HP Performance Agent

For HP-UX Operating System

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Installation and Configuration Guide

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1 Installing or Upgrading HP Performance Agent

HP Performance Agent captures performance, resource, and transaction data from your HP 9000 server, Integrity server, or workstation. Using minimal system resources, Performance Agent continuously collects, logs, summarizes, and time stamps data, and detects alarm conditions on current and historical data across your system. You can analyze the data using spreadsheet programs, or analysis products such as HP Performance Manager, or third-party analysis products.

Performance Agent provides data access to other HP products like HP Performance Manager, HP Network Node Manager, and HP Operations Manager.

Performance Agent supports monitoring of HP Integrity Virtual Machines. For more information, see Performance Agent in a Virtualized Environment on page 16.



The name Performance Manager refers only to versions 4.00 and later. The name Performance Manager 3.xx refers to the product that was formerly known as PerfView.

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 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.
- Perform service-level management based on transaction response time.
- Perform capacity planning.
- Respond to alarm conditions.

• Solve system management problems before they arise.

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

- Before using HP Performance Agent, you must review and accept the license terms and conditions detailed in the readme file available in /<directory>/<os>/README, where <directory> is your optical media directory.
- If you are running Performance Agent on a factory integrated system, skip this chapter and go directly to, Chapter 2, Starting and Running HP Performance Agent.

Installation Requirements

Before installing or upgrading Performance Agent, make sure that your system meets the requirements described in this section.



If you are planning to run a large number of dsilog processes, you might need to increase the values of the HP-UX kernel parameters shmml and nflocks. shmml specifies the maximum number of shared memory segments. nflocks specifies the maximum number of file locks on a system. The default value for each is 200.

Each active DSI log file set uses a shared memory segment and one or more file locks. You can change the settings for shown and nflocks through the System Administration and Maintenance utility (SAM).

Hardware

Performance Agent runs on HP 9000 and Integrity Servers, and HP Workstations supported on HP-UX 11i Version 1, Version 2, and Version 3 releases and later.

Software

Performance Agent requires release 11i v1 or later of the HP-UX operating system

- HP-UX 11i Version 1 (11.11) for the PA-RISC architecture.
- HP-UX 11i Version 2 (11.23) and later for both the Itanium (TM) and PA-RISC architectures.
- HP-UX 11i Version 3 (11.31) and later for both the Itanium (TM) and PA-RISC architectures.



Performance Agent is supported on standard operating system kernels. Modifying certain critical kernel parameters might affect product behavior.

Patches Required

You need to install patches on HP-UX 11.11 as applicable. The patch details are as follows:

- The PHCO_31903 (or superseding patch) must be installed to use the correct version of libc.
- The PHNE_27063 (or superseding patch) must be installed to use the correct version of libnm.1. This patch is a Cumulative ARPA Transport patch.
- The following patches for the performance tools to properly run with VERITAS Volume Manager 3.2:
 - PHKL_26419 for HP-UX B.11.11 (11.11) (or superseding patch)
 - PHCO_26420 for HP-UX B.11.11 (11.11) (or superseding patch)
- If multiple processor sets are configured on an HP-UX 11.11 system and you are using the log application=prm switch in the parm file to log APP_metrics by PRM Group, you must install the following kernel patch for it to function correctly:
 - PHKL_28052 (or superseding patch)

This revision of HP Performance Agent is verified to work with Process Resource Manager (PRM) version C.03.02.

HPUX 11.11 and beyond running EMC PowerPath v2.1.2 or v3.0.0 must have the latest EMC patches installed to avoid conflicts with the HP Performance Agent/GlancePlus products. Without these EMC patches, you may have problems such as HP Performance Agent/GlancePlus product core dumps or invalid disk queue metrics.

For the EMC PowerPath v2.1.2 release, use the following patch:

• EMCpower patch213 HP.2.1.3 b002 (or superseding patch)

For the EMC PowerPath v3.0.0 release, use the following patch:

EMCpower_patch301 HP.3.0.1_b002 (or superseding patch)

For more details about these EMC patches or to check whether a superseding patch is available, contact EMC Support.

Communication Protocols

Performance Agent supports only the HTTP(S) 1.1 data communication mechanism.

- If you are installing Performance Agent on a system which has HP Software products such as HP Operations Agent, HP Operations Manager Unix Management Server, HP Performance Manager, HP Performance Insight, and OV Internet Service, restart them after the Performance Agent installation is completed.
- If you are adding new hardware or making any configuration changes, it is recommended to stop scopeux and restart it to make the changes to take effect.
 - All the default OS daemons and services should be enabled and running for the HP-UX system.

Disk Space

Performance Agent installs in the <code>/opt/perf/</code> and <code>/opt/OV/</code> directories, and creates log and status files in the <code>/var/opt/perf/</code> and <code>/var/opt/OV/</code> directories.

- For first time installation of Performance Agent, 100 MB of disk space is required in the /opt/perf/ and /opt/OV/ directories.
- For Performance Agent databases and status files, allow for 125 MB of disk space in the /var/opt/perf/ and /var/opt/OV/ directories.
- HP Performance Agent requires 5MB of space in /tmp directory for installation logs.

For a description of how to use the parm file to configure log file data storage, see the "Parm File" section in Chapter 2 of the *HP Performance Agent for UNIX User's Manual*.

Install or Upgrade Procedures

Performance Agent is available on the DVD-ROM installation media in several file sets. The size of the product is approximately 260 MB.

If you previously installed a version of Performance Agent or GlancePlus on the system, stop any performance tools or processes that might be running. For instructions, see Stopping Active Performance Tools or Processes on page 12. For installation instructions, see Installing or Upgrading Performance Agent on page 13.

If you are also running the GlancePlus on your system, update GlancePlus to the same release version as Performance Agent. Both must always be the same version.

Stopping Active Performance Tools or Processes

- 1 Log in as **root** user.
- 2 To check for active performance tools, run perfstat by typing:

/opt/perf/bin/perfstat

If perfstat reports any active performance tools such as GlancePlus, stop them before installing Performance Agent.

- Before stopping any of the performance tools, make sure that none of the users are currently using these tools.
 - 3 If a previously installed version of Performance Agent is running, stop it by typing:

/opt/perf/bin/mwa stop

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

4 Make sure the midaemon (measurement interface daemon) is not active by typing:

ps -ef | grep midaemon

If the midaemon is still active, type:

/opt/perf/bin/midaemon -T

5 Make sure the ttd (transaction tracking daemon) is not active by typing:

ps -ef | grep ttd

If the ttd is still active, type:

/opt/perf/bin/ttd -k

- If you stop the ttd, you must also stop any ARM-instrumented applications that are running before you can restart ttd and Performance Agent process.
 - 6 Run perfstat again to make sure that no performance tools or processes are active. When all tools or processes have been stopped, proceed with the installation.

Installing or Upgrading Performance Agent

- 1 Log in as **root** user.
- 2 Run the swinstall program to install Performance Agent the same way you install any other software package on an HP-UX system.
- 3 The Performance Agent product is included as part of the GlancePlus Pak.
 - To install GlancePlus Pak, modify the swinstall source to point to your installation media and select the GlancePlus Pak bundle.
 Or
 - If you did not purchase the GlancePlus Pak, modify the swinstall source to point to your installation media and select the Performance Agent bundle.
- 4 The install process appends information to the end of the log files swinstall.log and swagent.log, available in /var/adm/sw/. These files contain system messages about the installation and records of any problems the system encountered. Check these files for error messages during installation and take appropriate action as needed.

To read the last 100 lines of the swinstall.log file, type the following command:

tail -100 /var/adm/sw/swinstall.log

If you run the program swinstall in an interactive mode, you can view the swinstall.log file while swinstall runs. Or you can check the files swinstall.log and swagent.log available in /var/adm/sw/ for any errors or problems.

Installation of Performance Agent automatically updates files used by /etc/profile/ and allows you to access the product's executable in /opt/perf/bin/. You can also access the man pages without explicitly updating the shell environment variables. This is effective from the next time you log in.

Performance Agent installation is now complete. For information on starting and running Performance Agent, see Chapter 2, Starting and Running HP Performance Agent.

For instructions to install HP Operations Agent, see the Installation Guide for HP Operations Agent available at the following URL:

http://h20230.www2.hp.com/selfsolve/manuals.

During a cluster maintenance operation, stop Performance Agent and restart after the maintenance operation is completed.

Deploying Performance Agent Using Operations Manager

If you are using HP Operations Manager for UNIX 8.x, HP Operations Manager for UNIX 9.0, or HP Operations Manager for Windows 8.10, you can deploy HP Performance Agent from the management server to a Windows managed node.

For details on deploying Performance Agent from the HP Operations Manager for UNIX mangement server see *HP Performance Agent Deployables for the HP-UX 11i v3*, *Linux 2.6 (RHEL 5.3 x64) and Solaris Operating Systems for HP Operations Manager for UNIX 8.x and 9.0*.

For details on deploying Performance Agent from the HP Operations Manager for Windows management server see the HP Operations Manager for Windows *Online Help*.

Installing Files on a Remote Drive

You can link the /var/opt/perf/ directory to a different file system, if the disk space is a concern; for example, if your /var/opt/perf/ directory can be redirected to a non-local file system, such as a remote NFS mount point. Consider the following:

- Performance Agent does not support remote NFS logging in a WAN environment. Performance Agent is designed to optimally use locally mounted log files.
- Remote NFS mounting of log files in a LAN environment could cause network overloading depending on data logging thresholds, which can negatively impact the performance of Performance Agent and other networked applications. Also, log file maintenance can take substantially longer due to the remote access, which can cause time-out errors in alarm processing.



For more information and specific details about this version of Performance Agent, see the *Release Notes* available in the HP Software Manuals doc server web site http://h20230.www2.hp.com/selfsolve/manuals.

Performance Agent in a Virtualized Environment

This version of Performance Agent supports monitoring of HP Integrity Virtual Machines (HPVM). Performance Agent can be installed both on the guest and host operating systems. For installation procedures see Install or Upgrade Procedures on page 12.



HPVM 1.00 is not supported by Performance Agent and HP GlancePlus.

Performance Agent on the Host Operating System

The host operating system is the system on which HPVM is installed. When installed on the host machine, Performance Agent captures the following:

- System wide performance, application, transaction and resource usage data
- Individual virtual machine performance and resource usage data
- A new class of metrics, BYLS, which is introduced to record performance and resource data for individual guest operating systems.

Performance Agent on the Guest Operating System

Guest operating systems are the systems that run on HPVM. When installed on the guest operating system, Performance Agent captures system wide performance, resource, and transaction data. All the resource utilization values captured represent the logical utilizations.

To capture guest-specific virtualization metrics, make sure that:

- HPVM guest library VMGuestLib is installed on the guest
- VMGuestLib installed on the guest is the same version as that installed on the Host

For information on installing guest libraries, see the *HP Integrity Virtual Machines Installation, Configuration, and Administration Guide*, Section 4.2 Installing HP-UX Guest Management Software.

For a complete list of metrics and descriptions, see the *Dictionary of Performance Metrics*.

Removing Performance Agent

- 1 Log in as root.
- 2 Run the swremove program to uninstall Performance Agent the same way you uninstall any other software package on an HP-UX system.
- 3 The Performance Agent product is included as part of the GlancePlus Pak.
 - To uninstall GlancePlus Pak, modify the swinstall source to point to your installation media and select the GlancePlus Pak bundle Or
 - If you did not purchase the GlancePlus Pak, modify the swinstall source to point to your installation media and select the Performance Agent bundle.
- 4 The uninstall process appends information to the end of the two log files named /var/adm/sw/swremove.log and /var/adm/sw/swagent.log. These files contain system messages and records of any problems the system encountered during uninstallation. Check these log files for any error messages that were logged during the uninstallation and take appropriate action as needed.

To read the last 100 lines of the swremove.log file, type the following command:

tail -100 /var/adm/sw/swremove.log

If you run swremove in an interactive mode, you can view the swremove.log file while swremove is running. Otherwise, you can check the files swremove.log and swagent.log in /var/adm/sw/ for any errors or problems during uninstallation.

Some product packages might remain installed on the system, if those packages are shared across other HP Software products and are required by other tools. They are removed only when the last tool requiring them is also removed.

2 Starting and Running HP Performance Agent

Introduction

This chapter contains instructions to start and run Performance Agent on a HP-UX system.

The following topics are discussed:

- procedures for Starting and Stopping Performance Agent
- Communicating Across a Firewall
- setting variables in the /etc/rc.config.d/ovpa file
- running Performance Agent
- Parm File Configuration for HP-UX systems
- Configuring Data Sources
- configuring alarm definitions
- configuring coda



To log data from other sources using data source integration (DSI), refer to the *HP Performance Agent for UNIX Data Source Integration Guide*.

Starting and Stopping Performance Agent

The ovpa and mwa scripts allow you to perform the following tasks:

- Start all or some of the processes
- Stop or restart processes that are currently running.

If you are installing or upgrading Performance Agent, the default data communication mode is HTTP.



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

The following table lists the different services that can be started for the HTTP protocol

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

Before you start Performance Agent, check for any processes which are running by typing:

/opt/perf/bin/perfstat

Using the Performance Agent or mwa Script

To Start Performance Agent and its processes using ovpa or mwa script:

- 1 Log in as user **root**.
- 2 Type: /opt/perf/bin/ovpa start for Performance Agent /opt/perf/bin/mwa start for mwa

The ovpa start script starts Performance Agent and the following processes:

- scopeux (the data collector)
- midaemon (the measurement interface daemon)
- ttd (the transaction tracking daemon)
- coda daemon
- ovc
- ovbbccb
- the alarm generator.

As the script executes, the status of the processes that are started is displayed on the screen.

To Stop Performance Agent

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

The command ovpa stop stops all Performance Agent processes except the following:

- ttd (the transaction tracking daemon)
- ovc
- ovbbccb

These should always be left running.



If Operations Manager agent is running on the system, Performance Agent stop will not stop the coda daemon.

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

The command ovpa stop scope stops scope, and it also stops midaemon if no other application is attached to midaemon.

To Restart Performance Agent

Use the following command options to restart Performance Agent:

- The ovpa restart server or mwa restart server command performs the following tasks:
 - Temporarily stops and restarts coda
 - Disables the alarming and access for clients such as Performance Manager
 - Reads the datasources file
 - Stops and restarts the perfalarm processes
 - Reads the alarmdef file.
- The ovpa restart or mwa restart command performs the following tasks:
 - Temporarily stops and restarts scopeux and the server processes
 - Reads the parm file
 - Prompts the transaction daemon ttd to read the configuration file ttd.conf.
- The ovpa restart alarm or mwa restart alarm command prompts the alarm generator process to reread the alarmdef file. If you made changes to the alarmdef file, the new alarm definitions take effect without restarting all Performance Agent processes. This command does not disrupt other processes.

Starting and Stopping Automatically

The process of automatically starting Performance Agent whenever the system restarts, and automatically stopping whenever the system shuts down is controlled by the Performance Agent startup and shutdown script, and the Performance Agent startup configuration file /etc/rc.config.d/ovpa.

The Performance Agent startup configuration file contains various environment variables that control Performance Agent at system startup. This file is a source file for the Performance Agent system startup and shutdown script.

You can modify the following environment and shell variables to change the default behavior of Performance Agent:

- MWA_START controls the auto-start of Performance Agent whenever your system reboots. The variable can have one of the following values:
 - 0 Do not start Performance Agent at system startup.
 - 1 Start Performance Agent at system startup.
- MWA_START_COMMAND specifies the script options that are used to start Performance Agent whenever your system reboots. Normally, the variable is set to /opt/perf/bin/mwa start.
- The Performance Agent startup configuration file is not overwritten when Performance Agent is patched or updated, so that any customizations you made are preserved.

Status Checking

Several status files are created in the /var/opt/perf/ and /var/opt/OV/ directories when Performance Agent is started. You can check the status of 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 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 the Performance Agent process writes a message to its status file, it checks to see if the file is larger than 1 MB. If it is, the file is renamed status.filename.old and a new status file is created.

Examples Directory

The <code>/opt/perf/examples/</code> 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 <code>/opt/perf/examples/ovpaconfig/</code> subdirectory contains sample alarm definitions and examples of <code>parm</code> file application-specific parameters. For more information, see the <code>/opt/perf/examples/README</code> file.

Communicating Across a Firewall

A firewall can be defined as a method for filtering the flow of data between one network and another. Performance Agent supports HTTP communications interface for data access between clients such as Performance Manager and Reporter and server applications, in addition to the previously supported communication mechanism through a packet-filtering network firewall.

Performance Agent supports certificate-based secure (HTTPS) data communication only in the Operations Manager 8.xx environment. For more information, see Using Certificates on page 32.

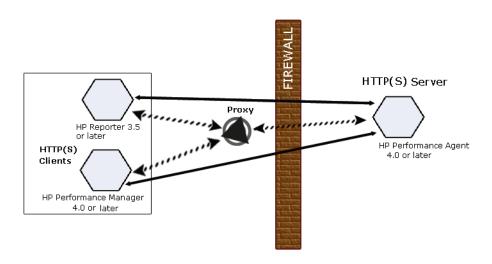
The HTTP-based interface is flexible, because it can use proxies, requires fewer ports, and is firewall friendly. The following section explain how to configure HTTP communication across a firewall.

The name Performance Manager 3.xx refers to the product that was formerly known as PerfView.

Communicating in the HTTP Environment

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. 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.

The following figure shows how Performance Agent communicates with Reporter (version 3.50 or later) and Performance Manager (version 4.00 or later) through a firewall. Performance Agent is an HTTP or HTTPS server. Reporter and Performance Manager 4.xx are HTTP clients. Performance Manager 5.00 can be an HTTP or HTTPS client. If an HTTP proxy is used, Reporter and Performance Manager communicate with Performance Agent through the proxy.



Configure Performance Agent Ports

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

You can configure Performance Agent ports in a firewall environment in the following ways:

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 <code>ovconfchg</code> command to change the port settings on the Performance Agent system. You can use one of the following options:

— ovconfchg -ns bbc.cb -set SERVER PORT <port>

Or

- ovconfchg -ns bbc.cb.ports -set PORTS <domain>:<port>
Example: ovconfchg -ns bbc.cb.ports -set PORTS
xvz.abc.com:50383

The second option is the preferred way of changing ports.

Restart Performance Agent using the following command:

ovpa restart server

Configure Two-Port Communication

By default, the 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 Performance Agent remotely through a firewall can be difficult, because you may not know which firewall ports to open.

Configure Single-Port Communication

On the 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

To enable two-port communication from single-port communication, type the following command:

ovconfchg -ns coda.comm -set SERVER BIND ADDR

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
- Whether secure communication is enabled
- Whether 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

To access data from Performance Agent nodes, only one port needs to be opened on the HTTP server (Performance Agent) side.

You can to configure HTTP clients in a firewall environment in the following ways:

Configuring HTTP Clients (Reporter/Performance Manager) 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 Performance Agent, ports for the HTTP server (Performance Agent) and the HTTP client (Reporter and Performance Manager) must be opened.



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

When an HTTP proxy is used, Reporter Performance Manager for Windows and UNIX needs to be configured to specify the proxy to be used to contact Performance Agent.

To configure Performance Manager versions 5.00 and later, and Reporter 3.7x and later, 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 might be defined for one PROXY key using the ";" or "," delimiter. The delimiter "–" before the list indicates that those entities do not use this proxy, and "+" list indicates that those entities do use this proxy. The first matching proxy is used.

To configure Reporter versions 3.60 and earlier, and Performance Manager 4.xx, 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/Performance Manager) without HTTP Proxy

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

If Reporter and Performance Manager for Windows are installed on the same system and both access Performance Agent 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 Performance Manager and Reporter you are using, select from the following options:

Configure Performance Manager 5.00 and later, and Reporter 3.7x by typing the following command,

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

In this instance, *<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 3.60 and earlier, and Performance Manager 4.xx by editing the /var/opt/OV/conf/BBC/default.txt file as follows:

- 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>
```

In this instance, *<port range>* is the range of ports you want to use; for example:

```
CLIENT PORT = 14000 - 14003
```

Verify Firewall Configuration

To verify your configuration, run the following command:

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

The output of this command indicates the status of your communication settings; for example:

```
/opt/perf/bin/ovcodautil -ping -n ovpaixt6
```

The following message appears:

```
Ping of 'OvBbcCb' at: 'http://ovpaixt6:383/Hewlett-Packard/
OpenView/BBC/ping' successful
Ping of 'Coda' at: 'http://ovpaixt6:34425/Hewlett-Packard/
OpenView/Coda/' successful
```

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, you can use the parameters <code>CLIENT_BIND_ADDR</code> and <code>SERVER_BIND_ADDR</code> to specify the IP address that should be used.

• If you have multiple network interfaces and IP addresses on the Performance Agent (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 Performance Manager 5.00 (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/ Performance Manager 4.xx system, specify the CLIENT_BIND_ADDR parameter.

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

 Locate the lines that apply to CLIENT_BIND_ADDR and uncomment the line

```
;CLIENT BIND ADDR =
```

Specify the IP address for the CLIENT_BIND_ADDR parameter.

Configuring Secure Communication

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

Using Certificates

Performance Agent supports certificate-based secure data communication only in the Operations Manager 8.xx environment.

To configure secure communication on your Operations Manager setup, see the *HP Operations Manager for UNIX Firewall Concepts and Configuration Guide*. For more information on Operations Manager 8.xx HTTPS agent, see the *HP Operations Manager HTTPS Agent Concepts and Configuration Guide*.

If you already configured HTTPS communication in the Operations Manager 8.xx environment, make the following changes to configure secure communication between Performance Agent and Performance Manager 5.00.



Reporter and Performance Manager 4.xx do not support certificate-based secure communication.

On the 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

Performance Agent enables optional authentication of client connections from products such as Performance Manger or Reporter. The authentication capability allows you to specify, for a given 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 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 Performance Agent. Unauthorized clients receive a message indicating denial of service.

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, its contents determine which hosts are permitted client connections. Clients running on the same host as the 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 Performance Agent host can connect.
- If the authip file does not exist in the default directory, no authentication is performed and any client will be allowed to connect, as was the case with prior Performance Agent versions.

The authip file is checked each time a client attempts to register for service with Performance Agent. 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, which would otherwise disqualify it, until the client takes an action that requires re-registration with Performance Agent. Thus, an authorized Performance Manager connection continues to be permitted, regardless of changes in the Performance Agent authip file, until the data source to the 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.

In the case of Performance Manager 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. If you want to force removal of a client from the server's alarm generator database from the Performance Agent side, use the command:

agsysdb -delpv <host>

The Performance Agent client authentication capability requires that your network be able to resolve the client entries in the authip file. Depending on 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 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 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 pound sign (#) 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 the following /etc/hosts entry:

```
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:

```
# 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

Performance Agent uses the coda daemon to provide collected data to the alarm generator and the 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 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 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 server skips the data source.

You might also choose to stop logging DSI data to a log file set but keep the coda daemon open so you can view the historical data in Performance Manager. In this case, stop the dsilog process but do not delete the data source from the datasources file.

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 and it is case-insensitive. **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 Performance Agent for UNIX Data Source Integration Guide*.

Parm File Configuration

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

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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 Performance Agent alarmdef file which is a text file. When 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 Performance Agent for UNIX User's Manual*. This chapter describes the alarm definitions syntax, how alarms work, and how alarms can be used to monitor performance.

Native Language Support

A feature of the Performance Agent extract and utility programs running on HP-UX systems is native language support (NLS).

The extract and utility programs can support the date and time formats of other native languages if you use the NLS feature of the HP-UX operating system.

If a native language is installed and selected on your system, the extract and utility programs make the following adjustments:

- Dates and times are entered and printed in the language specified in the NLS package. If a date or time is entered in an unrecognizable format, the program prompts you with an example in the correct format.
- The text for the help command is obtained from extract.help and utility.help. These files are located in the /opt/perf/help/ovpa/\$LANG directory where \$LANG is the language specified for this system. The default language is "C." If a help catalog cannot be found in the \$LANG directory, the default help files are used.

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Performance Agent Documentation

Performance Agent software includes the following documents. You can view the Adobe Acrobat format (*.pdf) documents online and print them as needed. The ASCII text (*.txt) documents are printable. You can view a text file on your screen using any UNIX text editor such as vi.

Document	File Name	UNIX Location
HP Performance Agent for HP-UX Installation & Configuration Guide	ovpainst.pdf	/opt/perf/paperdocs/ovpa/C/
HP Performance Agent for UNIX User's Manual	ovpausers.pdf	/opt/perf/paperdocs/ovpa/C/
HP Performance Agent for UNIX Data Source Integration Guide	ovpadsi.pdf	/opt/perf/paperdocs/ovpa/C/
HP Performance Agent for UNIX & GlancePlus: Tracking Your Transactions	tyt.pdf	/opt/perf/paperdocs/arm/C/
Application Response Measurement (ARM) API Guide	arm2api.pdf	/opt/perf/paperdocs/arm/C/
HP Performance Agent HP-UX Metric Definitions	methpux.txt	/opt/perf/paperdocs/ovpa/C/
HP Performance Agent 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 Software Product Manuals web site at:

http://h20230.www2.hp.com/selfsolve/manuals

Relect redestination phise select computer. place

From HP-UX, you can read a . PDF file using the acroread command, if Adobe Acrobat Reader is installed 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 Metrics.txt

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A Configuring Coda

Coda is a lightweight data collection agent for HP Operations Agent. It is a subset of Performance Agent and acts as a communication conduit for Performance Agent. All the configuration parameters are configured under the namespaces coda and coda.comm using the command ovconfchg.

Coda Namespace

Configuration parameters in the coda namespace	Description	Default Value
DISABLE_PROSPECT OR	Used to disable data collection from coda datasource in a coexistence environment of HP Operations Agent and Performance Agent	false

Configuration parameters in the coda namespace	Description	Default Value
ENABLE_PROSPECT OR	Used to enable data collection from coda datasource in a standalone environment of Performance Agent	false
SSL_SECURITY	Used to enable secure communication from coda	NONE
RESPONSE_SIZE_LIM IT	Used to specify the maximum amount of memory allocated by coda	104857600 (100 megabytes)

DISABLE_PROSPECTOR

Use this option to specify the data collection preferences through coda, when both the HP Operations Agent and Performance Agent 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

ENABLE_PROSPECTOR

Use this option to specify the data collection preferences through coda, when only Performance Agent is installed. The default value is false. This parameter is ignored in a coexistence scenario. The format is as follows:

ovconfchg -namespace coda -set ENABLE PROSPECTOR < value>

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

To verify if coda prospector is enabled, type the following command:

ovcodautil -dumpds coda

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



Use this parameter only when certificates are present on the system. Certificates are installed only if HP Operations Agent 8.xx is present on the system.

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 (100megabytes). The format is as follows:

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

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

Response exceeds memory limits, use several smaller requests

Coda Communication Namespace (coda.comm)

Configuration parameters in the coda.comm namespace	Description	Default Value
SERVER_PORT	Used to configure port settings	0
SERVER_BIND_ADDR	Used to specify bind address for the server port	INADDR_ANY
LOG_SERVER_ACCES S	If set to 'true', coda logs every access to the server providing the information about sender's IP address, requested HTTP address, requested HTTP method, and response status.	false

SERVER_PORT

You can configure the port settings of the default port used by the coda. The default value for this port is 0. If the port is set to 0, the operating system assigns the first available port number. Use the ovconfchg tool to change the port settings on the Performance Agent system. Type the command:

ovconfchg -namespace coda.comm -set SERVER_PORT cport no>

SERVER BIND ADDR

Use this option to specify the bind address for the server port. When the value is set to localhost, all the communication to coda server takes place through ovbbccb. The format is as follows:

ovconfchg -namespace coda.comm -set SERVER_BIND_ADDR $<\!Bind$ $address\!>$

LOG SERVER ACCESS

You can enable or disable the access to server using this option. If this option is set to true, coda records every access to the server, providing information about the sender's IP address, requested HTTP address, requested HTTP method, and response status. This value typically is not changed.

ovconfchg -namespace coda.comm -set LOG SERVER ACCESS < value>

Single Port Communication

This is the default communication method with Performance Agent. Use the following options to enable single-port communication in coda:

```
ovconfchg -ns coda -set SSL_SECURITY REMOTE/ALL ovconfchg -ns coda.comm -set SERVER_BIND_ADDR localhost
```

Multi Port Communication

Use the following option to enable multi-port communication in coda:

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

There are two methods to find out single-port and multi-port communication in coda:

You can use the following option to verify if the port is used for single-port or multi-port communication from the local host machine:

```
bbcutil -reg
```

For single-port communication,

```
BasePath=/Hewlett-Packard/OpenView/Coda/
Protocol=HTTPS
BindAddress=localhost
Port=59814
Authentication=NONE
```

If the value returned is local host or 127.0.0.1, it is single-port communication.

For multi-port communication,

```
BasePath=/Hewlett-Packard/OpenView/Coda/
Protocol=HTTPS
BindAddress=ANY
Port=381
Authentication=NONE
```

If the value returned is any other value other than local host, it is multi-port communication.



bbcutil will be present in the <*Install Dir*>/bin directory.

You can use the following option to verify if the port used is for single-port or multi-port communication from a system other than local host:

```
ovcodautil -n <hostname> -ping
```

For example,

ovcodautil -n ovphpt4 -ping

For single-port communication,

Ping of 'OvBbcCb' at: 'http://ovphpt4:383/Hewlett-Packard/ OpenView/BBC/ping' successful

Ping of 'Coda' at: 'http://ovphpt4:383/Hewlett-Packard/OpenView/ Coda/' successful

For multi-port communication,

ovcodautil -n ovphpt4 -ping

Ping of 'OvBbcCb' at: 'http://ovphpt4:383/Hewlett-Packard/ OpenView/BBC/ping' successful

Ping of 'Coda' at: 'http://ovphpt4:62581/Hewlett-Packard/OpenView/Coda/' successful

The port numbers are different in the two outputs.



For the coda clients, all the parameters in the coda.comm namespace override the parameters defined in the bbc.http namespace.

Communication Broker Namespace (bbc.cb)

Configuration parameters in the bbc.cb namespace	Description	Default Value
SERVER_PORT	Used to configure port settings	383
SERVER_BIND_ADDR	Used to specify bind address for the server port	INADDR_ANY

SERVER_PORT

You can configure the port settings of the default port used by the communication broker. The default value for this port is 383. Use the ovconfchg tool to change the port settings on the Performance Agent system. The format is as follows:

ovconfchg -namespace bbc.cb -set SERVER_PORT $< port \ no >$



If a port is already defined in the communication broker port namespace (bbc.cb.ports), the operating system assigns it as the default port and overrides the SERVER_PORT value.

SERVER_BIND_ADDR

Use this option to specify the bind address for the server port. The format is as follows:

ovconfchg -namespace bbc.cb -set SERVER_BIND_ADDR $<\!Bind$ $address\!>$

Communication Broker Port Namespace (bbc.cb.ports)

Configuration parameter in the bbc.cb.ports namespace	Description	Default Value
PORTS	Used to define the list of ports for all the communication brokers in the network that may be contacted by the applications on this host. The client applications use this as target port to communicate with the communication broker in the network. If the host name matches with one of the entries in this port settings, then the local communication broker port will be set to the port specified here.	The value of ports is not set by default.

PORTS

This configuration parameter must be the same on all nodes. To change the port number of a communication broker on a particular host, the hostname must be added to the parameter.

```
For example,
```

```
name.hp.com:8000
```

You can use an asterisk as a wild card to denote the entire network

```
*.hp.com:8001
```

You can use a comma or a semicolon to separate entries in a list of hostnames.

```
For example,
```

```
name.hp.com:8000, *.hp.com:8001
```

In this example, all the hostnames ending with hp.com will configure their BBC communication broker to use port 8001 except the host "name", which will use port 8000. All the other ports uses the default port 383.

You can also use the IP addresses and asterisk (*) to specify the hosts.

For example,

```
15.0.0.1:8002, 15.*.*.*:8003
```

Run the following comamnd to set ports

```
ovconfchg -namespace bbc.cb.ports -set PORTS <port no>
```

HTTP Namespace (bbc.http)

Configuration parameters in the bbc.http namespace	Description	Default Value
RESPONSE_TIMEOUT	Used to specify the maximum number of seconds to wait for a response	300
CLIENT_PORT	Used to specify bind port for the client requests	0
PROXY	Used to specify the proxy and port to be used for the specified hostname	The value of proxy is not set by default.

RESPONSE_TIMEOUT

Use this option to specify the maximum number of seconds to wait for a response. The default value is 300. The format is as follows:

ovconfchg -namespace bbc.http -set RESPONSE_TIMEOUT <value>

CLIENT_PORT

Use this option to specify the bind port for the client requests. The default value is port 0. The operating system assigns the first available port. This parameter is ignored for the requests to the localhost.



On a Windows system, this parameter should be defined on a large value because a Windows system does not immediately release ports for reuse.

PROXY

Used to specify the proxy and port to be used for the specified hostname.

The format is as follows:

```
proxy:port+(a)-(b);proxy2:port2+(a)-(b); ...;
```

In this instance, the variables a and b are comma or semicolon separated lists of hostnames that apply to the proxy.

- a: for which the proxy shall be used
- b: for which the proxy shall not be used

The first matching proxy is chosen.

You can also use the IP addresses instead of hostnames. For example, 15.*.*.* is also valid, provided correct number of dots and colons is specified.

Glossary

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 Performance Manager) and to Operations Manager. 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 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

 $See \ {\bf logappl}.$

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.

data source

Consists of one or more classes of data in a single scopeux or DSI log file set. For example, the 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 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 Software applications.

device

An input or output device connected to a system. Common devices include disk drives, tape drives, DVD-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 Performance Agent's DSI programs.

extract

A 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, Performance Manager. This file format is suitable for input to the extract and utility programs and is the preferred method for archiving performance data.

GlancePlus (or Glance)

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.

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.

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) 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.

midaemon

A Performance Agent program that collects and counts trace data coming from the operating system kernel and stores the counters in the shared memory segment. This data is the main source of performance data for scopeux.

ovbbccb

The Operations Manager Communication Broker for HTTP(S) based communication controlled by ovcd. See also coda and ovc.

ovc

The Operations Manager controlling and monitoring process. In a standalone Performance Agent installation, oved monitors and controls coda and ovbbecb. If Performance Agent is installed on a system with Operations Manager for UNIX 8.x agent installed, oved also monitors and controls Operations Manager for UNIX 8.x processes. See also coda and ovbbecb.

ovpa script

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

HP 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.

parm file

A 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 HP 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.

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

The ability to change 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.

scopeux

The 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 file**.

scopeux log files

See raw log file.

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.

transaction log file

See logtran.

transaction tracking

The technology used in Performance Agent that allows information technology (IT) resource managers to measure the 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.

utility

A 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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