HP OpenView Performance Agent

For the Windows® Operating System

Software Version: C.04.50

Installation and Configuration Guide

Legal Notices

Warranty

Hewlett-Packard makes no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

Restricted Rights Legend

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
United States of America

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

Copyright Notices

Trademark Notices

UNIX® is a registered trademark of The Open Group.

Adobe® and Acrobat® are trademarks of Adobe Systems Incorporated.

Windows® and MS Windows ® are U.S. registered trademarks of Microsoft Corporation.

Microsoft® is a U.S. registered trademark of Microsoft Corporation.

All other product names are the property of their respective trademark or service mark holders and are hereby acknowledged.

Support

Please visit the HP OpenView support web site at:

http://www.hp.com/managementsoftware/support

This web site provides contact information and details about the products, services, and support that HP OpenView offers.

HP OpenView online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valuable support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit enhancement requests online
- Download software patches
- Submit and track progress on support cases
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and log in. Many also require a support contract.

To find more information about access levels, go to:

http://www.hp.com/managementsoftware/access_level

To register for an HP Passport ID, go to:

http://www.managementsoftware.hp.com/passport-registration.html

Contents

1 Installing OV Performance Agent

Introduction

HP OV Performance Agent software captures performance, resource, and transaction data from systems running Microsoft Windows. (See Supported Architecture and Operating Systems on Page 10 for details on the supported Windows platform) Using minimal system resources, the software continuously collects, logs, summarizes, and time stamps data, and detects alarm conditions on current and historical data across your system. Using the Application Response Measurement (ARM) API standard, OV Performance Agent can log the end-to-end response times for instrumented business applications.

▶ Henceforth, in this document:
- OV Performance Agent or OVPA for Windows will be used to refer to MeasureWare Agent (MWA) for Windows
- 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 Operations will be used to refer to IT/Operations

The process names and software components will operationally remain as MeasureWare Agent (MWA).

OV Performance Agent includes the Extended Collection Builder and Manager, which allows access to Windows Registry performance counters. With the Extended Collection Builder and Manager, data available through the Windows registry can be collected and logged.

You can analyze the data using spreadsheet programs, Hewlett-Packard analysis products such as OV Performance Manager, or third-party analysis products. Also, OV Performance Agent provides data access to HP OpenView Performance Manager, HP OpenView Network Node Manager, and HP OpenView Operations.

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 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 analysis on historical data to isolate and identify bottlenecks.

- Perform service-level management based on transaction response time.

- Facilitate capacity planning.

- Respond to alarm conditions.

- Solve system management problems before they arise.

If you have a factory integrated system, skip this chapter and go directly to Chapter 2, Starting and Running OV Performance Agent.

Installation Requirements

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

Hardware

OV Performance Agent runs on Microsoft Windows systems satisfying one of the following requirements:

- Intel Pentium processor or equivalent
- Intel Itanium2
- AMD Opteron
- Intel Pentium with EM64T
- Intel Xeon with EM64T

Supported Architecture and Operating Systems

Table 1   Supported Architecture and operating system versions

Architecture	Operating System	Protocol
X86	• Windows 2003 Standard Edition, Windows 2003 Enterprise Edition, Windows 2003 Datacenter Edition, Windows 2003 Web Edition, • Windows 2000 Datacenter Server, Windows 2000 Professional Server, Windows 2000 Advanced Server with Service Pack 4 or later • Windows XP Standard with Service Pack 1	HTTP(S), RPC
X86_64, AMD 64, EM64T	• Windows 2003 Server for x64 Editions • Windows XP Professional x64 Edition	RPC
IPF	Windows 2003 Server for Itanium-based Systems	RPC

See Network Considerations on Page 12 for information on networking software requirements for OV Performance Agent.

Communication Protocols

OV Performance Agent supports the following communication protocols:

- HTTP(S) 1.1
- RPC

Disk Space

OV Performance Agent uses disk space in the following areas—program files, Control Panel applet, data files, log files, and temporary files.

For OV Performance Agent applications, allow for at least 50 MB of free space on the drive you specify. For OV Performance Agent log files, allow for at least 60 MB of free space on the drive you specify.

- Program Files - OV Performance Agent requires approximately 10 MB of disk space for installation of program files that are stored in the Install directory path. Some additional space is required during installation (see "Temporary files" below).

- Control Panel Applet **-** OV Performance services program and various DLLs require 2.5 MB disk space in the `<$windir$>\system32` directory.

InstallDir is the directory where OV Performance Agent will be installed. All OV Performance Agent related binaries and shared libraries can be found at locations <InstallDir>\bin and <InstallDir>\lib respectively. The default path for InstallDir is <drive>:\Program Files\HP OpenView\. DataDir is the default directory where the data files are stored. The default path is <drive>:\Program Files\HP OpenView\data.

If you have already installed any HP OpenView Products, OVPA will be installed in the same directory.

- Configuration, Status, and Log Files **-** Configuration, status, and log files by default are stored separately from program files. Status and configuration files are stored in the <DataDir> directory and require about 1 MB of disk space for the installation. As the status files accumulate data, this number could increase to 10 MB.

`Log` files are stored in the `<DataDir>\datafiles` directory. The amount of disk space used for log files varies significantly depending on the system workload and the amount of performance data you collect. Using the default configuration settings, you can anticipate a 60 MB maximum size to be reached between two to six months. However, if you are *not* tracking transactions, the maximum size is 50 MB. See Chapter 3 of the *OV Performance Agent for Windows: User's Manual* for information on how to limit and configure the data storage requirements for OV Performance Agent log files.

- Archived Log Files - When the OV Performance Agent log files reach their maximum size, the oldest data is automatically rolled out to make room for more data. See Chapter 2 of the *OV Performance Agent for Windows User's Manual* for more information on OV Performance agent automatic roll action and for strategies to effectively manage data collection.

- Temporary Files **-** The OV Performance Agent installation program uses about 10 MB of temporary storage in the *<$TEMP$>* directory, which is released when the installation is complete. OV Performance Agent also uses the *<$TEMP$>* directory during normal operation for storing temporary files during Scan, Analyze, and Status operations. The exact amount of free disk space required depends on the number and size of reports that are open at same time.

Network Considerations

OV Performance Agent cannot install unless TCP/IP network protocol is installed and running. You can check for this by looking for the TCP/IP Service in the Services program under Administrative Tools in the Windows Control Panel.

▶ If you allow Dynamic Host Configuration Protocol (DHCP) server service to remain enabled, problems can occur with viewing data and receiving alarms in OV Performance Manager. Because OV Performance Manager 3.x finds a system through its IP address, a system whose IP address has changed from its original configuration in OV Performance Manager 3.x will not be found.

If you are not using a Domain Name System (DNS) name server, you must have a `HOSTS` file present on each system where OV Performance Agent is installed. A `HOSTS` file is a locally stored text file that maps host names to IP addresses. The `HOSTS` file should be stored in the `<$windir$>\system32\drivers\etc` directory and have the same format

as the /etc/hosts file on a UNIX system. The HOSTS file should include the name of the OV Performance Agent system, as well as any OV Performance Manager and OV Operations system you plan to connect to in the HOSTS file.

Installation Procedures

OV Performance Agent is on the CD-ROM installation media in several file sets. The size of the product is approximately 30 MB.

Follow the steps to install OV Performance Agent:

1 If you have previously installed OVPA on the system, first stop any performance tools or processes that may be running. See the section Stopping OV Performance Agent.

2 Installing OV Performance Agent.

Stopping OV Performance Agent

OV Performance Agent can be stopped from the Windows command prompt or from a batch file using the mwacmd (mwacmd.exe) command as described below.

mwacmd stop or mwacmd stop all

stops all OVPA services from the command prompt

▶ If you stop the ttd, any ARM-instrumented applications that are running *must* also be stopped before you can restart ttd and OV Performance Agent process.

Installing OV Performance Agent

Log on to your Windows system as Administrator or as any user that is part of the Administrators group. You can install OV Performance Agent using one of the following two modes:

• Attended Installation

• Unattended Installation

Attended Installation

Install OV Performance Agent by the following installation procedure. This procedure may take several minutes to complete.

1   If you already have OV Performance Agent installed and are updating to this version, close all OV Performance Agent windows and programs as well as other application windows in use, including the Windows Control Panel.

2   Place the OV Performance Agent CD in the CD-ROM drive. The OV Performance Agent installation window opens.

3   Follow the instructions as they appear.

➤
   • You cannot install OV Performance Agent on a network drive. OV Performance agent must begin at startup time, before network drives are connected.

   • If your system disk performance counters are turned off, you will see a message indicating that no disk metrics will be collected unless the disk performance counters are turned on. Run the command **diskperf -Y** to turn on both logical and physical disk performance counters. Turning on disk performance counters takes effect only after you have rebooted your system.

   • If you do not choose to start OV Performance Agent automatically whenever you restart your system, you must manually start OV Performance agent as described in Chapter 2, Starting and Running OV Performance Agent.

   • If you have applications running on your system that have ARM technology, your system is prompted for a restart.

   • The OV Performance Agent setup program starts the Remote Procedure Call (RPC) services and sets them to automatically start when you restart the system (if they are not already running.)

See the OV Performance Agent Release Notes for updates to OV Performance Agent. The OV Performance Agent Release Notes contain information not covered in the documentation set.

Unattended Installation

To carry out unattended installation run the command `setup.exe /s` from the Windows command prompt with command line options.

To start the Unattended Installation:

1   Open the Windows command prompt and change to the drive where the OV Performance Agent `setup.exe` file is located by typing:

    <*drive*>:

    where *drive* is the CD-ROM drive containing the OV Performance Agent files.

2   Follow the syntax format for the command and available options as explained below:

    To activate unattended installation, enter:

    ```
    setup.exe /s[/z"-p1 <Install directory path> -p2 <Data
    directory path> -s -v "]
    ```

Where,

- **-p1**: used to specify the input for the Install Directory path (the default directory path is `SystemDrive\Program Files\HP OpenView`).

- **-p2**: used to specify the input for the Data Directory path (the default directory path is `SystemDrive\Program Files\HP OpenView\data`).

- **-s**: used if you want to start OVPA services immediately after installation.

- **-v**: used if you want OVPA services start-up type to be set to "Manual" instead of "Automatic".

- **/s**: used to carry out installation in unattended mode.

- **/z**: used if you want to give inputs to the installation program. Inputs should be given in between " ".

Installation Results

After OV Performance Agent files are installed in the default or designated locations, the setup program performs the following activities:

- OV Performance Control Panel applet is installed to control OV Performance Agent services. For a description of OV Performance Agent services, see Chapter 2, Starting and Running OV Performance Agent.

- On Windows, an `HP OpenView` folder is added to the **Start** > **Programs** menu, with a submenu containing icons/commands for OV Performance Agent programs, online help, and the Release Notes.

- The system path variable is modified to include <InstallDir>\bin\.

Directory Structure

For upgraded installations, files are automatically placed in the same directories as those of the previously installed version.

Default file locations are as follows:

- Program and other files are stored in sub-directories of the `<InstallDir>\bin\` directory.

- Data files (log files and other files containing data) are stored in subdirectories of the `DataDir\` directory.

The environment variable *windir* is used to denote the Windows directory in your system. The environment variable TEMP is used to denote the temporary files directory stored on your Windows system.

▶ Striped Disks - This option does not enable disk performance counters for physical drives in a striped disk set. If you want to collect data for striped disks, run **diskperf -YE** from the Windows command prompt.

Deploying OV Performance Agent Using OV Operations

If you are using HP OpenView Operations for UNIX 8.x, you can install HP OpenView Performance Agent from the management server to a Windows managed node.

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

Removing OV Performance Agent

Log on to your Windows system as Administrator or as any user that is part of the Administrators group. You can uninstall OV Performance Agent using one of the following two modes on your system:

- Attended Uninstallation
- Unattended Uninstallation

Attended Uninstallation

You can uninstall OV Performance Agent using the uninstall program as follows:

1   Log on to your Windows system as administrator or as a user with administrative priviliges.

2   Close the OV Performance Agent program, the OV Performance Services window, and the Windows Control Panel.

3   Go to **Control Panel** > **Add or Remove Programs**.

4   Select **HP OpenView Performance Agent**.

5   Click on **Change/Remove** to uninstall.

Unattended Uninstallation

To carry out unattended uninstallation, run setup.exe /s /x from the Windows command prompt with command line options.

To uninstall from the command prompt, enter:

> **setup.exe /s /x [/z"-r all"]**

where,

- **-r**: used to specify retention of OVPA created log files.
- **-r all**: used to specify deletion of OVPA created log files.
- **/s**: used to carry out tasks in unattended mode.
- **/x**: used to carry out uninstallation.

- **/z**: used to give inputs to the installation program. Inputs should be given in between " ".

Removing all OV Performance Agent Files

By default , the uninstall program does not remove OV Performance Agent configuration, status, and log files. It also does not remove `<InstallDir>\bin\` from the system path variable. You can manually remove these items if you want to clean up your system. Do not remove additional files or change the path variable if any RPM Tools application (OV Performance Manager or Reporter, for example) is still installed on your system.

If OV Performance Agent is the last RPM Tools application to be removed during an attended uninstall, you are prompted as to whether you want to remove all files in the `<InstallDir>\bin\` and the `DataDir\` directories.

During an unattended uninstall, you can achieve the same result of removing all files within the `<InstallDir>\bin\` directory by including the `-r all` option.

▶ After uninstallation, the OV Performance agent uninstall program may display a message stating that it was not able to remove some items. The uninstall program marks these files for deleting and removes them during the next system restart. If you get this message, restart your system before you try to reinstall OV Performance Agent.

Results of the Uninstallation

The uninstall program removes OV Performance Agent program files, except for `perfstat.exe`. However, if OV Performance Agent is the only RPM Tool installed on the system, `perfstat.exe` is also removed. The uninstall program also removes the OV Performance services and Windows registry entries associated with OV Performance Agent.

Viewing and Printing Documents

OV Performance Agent software includes the standard OV Performance Agent documentation set in viewable formats. You can view the Adobe Acrobat format (`*.pdf`) documents online and print as needed. The ASCII text (`*.txt`) documents are printable. However, you can view a text file on your screen using any text editor. The documents are listed in the following table along with their file names and online locations.

Table 2   OV Performance Agent Documentation Set

Document	File Name	Windows Location
HP OpenView Performance Agent for Windows Installation & Configuration Guide	`ovpainst.pdf`	*InstallDir*`\paperdocs` `\ovpa\C`
HP OpenView Performance Agent for Windows User's Manual	`ovpausers.pdf`	*InstallDir*`\paperdocs` `\ovpa\C`
HP OpenView Performance Agent for Windows Data Source Integration Guide	`ovpadsi.pdf`	*InstallDir*`\paperdocs` `\ovpa\C`
HP OpenView Performance Agent for Windows: Tracking Your Transactions	`tytnt.pdf`	*InstallDir*`\paperdocs` `\ovpa\C`

Table 2   OV Performance Agent Documentation Set (cont'd)

Document	File Name	Windows Location
Application Response Measurement (ARM) API Guide	`arm2api.pdf`	*InstallDir*`\paperdocs` `\arm\C`
HP OpenView Performance Agent for Windows Dictionary of Operating System of Performance Metrics	`ovpa-metrics.pdf` `ovpa-metrics.txt`	*InstallDir*`\paperdocs` `\ovpa\C`
HP OpenView Performance Agent Windows Metric Definitions	`metnt.pdf`	*InstallDir*`\paperdocs` `\ovpa\C`

See Chapter 2, Starting and Running OV Performance Agent for information about running OV Performance Agent for Windows.

Release Notes

See OV Performance Agent Release Notes for additional information that you may not find in the OV Performance Agent manuals and online help. The Release Notes offer a list of new features as well as explanations of fixes to previous problems and current known problems, and how to deal with them. You can read the Release Notes at the end of the installation. You can also access them after installation from the `HP OpenView` folder on the **Start** -> **Programs** menu.

Online Help

Refer to the OV Performance Agent Online Help, accessible from the HP OpenView program folder or from OV Performance Agent main window. Metrics Online Help is also available at the same location.

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 (which automatically selects the appropriate OS), and click **[Open]** to view the document online, or click **[Download]** to save the file to 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 higher. If Acrobat Reader is not installed on your system, 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.

2 Starting and Running OV Performance Agent

Introduction

This chapter explains the tasks involved in starting up and running OV Performance Agent after it has been installed on your Windows system.

The following topics are discussed:

- Starting and Stopping OV Performance Agent Services
- Configuring Communication Mode for OV Performance Agent
- Communicating Across Firewall
- Configuring Secure Communication
- Configuring Data Sources
- Configuration Options
- Defining Alarms
- Backup Considerations

➤ If you are planning to log data from other sources using data source integration (DSI), read the *HP OpenView Performance Agent for Windows Data Source Integration Guide*.

OV Performance Agent supports the HTTP data communication mechanism, along with RPC mode on 32-bit Windows systems. If you are installing OV Performance Agent for the first time, the default data communication mode is HTTP.

➤ On 64-bit Windows systems, only the RPC data communication mechanism is supported.

If you are upgrading OV Performance Agent 8.x, the previously used RPC data communication mode is used. If you want to move to the new HTTP mode of data communication, you can change the configuration after installation. For more information, see the section Communicating in the HTTP Environment on Page 33 . OV Performance Agent supports secure data communication (HTTPS) only in an HP OpenView Operations environment.

Security Restrictions

The following security-related restrictions are applicable in controlling OV Performance Agent Services:

- To start or stop OV Performance Agent Services, you must be a member of the Administrators or Power Users group.

- To refresh OV Performance Agent configuration files, you must be a member of the Administrators or Power Users group.

- To configure OV Performance Agent Services, you must be a member of the Administrators group.

Any user can view the status of OV Performance Agent Services from the Services program in the Windows Control Panel or the Services program under Administrative Tools in the Windows Control Panel.

Starting and Stopping OV Performance Agent Services

When installation is complete, you can start OV Performance Agent. OV Performance Agent can be started from the Windows GUI or command prompt.

Starting and Stopping from the Windows GUI

To start the OV Performance Agent from the Windows GUI, do the following:

1 To open OV Performance Agent, click **Start** > **Programs** > **OV Performance Agent**. Or
   Choose **Start/Stop** from the Agent menu on the OV Performance Agent main window. Or, from the Windows Control Panel, double-click **OVPA** to open the OV Performance Agent Start/Stop dialog box.

2 To start all OVPA services, click **Start Services**.

3 To stop all OVPA services, click **Stop Services**.

Starting and Stopping from Command Prompt

You can start and stop OV Performance Agent services from the Windows command prompt or from a batch file using the ovpacmd(ovpacmd.exe) command as follows:

- **ovpacmd start or ovpacmd start all**

  starts all OVPA services from the command prompt.

- **ovpacmd stop or ovpacmd stop all**

   stops all OVPA services from the command prompt.

▶ The executable mwacmd.exe is still provided in this release for backward compatibility. The functionality is same as ovpacmd.exe.

Checking the Status of OV Performance Agent Services

To check the status of the OV Performance Agent Services:

- Select **OV Performance Agent** > **Status** OR

- Click the **Agent Status** icon from the main window OR

To check the status of OV Performance Agent services, from the command prompt run:

perfstat

Automatic Startup at System Restart

If you have not selected the installation option to automatically start OV Performance Agent Services when your system is restarted, do the following.

1 Select **Services** from Administrative Tools in the Control Panel.

2 Select **OVPA Collector**, click **Startup** and choose **Automatic** for the Startup Type .

3 Repeat step 2 for OVPA Agent, OVPA Transaction Manager, OVPA Extended Collector, and OVPA DSI Service.

Do not set the OVPA Measurement Interface to start automatically.

Restarting OV Performance Agent

To restart the OV Performance Agent, stop and start OVPA by following one of the steps explained in Starting and Stopping OV Performance Agent Services on Page 26 .

Refreshing OV Performance Agent Services

If you modify any of the OV Performance Agent configuration files (parm.mwc, ttdconf.mwc, alarmdef.mwc, dsiconf.mwc), you must refresh the corresponding service to reflect the changes made to the configuration files. To enable the **Refresh** button, select atleast one Configuration Parameter from the OV Performance Agent Services dialog box.

Refreshing from the Windows GUI

1 From the Agent menu on the OV Performance Agent main window, choose **Start/Stop**. Or, from the Windows Control Panel, double-click **OVPA** to open the OV Performance Agent Start/Stop dialog box.

2 Select the Configuration Parameters you have changed.

3 Click the **Refresh** button. To enable the **Refresh** button, select atleast one Configuration Parameter in the OV Performance Agent Services dialog box.

Refreshing from Command Prompt

Open the Windows command prompt and type:

ovpacmd refresh <*config*>

where <*config*> is:

— **COL** for parm.mwc

— **TRAN** for ttdconf.mwc

— **ALARM** for alarmdef.mwc

— **DSI** for dsiconf.mwc

Services Started with Different Data Communication Modes

RPC	HTTP
HP OpenView Ctrl Service	HP OpenView Ctrl Service
OVPA Collector	OVPA Collector
OVPA Alarm Generator	OVPA Alarm Generator
OVPA DSI Service	OVPA DSI Service
OVPA Extend Collector	OVPA Extend Collector

RPC	**HTTP**
OVPA Measurement Interface	OVPA Measurement Interface
OVPA Transaction Manager	OVPA Transaction Manager
OVPA Agent (starts `alarmgen` only if `perfalarm` is not present)	

Configuring Communication Mode for OV Performance Agent

OV Performance Agent supports both HTTP and RPC mode of communication. To view the current mode, type **Ovpacmd getdatacomm**

To change the communication mode to RPC or HTTP, perform the following steps:

1 Stop OVPA.

2 Run **ovpacmd setdatacomm <*mode*>**, where *mode* is one of the following:

   — **HTTP** - HTTP mode of communication

   — **RPC** - RPC mode of communication

3 Start OVPA.

Status Checking

Several status files are created in the DataDir directory when OV Performance Agent is started.

You can check the status of all or some of the OV Performance Agent processes using the perfstat command.

The following status files contain diagnostic information that you can use to troubleshoot problems that may arise with the processes that generate the files:

<DataDir>\status.alarmgen
<DataDir>\status.perflbd
<DataDir>\status.rep_server
<DataDir>\status.scope
<DataDir>\status.perfalarm

```
<DataDir>\status.ttd
<DataDir>\status.mi
<DataDir>\log\coda.txt
```

▶ Whenever an OV Performance Agent process writes a message to its 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 `InstallDir\examples\` directory contains examples of configuration files, syntax files, and sample program files that you can use to customize your HP Performance Tools. For example, the `InstallDir\example\config\` subdirectory contains sample alarm definitions and examples of `parm` file application-specific parameters. For more information, see the `InstallDir\examples\README` file.

Communicating Across Firewall

In general, a firewall may be defined as a method for filtering the flow of data between two networks. OV Performance Agent (OVPA) now supports HTTP 1.1 based communications interface for data access between client and server applications, in addition to the previously supported communication mechanism through a packet-filtering network firewall. The HTTP based interface is flexible, since it can use proxies, requires fewer ports and is firewall friendly.

➤ OV Performance Agent supports certificate based, secure (HTTPS) data communication only in the HP OpenView Operations environment. For more information, see Using Certificates on Page 41 .

If a network firewall exists between two system, OV Performance Manager and OV Reporter can get data from the OV Performance Agent system.

Figure 1   Communicating with OVPA in a Firewall Environment
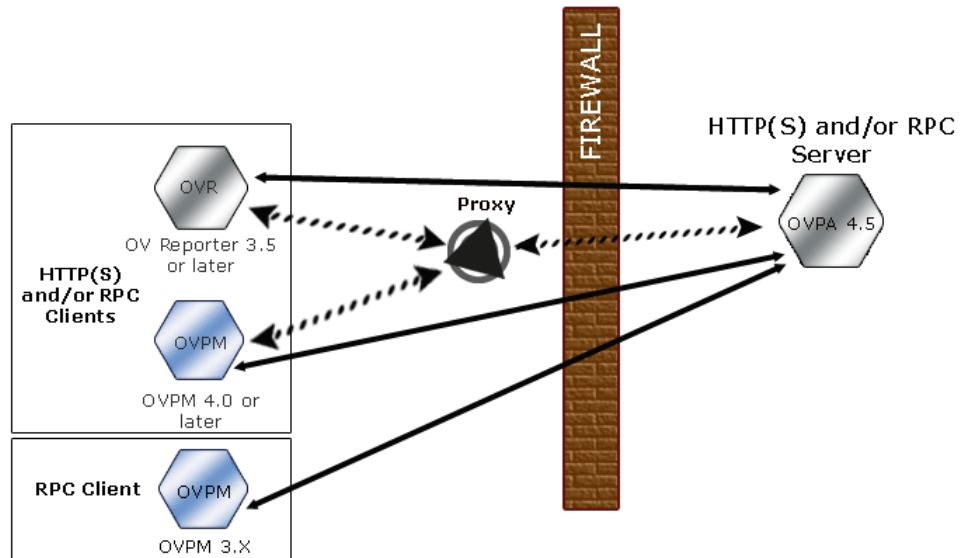
➤ The name OV Performance Manager 3.x is used throughout this document to refer to the product that is formally known as PerfView.

Communicating in the HTTP Environment

There are different ways to configure HTTP communication in a firewall environment. The recommended way is to use HTTP proxies for OVPA data communication 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.

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. For firewall configuration it is important to know which system initiates the communication (**client**), and which system receives communication requests (**server**), so that the firewall rules can be set up accordingly.

Figure 1 on page 32 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.

OV Performance Manager 3.x uses the Perfview technology. OV Performance Manager 3.x does not use the HTTP datacomm components, but connects to OV Performance Agent 4.5 for Windows operating system.

Ports Used for Communication

To access data collected by OVPA, you need to open ports for the HTTP server (OVPA) and the HTTP client (Reporter and OVPM). There are two ways to configure HTTP clients in a firewall environment: with an HTTP proxy and without. In both cases, to access data from OVPA nodes, you need to open only one port on the HTTP server (OVPA) side.

With HTTP Proxy

The recommended way is to use HTTP proxies when communicating through a firewall. This simplifies the configuration because proxies are often in use and the firewall needs to be opened only for the proxy system and for a smaller number of ports. It is recommended that you do not change the default 383 port.

Default Ports for OVPA (with proxies) are shown in Table 1 on page 34.

Table 1 OVPA Default Ports

Source	Destination	Protocol	Source Port	Destination Port	Description
PROXY	MGD NODE	HTTP	Defined by the proxy	383	Communication Broker

To configure the proxy, run 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.

For example:

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

Without HTTP Proxy

If HTTP proxies are not available, you need to open additional source ports. Additional configuration settings are required on the Reporter and OVPM system. See the section, Configure Reporter/OVPM without HTTP Proxy on page 36.

Configuring Ports Across Firewalls

To configure communications with OVPA in a firewall environment, follow these guidelines:

- Understand your firewall environment including the client and server data flow.

- Check the port usage in your environment.

- Refer to the following sections for details on configuring communication across firewalls, when proxies are used:

  — Configure OVPA Ports

- — Configure Reporter and/or OVPM
- — Other Considerations
- Test the communication across the firewall.

Configure OVPA Ports

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

Configuring the Default Communication Broker Port:

On the OVPA system, use the `ovconfchg` tool to change the port settings. Type the commands:

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

ovc -restart
```

Configuring OVPA for Single Port Communication:

On the OVPA system, coda uses a port that is dynamically allocated. To change the port setting to use the communication broker's port specified above, type the following commands:

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

ovc -restart
```

Configure Reporter and/or OVPM

You can configure the HTTP clients (Reporter or OVPM for Windows or UNIX) in a firewall environment in one of two ways:

- With HTTP Proxy – This is the recommended way. See the section Configure Reporter/OVPM with HTTP Proxy.

- Without HTTP Proxy – This is *not* the recommended way. See the section Configure Reporter/OVPM without HTTP Proxy.

Configure Reporter/OVPM with HTTP Proxy

Configure OVPM 5.0 as follows:

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.

Configure Reporter/OVPM 4.x as follows:

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. Configure Reporter/OVPM as follows:

Edit the 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**).

Configure Reporter/OVPM without HTTP Proxy

If your firewall environment does not have proxies then, you may want to specify the HTTP client ports directly if you want to filter based on both source and destination.

If Reporter and OVPM for Windows are installed on the same system and both access OVPA in parallel, you would specify a port range as described in this section. If they are running on different systems, you can instead specify a single port for each.

Configure OVPM 5.0 as follows:

Type the following command:

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

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

For example:

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

Configure Reporter/OVPM 4.x as follows:

Edit the 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

Other Considerations

About 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, you can use the nodeinfo parameter CLIENT_BIND_ADDR and SERVER_BIND_ADDR to specify the IP address that should be used.

On the OVPA system, specify the SERVER_BIND_ADDR parameter:

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

On the OVPM 5.0 system, specify the CLIENT_BIND_ADDR parameter:

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

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:

1   Locate the lines that apply to CLIENT_BIND_ADDR and uncomment the line ;CLIENT_BIND_ADDR =

2   Specify the IP address for the CLIENT_BIND_ADDR parameter.

Communicating in the RPC Environment

OV Performance Agent supports communication across a packet-filtering network firewall. This means that even if a network firewall exists between two systems, OV Performance Agent can send alarms to OV Performance Manager 3.x and OV Performance Manager 3.x can graph data from OV

Performance Agent on a remote system. (To configure the OV Performance Manager 3.x for UNIX systems to use restricted port addresses see the *HP OpenView Performance Manager Installation Guide*).

To restrict UDP, TCP RPC ports on applications running on Windows system, do the following:

Create the following registry keys using `regedt32` as shown in the example below. The example shows configuration for restriction of port usage from 2200 through 2300.

New registry key:

`HKEY_LOCAL_MACHINE\Software\Microsoft\Rpc\Internet`

Add the following values:

Type	Name	Value
REG_SZ	PortsInternetAvailable	"Y"
REG_SZ	UseInternetPorts	"Y"
REG_MULTI_SZ	Ports	2200-2300

For more information, refer to MSDN article "Configuring the Windows XP/ 2000/NT Registry for Port Allocations and Selective Binding".

Currently, OV Performance Agent cannot restrict UDP RPC ports running on Windows on a per application basis. If you are using a packet filtering firewall based on ports, you need to open all ports greater than 1023 to communicate across the firewall.

To permit Windows nodes to access your internal network based on IP addresses not ports, do the following:

1 Configure the Windows node outside your firewall to use the firewall IP address as a Gateway.

2 Add the firewall IP address to the local or SUBNET routing table in which the Windows node resides (see Table 2).

3 Configure your firewall to give the Windows node access to your internal network.

How you perform these steps depends on several factors including, the security policy of the SUBNET in which the Windows node resides, the default Gateway configuration of your Windows node, and the firewall configuration of your internal network. Consult your firewall administrator or network security officer before making any changes to your environment.

Tables for Configuring the Firewall

Determining the destination and source variables for the firewall will depend on which application resides within the firewall and which operating system the application is running on.

Table 2   OV Performance Manager 3.x and later (PV) for Windows, OV Reporter (OVR) for Windows, OV Performance Agent (OVPA) for Windows

Source	#Ports / Protocol	Destination	Ports / Protocol
PV, OVR	1024-65535/UDP	MS_RPC service	135, 1024-65535/UDP
PV, OVR	382/TCP	OVPA	382/TCP
PV, OVR	1024-65535/UDP	OVPA	1024-65535/UDP
OVPA	1024-65535/UDP	MS RPC service	135, 1024-65535/UDP
OVPA	1024-65535/UDP	OVPM	1024-65535/UDP

Table 3   OV Performance Manager 3.x and later on UNIX, OV
Performance Agent (OVPA) for Windows

Source	#Ports/Protocol	Destination	Ports / Protocol
OVPM/UNIX	OVPM_RANGE/ UDP	MS RPC service	135, 1024-65535/UDP
OVPM/UNIX	382/TCP	OVPA/WIN	382/TCP
OVPM/UNIX	OVPM_RANGE/ UDP	OVPA/WIN	1024-65535/UDP
OVPA/WIN	1024-65535/UDP	DCE deamon	135,OVPM_RANGE/ UDP
OVPA/WIN	1024-65535/UDP	OVPM/UNIX	OVPM_RANGE/UDP

OVPM_RANGE is the range of ports that have been calculated for the OV
Performance Manager.

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 *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 and OVPM 4.x do not support certificate based secure communication.

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, for example by OV Performance Manager 3.x or OV 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 will work to enable or disable connections from any version of the OV Performance Manager and OV 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. For HTTP based communication, the authip file exists in the `<DataDir>\data\conf\perf` directory. For RPC based communication, the authip file exists in the `<disk drive>:\Program Files\hp OpenView\data\` directory. The authip file lists hosts from which client connections are to be permitted.

- If the authip file exists in the default directory, 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, as was the case with prior OV Performance Agent versions.

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.

▶ An existing authorized client session can continue its current connection despite a subsequent change in the server's authip file that would otherwise disqualify it, until the client takes an action that requires reregistration with OV Performance Agent. To ensure the authip changes are enforced, you may want to stop and restart all OVPA services. If there is then an attempt to reopen the data source, the authip file will be reread and the connection denied.

In the case of OV Performance Manager 3.x registration for alarms, a previously authorized client will continue to receive alarms until the data source has been removed (not just closed) by the client. To add or delete

entries into the `agdb` file use the `agsysdb` utility program. Refer to *HP OpenView Performance Agent for Windows User's Manual*. Additionally, you can also use OV Performance Manager 3.x to enable or disable alarms.

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 `<%windir%>\system32\drivers\etc\hosts` files. A good test is to make sure that you can successfully "ping" each `authip` entry from the OV Performance Agent host. Client authentication will work 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 in IPv4 dotted quad format
- 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 leading zeros, that is, the IP address 23.10.10.10 cannot be represented as 023.10.10.10.
- Client entries may have spaces or tabs preceding them.
- Client entries on a line are terminated by spaces, tabs, new lines, or the # sign.

Thus, given an `<%windir%>\system32\drivers\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 ========
```

In order to use the authentication capability (aliases or hostnames in the `authip` file), the Domain Name System (DNS) on your local system has to be configured properly. For further information on how to configure your DNS, refer to the Microsoft Windows online help.

Configuring Data Sources

OV Performance Agent uses a set of repository servers that provides previously collected data to the alarm generator and the OV Performance Manager analysis product. There is a repository server for each specific data source such as `scopeux` log files or DSI log files. Each data source consists of a single log file set. The data source is configured in the `datasources` file that resides in the `<DataDir>\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 repository servers for other data sources, configure them in the `datasources` file. When you restart OV Performance Agent, the `perflbd daemon` looks for `perflbd.mwc` (the file that resides in `<DataDir>` directory is a link to `datasources` file), reads it, and starts a repository server for each data source it finds.

Configuring Data Sources for OV Performance Manager 3.x and OV Reporter

OV Performance Agent data is automatically configured for accessibility and alarm generation in OV Performance Manager 3.x and OV Reporter. You can configure additional data sources in the `datasources` file (or `perflbd.mwc` file) as described in Chapter 3 of the *OV Performance Agent for Windows: User's Manual* and the *OV Performance Agent for Windows: Data Source Integration Guide*. Additional data sources can include raw log files, extracted log files, or log files created with OV Performance Agent's Data Source Integration (DSI) technology or from data collections you create using the Extended Collection Builder and Manager.

IP Addresses

After you have configured an OV Performance Agent system as a data source for OV Performance Manager 3.x, avoid changing the IP address of either the OV Performance Agent system or the OV Performance Manager 3.x system.

However, if you must change the IP address of one or more systems, follow the procedure below to avoid problems.

To change the IP address of an OV Performance Agent system:

1   On the OV Performance Manager 3.x system, select **Manage** from the **Data Sources** menu on the OV Performance Manager 3.x dialog box.

2   Delete the OV Performance Agent system from the list of known systems.

3   Change the IP address of the OV Performance Agent system.

4   Add the OV Performance Agent system back as a data source to OV Performance Manager 3.x.

To change the IP address of an OV Performance Manager 3.x system, see OV Performance Manager 3.x documentation.

Configuration Options

OV Performance Agent includes default configuration files that allow you to quickly start monitoring the performance of systems across your organization. You can change the default settings to suit the conditions in your particular computing environment.

Collection Parameters File (parm.mwc)

By default, OV Performance Agent is set up to monitor global, process, application, transaction, and disk data with a maximum log file size of 60 MB (50 MB if you are *not* tracking transactions).

You use the parm.mwc file to customize various data collection parameters, such as specifying the types of data to monitor, setting up groups of processes to be monitored together as one application, and changing the maximum size of the log file. See Chapter 2 of the *OV Performance Agent for Windows User's Manual* for more information.

Transaction Configuration File (ttdconf.mwc)

You can monitor transaction data for applications that have been instrumented with Application Response Measurement (ARM) API calls. The ttdconf.mwc file allows you to define transaction and application names, performance distribution ranges, and the service level objectives to be met by each transaction. See the *OV Performance Agent for Windows: Tracking Your Transactions* manual for more information on transaction tracking.

Customized Data Collection

With the Extended Collection Builder and Manager, you can configure customized data collections of Windows registry counters. See the Extended Collection Builder and Manager Online Help for details on how to build and manage Windows registry counter collections. The Online Help is available by choosing **Extended Collections** from the Configure menu in the OV Performance Agent main window. Then click the **Help** button from the Extended Collection Builder and Manager dialog box.

Using Data Source Integration (DSI) technology, you have another means for customizing data collections. Once you have your data collection method implemented, you can feed data into OV Performance Agent using DSI. Refer to the *OV Performance Agent for Windows Data Source Integration Guide* for information about using DSI.

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 detailed information about defining alarms, see Chapter 7, "Performance Alarms," in the *HP OpenView Performance Agent for Windows User's Guide*. This chapter describes the alarm definitions syntax, how alarms work, and how alarms can be used to monitor performance.

Controlling OV Performance Agent Services from the Command Prompt

OV Performance Agent services can be started and stopped from the Windows command prompt or from a batch file using the `ovpacmd` (`ovpacmd.exe`) command as described below.

You must be a member of the Administrators or Power Users group to execute these commands.

- **ovpacmd stop**
  stops the OV Performance Collector and OV Performance Agent services.

- **ovpacmd start**
  starts the OV Performance Collector, OV Performance Agent, Transaction Manager, Extended Collection services.

- **ovpacmd start dsi**
  starts the Data Source Integration service that allows for continual logging for data feeds configured in the `dsiconf.mwc` file.

- **ovpacmd stop dsi**
  stops the Data Source Integration service that allows for continual logging for data feeds configured in the `dsiconf.mwc` file.

An example of using the command prompt would be to restart OV Performance Agent services from a batch file to refresh OV Performance Agent configuration files if you want to automatically shift to a different set of alarm definitions during off hours. Include a command in the batch file to copy an alternate `alarmdef.mwc` file into the *<InstallDir>*\data directory.

Backup Considerations

You may want to keep the following items in mind when backing up a Windows system on which OV Performance Agent is installed and running.

- You need not stop OV Performance Agent services in order to back up the system.

- If OV Performance Agent services are running at the time of the backup, the files listed below are not included in the back up. Additional files may also be excluded in the back up if the OV Performance Agent program is open. If the backup program you use has the option to back up open files, you may want to set this option so that these files will be included in the backup.

  ```
  <InstallDir>\data\status.scope
  <InstallDir>\data\status.mi
  <InstallDir>\data\status.perflbd
  <InstallDir>\data\status.ttd
  <InstallDir>\data\status.rep_server
  <InstallDir>\data\status.alarmgen
  <InstallDir>\data\datafiles\logindx
  <InstallDir>\data\datafiles\logglob
  <InstallDir>\data\datafiles\logappl
  <InstallDir>\data\datafiles\logproc
  <InstallDir>\data\datafiles\logdev
  <InstallDir>\data\datafiles\logtran
  <InstallDir>\data\datafiles\agdb
  <InstallDir>\data\datafiles\agdb.lk
  <InstallDir>\data\datafiles\.perflbd.pid
  ```

- If OV Performance Agent log files are backed up while OV Performance Agent is running, each raw log file (`logglob`, `logappl`, `logproc`, `logdev`, and `logtran`) may contain a slightly different amount of data. This situation arises because each individual file is backed up at a slightly different time. This behavior may make the data more difficult to interpret if you ever have to restore the log files from the backup tape.

- If you want to stop OV Performance Agent services prior to backing up your system, you can do so by selecting **Start/Stop** from the Agent menu of the OV Performance Agent main window. (You can also use the Windows Control Panel, Windows command prompt, or a batch file to stop OV Performance Agent services as described earlier in this chapter).

- Restart the OV Performance Agent services after the backup is complete.

▶ Stopping and starting OV Performance Agent services causes a gap in your log files for the period while data collection is stopped.

Unattended Backups

Control OV Performance Agent services from a batch file if you want to stop OV Performance Agent prior to an unattended backup. You can then restart it automatically when the backup is finished.

Index

P

R

S

stopping
    OV Performance Agent, 14, 26, 48
    OV Performance Agent Services, 14, 26, 48
    processes prior to installation, 14

striped disks, collecting data for, 17

T

TCP/IP protocol
    required for OV Performance Agent, 12

temp directory, 17
    use of, 12

transaction tracking, 46

U

unattended backups, 49, 50

V

viewing
    documents on the web, 21
    PDF documents from UNIX, 22

W

Windows
    installation directory, 17
    Path variable, 17, 19
    temporary directory, 12, 17