OV Performance Agent and upgrading OV Performance Agent to the current version, the data communication protocol to be used is set to HTTP. For a detailed description of `install.ovpa` options, see The install.ovpa Script on page 13.

If you have HP OpenView Operations (OVO) installed on your system, see Installing OV Performance Agent with OV Operations Agent Installed on Your System on page 13.

The daemons used for HTTP data communication are always installed and active on your system.

To install:

1. Make sure you are logged in as user **`root`**.
2. Insert your installation CD-ROM into the drive. The CD-ROM is automatically mounted on Sun Solaris systems.
3. Change to the CD-ROM directory by typing:

   **`cd /`**<*directory*>

   where <*directory*> is your CD-ROM directory.
4. Type **`ls`** to verify that you are in the correct directory. You will see the `install.ovpa` script, the `readme.ovpa` file, and the `paperdocs` and `rpmtools` directory listed on the screen.
5. Run the install script.

   To install using the HTTP communication protocol, type:

   **`./install.ovpa`**

The `install.ovpa` script automatically starts all OV Performance Agent processes in its configured communication mode. If you do *not* want OV Performance Agent to start automatically, run the install script with the option `-R`. See The The install.ovpa Script on page 13 for a detailed description of `install.ovpa` options. The OV Performance Agent processes are also started or stopped automatically if you reboot or shutdown. See Starting and Stopping OV Performance Agent on page 18.

6. Exit the CD-ROM directory by typing:

   **`cd /`**

7 You can unmount the CD-ROM by typing:

```
eject
```

OV Performance Agent installation is now complete. Go to Chapter 2, Starting and Running OV Performance Agent, for details on other tasks you need to perform to get OV Performance Agent up and running.

## Installing OV Performance Agent on Symbolic Links

If you do *not* have enough space in `/opt/OV/`, `/opt/perf`, `/var/opt/perf`, or `/var/opt/OV/` directories, select an alternative directory (or directories) and symbolically link `/opt/OV/`, `/opt/perf`, `/var/opt/perf`, or `/var/opt/OV/` to these directories.

For example:

**`ln -s /`*<dir>*`/var/opt/perf /var/opt/perf`**

and/or

**`ln -s /`*<dir>*`/opt/perf /opt/perf`**

where <*dir*> stands for directory of your choice. During the installation process, the `install.ovpa` script finds symbolic link(s) and will continue with the installation, showing on-screen message(s):

```
NOTE: Found symbolic link for /opt/perf -> /<dir>/opt/perf
Installation will continue on this symbolic link
```

and/or

```
NOTE: Found symbolic link for /var/opt/perf -> /<dir>/var/opt/
perf
Installation will continue on this symbolic link
```

For more information and late-breaking news about OV Performance Agent, see your Release Notes. You can find them in `/opt/perf/ReleaseNotes/OVPA`

If you are also running the Glance product on your system, be sure to update Glance to the same release version as OV Performance Agent. Both OV Performance Agent and Glance must always be the same version.

## Installing OV Performance Agent with OV Operations Agent Installed on Your System

While installing OV Performance Agent, the data communication protocol used is set to HTTP.

The presence of OV Operations 8.x agent on your system does not affect the default installation behavior of OV Performance Agent. During first time installation of OV Performance Agent on systems that have OV Operations 8.x agent installed, OV Performance Agent is started in the HTTP mode. If you are upgrading, OV Performance Agent is started in the HTTP mode. For more information on how OV Performance Agent is installed, see Installing OV Performance Agent on page 11.

## Deploying OV Performance Agent Using OV Operations

If you are using HP OpenView Operations for UNIX 7.x or 8.x, you can install OV Performance Agent from the management server to a Sun Solaris and HP-UX managed node.

For installation instructions from an HP OpenView Operations for UNIX 7.x management server, refer to the chapter “About OpenView Performance Agent for HP-UX and Sun Solaris” in the *HP OpenView VantagePoint Operations for UNIX Administrator's Reference, Volume II*.

For installation instructions from an HP OpenView Operations for UNIX 8.x management server, refer to the chapter “HP OpenView Performance Agent” in the *HP OpenView Operations for UNIX Administrator's Reference*.

## The install.ovpa Script

To install OV Performance Agent, you must run the `install.ovpa` script. This section describes the installation script command line options, which can be used for more advanced installations. The syntax of the command is as follows:

```
install.ovpa [-hnR] [-p http] [-a admin] [-d spool_dir]
```

The command line options have the following meaning:

| | |
|---|---|
| `-a admin` | Use `admin` file for the `pkgadd`. By default the script creates and uses its own `admin` file. See *admin(4)* for more details. |
| `-d spool` | Use `spool` directory for OV Performance Agent packages location. Default is `./rpmtools`. |
| `-h` | Display this message and exit. |
| `-n` | Do *not* install. Only display the installation parameters and exit. |
| `-R` | Do *not* start OV Performance Agent upon successful installation. By default, OV Performance Agent is automatically started. |
| `-p http` | The installation procedure uses HTTP data communication protocol. See Installing OV Performance Agent with OV Operations Agent Installed on Your System. |

All required product packages are installed by default.

# Removing OV Performance Agent

If you need to remove OV Performance Agent from a system, use the `ovpa.remove` script that is in the `/opt/perf/bin/` directory. However, before removing OV Performance Agent, make sure you archive any log files that were created. These files contain performance data for that system and can be used to extract or view data at a later time.

During the removal process, you will be asked if you want to remove the OV Performance Agent configuration and logfiles:

`"Do you want to remove OVPA configuration and logfiles in the /var/opt/perf/datafiles and /var/opt/perf directory?"`

Answer **`N`** (no) if you want to keep the configuration and log files at the original location.

Note that these files will *not* be overwritten by a new OV Performance Agent installation. The new configuration files are uploaded to the `/opt/perf/newconfig` directory.

The script supports the following command line options for a more flexible product removal. The syntax of the command is as follows:

**`ovpa.remove [-fhn] [-a admin]`**

| | |
|---|---|
| `-f` | Force removal. Do not prompt for confirmation before removing the product (non-interactive mode). |
| `-a admin` | Use `admin` file for the `pkgrm`. By default the script creates and uses its own `admin` file. See *admin(4)* for more details. |
| `-h` | Help: Displays this usage message. |
| `-n` | Do not remove. Only display the removal parameters and exit. |

It is possible that some product packages may remain installed on the system, if those packages are shared across other OpenView products and are required by other tools. They will be removed only when the last tool requiring them is also removed.

# 2 Starting and Running OV Performance Agent

## Introduction

This chapter describes the tasks involved in starting up and running OV Performance Agent after it has been installed on your Solaris system. The following topics are discussed:

- Starting and Stopping OV Performance Agent
- Communicating Across Firewall
- Configuring Secure Communication
- Configuring Data Sources
- Defining Alarms

If you are planning to log data from other sources using data source integration (DSI), and have *not* yet done so, read the *HP OpenView Performance Agent for UNIX Data Source Integration Guide*.

# Starting and Stopping OV Performance Agent

When installation is complete, OV Performance Agent can be started. If you ever need to stop, start, or restart OV Performance Agent, the ovpa and mwa scripts let you stop or restart currently running processes.

It is recommended that you use the `ovpa` script to start OVPA and enable OVPA to use the HTTP data communication protocol.

The following table lists the services that are started for the HTTP protocol.

**Table 1 OVPA services started for HTTP protocol**

| Services started for HTTP protocol |
|---|
| `scopeux` |
| `coda` |
| `perfalarm` |
| `midaemon` |
| `ttd` |
| `ovc` |
| `ovbbccb` |

Before you start OV Performance Agent, check to see if any processes are running by typing:

**`/opt/perf/bin/perfstat`**

## Using the ovpa or mwa script

To start OV Performance Agent and its processes using `ovpa` or `mwa`:

1. Log in as user **`root`**.
2. Type:

   **`/opt/perf/bin/ovpa start`** for `ovpa`

   **`/opt/perf/bin/mwa start`** for `mwa`

The `ovpa start` or `mwa start` script starts OV Performance Agent and all its processes, including the `scopeux` (data collector), `midaemon` (measurement interface daemon), `ttd` (transaction tracking daemon), `coda`, `ovc`, `ovbbccb` and the alarm generator. As the script executes, the status of the processes that are started is displayed on the screen.

You can stop OV Performance Agent processes while they are running and restart them using the `ovpa` script or `mwa` script and appropriate options.

- `ovpa stop` or `mwa stop` stops all OV Performance Agent processes except `ttd` (the transaction tracking daemon), `ovc` and `ovbbccb`. These processes must always be left running. If OpenView Operations agent is running on the system, `ovpa stop` does not stop the `coda` daemon.

If you must stop `ttd`, any ARM-instrumented applications that are running must also be stopped before you restart `ttd` and OV Performance Agent processes.

Individual components can be reinitialized as well with the `ovpa restart` or `mwa restart` option. Changes to configuration files will *not* take effect on your system unless the corresponding process is restarted.

- `ovpa restart server` or `mwa restart server` causes `coda` to stop and then start, temporarily disabling alarming and access for clients such as OV Performance Manager, and rereads the `datasources` file. It also stops and then restarts the `perfalarm` process and rereads the `alarmdef` file.
- `ovpa restart` or `mwa restart` causes `scopeux` and the server processes to temporarily stop and then start. It reads the `parm` file as well as forces the transaction daemon `ttd` to reread its configuration file `ttd.conf`.
- `ovpa restart alarm` or `mwa restart alarm` causes the `perfalarm` process to temporarily stop and then start and reread the `alarmdef` file, so that if you have made changes to the file, the new alarm definitions will take effect without restarting all OVPA processes. This action does *not* disrupt any other processes.

## Starting and Stopping Automatically

The process of starting OV Performance Agent automatically whenever the system reboots and to stop when the system shuts down is controlled by the file `/etc/init.d/ovpa`.

To disable OV Performance Agent to start or stop automatically, edit the file `/etc/default/ovpa` and change the line `MWA_START=1` to `MWA_START=0`. For more information about the `/etc/default/ovpa` file, see The /etc/default/ovpa File on page 20.

The files `/etc/init.d/ovpa` as well as `/etc/default/ovpa` are removed when OV Performance Agent is removed from a system and are *not* overwritten when OV Performance Agent is patched or updated.

## The /etc/default/ovpa File

The `/etc/default/ovpa` file is available with OV Performance Agent. The file contains various environment variables that control the behavior of OV Performance Agent when starting it. The file is a source file for the following scripts:

- `/opt/perf/bin/ovpa` OV Performance Agent control script
- `/etc/init.d/ovpa` OV Performance Agent auto-start script

The file is removed only when OV Performance Agent is removed from a system and is *not* overwritten when OV Performance Agent is updated. When OV Performance Agent is updated, a copy of the default `/etc/default/ovpa` file is left in the `/opt/perf/newconfig` directory under the name `ovpa.default` so that your customized copy does *not* get affected.

The environment and shell variables that can be modified to change the default behavior of OV Performance Agent are listed below.

- `MWA_START` controls the auto-start of OV Performance Agent whenever your system reboots. The variable can have one of the following values:

0 do *not* start OV Performance Agent at the system boot

1 start OV Performance Agent at the system boot

- `MWA_PROTOCOL` determines whether OV Performance Agent servers register their interfaces in HTTP.

`http` run OV Performance Agent as an HTTP service

- `The MWA_START_COMMAND` contains a variable that is used to start OV Performance Agent whenever your system reboots. Normally, the variable is set to `/opt/perf/bin/mwa start`.

## Status Checking

Several status files are created in the `/var/opt/perf/` and `/var/opt/OV/` directories when OV Performance Agent is started. You can check the status of all or some OV Performance Agent processes using the `perfstat` command.

The following status files contain diagnostic information you can use to troubleshoot problems that may arise with the OV Performance Agent processes.

```
/var/opt/perf/status.scope
/var/opt/perf/status.perfalarm
/var/opt/perf/status.ttd
/var/opt/perf/status.mi
/var/opt/OV/log/coda.txt
```

Every time an OV Performance Agent process writes a message to its status file, it checks to see if the file is larger than one MB. If it is, the file is renamed to `status.filename.old` and a new status file is created.

## Examples Directory

The `/opt/perf/examples` directory contains examples of configuration files, syntax files, and sample program files that can be used to customize your HP Performance Tools. For example, the `/opt/perf/example/ovpaconfig/` subdirectory contains sample alarm definitions and examples of `parm` file application-specific parameters. For more information, see the `/opt/perf/examples/README` file.

# Communicating Across Firewall

A firewall can be defined as a method for filtering the flow of data between one network and another. OV Performance Agent (OVPA) supports HTTP 1.1 based communications interface for data access between clients such as OV Performance Manager and OV Reporter and server applications.

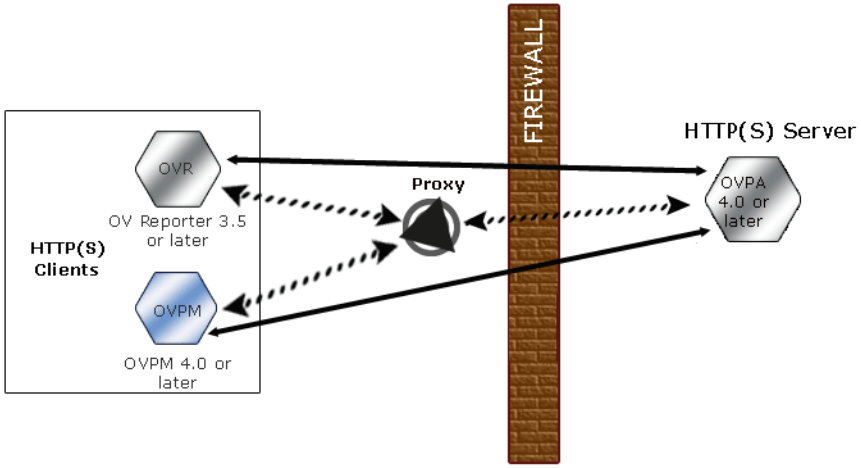
OV Performance Agent supports certificate-based secure (HTTPS) data communication only in the HP OpenView Operations 8.x environment. For more information, see Using Certificates on page 29.

The HTTP based interface is flexible, because it can use proxies, requires fewer ports and is firewall friendly.

The following section explain how to configure HTTP communication across a firewall:

- Communicating in the HTTP Environment

**Figure 1 Communicating with OVPA in a Firewall Environment**




The name OV Performance Manager 3.x is used throughout this document to refer to the product that was formerly known as PerfView.

## Communicating in the HTTP Environment

For firewall configuration it is important to know which system initiates the communication (client) and which receives communication requests (server), so that the firewall rules can be set up accordingly. In a typical remote communication, a client, using the source port, connects to a server that is listening on the destination port on a remote system. Understand your firewall environment including the client and server data flow. To configure communications with OVPA in a firewall environment, perform the following tasks:

1 Configure OVPA Ports.

2 Configure HTTP Clients in a Firewall Environment.

3 Verify Firewall Configuration.

Figure 1 on page 23 shows how OVPA communicates with Reporter (version 3.5 or later) and OV Performance Manager (OVPM version 4.0 or later) through a firewall. OVPA is an HTTP or HTTPS server. Reporter and OVPM 4.x are HTTP clients. OVPM 5.0 can be an HTTP or HTTPS client. If an HTTP proxy is used, Reporter and OVPM communicate with OVPA through the proxy.

## Configure OVPA Ports

You can configure OVPA ports in a firewall environment in one of the two ways:

- Configure Two-Port Communication
- Configure Single-Port Communication
- Verify Port Settings

On an OVPA system using BBC5, by default, the BBC communication broker uses port 383 and `coda` uses a dynamically allocated port.

### Configure Port Settings for the BBC Communication Broker

You can configure the port settings of the default port used by the BBC communication broker. Use the `ovconfchg` command to change the port settings on the OV Performance Agent system. You can use one of the following options:

— **`ovconfchg -ns bbc.cb.ports -set PORTS <`***host***`>:<`***port***`>`**

(Or)

— **`ovconfchg -ns bbc.cb.ports -set PORTS <`***domain***`>:<`***port***`>`**

Example: **`ovconfchg -ns bbc.cb.ports -set PORTS xyz.abc.com:50383`**

Restart ovpa using the following command:

```
ovpa restart server
```

### Configure Two-Port Communication

By default, `coda` daemon uses a dynamically chosen second port, in addition to port 383 used by the BBC communication broker. You can configure the port settings of `coda` to listen at a well known port of your choice using the `ovconfchg` command. Type the following commands:

**ovconfchg -ns coda.comm -set SERVER_PORT <*portnumber*>**

**ovpa restart server**

Using a dynamic port when connecting to OVPA remotely through a firewall can be difficult, because you may not know the firewall ports to open.

### Configure Single-Port Communication

On the OV Performance Agent system, the BBC communication broker uses port 383 and `coda` uses a port that is dynamically allocated. You can configure the port settings for `coda` to share the same port used by the communication broker using the `ovconfchg` command. Type the following commands:

**ovconfchg -ns coda.comm -set SERVER_BIND_ADDR localhost**

**ovpa restart server**

### Verify Port Settings

To verify the port settings, type the following command:

**perfstat -d**

The output displays the following information:

- port number of the port used by `Coda`
- port number of the port used by `BBC communication broker`
- the port settings configured
- indicates if secure communication is enabled
- indicated if `coda` metric collection is enabled

For example:

```
Datacomm configuration:
------------------------
 Coda Port                          49552 (Dynamic)
                                    Two port Communication
 BBC communication broker port           383
 SSL security                            NONE
 Coda Metric Collection(Prospector)      Disabled
```

## Configure HTTP Clients in a Firewall Environment

There are two ways to configure HTTP clients in a firewall environment:

- Configuring HTTP Clients (Reporter/OVPM) with HTTP Proxy
- Configuring HTTP Clients (Reporter/OVPM) without HTTP Proxy

In both cases, to access data from OVPA nodes, only one port needs to be opened on the HTTP server (OVPA) side.

### Configuring HTTP Clients (Reporter/OVPM) with HTTP Proxy

It is recommended that you use HTTP proxies when communicating through a firewall. This simplifies the configuration by using proxies that are often already in use in your environment. The firewall must be open for exactly one port if proxies are to be used in both directions. To access data collected by OVPA, ports for the HTTP server (OVPA) and the HTTP client (Reporter and OVPM) must be opened.

It is recommended that you do not change the default 383 port.

When an HTTP proxy is used, Reporter and/or OVPM for Windows and UNIX need to be configured to specify the proxy to be used to contact OVPA.

To configure OVPM versions 5.0 and later, and Reporter 3.7:

Type the following command,

```
ovconfchg -ns bbc.http -set PROXY proxy:port+(a)-(b)
```

The variables *a* and *b* are comma separated lists of hostnames, networks, and IP addresses that apply to the proxy. Multiple proxies may be defined for one PROXY key using the "*;*" or "*,*" delimiter. "–" before the list indicates that those entities do not use this proxy, "+" before the list indicates that those entities do use this proxy. The first matching proxy is used.

To configure Reporter versions 3.6 and earlier, and OVPM 4.x:

Edit the `/var/opt/OV/conf/BBC/default.txt` configuration file.

In the `[DEFAULT]` section of the `default.txt` file, locate the lines that relate to the `PROXY` and set the `PROXY` parameter as follows.

```
PROXY web-proxy.hp.com:8088-(localhost, *.hp.com) + (*)
```

In this example, the proxy `web-proxy` will be used with port 8088 for every server (*) except requests for the local machine (localhost) and requests internal to HP (matching *.hp.com, for example **www.hp.com**.

### Configuring HTTP Clients (Reporter/OVPM) without HTTP Proxy

If HTTP proxies are not available, additional configuration settings are required on the HTTP clients (Reporter and OVPM system).

If Reporter and OVPM for Windows are installed on the same system and both access OVPA in parallel, you can specify a port range as described in this section. If they are running on different systems, you can specify a single port for each. Depending on the versions of OVPM and Reporter you are using select from the following options:

Configure OVPM 5.0 and later, and Reporter 3.7 as follows:

Type the following command,

**`ovconfchg -ns bbc.http -set CLIENT_PORT`** *<port range>*

Where *<port range>* is the range of ports you want to use.

For example:

**`ovconfchg -ns bbc.http -set CLIENT_PORT 14000-14003`**

Configure Reporter versions 3.6 and earlier, and OVPM 4.x as follows:

Edit the `/var/opt/OV/conf/BBC/default.txt` file as follows.

1. Locate the lines that apply to `CLIENT_PORT` and uncomment the line `;CLIENT_PORT =`.
2. Specify the port range for the `CLIENT_PORT` parameter. For example:

   `CLIENT_PORT =` *<port range>*

   Where *<port range>* is the range of ports you want to use. For example:

   `CLIENT_PORT = 14000-14003`

### Verify Firewall Configuration

To verify your configuration, use the command:

**ovcodautil -ping -n <*system name*>**

This output of this command indicate the status of your communication settings.

## Configuring Systems with Multiple IP Addresses

If your environment includes systems with multiple network interfaces and IP addresses and you want to use a dedicated interface for the HTTP-based communication, then you can use the parameters `CLIENT_BIND_ADDR` and `SERVER_BIND_ADDR` to specify the IP address that should be used.

- If you have multiple network interfaces and IP addresses on the OVPA (Server) system, specify the `SERVER_BIND_ADDR` parameter as follows:

  **ovconfchg -ns bbc.http -set SERVER_BIND_ADDR <IP Address>**

- If you have multiple network interfaces and IP addresses on the OVPM 5.0 (client) system, specify the `CLIENT_BIND_ADDR` parameter as follows:

  **ovconfchg -ns bbc.http -set CLIENT_BIND_ADDR <IP Address>**

- If you have multiple network interfaces and IP addresses on the Reporter/ OVPM 4.x system, specify the `CLIENT_BIND_ADDR` parameter.

  Edit the `/var/opt/OV/conf/BBC/default.txt` file as follows:

  a. Locate the lines that apply to `CLIENT_BIND_ADDR` and uncomment the line

     ```
     ;CLIENT_BIND_ADDR =
     ```

  b. Specify the IP address for the `CLIENT_BIND_ADDR` parameter.

# Configuring Secure Communication

OV Performance Agent supports certificate-based secure communication and client authentication based communication.

## Using Certificates

OV Performance Agent supports certificate-based secure data communication only in the HP OpenView Operations 8.x environment.

To configure secure communication on your OVO setup, refer to the *HP OpenView Operations for UNIX Firewall Concepts and Configuration Guide*. For more information on OVO 8.x HTTPS agent, refer to the *HP OpenView Operations HTTPS Agent Concepts and Configuration Guide*.

If you have already configured HTTPS communication in the OVO 8.x environment, make the following changes to configure secure communication between OV Performance Agent and OVPM 5.0.

OV Reporter 3.7 or higher and OVPM 5.0 or higher supports only the https data communication mechanism.

On the OV Performance Agent system, set `SSL_SECURITY` to `REMOTE` for `coda`. Type the following commands:

```
ovconfchg -ns coda -set SSL_SECURITY REMOTE

ovcodautil -config
```

## Using Client Authentication

OV Performance Agent enables optional authentication of client connections from products such as, OV Performance Manager or Reporter (Service Reporter). The authentication capability allows you to specify, for a given OV Performance Agent instance, which hosts are allowed to make client connections to that instance.

The Client Authentication feature enables/disables connections from any version of the OV Performance Manager and Reporter clients. Your client software does *not* need to be updated for you to take advantage of this feature.

For authorized clients the authentication process is transparent, their client connection proceeds as it has with previous versions of OV Performance Agent. Unauthorized clients receive a message indicating denial of service, for example:

```
Could not connect to OV Performance Agent data source on host
<hostname>.
```

## Enabling Authentication with the authip File

Authentication is enabled by the presence of a file called `authip`. On systems where HTTP communication is enabled, the `authip` file exists in the `/var/opt/OV/conf/perf/` directory. The `authip` file lists hosts from which client connections are to be permitted.

- If the `authip` file exists in the default directory, then its contents determine which hosts are permitted client connections. Clients running on the same host as the OV Performance Agent instance are automatically authenticated, which means the clients do *not* need an entry. A zero-length `authip` file dictates that only clients running on the OV Performance Agent host can connect.
- If the `authip` file does *not* exist in the default directory, then no authentication is performed and any client will be allowed to connect.

The `authip` file is checked each time a client attempts to register for service with OV Performance Agent. OV Performance Agent does *not* need to be restarted for changes to the `authip` file to become effective.

Note, however, that an existing authorized client session can continue its current connection despite a subsequent change in the server's `authip` file, which would otherwise disqualify it, until the client takes an action that requires re-registration with OV Performance Agent. Thus, an authorized OV Performance Manager connection continues to be permitted, regardless of changes in the OV Performance Agent `authip` file, until the data source to the OV Performance Agent host has been closed. If there is then an attempt to reopen the data source, the `authip` file is reread and the connection is denied.

The OV Performance Agent client authentication capability requires that your network be able to resolve the client entries in the `authip` file. Depending upon the nature of the entries, this may require name services such as those provided by DNS, NIS, or `/etc/hosts` files.

A good test is to ensure that you can successfully "ping" each `authip` entry from the OV Performance Agent host. Client authentication works through a firewall with the same proviso that the client entries in the `authip` file be pingable from the OV Performance Agent host.

## Formatting the authip File

The `authip` file must conform to the following format:

- One client host may be listed per line.
- Client entries can be in any one of the following formats:
  - Fully qualified domain name
  - Alias
  - IP address (must be in IPv4 dotted quad format)
- Client entries can have no embedded spaces.
- A line containing a `#` in the first column is taken as a comment, and is ignored.
- Blank or zero-length lines are ignored.
- The IP address may *not* have a leading zero. For example, the IP address 23.10.10.10 cannot be represented as `023.10.10.10`.

  Thus, given an `/etc/hosts` entry as follows:

  ```
  123.456.789.1 testbox testbox.group1.thecompany.com
  ```

  any one of the following entries in the `authip` file would enable clients from the `testbox` host to connect:

  ```
  #============ Examples of authip file entries ==============
  #
  # Use of an IP address
  123.456.789.1


  #
  # Use of an alias
  ```

```
testbox

#
# Use of a fully qualified domain name
testbox.group1.thecompany.com

#============ End of examples of authip file entries ========
```

# Configuring Data Sources

OV Performance Agent uses the coda daemon to provide collected data to the alarm generator and OV Performance Manager analysis product. The `coda` daemon uses the HTTP data communication mechanism. Each data source consists of a single log file set.

The data source list that coda accesses is maintained in the datasources configuration file that resides in the `/var/opt/OV/conf/perf/` directory.

When you first start up OV Performance Agent after installation, a default data source named SCOPE is already configured and provides a `scopeux` log file set. If you want to add other data sources, you can configure them in the `datasources` file. Then, when you restart OV Performance Agent, the `coda` daemon reads the `datasources` file and makes the data available over datacomm linkages to analysis tools for each data source it finds.

You can also remove the log file set if you no longer need the data. If you remove the log file set but do not remove the data source from `datasources`, `coda` will skip the data source.

## Datasources Configuration File Format

Each entry you place into the `datasources` configuration file represents a data source consisting of a single log file set. The entry specifies the data source name and location. Fields are case-insensitive except for the log file path name. The syntax is:

**`datasource=datasource_name logfile=logfile_set`**

- **`datasource`** is a keyword. **`datasource_name`** is the name used to identify the data source. For example, the data source name used in alarm definitions or by analysis software. Data source names must be unique. They are translated into upper case. The maximum length for a data source name is 64 characters.
- **`logfile`** is a keyword. **`logfile_set`** is the fully-qualified name identifying the DSI log file (created by the `dsilog` process, ending in `.log`), and is case-sensitive.

Following are two examples of the `datasources` file's data source entries:

```
datasource=SCOPE logfile=/var/opt/perf/datafiles/logglob
datasource=ASTEX logfile=/tmp/dsidemo/log/astex/ASTEX_SDL
```

After updating `datasources`, run the following command to make the new data sources available through `coda`:

```
/opt/perf/bin/ovpa restart server
```

Examine the contents of the `/var/opt/OV/log/coda.txt` file to check if the `coda` daemon was activated or for error messages.

For specific examples of configuring DSI data sources, see "Configuring Data Sources" in Chapter 4 of the *HP OpenView Performance Agent for UNIX Data Source Integration Guide*.

# Parm File

The `parm` file is a text file that specifies configuration of the `scopeux` data collector including log file maximum sizes, interesting process threshold definitions, and application definitions. Comments in the file provide an overview of the various settings.

The `parm` file is provided with OV Performance Agent in the `/opt/perf/newconfig/` directory and is copied into the `/var/opt/perf/` directory during installation, if there is not an existing `/var/opt/perf/parm` file. For a complete description of the `parm` file and its parameters, see the "Parm File" section in Chapter 2 of the *HP OpenView Performance Agent for UNIX User's Manual*.

# Defining Alarms

If you plan to use alarms to monitor performance, you need to specify the conditions that generate alarms in a set of alarm definitions in the OV Performance Agent `alarmdef` file. When OV Performance Agent is first installed, the `alarmdef` file contains a set of default alarm definitions. You can use these default definitions or customize them to suit your needs.

For instructions on defining alarms, see Chapter "Performance Alarms," in your *HP OpenView Performance Agent for UNIX User's Manual*. This chapter also describes the alarm definition syntax, how alarms work, and how alarms can be used to monitor performance.

# Viewing and Printing Documents

OV Performance Agent software includes the standard OV Performance Agent documentation set in viewable and printable file formats. You can view the Adobe Acrobat format (`*.pdf`) documents online and print as needed. ASCII text (`*.txt`) documents are printable. However, you can view a text file on your screen using any UNIX text editor such as `vi`.

The documents are listed in the following table along with their file names and online locations.

**Table 2 Printables**

| Document | File Name | Location |
|---|---|---|
| *HP OpenView Performance Agent for Sun Solaris Systems Installation & Configuration Guide* | `ovpainst.pdf` | `/opt/perf/paperdocs/ovpa/C/` |
| *HP OpenView Performance Agent for UNIX User's Manual* | `ovpausers.pdf` | `/opt/perf/paperdocs/ovpa/C/` |
| *HP OpenView Performance Agent for UNIX Data Source Integration Guide* | `ovpadsi.pdf` | `/opt/perf/paperdocs/ovpa/C/` |
| *HP OpenView Performance Agent for UNIX & GlancePlus Tracking Your Transactions* | `tyt.pdf` | `/opt/perf/paperdocs/ovpa/C/` |
| *Application Response Measurement (ARM) API Guide* | `arm2api.pdf` | `/opt/perf/paperdocs/arm/C/` |
| *HP OpenView Performance Agent Sun Solaris Metric Definitions* | `metsun.txt` | `/opt/perf/paperdocs/ovpa/C/` |
| *OVPA metrics list by Data Class for all operating systems* | `mettable.txt` | `/opt/perf/paperdocs/ovpa/C/` |

## Viewing Documents on the Web

The listed documents can also be viewed on the HP OpenView Manuals web site at:

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

Select **Performance Agent** from the product list box, select the release version, select the OS, and select the manual title. Click **[Open]** to view the document online, or click **[Download]** to place the file on your computer.

## Adobe Acrobat Files

The Adobe Acrobat files were created with Acrobat 7.0 and are viewed with the Adobe Acrobat Reader versions 4.0 and later. If the Acrobat Reader is *not* in your Web browser, you can download it from Adobe's web site:

**http://www.adobe.com**

While viewing a document in the Acrobat Reader, you can print a single page, a group of pages, or the entire document.

You can read a `.PDF` using the `acroread` command, if you have installed the Adobe Acrobat Reader on your system. Enter the following command where <*path*> is the location of the `acroread` command.

<*path*>**/acroread** <*filename*>`.pdf`

## ASCII Text Files

To print a `.txt` file, type:

**lp -dprintername** *filename*

For example,

**lp -dros1234 metsun.txt**

# A Configuring Coda

## Introduction

This appendix provides a list of options to configure `coda` and the BBC communication broker `ovbbccb`, using the `ovconfchg` tool to change the configuration settings for OV Performance Agent.

### DISABLE_PROSPECTOR

Use this option to specify the data collection preferences through coda, when both the OVO agent and OVPA are installed. The default value is `false`. The format is as follows:

**`ovconfchg -namespace coda -set DISABLE_PROSPECTOR`** *<value>*

- `true`: `coda` will not collect data for the Coda datasource
- `false`: `coda` will collect the data for the Coda datasource

### RESPONSE_SIZE_LIMIT

Use this command to specify the maximum amount of memory allocated by the `coda` daemon for a query response. The default value is `104857600 (100 megabytes)`. The format is as follows:

**`ovconfchg -namespace coda -set RESPONSE_SIZE_LIMIT`** *<value>*

If the specified limit is exceeded the following error message appears:

```
coda_out_of_resource
```

### SSL_SECURITY

Use this option to enable secure communication through coda. The default value is NONE. The format is as follows:

**ovconfchg -namespace coda -set SSL_SECURITY** *<value>*

- NONE: coda does not require SSL connections for either the local or remote clients
- REMOTE: coda requires all remote connections to use SSL
- ALL: coda requires all connections (both local and remote) to use SSL

### SERVER_BIND_ADDR

Use this option to specify the bind address for the server port. The default value is localhost. When the value is set to localhost, all clients connect to ovbbccb and requests are forwarded by ovbbccb to coda. The format is as follows:

```
ovconfchg -namespace coda.comm -set SERVER_BIND_ADDR
localhost
```

### LOG_SERVER_ACCESS

You can enable or disable the access to server using this option. If this option is set to true, the communication broker BBC records every access to the server, providing information about the senders IP address, requested HTTP address, requested HTTP method, and response status. This value typically will not be changed.

```
ovconfchg -namespace coda.comm -set LOG_SERVER_ACCESS false
```

### PROXY

Use this option to configure the proxy. The format is as follows:

```
ovconfchg -ns bbc.http -set PROXY proxy:port+(a)-(b)
```

Where, the variables *a* and *b* are comma separated lists of hostnames, networks, and IP addresses that apply to the proxy.

Multiple proxies may be defined for one PROXY key using the “;” or “,” delimiter. “–” before the list indicates that those entities do not use this proxy, “+” before the list indicates that those entities use this proxy. The first matching proxy is used.

For example:

```
ovconfchg -ns bbc.http -set PROXY srv1.abc.com:8088+*
```

```
ovconfchg -namespace coda.comm -set SERVER_PORT 0
```

### SERVER_PORT

You can configure the port settings of the default port used by the BBC communication broker. Use the `ovconfchg` tool to change the port settings on the OV Performance Agent system. Type the commands:

**`ovconfchg -ns bbc.cb.ports -set SERVER_PORT <`***`port number`***`>`**

**`ovconfchg -namespace coda.comm -set SERVER_PORT <`***`port number`***`>`**

# Glossary

## A

### alarm

An indication of a period of time in which performance meets or exceeds user-specified alarm criteria. Alarm information can be sent to an analysis system (such as OV Performance Manager) and to OV Operations. Alarms can be identified in historical data log files using the `utility` program.

### alarm generator

Handles the communication of alarm information. It consists of `perfalarm` and the `agdb` database. The `agdb` database contains a list of OV Performance Manager analysis nodes (if any) to which alarms are communicated, and various on/off flags that you set to define when and where the alarm information is sent.

### alarmdef file

The file containing the alarm definitions in which alarm conditions are specified.

### application

A user-defined group of related processes or program files. Applications are defined so that performance software can collect performance metrics for and report on the combined activities of the processes and programs.

### application log file

*See* **logappl**.

## C

### coda daemon

A daemon that provides collected data to the alarm generator and analysis product data sources including `scopeux` log files or DSI log files. `coda` reads the data from the data sources listed in the `datasources` configuration file.

## D

### data source

Consists of one or more classes of data in a single `scopeux` or DSI log file set. For example, the OV Performance Agent SCOPE data source is a `scopeux` log file set consisting of global data. See also **datasources file**.

### datasources file

A configuration file residing in the `/var/opt/OV/conf/perf/` directory. Each entry in the file represents a `scopeux` or DSI data source consisting of a single log file set. See also **coda** and **data source**.

### data source integration (DSI)

The technology that enables OV Performance Agent to receive, log, and detect alarms on data from external sources such as applications, databases, networks, and other operating systems.

### default.txt

A communications configuration file used to customize communication parameters for HP OpenView applications.

### device

A device is an input and/or output device connected to a system. Common devices include disk drives, tape drives, CD-ROM drives, printers, and user terminals.

### device log file

*See* **logdev**.

### DSI

*See* **data source integration**.

**DSI log files**

Log files containing self-describing data that are created by OV Performance Agent's DSI programs.

**E**

**extract**

An OV Performance Agent program that allows you to extract (copy) data from raw or previously extracted log files and write it to extracted log files. It also lets you export data for use by analysis programs.

**extracted log file**

A log file created by the `extract` program. It contains user-selected data ranges and types of data. An extracted log file is formatted for optimal access by the workstation analysis tool, OV Performance Manager. This file format is suitable for input to the `extract` and `utility` programs and is the preferred method for archiving performance data.

**G**

**GlancePlus**

GlancePlus (or Glance) is an online diagnostic tool that displays current performance data directly to a user terminal or workstation. It is designed to assist you in identifying and troubleshooting system performance problems as they occur.

**global**

A qualifier that implies the whole system.

**global log file**

*See* **logglob**.

**I**

**interesting process**

A process becomes interesting when it is first created, when it ends, and when it exceeds user-defined thresholds for cpu use, disk use, response time, and so on.

## L

### log file set

A collection of files that contain data collected from one source.

### logappl

The raw log file that contains measurements of the processes in each user-defined application.

### logdev

The raw log file that contains measurements of individual device (such as disk and `netif`) performance.

### logglob

The raw log file that contains measurements of the system-wide, or global, workload.

### logindx

The raw log file that contains additional information required for accessing data in the other log files.

### logproc

The raw log file that contains measurements of selected “interesting” processes. A process becomes interesting when it is first created, when it ends, and when it exceeds user-defined thresholds for CPU use, disk use, response time, and so on.

### logtran

The raw log file that contains measurements of transaction data.

## M

### midaemon

An OV Performance Agent program that translates trace data into Measurement Interface counter data using a memory based MI Performance Database to hold the counters. This database is accessed by collector programs such as `scopeux`.

**mwa script**

The OV Performance Agent script that has options for starting, stopping and restarting OV Performance Agent processes such as the `scopeux` data collector, `midaemon`, `ttd`, `coda`, `ovc`, `ovbbccb`, and the alarm generator. See also the `mwa` man page.

## O

**ovbbccb**

The OpenView Operations Communication Broker for HTTP(S) based communication controlled by `ovc`. See also **`coda`** and **`ovc`**.

**ovc**

The OpenView Operations controlling and monitoring process. In a standalone OVPA installation, `ovc` monitors and controls `coda` and `ovbbccb`. If OVPA is installed on a system with OpenView Operations for UNIX 8.x agent installed, `ovc` also monitors and controls OpenView Operations for UNIX 8.x processes. See also **`coda`** and **`ovbbccb`**.

**ovpa script**

The OV Performance Agent script that has options for starting, stopping and restarting OV Performance Agent processes such as the `scopeux` data collector, alarm generator, `ttd`, `midaemon`, `ovc`, `ovbbccb`, and `coda`. See also the `ovpa` man page.

**OV Performance Manager**

Provides integrated performance management for multi-vendor distributed networks. It uses a single workstation to monitor environment performance on networks that range in size from tens to thousands of nodes.

## P

**parm file**

An OV Performance Agent file containing the parameters used by `scopeux` to customize data collection.

**perfstat**

A program that displays the status of all performance processes in your system.

**PerfView**

*See* **OV Performance Manager**.

**process**

Execution of a program file. It can represent an interactive user (processes running at normal, nice, or real-time priorities) or an operating system processes.

**process log file**

*See* **logproc**.

**R**

**raw log file**

Summarized measurements of system data collected by `scopeux`. *See* **logappl**, **logproc**, **logdev**, **logtran**, and **logindx**.

**real time**

The actual time in which an event takes place.

**resize**

Changes the overall size of a log file using the `utility` program's `resize` command.

**run file**

Created by the `scopeux` collector to indicate that the `scopeux` process is running. Removing the `run` file causes `scopeux` to terminate.

**S**

**scopeux**

The OV Performance Agent data collector program that collects performance data and writes (logs) it to raw log files for later analysis or archiving. *See also* **raw log files**.

**scopeux log files**

*See* **raw log files**.

**status.scope file**

Created by the `scopeux` collector to record status, data inconsistencies, and errors.

**system ID**

The string of characters that identifies your system. The default is the host name as returned by `uname -n`.

**T**

**transaction log file**

*See* **logtran**.

**transaction tracking**

The technology used in OV Performance Agent that allows information technology (IT) resource managers to measure end-to-end response time of business application transactions.

**ttd.conf**

The transaction configuration file where you define each transaction and the information to be tracked, such as transaction name, performance distribution range, and service level objective.

**U**

**utility**

An OV Performance Agent program that allows you to open, resize, scan, and generate reports on raw and extracted log files. You can also use it to check `parm` file and `alarmdef` file syntax, and obtain alarm information from historical log file data

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