

HP Performance Insight

for the HP-UX, Solaris, and Linux operating systems

Software Version: 5.41

Installation and Upgrade Guide for Sybase Databases

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1 Introduction

This guide describes how to install and upgrade the Sybase database and HP Performance Insight (PI) 5.41 in an operating environment that best serves your users.

The Guide Map

The guide is divided into 3 sections to help you access information easily:

Installation

- [Chapter 2, The Installation Flowchart](#) contains a flowchart that provides an overview of the installation process.
- **Chapter 3 to Chapter 7** describe the pre-installation, installation, and post-installation steps for both PI and Sybase.

Upgrade

- **Chapter 8** and **Chapter 9** describe the steps to upgrade Sybase and PI from your existing setup.
- PI 5.41 supports only Sybase Adaptive Server Enterprise version 15.0.2 for 32-bit platforms. You can find the upgrade instructions in [Chapter 8, Upgrading to Sybase 15.0.2](#).



On Linux 64 bit platform, PI 5.41 supports Sybase Adaptive Server Enterprise version 15.0.3 only.

Uninstallation

Chapter 10 and **Chapter 11** describe how to uninstall PI and Sybase respectively.

The PI Architecture

PI uses a modular client-server architecture that enables you to start with a single standalone system and add to it as needed.

You can install PI as either a standalone operating environment or as a distributed operating environment. This section contains information about both implementations and about how to choose between them.

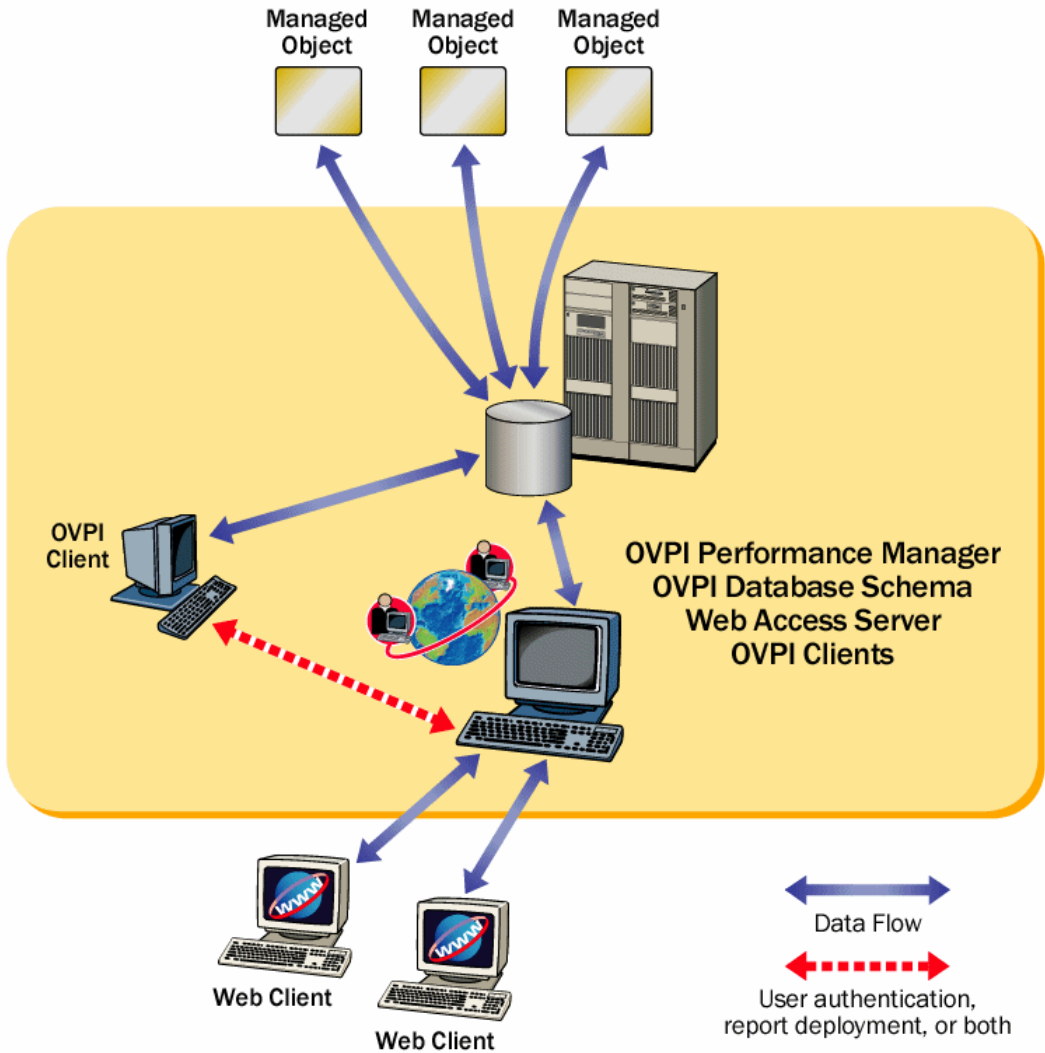
Installing PI in a Standalone Environment

In a standalone environment, all PI components are installed on one system. The system is capable of polling the managed objects, gathering and processing performance data, hosting the PI web site, producing performance reports, and running the PI clients.

The standalone setup is simpler and easier to manage than the distributed PI setup.

You can implement a standalone PI environment to monitor the network performance of the systems in a single building, for a single group of users, or if your network contains fewer than 20,000 managed objects.

The following figure shows a standalone PI environment.



Installing PI in a Distributed Environment

In a large enterprise, a single system may not provide the processing power or space for PI to optimally monitor the network, which makes it necessary to distribute the load.

When PI components are installed across systems to create a network-wide configuration, it is called a distributed PI environment. Although the PI components are installed on physically discrete systems, they operate as a single system.

PI in a distributed setup can monitor networks that are often large and geographically dispersed. You can position the various PI components throughout the network to reduce network load and optimize system performance.

Setting up the Distributed Environment

In a distributed PI environment, you must install the same version of PI, including patch levels, on all the systems in the environment.

The PI functions that can be located separately are:

- Data collection
- Data management (processing and summarization)
- Data reporting

All three functions are integrated and their physical location does not affect their integration.

For the most cost-effective use of resources, you can use different platforms to run the different functions. For example, you can use PCs running the Windows operating system as remote polling systems to collect data, and UNIX machines as database servers to store and process data.

Central Database Server

In a distributed PI setup, the main processing and reporting unit is the **central database server**, which can be accessed by users throughout the network. Typically, there is only one central database server, and it must have a large amount of disk space, memory, and processing power.

The central database server performs data management in a distributed setup.

Satellite Servers

You can set up multiple **satellite database servers** in the distributed environment, each one responsible for data collection and initial data processing. The data from each satellite database server is uploaded to the central database server, where it is combined with other data.

The satellite servers perform data collection and data processing.

Remote Pollers

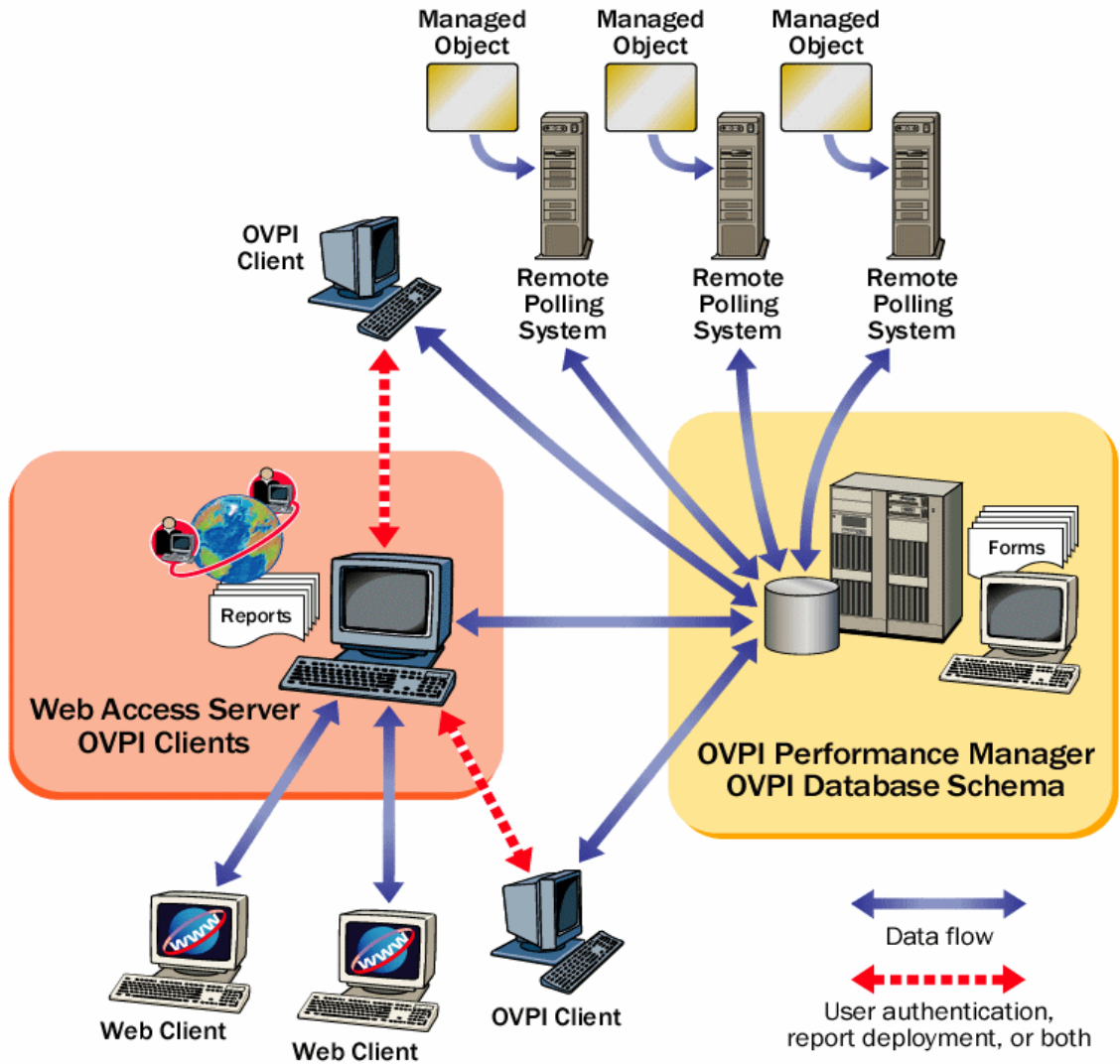
Data collection places a significant load on the network and is a time-sensitive process. In a distributed environment, remote polling systems called remote pollers are located close to the target devices they poll to localize polling traffic and minimize delays. Each remote poller is linked to a satellite server. The remote poller polls multiple devices and communicates with its parent satellite database server.

The remote pollers perform data collection.

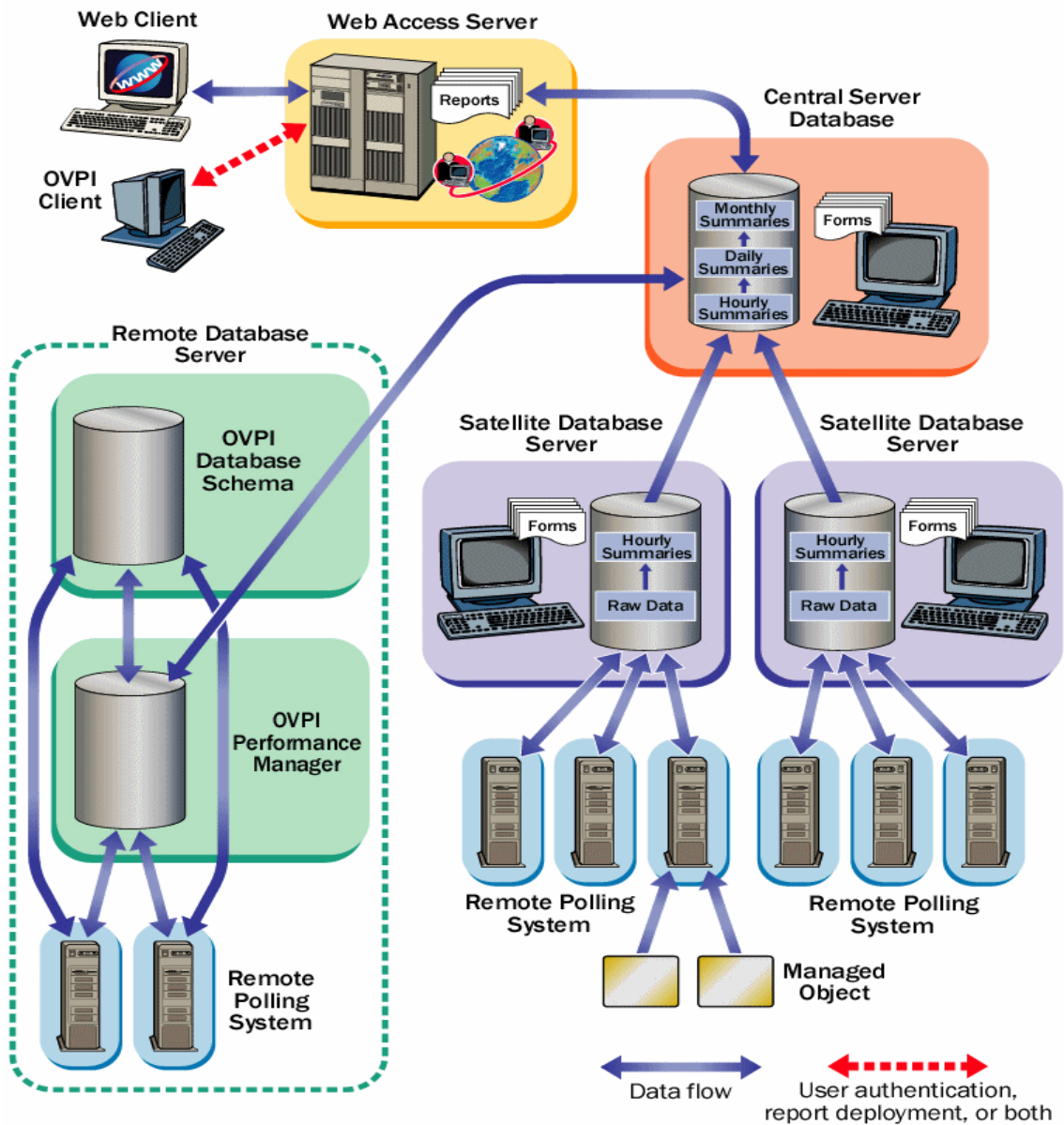
Web Access Server

The Web Access Server is a system dedicated to servicing incoming report requests from connected web-based client workstations and PI client workstations. Typically there is only one Web Access Server in any distributed environment.

The following figure shows an example of a simple distributed PI environment, where the central database server is performing all functions except web hosting and remote polling.



The following figure shows a more complex distributed PI environment that improves performance in a large, geographically-dispersed network. In this example, multiple satellite database servers serve individual regions.



In the previous scenario, data is collected and compiled locally by the Satellite server and then uploaded to the central server database.

The satellite servers function as a complete standalone system and perform complete data aggregation and reporting. In addition, the satellite servers copy some of their data to the central database server. This enables you to view regional reports from the satellite servers. You can view reports on network-wide data reporting from the central database server.

Use Cases for a Distributed PI Setup

You can consider the following use cases for implementing a distributed PI setup:

Use case 1: Number of Managed Nodes

The number of objects on which PI needs to report has a direct effect on the number of PI systems required. You would, typically set up a distributed PI setup if your network has more than typically 20,000 managed objects for polling and summarization. The HP sales representative can help you determine your PI system requirements.

Use case 2: Location of Managed Nodes

You have a large network that is geographically spread out and you want see region specific data, you may decide on setting up remote pollers. Installing remote pollers close to the managed objects devices can reduce the distance the SNMP data packets must travel. This increases polling response times and improves data collection reliability and performance.

Use case 3: Viewing Reports

- **Regional reports:** If your network is spread across several regions, you can use one satellite database server per region. If the users located in a region want to view reports specific to that region, you can configure each satellite server to perform full data-processing. Also install a Web Access Server on the satellite server.

Though this places higher processing load on the satellite database servers, it considerably reduces the network traffic and the time taken to access a regional report.

- **Near real time reports:** The Satellite database server processes the collected data every hour and copies this processed data to the central database server. This reduces the processing load on the central database server and also the network congestion between satellite server and central database server. However, this reduces the granularity of the reports available at the central database server.

If reports on near real time data are required. It is best that the central server directly collects the raw data.

PI Components

PI includes the following components:

- PI Database Schema
- PI Performance Manager
- Web Access Server
- PI Clients
- Management Server
- Remote Poller

PI Database Schema

The PI database is the primary repository for the data that is collected, processed, and reported on by other PI applications. The PI database configures the database server for PI and creates the PI schema. For Sybase databases, the database schema component creates the database segments for PI.

The management server component is installed with the database schema component.

PI Performance Manager

The performance manager component of PI is different from the HP Performance Manager product.

The performance manager component provides an engine for storing, processing, and accessing data collected from applications and network devices throughout your network. Data is automatically aggregated, summarized, and aged out by the performance manager.

The performance manager consists of a relational database and the server software. The database is the storage area that contains the data collected and processed by the PI server. The size of the database depends on various factors, including the amount of data you want to store and the number of elements you poll. The server contains the programs that collect, process, and report on the data.

Performance Manager can be installed on one or more physical servers. One of the physical servers is the central server, which is the main repository for the data and the PI system. The central server processes the data and generates reports. The central server must have a large amount of disk space, memory, and processing power. Typically, in a PI setup, there is only one central server.

The other physical servers are the satellite servers. The satellite servers contain the polled data and the PI systems. Typically, the satellite servers perform the first level of processing and then transfer of the data to the central server. However, you can configure the satellite servers to transfer the data to the central server without processing (the amount of data to transfer may be very large in this case and might affect network performance). Alternatively, you can also configure the satellite servers to transfer the data to the central server after complete processing.

A large deployment of PI can consist of multiple satellite servers.

Web Access Server

The Web Access Server is both a service and an application. It is installed as a service and the following PI client applications are automatically installed with it:

- Report Builder
- Report Viewer
- Web Access Server (application server)
- Management Console

As a service, the Web Access Server provides authentication and configuration services to the PI client. It also provides web-based reporting and user administration utilities.

PI Clients

The clients provide the interface to PI. You can install a client on any computer connected to the network. The PI client applications are:

- **Report Builder:** enables you to build and customize reports with multiple tables and graphs based on data from the PI database. See the *Performance Insight Guide to Building and Viewing Reports* for details.
- **Report Viewer:** enables you to interactively view, modify, save, and print reports. See the *Performance Insight Guide to Building and Viewing Reports* for details.
- **Web Access Server:** The web access server component contains a web-based application server, also called as the web access server. The web access server application enables you to view, schedule, generate, and deploy reports. It also enables you to perform the administration tasks that pertain to the PI client applications and services.
- **Management Console:** enables you to perform administrative tasks using the following applications:
 - Database Tuner: enables you to set many database configuration parameters to improve overall data throughput.
 - MIB Browser: enables you to analyze, query, and troubleshoot Structure of Management Information (SMI)-compliant SNMP MIBs.
 - SNMP Discovery: enables you to find the nodes in your network and determine whether a node is SNMP manageable.
 - Type Discovery: enables you to determine the device type of a node.
 - Package Manager: enables you to install and uninstall packages and deploy and undeploy them from the Web Access Server component.
 - Object Manager: enables you to view and change the managed objects on your system.
 - System Manager: enables you to add, modify, and delete the database and Web Access Server components.
 - Group Manager: enables you to create groups from the managed objects referenced by the polling policies for your enterprise.
 - Polling Policy Manager: enables you to manage polling policies, import and manage nodes, and manage polling groups.
 - Table Manager: enables you to monitor your database, view data and property tables, and set defaults for both individual and global tables.

Management Server

The management server component provides management services and forms that are deployed during report pack installation, to the management console.

In a client-only installation, you cannot use the applications in the management console. These applications are available through the Tools menu only after the complete PI installation (including performance manager component). These applications are:

- Database Tuner
- MIB Browser
- SNMP Discovery
- Type Discovery
- Package Manager

Also, in a client-only installation, you can not register a new data table, property table, or automatically add a collection to the database.

Remote Poller

You must install the remote poller component on a system close (in terms of network path) to the target/pollled managed objects.

A remote poller only collects data from the polled managed objects. No database is installed on the remote poller, therefore, it does not store any data or perform any data processing. Typically, the remote poller transfers its data to the satellite server.

Role of Various PI Systems Based on Setup

After you determine the PI architecture (standalone or distributed) most suited to your operating environment, you can install PI components accordingly.

The role a particular system serves in the environment—central server, satellite database server, remote poller, web client—determines which PI components need to be installed on it.

Standalone PI System

A standalone system is a single system that performs all data processing tasks. The system serves all roles, therefore, you must install all the PI components on it. The data collection is also performed by the database server, therefore, the standalone system does not require a separate polling system.

Distributed Environment System Roles

In a distributed environment, each PI system performs a specialized role:

- **Remote pollers:** Perform data collection.
- **Satellite servers:** Perform the following functions:
 - Process raw data to rate data
 - Summarize the rate data to hourly data

Typically, the satellite database servers run the processing routines on collected data once every hour and copy the partially aggregated data to the central database server where the aggregation is completed.

- **Central server:** Receives partially processed data from one or more satellite servers and processes data from the hourly level to completion. It performs the daily, monthly, and forecasting summarization tasks.
- **Web Access Server:** Hosts the PI web site and handles reports requests and report viewing and building tasks from PI clients.
- **PI clients:** Contains multiple applications that let the user view reports, build reports, and perform numerous system management tasks.

The following table shows which PI components you would typically install based on the PI architecture and system role:

System Role	RDBMS	PI Database Schema	PI Performance Manager	Web Access Server	PI Clients	Remote Poller
Standalone Environment						
Central Database Server	X	X	X (includes polling function)	X (includes PI Clients)	N/A	N/A
Distributed Environment						
Central Database Server	X	X	X	X (optional)	X (if no WAS)	
Satellite Database Server	X	X	X	X (optional)	X (optional)	
Web Access Server				X (includes PI Clients)		
Remote Poller						X
Client-Only						
PI Clients					X	

Supported Configurations

Operating System	RDBMS	PI Component
HP-UX 11.11 PA-RISC HP-UX 11.23 PA-RISC, Itanium HP-UX 11.31 Itanium	Sybase Adaptive Server Enterprise 15.0.2	All
Solaris 9 and 10	Sybase Adaptive Server Enterprise 15.0.2	All
Red Hat Enterprise Linux ES 4.7 x86 (32-bit platforms only)	Sybase Adaptive Server Enterprise 15.0.2	All
Red Hat Enterprise Linux 5.4 x86_64 (64-bit platform only)	Sybase Adaptive Server Enterprise 15.0.3	All

Installation Media

The current version of PI includes the following installation media:

- HP Performance Insight 5.41 Installation DVD (includes Sybase RDBMS installation and documentation)
- Report Pack CD

PI Documentation Set

The following is a list of manuals in the PI document set (apart from this manual). These documents are in the PDF format and you can access them by clicking the Help button in the PI user interface:

- Installation and Upgrade Guide for Oracle Databases on HP-UX, Solaris, and, Linux operating systems.
- Installation and Upgrade Guide for Oracle Databases on Windows operating system.
- Installation and Upgrade Guide for Sybase Databases on Windows operating system.
- Administration Guide
- Reference Guide
- Guide to Building and Viewing Reports
- Network Node Manager-Performance Insight Integration User Guide

You need Adobe Acrobat Reader to read these guides. If you do not have Acrobat Reader, you can install it from the `docs` folder, located in the PI install directory.

To view the online documentation:

- 1 From the Help menu, click **Help Topics**.
 - If you have not selected a browser for the client application (for example, Management Console or Report Builder) you are using, the Options dialog box opens, displaying the Browser tab. Go to [step 2](#) on page 28.


- If you have selected a browser for the client application you are using, a browser window opens, displaying the list of online documents. Go to [step 4](#) on page 28.

2 In the Browser tab, do one of the following:

- Type the web browser's complete directory path and application file name in the Browser Application box.

For example, the full path and application file name for Microsoft Internet Explorer might be:

```
C:\Program Files\Internet Explorer\iexplore.exe
```

- Click . The Open dialog box opens. Locate and double-click the web browser's application file name.

3 Click **OK**.

A browser window opens, displaying a list of the available documents.



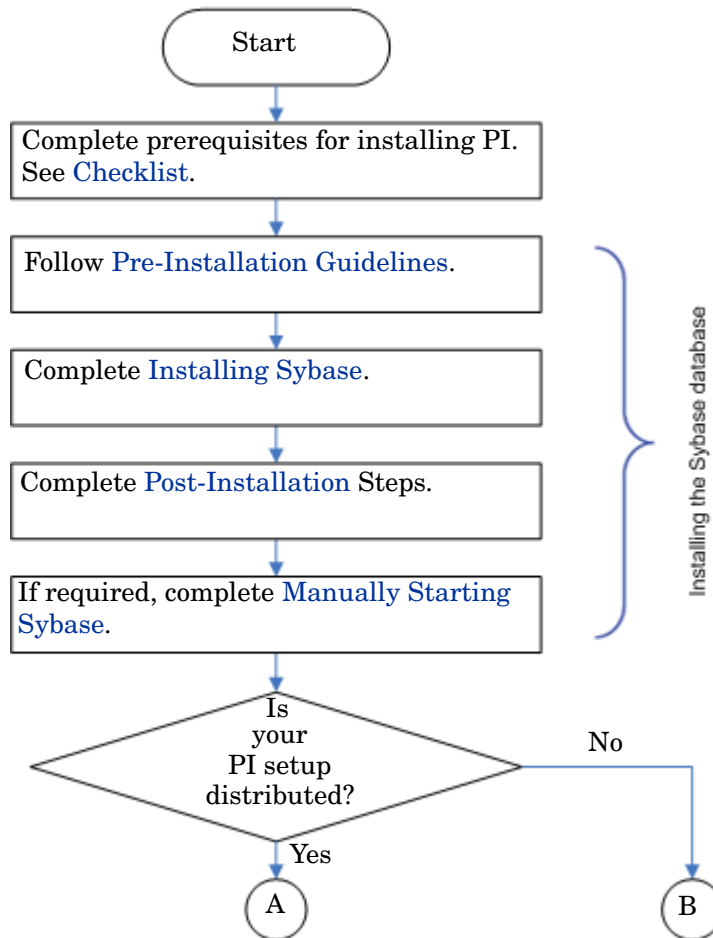
If Acrobat Reader is not installed on your system, click the **Acrobat Reader** icon to install it.

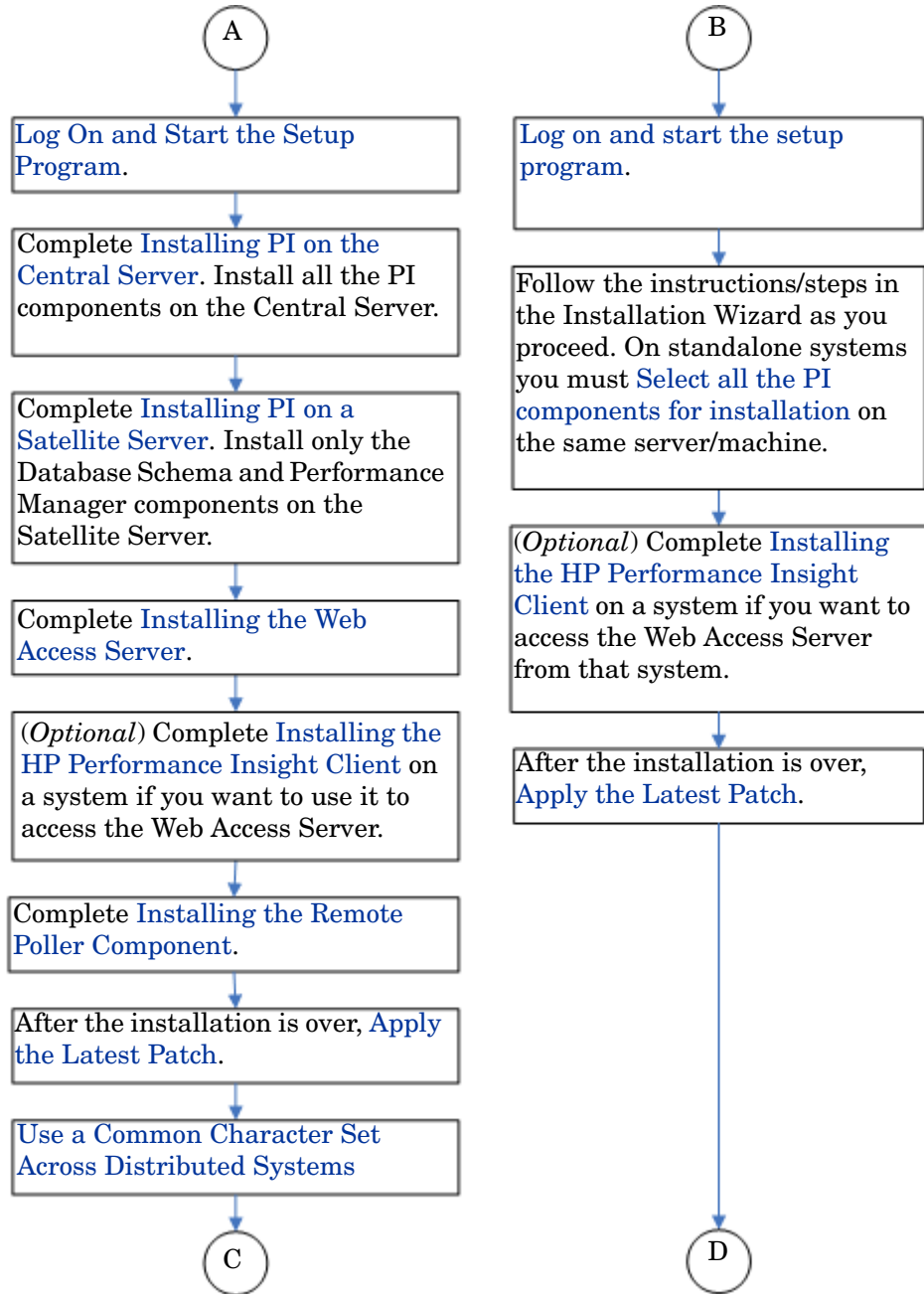
4 Click the title of the document you want to open.

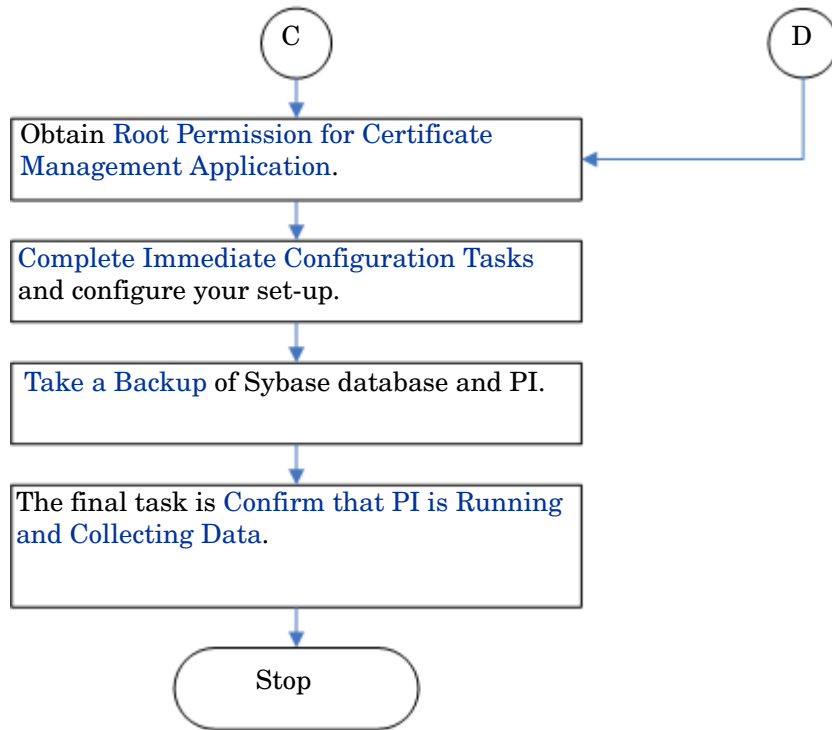
The guide opens in Acrobat Reader.

2 The Installation Flowchart

The following flowchart provides you a broad overview of the installation and post-installation steps for Sybase database and PI. Click on the links provided in the flowchart to see the sections mentioned.







3 System Prerequisites

Read the *HP Performance Insight Release Notes* before installing Sybase RDBMS and PI.

Convert Evaluation to Licensed Installation

If you have downloaded and installed the evaluation version of PI 5.41 and you want to convert that installation to a licensed installation, follow these steps:

- 1 Close all PI GUIs and browsers.
- 2 Insert the PI 5.41 Production DVD in the DVD-ROM drive.
- 3 Browse to the “setup” command file for the Production software.
- 4 From the command line, type (in lower case): `setup -noeval`
- 5 Close the PI Installation GUI if it appears.
- 6 Restart the OVPI HTTP server.



This procedure is not a reinstallation. The evaluation version is identical to the production version except that in the evaluation version “Unlicensed Software” watermarks appear on reports and on the **Help** → **About** version information. The installer changes your installation to remove the watermark.

Pre-Installation Tasks

PI supports internationalization. You can install PI on any language version of the supported operating systems. Database support is internationalized for Sybase.

Completed the following tasks in the given sequence before installing the Sybase RDBMS or PI components.

Task 1: Update the Operating System Software

Install all the required operating system patches. Contact your HP sales representative for the most recent list of patches required.

Verify Patches for Release Levels.

Make sure that the operating system is at the correct release level. You must install operating system patches before installing the RDBMS.

- **HP-UX Systems**

Type the following command:

```
/usr/sbin/swlist -l product | fgrep PH
```

- **Solaris Systems**

Type the following command:

```
showrev -p
```

- **Red Hat Linux Systems**

Type the following command:

```
more /etc/redhat-release
```

If your system is not at the current patch level for the release, download and install the required patches before continuing.

Install the required operating system patches.

- **HP-UX:** You can download the patch from <http://www1.itrc.hp.com/>

HP-UX version	Patch Required	
HP-UX11.11	GOLDAPPS11i	B.11.11.0612.459 Applications Patches for HP-UX 11i v1, December 2006
	GOLDBASE11i	B.11.11.0612.459 Base Patches for HP-UX 11i v1, December 2006
HP-UX11.23 (PA and IA)	QPKAPPS	B.11.23.0706.064 Quality Pack Depot for 11i v2, June 2007
	QPKBASE	B.11.23.0706.064 Quality Pack Depot for 11i v2, June 2007
HP-UX11.31 (IA)	QPKAPPS	B.11.31.0709.312a Quality Pack Depot for 11i v3, September 2007
	QPKBASE	B.11.31.0709.312a Quality Pack Depot for 11i v3, September 2007

- **Solaris Systems:**

Solaris version	Patch Required
Solaris 10	Solaris 10 Recommended Patch Cluster, Sep/07/06
Solaris 9	Solaris 9 Recommended Patch Cluster, Oct/14/05

- **Red Hat Linux Systems:**

Linux (RHEL ES 4.0): Update 6

Linux (RHEL 5.4): For 64-bit platform.

Task 2: Install All the Patches Required for Java

PI includes Java 1.5, which gets automatically installed on your system during PI installation. However, Java might not run properly if you do not install the OS specific patches.

Download the latest Java patches for your operating system from the following URLs:

- HP-UX Systems: **<http://www.hp.com/products1/unix/java/patches/index.html>**
- Solaris Systems: **<http://java.sun.com>** and find the Solaris OS Patches section.

URLs are subject to change without notice.

Task 3: Identify ports for network connectivity

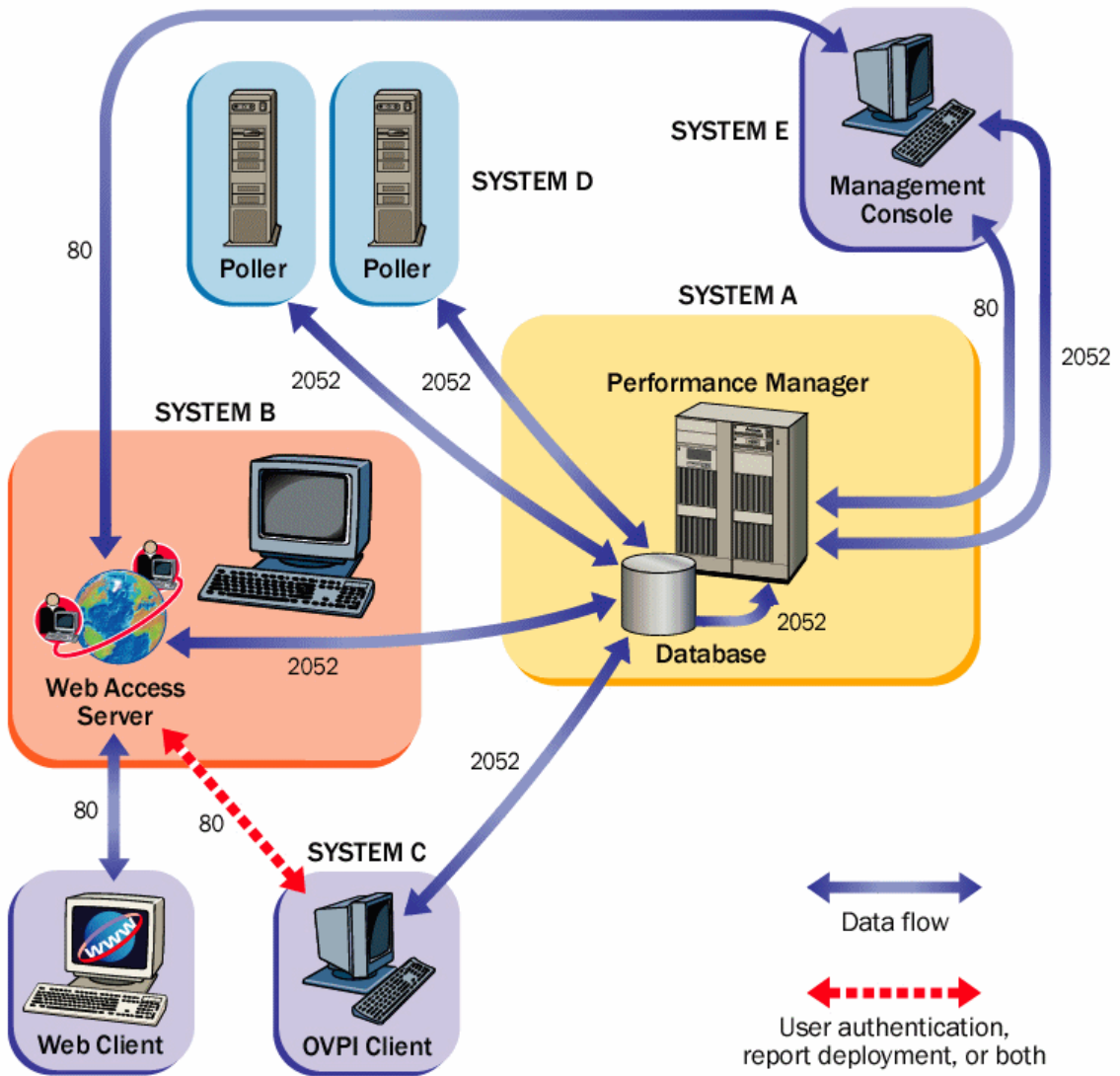
Ports establish connectivity between PI systems. PI uses the following default port numbers.

PI Component	Default Port Number
Sybase RDBMS	2052
Web Access Server (Includes the management server, which also uses port 80 by default. If any other web server is running on port 80, use a different port for PI; for example, port 8080.)	80 (SSL not enabled) 443 (SSL enabled)
Management Console	80
Remote Poller	80 (on the system hosting the management server)



If you are using a firewall software, you must open the PI ports in the firewall. For instructions, see your firewall documentation.

The following illustration shows PI configuration using the default port numbers.



Polling and SNMP Connectivity

Any system that gathers data from the network requires connectivity through intermediate firewalls to reach the network devices. Ensure that the remote poller system and managed objects are outside the firewall, and that the remote poller connects to the database server through the firewall. This reduces the number of connections through the firewall.

In situations where a satellite database server is managing polling systems, you might need to create specialized polling policies to divide the managed objects to be polled between the polling systems. For information about creating polling policies, see the *HP Performance Insight Administration Guide*.

Client Connectivity

To view reports using a web browser, you must have HTTP connectivity between your systems and the Web Access Server.

To use the Report Viewer or Report Builder applications, there must be connectivity between the client system, the Web Access Server system, and the database server through appropriate ports. When installing clients, specify the same Web Access Server and port number that was specified on the Web Access Server reference page. For more information about installing the Web Access Server, see [Installing the Web Access Server](#) on page 121.

Task 4: Plan for Web Access

- 1 Verify that you are using a supported web browser.

Web users must be able to connect to one of the following web browsers:

- Microsoft Internet Explorer 5.5 or later
- Mozilla Firefox 1.5 or later

- 2 Verify that Java scripting is enabled.

Enable Java scripting on your web browser to view the Navigation frame for the Web Access Server application.

To enable Java scripting, follow these steps, depending on the web browser:

Internet Explorer

- a From the browser's Tools menu, select **Internet Options**. The Internet Options dialog box opens.
- b Select the Security tab. Click **Internet** for the Web content zone, and then click **Custom Level**. The Security Settings dialog box opens.
- c Scroll down the list of settings and locate the Scripting settings. Select **Enable** under Active scripting.
- d Click **OK** in the Security Settings dialog box.
- e Click **OK** in the Internet Options dialog box.

Mozilla Firefox

- a From the browser's Tools menu, select **Options**.
The Options dialog box opens.
- b Select the **Content** tab and then select **Enable JavaScript** check box.
- c Click **OK** in the Options dialog box.

Task 5: Install the Distributed SNMP security pack for SNMPv3 nodes

If you plan to collect data from SNMPv3 nodes, you must install the SNMP Security Pack product, available from SNMP Research International, Inc. Visit the SNMP web site for information:

<http://www.snmp.com>

Install version 16.2.0.35 of the Distributed SNMP Security Pack.

You must configure your SNMPv3 nodes after installation. For configuration details, see the *HP Performance Insight Administration Guide*.

Task 6: Integrate with Network Node Manager

In case NNM 7.53 or later is installed on your system, you can install PI on the system.



PI can co-exist with HP Network Node Manager (NNM) version 7.53 and 8.1x. PI cannot co-exist with HP Network Node Manager (NNM) version 9.x or higher.

PI and NNM share components that enable the PI MIB Browser and Collection Wizard tools to function. These tools do not function with earlier versions of NNM.

To avoid errors during installation, make sure that you stop all NNM processes before installing PI.

- 1 At the command prompt, type:

```
ovstop -c
```

- 2 Verify that the NNM processes have stopped. At the command prompt, type:

```
ovstatus -c
```

Task 7: Stop Compaq Insight Manager services (HP Compaq Systems Only)

If you plan to install PI on a Compaq system, you must stop the Compaq Insight Manager services.

Task 8: Verify That You Are Using Supported Desktops

PI supports the Common Desktop Environment (CDE). PI does not support OpenWindows.

Checklist

Before you proceed with the installation of Sybase RDBMS and PI, go through the following checklist and ensure that all tasks are completed.

<input type="checkbox"/> You have read the Performance Insight Release Notes for this release.	
<input type="checkbox"/> You have decided whether to use a standalone or distributed environment.	See The PI Architecture on page 12
<input type="checkbox"/> You have all required installation media.	See Installation Media on page 27
<input type="checkbox"/> You are using a supported system configuration (operating system and RDBMS).	See Pre-Installation Tasks on page 34
<input type="checkbox"/> You have identified which PI components to install on each system.	See Role of Various PI Systems Based on Setup on page 24 and Pre-Installation Tasks on page 34
<input type="checkbox"/> You have installed the required patches for your operating system.	See Task 1: Update the Operating System Software on page 34
<input type="checkbox"/> You have identified port numbers for network and client connectivity.	See Task 3: Identify ports for network connectivity on page 36
<input type="checkbox"/> You have confirmed that your web clients are using a supported browser, and you have enabled Java scripting for the browser.	See Task 4: Plan for Web Access on page 38
<input type="checkbox"/> If required, you have installed the SNMP Security Pack.	See Task 5: Install the Distributed SNMP security pack for SNMPv3 nodes on page 39

<input type="checkbox"/> If you are planning to install PI on a system that is running NNM, you have verified that you are using the correct version of NNM and you have stopped NNM processes.	See Task 6: Integrate with Network Node Manager on page 39
<input type="checkbox"/> If you are installing on a Compaq system, you have stopped any Compaq Insight Manager services.	See Task 7: Stop Compaq Insight Manager services (HP Compaq Systems Only) on page 40
<input type="checkbox"/> Verify that you are using a supported desktop.	See Task 8: Verify That You Are Using Supported Desktops on page 40

Storage and Memory Requirements

The following table shows the minimum storage requirements for PI components, based on the operating system.

Component	HP-UX	Solaris	Linux
PI Database Schema	2500 MB	2100 MB	2000 MB
PI Performance Manager	840 MB	400 MB	400 MB
Web Access Server	810 MB	420 MB	400 MB
PI Clients	800 MB	340MB	320MB
Remote Poller	835 MB	200 MB	200 MB
Full Standalone	2500 MB	2200 MB	2100 MB

The following table shows the minimum and recommended memory requirements for PI. The requirements are based on original system size recommendations, and may change based on polling requirements.

Component	Minimum	Recommended
PI Database Schema	512 MB	1 GB
PI Performance Manager (includes PI Database Schema)	2 GB	4 GB
Management Server	256 MB	512 MB
PI Clients	256 MB each ^a	512 MB
Command-Line Utilities	256 MB ^b	512 MB
Remote Poller	256 MB	512 MB
Full Standalone Install	4 GB	8 GB

- a. If you plan to have more than one component running at the same time, the memory requirements are additive. For example, if you run the Management Console, Report Builder, and the Web Access Server simultaneously on one system, 768 MB is the minimum memory requirement. In a standalone installation, the Web Access Server and Management Server use the same Java Virtual Memory (JVM). The minimum, therefore, is still 256 MB.
- b. Command line utilities use relatively lesser memory.

The PI Database Schema uses between 50 to 60 percent of total memory. The Management Server, PI clients, Command-Line Utilities, and Remote Poller use very less memory space (1 to 2 GB of memory). The remaining memory space is used by the PI Performance Manager. Make sure that this space is large enough to handle polling and data loading.

To change the amount of memory set for Report Builder, Report Viewer, or Web Access Server after installation, change the Java settings using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

Installation Parameter Values

PI provides default values for many installation parameters. Identify the changes you want to make in the installation parameters values before starting the installation process. This saves time.

Parameter and Description	Default Value
Destination Folder The directory where you install the PI software.	/usr/OVPI
Sybase TCP/IP Port Number The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems.	2052
Sybase Server Name (DSQUERY) Name of the Sybase SQL Server where the client applications searches for information by default.	<LOCALHOST>_SYBASE
Sybase Directory The directory in which you install the Sybase database.	/usr/Sybase
Database Devices The directory in which the PI creates the database device files (if raw devices are used, device files are not created).	Sybase_directory/ dbfiles 50%
Database Size The size of the database device file.	800 MB
Transaction Log and Percent of Database	Sybase_directory/ dbfiles 50%
Temporary Space and Percent of Database	Sybase_directory/ dbfiles (UNIX) 50%
Cache Folder The cache directory in which the collected data is stored before storing in the database.	\$COLLECT_HOME

Parameter and Description	Default Value
Username The name for the Web Access Server administrator.	trendadm
HTTP Port The port number set for HTTP communication with the Web Access Server.	80
Web Access Server Port The HTTP port number used by the Web Access Server (used in distributed setups only).	80
Remote Management Server Port The HTTP port number used by the database host system (used in distributed setups only).	80

4 Installing Sybase Adaptive Server Enterprise

Install Sybase RDBMS version 15.0.2 (for 32-bit platforms) and Sybase RDBMS version 15.0.3 for Linux 64-bit platform. Make sure Sybase is started before you install PI.

Pre-Installation Guidelines

The following guidelines help you obtain the optimum performance from the Sybase - PI Installation:

- Before installing Sybase, read the Sybase documentation including the installation guides, release notes, and readme files. Sybase documents are available online at **<http://www.sybase.com/support/manuals/>**
- Consult a Sybase database administrator before installing Sybase. A database administrator can help you design and set up the Sybase database for optimal use by PI.
- Distribute the processing load: The following suggestions are not mandatory but following them improves the performance of the database:
 - Install Sybase and PI on a separate filesystem.
 - Save the data datafiles and the index datafiles on a separate filesystem.
 - Save the tempdb on a separate filesystem.
 - Save the dpipe_log on a separate filesystem.
- Install the following patches for HP-UX 11.11 for both 32-bit and 64-bit machines:
 - PHKL_27688
 - PHCO_31878

Installed bundle patches for HP-UX:

- Patch Level Description
- Bundle B.11.11 Patch bundle
- Bundle11i B.11.11.0306.1 Required patch bundle
- FEATURE11-11 B.11.11.0209.5 Feature enablement patches
- GOLDAPPS11i B.11.11.0412.5 Gold applications patches
- GOLDBASE11i B.11.11.0412.5 Gold base patches
- HWEEnable11i B.11.11.0412.5 Hardware enablement patches
- Ensure that the system on which the Sybase database and PI are to be installed meets all the minimum hardware requirements. The following table shows minimum system recommendations based on database size.

Database Size^a	CPU	Sybase Minimum^b and Recommended Memory	Drives 10 KB RPM or Higher^c	Drive Usage
2 GB	1	1 GB/2 GB	4	1 for OS and swap 1 for temporary database 1 for log file 1 for database
5 GB	1	1 GB/2 GB	4	1 for OS and swap 1 for temporary database 1 for log file 1 for database
10 GB	2	1 GB/4 GB	6	1 for OS and swap 1 for temporary database 1 for log file 3 for database with RAID 0

Database Size^a	CPU	Sybase Minimum^b and Recommended Memory	Drives 10 KB RPM or Higher^c	Drive Usage
20 GB	2	1 GB/4 GB	6	1 for OS and swap 1 for temporary database 1 for log file 3 for database with RAID 0
40 GB	4	1 GB/4 GB	8	1 for OS and swap 1 for temporary database 1 for log file 5 for database with RAID 0
80 GB	4	1 GB/4 GB	8	1 for OS and swap 1 for temporary database 1 for log file 5 for database with RAID 0

- a. You must have sufficient database disk space for twice the amount of data that you expect to store. The listed number of drives is the minimum number for acceptable performance and is based on the assumption that each drive is 36 GB. Using higher capacity drives (for example, 72 MB) does not reduce the number of drives recommended. If you are running four or more report packs simultaneously, install the Web Access Server on a separate system.
- b. Minimum memory for the RDBMS means that you can install PI and run with a limited number of objects. The performance, however, might not be optimum under load.
- c. This does not include any mirror drives that you may have used.

The system load stated in the previous table is based on the number of managed objects PI is polling from and reporting on. A managed object is one instance of data (for example, one frame relay PVC or one router interface).

A medium-sized standalone system (database size of 10 or 20 GB, based on the recommendations in the table) can poll up to 20,000 managed objects every 15 minutes.

A distributed configuration typically includes a separate reporting server (Web Access Server), satellite servers, and a central server. The satellite server performs hourly roll-ups and transfers the hourly data to the central server. A large-sized satellite server can poll up to 30,000 managed objects at 15-minute intervals. A central server that is not polling can support four satellite servers without specific configuration.



For large systems, a second disk controller is recommended.

- Ensure that the system on which Sybase is to be installed meets all the minimum storage and memory requirements, as listed in the following table:

Component	HP-UX	Solaris	Red Hat Linux
Executables	367 MB	358 MB	850 MB
Master Database	50 MB	50 MB	50 MB
Stored Procedures Database	60 MB	60 MB	120 MB
Installation Total	477 MB	468 MB	1020 MB

For instructions to increase the size of the Sybase database after PI is installed, see the *HP Performance Insight Administration Guide*.

To determine the memory Sybase requires to run, use a scaled algorithm based on the total memory available on the system.

The following table shows a scaled algorithm, based on the total memory available on the system, for running Sybase:

System's Physical Memory	Percentage Required by Sybase
1 GB or less	50% of physical memory
1 GB or greater	60% of physical memory


- Ensure that the device size limits and addressable memory Limits for Sybase Adaptive Server, when supporting devices greater than 2 GB in size, are met.

Using a seek utility, Sybase is able to locate and support the largest device size allowable by the host system. The following table lists the maximum device size and how it varies by operating system.

Operating System	Sybase 15.0.2	
	File	Raw
HP-UX	32 GB	32 GB
Solaris	2 GB	32 GB

The following table lists addressable memory limits based by operating system.

Operating System	Sybase 15.0.2	Sybase 15.0.3
HP-UX	1 GB	NA
Solaris	4 GB	NA
Red Hat Linux	4 GB	4GB

 Sybase 15.0.3 is supported only on 64-bit Linux platform.

Installing Sybase

Prerequisites

Before installing Sybase on a UNIX machine, complete the following prerequisites:

- Reconfigure the Kernel
- Determine Where to Install PI

Reconfigure the Kernel

To Reconfigure the Kernel on HP-UX Using SAM Utility

- 1 Start the SAM utility.
 - a Log on as root and invoke the SAM utility (typically, from the `/usr/sbin` directory). The System Administration Manager window opens.
 - b Double-click the **Kernel Configuration** icon. The SAM Areas: Kernel Configuration area appears in the System Administration Manager window.
 - c Double-click the **Configurable Parameters** icon. The Kernel Configuration window opens.
- 2 Configure the maximum number of threads per process.
 - a Select **max_thread_proc** from the list of configurable parameters. The `max_thread_proc` entry is highlighted.
 - b From the Action menu, select **Modify Configurable Parameter**. The Modify Configurable Parameter window opens.
 - c Select **Specify New Formula/Value** and type the following value in the Formula/Value box:
1024
If you are unable to set `max_thread_proc` to 1024, you may need to adjust other dependent kernel parameters; for example `maxusers`.
 - d Click **OK** to close the Modify Configurable Parameter window. The Kernel Configuration window opens.

- 3 Configure the maximum number of concurrent users.
 - a Select **maxusers** from the list of configurable parameters. The maxusers entry is highlighted.
 - b From the Action menu, select **Modify Configurable Parameter**. The Modify Configurable Parameter window opens.
 - c Select **Specify New Formula/Value** and type the following value in the Formula/Value box:
124
 - d Click **OK** to close the Modify Configurable Parameter window. The Kernel Configuration window opens.
- 4 Configure the maximum amount of RAM for Sybase.
 - a Select **shmmax** from the list of configurable parameters. The shmmax entry is highlighted.
 - b From the Action menu, select **Modify Configurable Parameter**. The Modify Configurable Parameter window opens.
 - c Select **Specify New Formula/Value**, and then enter the following value in the Formula/Value box:
1073741824
 - d This defines the maximum amount of your system's RAM that can be dedicated to Sybase. The value you entered (1073741824) is the total number of bytes in 1 GB. You can adjust this to a maximum of 2147483648 (2 GB) depending on your HP-UX patch installation.
 - ▶ One GB equals 1024^3 bytes. The total number of bytes is, therefore, calculated as follows: number of gigabytes x 1024^3 . For example, the calculation for 4 GB would be $4 \times 1024^3 = 4294967295$.
 - e Click **OK** to close the Modify Configurable Parameter window. The Kernel Configuration window opens.
- 5 Enable asynchronous disk I/O.
 - ▶ You must enable asynchronous disk I/O, whether you intend to use it or not. If you install the PI database on a raw partition, the database engine can use asynchronous I/O.
 - a From the SAM Kernel Configuration menu, select **Drivers**.

- b Select **asyncdsk** from the list of drivers. The **asyncdsk** driver is highlighted.
 - c From the Action menu, choose **Add Driver to Kernel**. The pending state for **asyncdsk** should be set to **In**.
- 6 Build the kernel and reboot the system.
- a From the Action menu, choose **Process New Kernel** and then reboot the system.
 - b Click **Yes** to rebuild the kernel and to reboot the system.
 - c Type the following commands as root at the UNIX command prompt, to make the user ID of the user booting Adaptive Server and Backup Server the owner of the `/dev/async` device file:

```
/etc/mknod /dev/async c 101 4
chmod 0660 /dev/async
```

To Reconfigure the Kernel on HP-UX Using the Command Line

- 1 Extract the system file.

Log on as root and type the following command to extract the system file from the running kernel:

```
cd /stand/build
/usr/sbin/sysadm/system_prep -v -ssystem
```

- 2 Configure parameters.

Edit the “Tunable Parameters” section of the system file by adding or modifying the parameters `shmmax`, `maxusers`, and `max_thread_proc`. For example, you might use the following settings:

```
shmmax 1073741824
maxusers 124
max_thread_proc 1024
```

shmmax defines the maximum amount of your system’s RAM that can be assigned to Sybase. You can adjust the value of **shmmax** to a maximum of 2147483648 (2 GB) depending on your HP-UX patch installation. (For more information, contact Support.)

If you are unable to set **max_thread_proc** to 1024, you might need to adjust other dependent kernel parameters; for example, **maxusers**.

3 Enable asynchronous I/O.

Find the “Drivers/Subsystems” section of the file and add the following line:

asyncdsk



You must enable asynchronous disk I/O, whether you intend to use it or not. If you install the PI database on a raw partition, the database engine can use asynchronous I/O.

4 Build the kernel.

- a Type the following command to build a system kernel in the current directory:

```
/usr/sbin/mk_kernel -ssystem
```

- b Type the following command in the sequence given:

```
mv /stand/system /stand/system.prev  
mv /stand/vmunix /stand/vmunix.prev  
mv /stand/build/system /stand/system  
mv /stand/build/vmunix_test /stand/vmunix
```

5 Reboot your system.

- 6 To make the user ID of the user booting Adaptive Server and Backup Server the owner of the `/dev/async` device file, type the following commands as root user:

```
/etc/mknod /dev/async c 101 4  
chmod 0660 /dev/async
```

To Reconfigure the Kernel on Solaris

1 Edit the Sybase system file.

- a Open the `/etc/system` file using a text editor
- b Modify the following command to reflect the total number of bytes (`nnnnnnnnnn`) that are allocated to Sybase:

```
set shmsys:shminfo_shmmax=nnnnnnnnnn
```


For information about how much memory you need to allocate for Sybase, see the section [Pre-Installation Guidelines](#) on page 47. The total number of bytes must meet or exceed the requirements listed.

For Solaris 9 and 10, you can specify up to 4294967295 bytes (4 GB) irrespective of whether the required physical memory is available or not.

One gigabyte equals 1024^3 bytes. The total number of bytes is, therefore, calculated as follows: number of gigabytes x 1024^3 . Therefore, 4 GB would be $4 \times 1024^3 = 4294967295$.

- c Modify the `maxusers` parameter. By default, this parameter is set to the number of megabytes of physical memory or 2048, whichever is lower.

If you are using Solaris 10, the system sets the range for `maxusers` parameter between 1 to 2048, based on physical memory. However, you can set a value in the `/etc/system` file explicitly in the range of 1 to 4096.

-  On Solaris 10 systems, the PI installer checks the `/etc/system` file to obtain the kernel parameter values. The PI installer *does not* check the `/etc/project` file.

- 2 Reboot your system.
- 3 To make the user ID of the user booting Adaptive Server and Backup Server the owner of the `/dev/asynch` device file, type the following commands as root user:

```
/etc/mknod /dev/asynch c 101 4  
chmod 0660 /dev/asynch
```

To Reconfigure the Kernel on Red Hat Linux

- 1 Edit the Sybase system file.
 - a Open the `/etc/rc.d/rc.local` file using a text editor.
 - b Modify the following command to reflect the total number of bytes (`nnnnnnnnnn`) that are allocated to Sybase.

```
set kernel.shmmax=nnnnnnnnnn
```

The default value for operating system shared memory is typically 32 MB. For Red Hat Linux systems, 2 GB (2147483648 bytes) is the minimum requirement. For information about how much memory you need to allocate for Sybase, see the section [Pre-Installation Guidelines](#) on page 47.

- 2 Reboot your system.

- 3 To make the user ID of the user booting Adaptive Server and Backup Server the owner of the `/dev/async` device file, type the following commands as root user:

```
/etc/mknod /dev/async c 101 4  
chmod 0660 /dev/async
```

Determine Where to Install PI

When you install PI, the database is installed on a UNIX file system by default.



Check the version of Sybase installed on your system before installing PI. You should have Sybase 15.0.3 version on 64-bit Linux platform and Sybase version 15.0.2 on other platforms. For details, see [Chapter 5, Installing HP Performance Insight on a Standalone Server](#).

Determine whether you want to install the PI database on a UNIX file system or on a raw partition. If you opt for raw partition, you must set up the raw partitions before you install the Sybase database.

Using a Raw Partition for Sybase Installation

The S0 and Veritas raw partitions are supported by PI.

If you use a raw partition, the effect is to partition or isolate your database from any other information that may be stored on that server. Such partitioning has important performance implications.

The advantages of raw partitions are:

- All the data is stored resides in a single location. This can increase database efficiency and processing speed.
- In the event of a system failure, a partitioned database is easier to recover.
- A partitioned database is not greatly affected by any outside influence.

The disadvantages of raw partitions are:

- In some environments, the performance advantage might be lesser than the efforts involved in installation.
- Installing Sybase on a raw partition requires more disk space on your server.

- You cannot use standard UNIX backup utilities to back up a raw partition. You must use Sybase's backup and archive utilities to make a copy of the database.

Using a UNIX File System for Sybase Installation

If you use the UNIX file system, the Sybase database may be surrounded by and interspersed with other applications.

The advantages of using UNIX file system are:

- Installing Sybase on the UNIX file system is a simpler process that you can complete as part of the PI installation.
- Some database administration tasks are easier to perform.
- Sybase installation automatically reserves disk space for its own use eliminating the need to create a physical partition.

The disadvantages are:

- Sybase components on the hard disk are dispersed and Sybase may take longer to search for relevant information. This sometimes slows down the performance.
- Since Sybase database is not physically isolated from other applications, it is more susceptible to outside influences.

For information about UNIX file systems and setting up raw partitions on different UNIX operating systems, see [Appendix A, Raw Partitions and UNIX File Systems](#).

Setting Sybase Installation Parameter Values

Setting Required Parameters

Adjust the parameters of the operating system's shared memory as follows:

- **HPUX**

Use the System Administration Manager (SAM) to set shared memory to 2147483648(2GB).

To optimize asynchronous I/O and to prevent the paging of shared memory, you must grant MLOCK permissions before you install Adaptive Server.

To grant MLOCK permissions to a group, type:

```
/etc/privgrp add mlock <group name>
```

or:

```
/etc/setprivgrp <group name> MLOCK
```

- **Solaris**

To adjust the shared memory value of the operating system, add the following line to the operating system's configuration file `/etc/system`:

```
set shmsys:shminfo_shmmax = 2147483648
```

- **Linux**

Use the `sysctl(8)` method to check and adjust the operating system shared memory parameter.

To check the current shared memory size, type:

```
# /sbin/sysctl kernel.shmmax
```

To adjust the shared memory size, type:

```
# /sbin/sysctl -w kernel.shmmax=2147483648
```

To ensure that this value is applied every time the system is started, add the previous line to your `/etc/rc.d/rc.local` file. On SuSe Linux systems, the file is `/etc/init.d/boot.local`.

If Adaptive Server version 15.0.2 or 15.0.3 is configured to run on multiple engines, disable the security feature Exec-Shield.

To disable the Exec-Shield on Linux RHEL ES 4.0 Update 6 (for 32-bit platforms):

— Add the following lines in `/etc/sysctl.conf`:

```
kernel.exec-shield=0
```

```
kernel.exec-shield-randomize=0
```

— As SU, type the following command for the action to take effect:

```
/sbin/sysctl -p
```

To disable the Exec-Shield on Linux RHEL ES 5.4 (for 64-bit Linux platform):

— Add the following line in `/etc/sysctl.conf`:

kernel.exec-shield=0

— As SU, type the following command for the action to take effect:

```
/sbin/sysctl -p
```

For more information, visit the Red Hat web site:

http://www.redhat.com/f/pdf/rhel/WHP0006US_Execshield.pdf

Setting Optional Parameters

The parameters listed in the following table are the default parameters that you can change. Unless mentioned, the parameters apply to both standalone and distributed setups.

Parameter and Description	Default Value
Sybase Directory The directory in which you install Sybase	<i>/usr/Sybase</i>
Sybase Host Name The system on which Sybase is installed	
Sybase Server Name (DSQUERY) The Sybase server name	<i><HOST_NAME_SYBASE></i> This is the name of your Sybase server.
Sybase TCP/IP Port Number The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems	2052
Database Devices The directory where PI creates the database device files (if raw devices are used, device files are not created)	<i>Sybase_directory/dbfiles</i> 50%
Database Size The size of the database device file	800 MB

Parameter and Description	Default Value
Transaction Log and Percent of Database	<i>Sybase_directory</i> /dbfiles 50%
Temporary Space and Percent of Database	<i>Sybase_directory</i> /dbfiles 50%

Installing Sybase

To install Sybase database version 15.0.2 (for 32-bit platforms) or version 15.0.3 (for 64-bit Linux platform), complete the following tasks in the given sequence.

Task 1: Log on and start the setup program

- 1 Log on to the local system as root.

- 2 Mount the HP Performance Insight Installation DVD using the following instructions:

Operating System	Command
HP-UX	<p>Use the SAM utility to mount the DVD-ROM, or type the following commands:</p> <pre>mkdir /dvdrom mount /dev/dsk/dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p>
Solaris	<p>If the File Manager window does not open automatically, type the following command as root user:</p> <pre>mkdir /dvdrom mount -r /dev/dsk/dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p> <ul style="list-style-type: none">• To display the <i>dvd_label</i>, type the command: <pre>ls -l /dvdrom</pre>• To change the directory, type the command: <pre>cd /dvdrom/dvd_label</pre> <p>In this instance, <i>dvd_label</i> identifies the DVD name.</p>
Red Hat Linux	<p>The DVD mounts automatically when you insert it in the DVD-ROM drive, and the File Manager window opens. Otherwise, type the following command as root user:</p> <pre>mount -r /dev/dvdrom <mount_directory></pre> <p>In this instance, <i>mount_directory</i> is the directory where contents of the DVD-ROM are stored.</p>

- 3 Locate the setup program and type:

```
./setup
```

The Setup Utilities window opens.


- 4 Select **Sybase 15.0.2** or **Sybase 15.0.3** from the Install section of the window. The Welcome window opens.

- 5 Read the content displayed in the Welcome window and click **Next**. The Sybase Settings window opens.

Task 2: Specify the information needed to configure Sybase

- 1 In the Sybase Settings window, accept the default values or type new values for the following parameters:
 - **Installation path:** Accept the default directory (`/usr/Sybase`) or specify the directory in which the Sybase software must be installed. The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link drive. The path of the destination directory cannot contain any spaces.
 - If the destination directory does not exist, the Installation Program creates it.
 - If the destination directory exists and contains data, a warning message saying the directory is not empty appears.
 - If the destination directory is located on a file system that the Installation Program cannot access, a warning message appears. You must provide a valid destination directory to continue installation.
 - **Server Name (DSQUERY):** Type the name of the Sybase SQL server.

By default the client applications search the Sybase SQL server for information. The default server name—`<hostname_sybase>`— is the host name of the system.

 Make sure that you enter the Sybase SQL server's name in uppercase and that it is a valid server name identifier. Server names cannot be more than 31 characters. The first character must be alphabetic. Characters following the first character can include letters, numbers, or an underscore. Do not use embedded spaces or hyphens.

- **TCP/IP Port Number:** Type the port number for the Sybase server. The default port number is 2052. Sybase uses assigned TCP ports to communicate with Sybase clients and servers on other systems. Sybase can locate Sybase clients and servers on other systems through the combined IP address of the remote system and the TCP Port of the application Sybase needs to access on the remote system. This

information is stored in the interfaces file in the Sybase directory. Sybase uses only one TCP port. It can be any port numbered higher than 1024 that is not already used by another application. The installation wizard uses the port number you enter in this step for Sybase.

If you change the TCP Port, check the `/etc/services` file to make sure that no other application is using the assigned port number or the one after it.

- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window.

You can perform the following tasks through this window:

- Modify the general parameters (General tab)

In the General tab you can change the location of the Sybase `error.log` file.

- Create or modify the Sybase operating system account (User tab)

Identify an operating system account and group named `sybase`. The main purpose of this group is to preserve the environment in which PI runs.

The window prompts you for different information depending on whether the operating system and group account already exists. Verify the following two actions.

If the operating system account and group do not exist, select the Create a New User Account option and type the following information:

User Name: Name for the user account.

Group Name: Name for the group account.

Description: Description about the user and group account.

If the operating system account and group do exist, you can use the existing user account or recreate the account.


- Modify master device settings (Master Device tab)

You can provide the following information about the devices:

- **Device Name:** The name of the master device
- **Device File:** The location and name of the device file.
- **Device Size (MB):** Specify the size in MB.

- Modify procedures device settings (Procedures Device tab)
You can provide the following information about the procedure devices:

- **Device Name:** The name of the procedures device
- **Device File:** The location and name of the device file.
- **Device Size (MB):** Specify the size in MB.

 You must place the `master.dat` and `procedure.dat` files in the default location created by PI installer.

- 3 Click **Apply** and then click **OK** to return to the Sybase Settings window.
- 4 Click **Next**.

The installation program might display an error message if it detects an existing database or low disk space:


An existing database: If you continue, the installation overwrites your current database. Click **Yes** in the error message window to overwrite the existing database and proceed with the installation.

or

Insufficient disk space: If the system has insufficient disk space, the installation might fail. Click **OK** to dismiss the message, and then click **Cancel** in the Selection Summary window. Free up the necessary disk space and restart the installation.

Task 3: [Review the installation information and install](#)

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.

 In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the Sybase installation completes successfully, a pop-up conveying the message appears. Click **Done**.
- 3 If the Sybase installation is unsuccessful:
 - a Click **Details** at the bottom of the Installation Progress window for additional information.

- b Contact Support (see [Support](#) on page 5).

Post-Installation

After installing Sybase, follow these steps:

- 1 Verify that Sybase is running on the system. Type the following command:

```
ps -ef | grep -i sybase
```

- 2 Make Sybase the owner of the `/dev/async` directory. Type the following command:

```
chown sybase /dev/async
```

You must have the root/administrator permissions to make this change.

- 3 (Optional) Set a Sybase **sa** password by logging in to `isql` as the “**sa**” user with a null password. Specify a new password:

```
isql -Usa -P
```

```
1> sp_password NULL, <sa_password>
```

```
2> go
```

In this instance `<sa_password>` is the new password.

Manually Starting Sybase

If Sybase does not start automatically after installation, follow these steps to start it manually.

- On HP-UX systems, type:
`/sbin/init.d/Sybase start`
- On Solaris systems, type:
`/etc/init.d/Sybase start`
- On Red Hat Linux systems, type
`/etc/init.d/Sybase start`

Manually Stopping Sybase

To manually shut down Sybase, type the following commands:

```
isql -Usa -P <sa_password> -S<DSQUERY>
1>shutdown
2>go
```

<sa_password> is required only if you set a Sybase **sa** password.



A “null” password is defined in the Sybase init script (`/etc/init.d/Sybase` or `/sbin/init.d/Sybase`) for stopping Sybase. If you set a password for the ‘sa’ user, edit the init script to replace “null” with the new password otherwise the init script will not stop Sybase.

```
Replace /usr/Sybase/OCS-15_0/bin/isql -Usa -P -SOVPIHPT3_SYBASE
1>/dev/null <<eofeof
```

with

```
/usr/Sybase/OCS-15_0/bin/isql -Usa -P <password>
-SOVPIHPT3_SYBASE 1>/dev/null <<eofeof
```

Troubleshooting Sybase Installation Failure

View the error log file in the Sybase installation directory to find out the cause of an installation failure. Sybase writes messages to this file each time the system is booted and each time a Sybase error occurs. The error log files are available in the following locations:

- `$SYBASE/$SYBASE_ASE/install/servername_SYBASE.log`
or
- `$SYBASE/$SYBASE_ASE/install/error.log`

After identifying the cause of the problem, see the Sybase documentation to correct it.

5 Installing HP Performance Insight on a Standalone Server

A standalone server is a single system that has all of the PI components installed. The standalone system is capable of gathering and processing data, producing reports that can be accessed from the Web server, and running the Report Viewer and Report Builder applications.

To install PI on a standalone server, complete the following tasks in the sequence given:



Ensure that Sybase server is started before installing PI.

Task 1: Log on and start the setup program

- 1 Log on to the system as **root**.
- 2 Insert the HP Performance Insight Installation DVD in the DVD-ROM drive and mount the DVD using the following instructions:

Operating System	Command
HP-UX	<p>Use the SAM utility to mount the DVD-ROM or type the following commands:</p> <pre>mkdir /dvdrom mount /dev/dsk/dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p>
Solaris	<p>If the File Manager window does not open automatically, type the following command as root user:</p> <pre>mkdir /dvdrom mount -r /dev/dsk/dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p> <ul style="list-style-type: none"> • Display the <i>dvd_label</i> by typing the command: <pre>ls -l /dvdrom</pre> • Change directory by typing the command: <pre>cd /dvdrom/dvd_label</pre> <p>In this instance, <i>dvd_label</i> identifies the DVD name.</p>
Red Hat Linux	<p>If the File Manager window does not open automatically, type the following command as root user:</p> <pre>mount -r /dev/dvdrom <mount_directory></pre> <p>In this instance, <i>mount_directory</i> is the directory where contents of the DVD-ROM are stored.</p>

- 3 If the setup program does not start automatically, locate the setup program and start it by typing the command:

```
./setup
```


The Setup Utilities window opens.

For 32-bit Linux and other UNIX platforms, the following window opens:

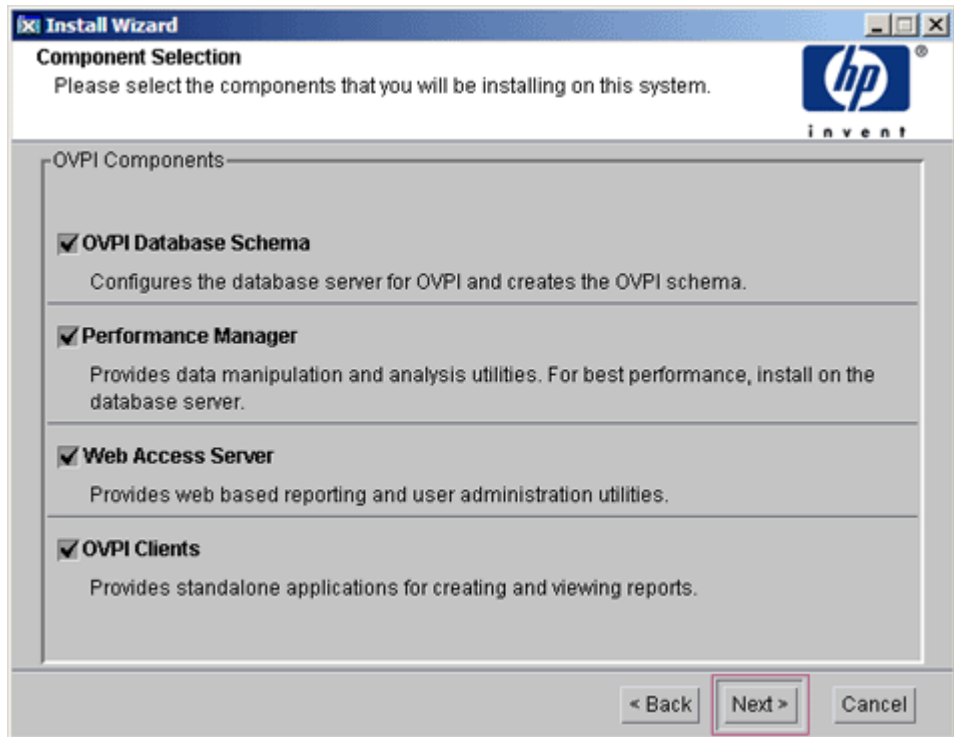


For 64-bit Linux platform, the following window opens:



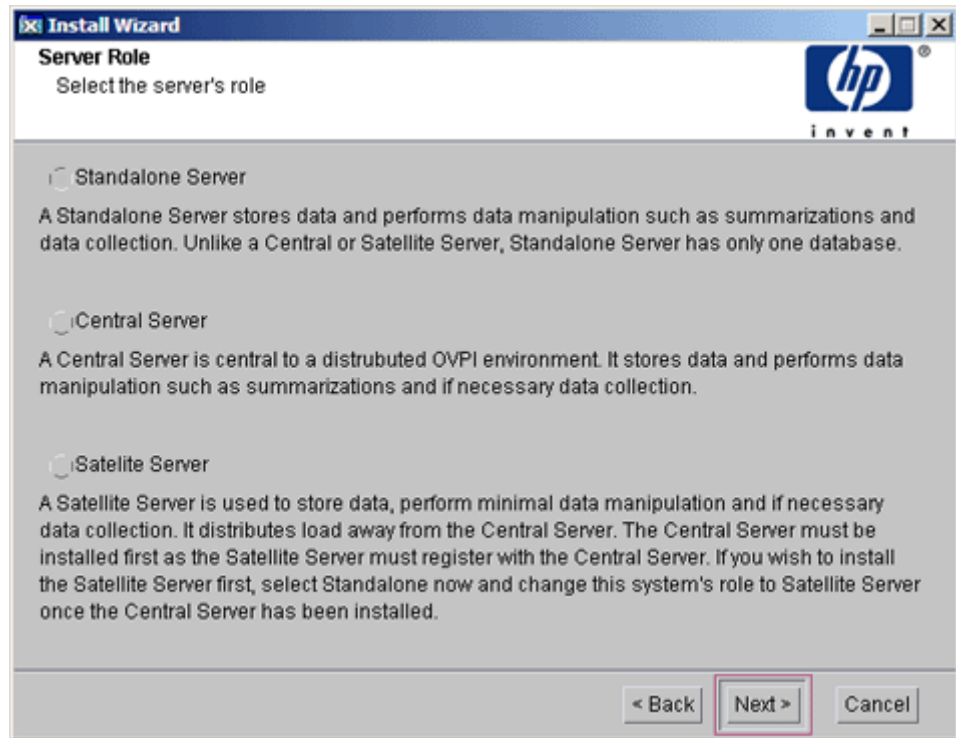
- 4 Select **OVPI 5.41.0** from the Install section of the window. The Welcome window opens.
 - 5 Read the contents displayed in the Welcome window and click **Next**. The License Agreement window opens.
 - 6 Accept the license agreement and click **Next**. The Component Selection window opens.
-  You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and the installation ends.

Task 2: Select *all* the PI components for installation



- 1 Select *all* the PI components for installation. You must install all the components on the same system for a standalone setup.
- 2 Click **Next**. The Server Role window opens.

Task 3: Select a role for the database system

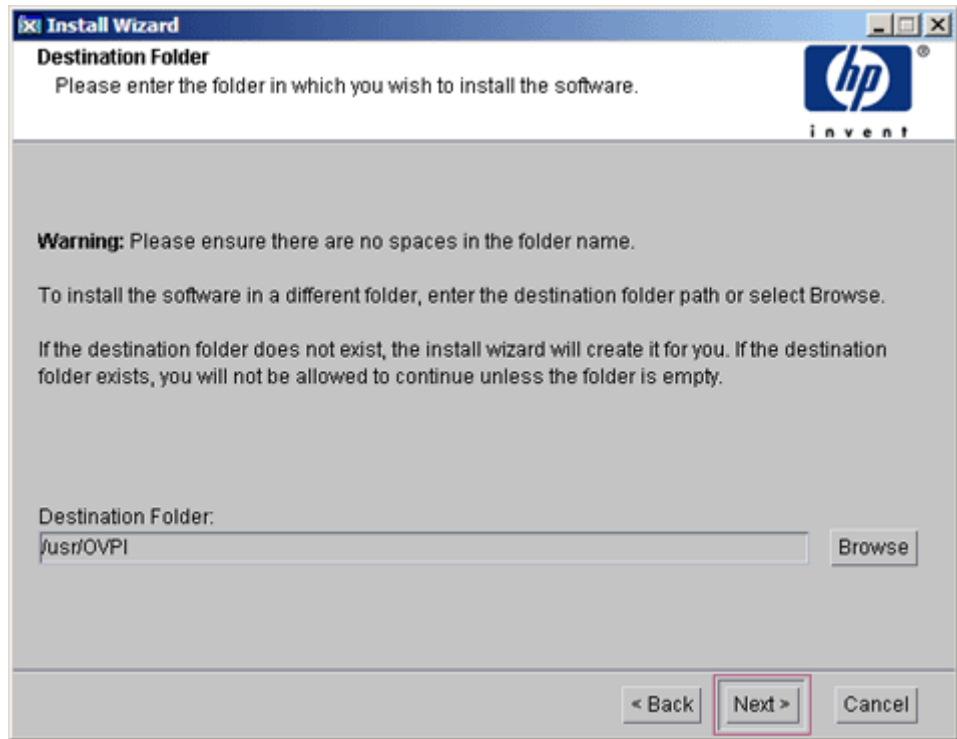


- 1 Select **Standalone Server**.

If you want to change the role at a later time, use the System and Network Administration application in the PI Management Console. For more information, see the *HP Performance Insight Administration Guide*.

- 2 Click **Next**. The Destination Folder window opens.

Task 4: Specify the directory in which you want to install the PI Software



1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link. The directory path, however, must not contain any spaces.

The Installation Program does the following:

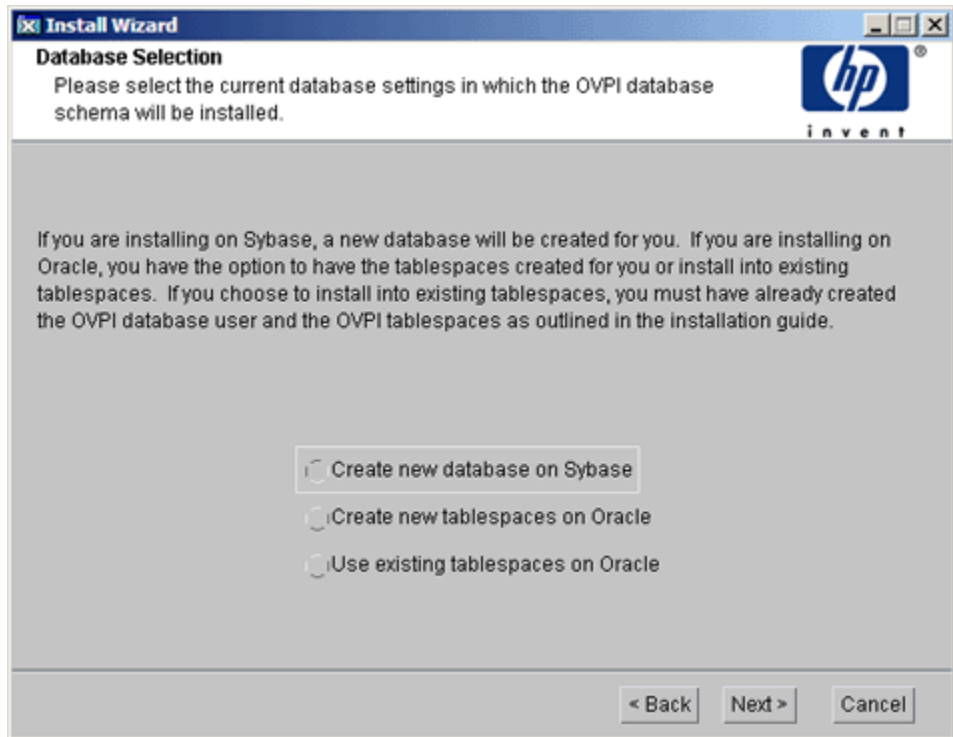
- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.

- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.

- 2 Click **Next**. The Database Selection window opens.

Task 5: Select the RDBMS on which the PI database instance must be created



- 1 Read the content displayed in the window and select one of the three options given.

If you select the **Create new database on Sybase** option ensure that there is no existing database user account (dsi_dpiped) or dsi_dpiped user. Otherwise, the installation fails.

- 2 Click **Next**. The Sybase Reference Using Sybase Administrator User window opens.

Task 6: Locate and connect to the database

Install Wizard
Sybase Reference Using Sybase Administrator User
Please enter the following information to locate and connect to the Sybase database.

Server Settings

Sybase Server Name (DSQUERY):
TEST_SYBASE

Sybase Host Name:
test.hp.com

Sybase TCP/IP Port Number:
2052

User Settings

Sybase Administrator (SA) Password:

Sybase Directory:
/usr/Sybase

In the Sybase Reference Using Sybase Administrator User window, locate and connect to the Sybase database.

1 Accept the default values or type new values for the following parameters:

- **Sybase Server Name (DSQUERY):** The name of the Sybase SQL Server (this name is case sensitive.) By default, the client applications search for information in this server. You can find the name of this server in the Sybase interfaces file. The Sybase interfaces file is located on the system where you installed the Sybase SQL Server.

For more information about the Sybase interfaces file, see [Appendix B, The Sybase Interfaces File](#).

- **Sybase Host Name:** This is the name of the system on which you installed Sybase.

- **Sybase TCP/IP Port Number.** The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems. In addition to <DSQUERY>, there are several other Sybase SQL Servers that are assigned port numbers during the installation. These servers are the following:

Sybase Server	Port Numbers
<DSQUERY>_BS	2053
<DSQUERY>_MS	2054
<DSQUERY>_HS	2055
<DSQUERY>_XP	2056

You must manually start each of these servers.

- **Sybase Administrator (SA) Password:** If you changed the Sybase Administrator password, during the Sybase installation, from a NULL value to an actual password, type that password in the Sybase Administrator (SA) Password box.

If you did not change the Sybase Administrator password, you can leave this box blank.

- **Sybase Directory:** The directory in which you installed Sybase. Click **Browse** to select a different directory. After selecting a directory, click **Open** to return to the Sybase Reference Using Sybase Administrator User window.

- 2 Click **Next**. The Sybase User and Device Creation window opens.

Task 7: Create the Sybase user account and the new database devices

Install Wizard
Sybase User and Device Creation
Please enter the information necessary to create the OVPi user and devices.

Database Devices: /usr/Sybase/data Browse Database Size (MB): 800

Transaction Log: /usr/Sybase/data Browse Percent of Database: 50%

Temporary Space: /usr/Sybase/data Browse Percent of Database: 50%

OVPi Database User (dsi_dpibe) Password: ***** Confirm Password: *****

Click for advanced settings. Advanced...

< Back **Next >** Cancel

In the Sybase User and Device Creation window, create the PI database user account and database devices.

The installation wizard creates the device files for the PI database using Sybase Adaptive Server. Files are created within Sybase for PI database, transaction log, and temporary space. The PI database uses the device files to store its data (if raw devices are used, no device files are created.)

By default, the installation wizard creates the device files in a subfolder called `dbfiles` under the Sybase installation directory. You can change the name of this folder at this point in the installation. The folder name must not contain any spaces.



All Sybase devices are created using the `vstart=512` option. This enables you to use labeled file systems with PI. For example, if the size of your database is 800 MB, only 799 MB of it is available, and 1MB is allocated for the label.

- 1 Accept the default values or type new values for the following parameters:
 - **Database Devices and Database Size (MB):** Type the file location of the database device and its size.
 - **Transaction Log and Percent of Database:** Type the file location of the transaction log and the amount of space allocated to it in the database.
 - **Temporary Space and Percent of Database:** Type the file location of the temporary space and the amount of space allocated to it in the database.
 - ▶ The temporary space (dpipe_temp) and the transaction log (dpipe_log) be approximately 50% the size of the database device (dpipe_db). For example, if the database (dpipe_db) is 800 MB, then the temporary space (dpipe_temp) and temporary log (dpipe_log) should be 400 MB each.
 - **PI Database User (dsi_dpipe) Password:** Type a password for the PI database user account (dsi_dpipe).

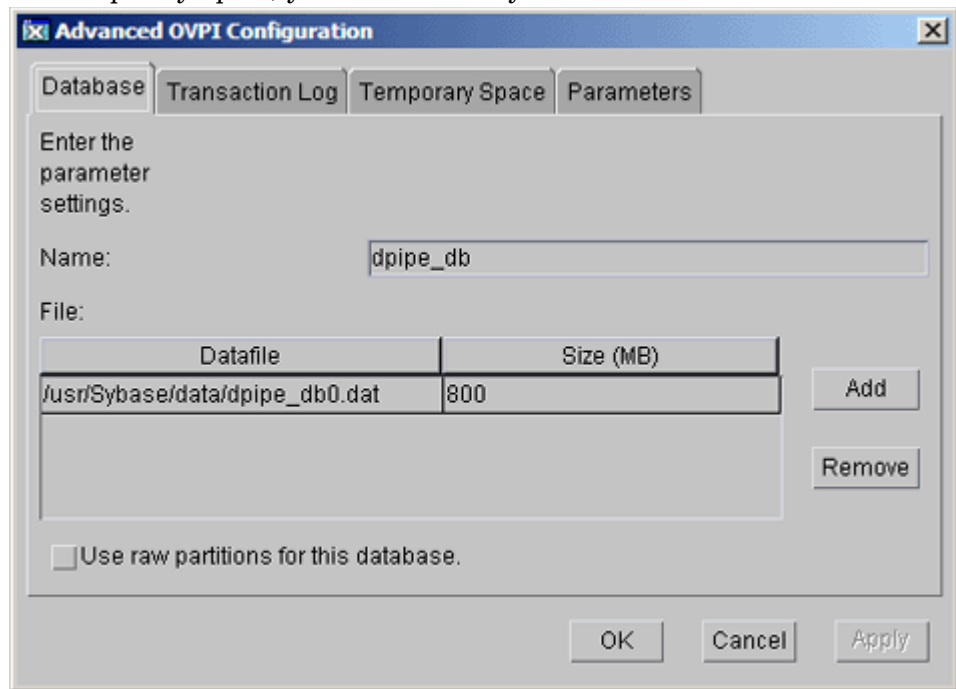
The password must start with an alphabetic character and be between one and 30 characters in length. The minimum length is six. Valid characters are all alphanumeric characters, the pound (#), and the underscore (_). The password is case sensitive.
 - **Confirm Password:** Retype the password.
- 2 (Optional) If required, click **Advanced** to display the Advanced OVPI Configuration window.

You can use the window to:

 - Add files to or remove them from the PI database devices (dpipe_db, dpipe_temp, and dpipe_log). You can use raw partitions for these devices (Database, Transaction Log, and Temporary Space tabs). S0 and Veritas raw partitions are supported. See [Task 8](#) on page 81.
 - Modify the Sybase configuration parameters (Parameters tab). See [Task 9](#) on page 83.
- 3 Click **Next**. The Performance Manager Settings window opens. See [Task 11](#) on page 87.

Task 8: (Optional) Modify the default database devices

- 1 Select the tab associated with the device (Database, Transaction Log, or Temporary Space) you want to modify.



- 2 To add a file to a database device, click **Add**, and then click the Datafile arrow, and select a file from the list.

▶ You must create at least one file for each device.

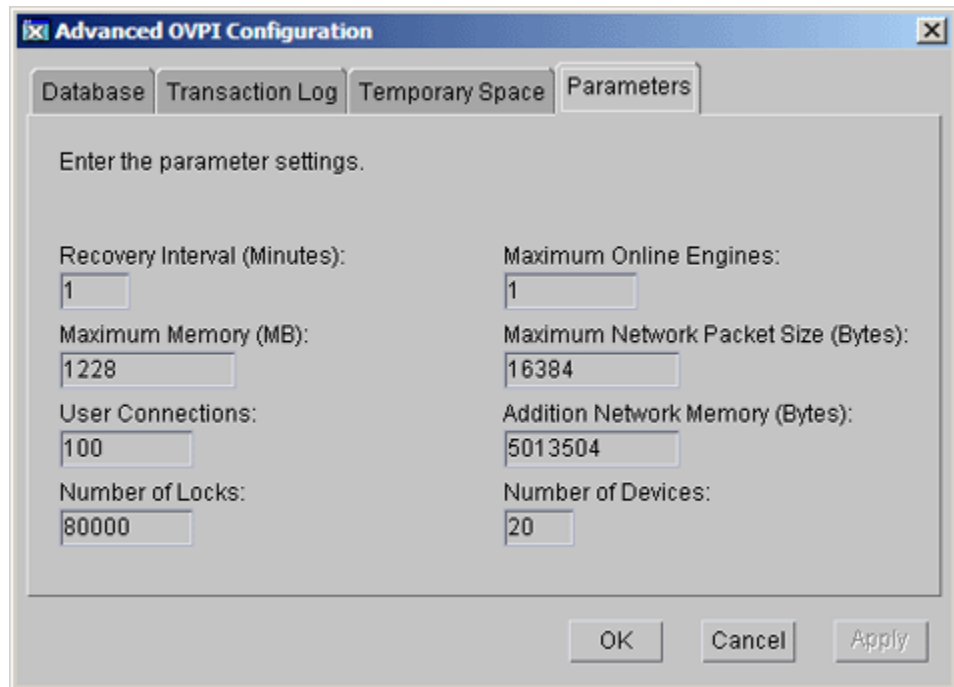
A precalculated size for the device appears next to the device's name in the Size (MB) column. If you are using raw partitions, do not change this value.

- 3 To edit a **File-system database** file, double-click the file, path, or size cell.
- 4 To remove a file:
 - a Click on the file, and press the **Tab** key.
 - b Press the up or down arrow key to select a file and then use the up or down arrow keys to navigate to the file you want to remove.

- c Click **Remove**.
- 5 To use a raw partition for a database device, do the following:
- a Select the tab associated with the device for which you want to use a raw partition.
 - b Select the **Use raw partitions for this database** check box.

The installation application finds disk partitions that are not mounted, used, swapped or listed in the `/etc/vfstab` file. This prevents unmounted (but available incase the administrator want to mount them again) file systems from being used by the installation wizard.
- 6 Click **Apply** after you finish making all of the changes.
- 7 Click **OK** to return to the Sybase User and Device Creation window.
- In the Sybase User and Device Creation window, you might notice the following changes:
- If you chose a raw partition for a particular database device, the database device appear dimmed in the window.
 - If you added a file to or removed a file from one of the devices, the recalculated percentages and database size is listed on the window.
 - If a database device has several files that are located in different directories, the fields for the database device appear dimmed in the window.
- 8 Click **Next** to continue the installation. See [Task 11](#) on page 87.

Task 9: (Optional) Changing Sybase Configuration Parameters



The screenshot shows a dialog box titled "Advanced OVPI Configuration" with four tabs: "Database", "Transaction Log", "Temporary Space", and "Parameters". The "Parameters" tab is selected. The dialog contains the instruction "Enter the parameter settings." and a grid of eight text input fields. The fields and their values are: "Recovery Interval (Minutes):" with value "1", "Maximum Online Engines:" with value "1", "Maximum Memory (MB):" with value "1228", "Maximum Network Packet Size (Bytes):" with value "16384", "User Connections:" with value "100", "Addition Network Memory (Bytes):" with value "5013504", "Number of Locks:" with value "80000", and "Number of Devices:" with value "20". At the bottom right, there are three buttons: "OK", "Cancel", and "Apply".



Only a Sybase database administrator must change the values of the following parameters.

To change your Sybase configuration parameters:

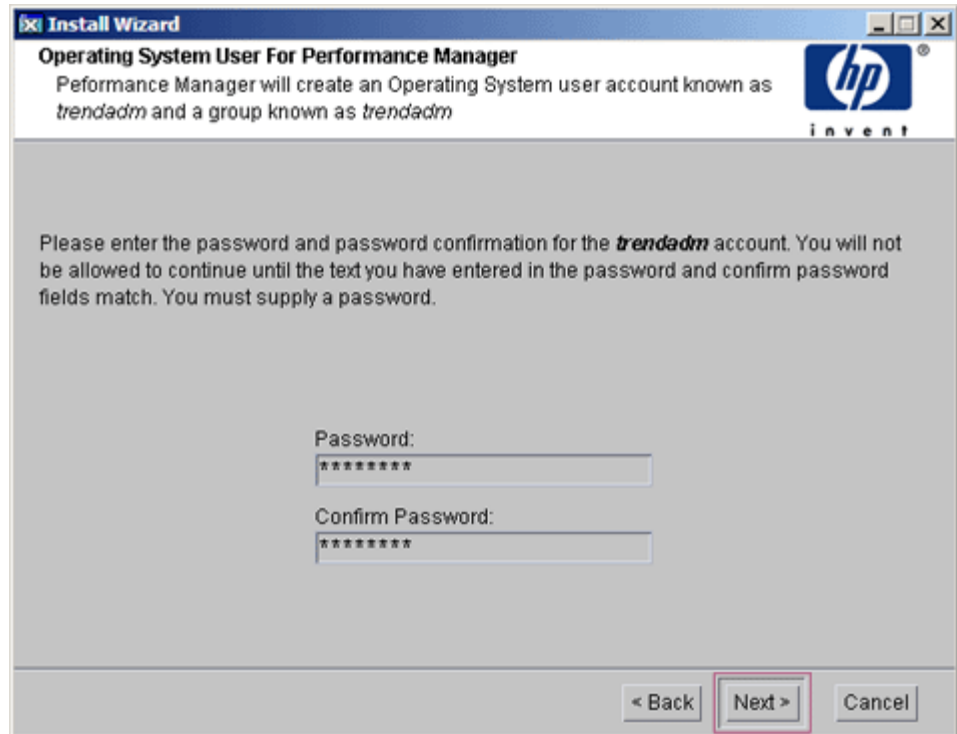
- 1 Select the Parameters tab. The Parameters tab contains the following options that you can use:
 - **Recovery Interval (Minutes):** To set the maximum number of minutes the SQL Server must use to recover a database in case of system failure.
 - **Maximum Memory (MB):** To set the size of memory that the SQL Server allocates from the operating system.

- **User Connections:** To set the maximum number of user connections that can be connected to a SQL Server at the same time. The global variable @@max_connections stores the maximum values for your system. It varies according to operating system.
 - **Number of Locks:** To set the number of available locks.
 - **Maximum Online Engines:** To control the number of engines in a symmetric multiprocessor environment.

If your system uses a single CPU, the recommended value is 1. If you increase the value, there is a possibility that Sybase slows down due to internal contention. However, if your system uses multiple CPUs, the value may be increased to benefit from the multiple CPU architecture.
 - **Maximum Network Packet Size (Bytes):** To set the maximum network packet size that a client program can request.
 - **Additional Network Memory (Bytes):** To allocate additional memory for clients that request packet sizes larger than the default packet size for the server.
 - **Number of Devices:** To limit the number of database devices that the SQL Server can use.
- 2 Click **Apply** after you finish making all the changes.
 - 3 Click **OK** to return to the Sybase User and Device Creation window.
 - 4 Click **Next** to continue the installation.

Task 10: Create or modify the operating system account

Read the content displayed in the Operating System User for Performance Manager window. `trendadm` is an operating system account and group. `trendadm` preserves the environment in which PI runs.



Install Wizard
Operating System User For Performance Manager
Performance Manager will create an Operating System user account known as `trendadm` and a group known as `trendadm`

Please enter the password and password confirmation for the `trendadm` account. You will not be allowed to continue until the text you have entered in the password and confirm password fields match. You must supply a password.

Password:

Confirm Password:

< Back **Next >** Cancel

The `trendadm` account created in this step is used to log on to the operating system and is different from the `trendadm` account created later, which is used to log on to the Web Access Server application.

The system prompts you for different information depending on whether the operating system and group account already exist.

- If the operating system account and group do not exist, the Create OS User window opens.

To create the operating system account and group:

- a Create a password for the `trendadm` account by typing values for the following:

- **Password:** The password must be at least one character long. It can be of any length and may contain any character. Adhere to your company's policy for password creation.
- **Confirm Password:** Retype the password.

b Click **Next**.

- If the operating system account and group exist, the Existing OS User window opens.

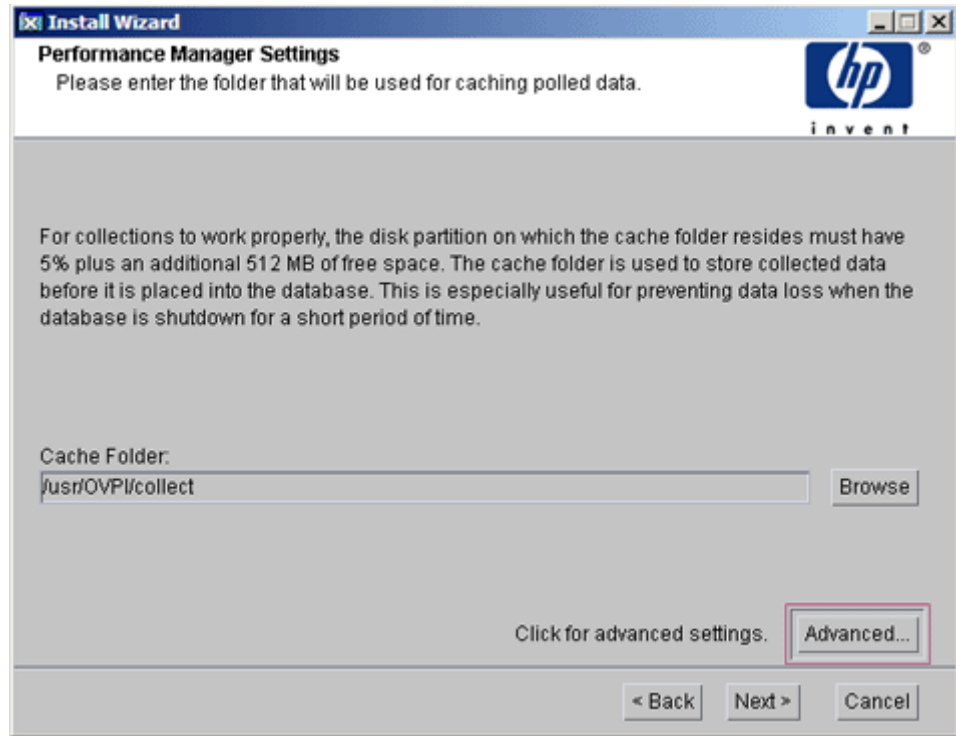
To modify the operating system account user environment.

a Click one of the following:

- **Modify user environment:** This parameter updates the trendadm account's `.profile` or `.cshrc` with the PI environment variables (`COLLECT_HOME`, `DPIPE_HOME`, `DPIPE_TMP`, and `TREND_LOG`).
- **Do not modify user environment:** This parameter does not update the account's `.profile` or `.cshrc` with the PI environment variables. If you select this option, you must manually add the PI environment variables later.

b Click **Next**.

Task 11: Configure polling collections

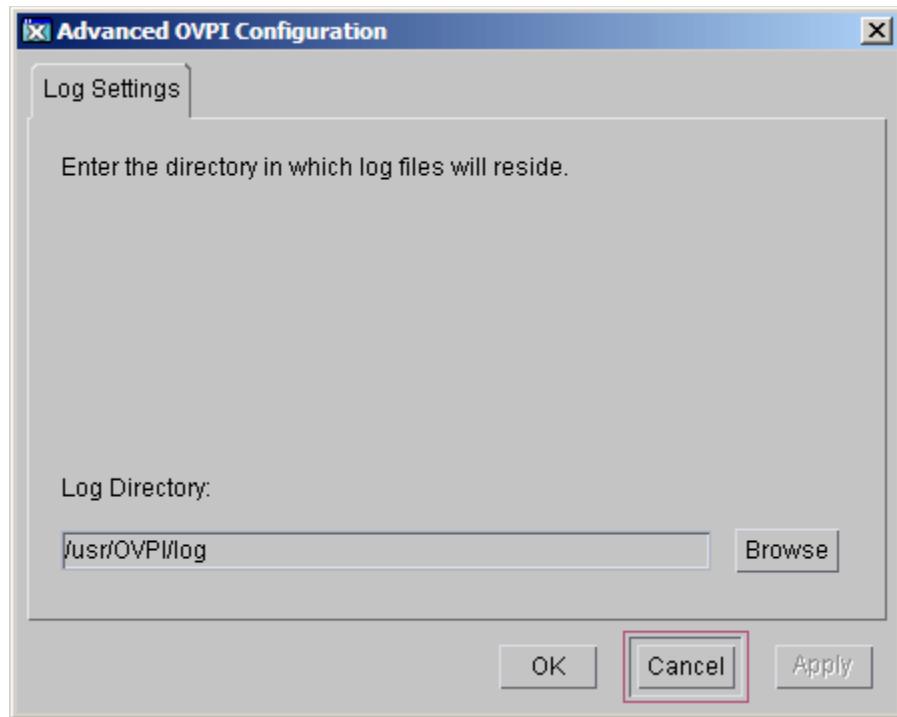


In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.

- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.

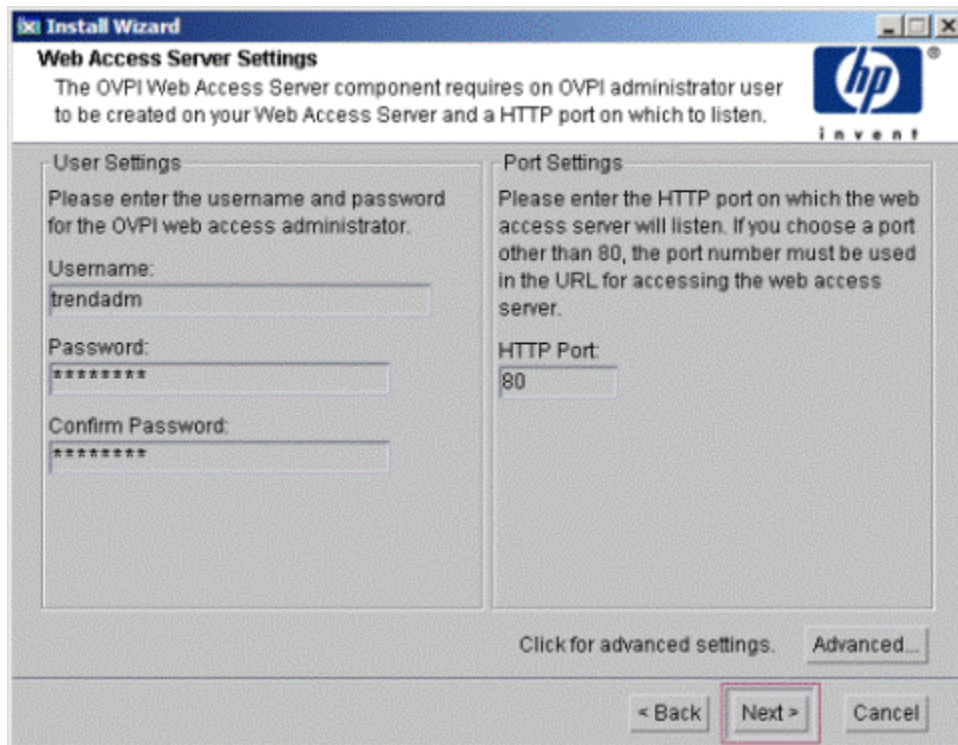


Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files must be saved.

- 3 Click **OK** to apply changes and return to the Performance Manager Settings window.
- 4 Click **Next**.

Task 12: Specify an administrator and port for the Web Access Server

In the Web Access Server Settings window, create a PI administrator account for the Web Access Server, as well as an HTTP port through which it communicates.



1 Type values for the following parameters:

- **Username:** Accept the default username for the Web Access Server administrator, or type a new name. This account is used to log on to the Web Access Server.

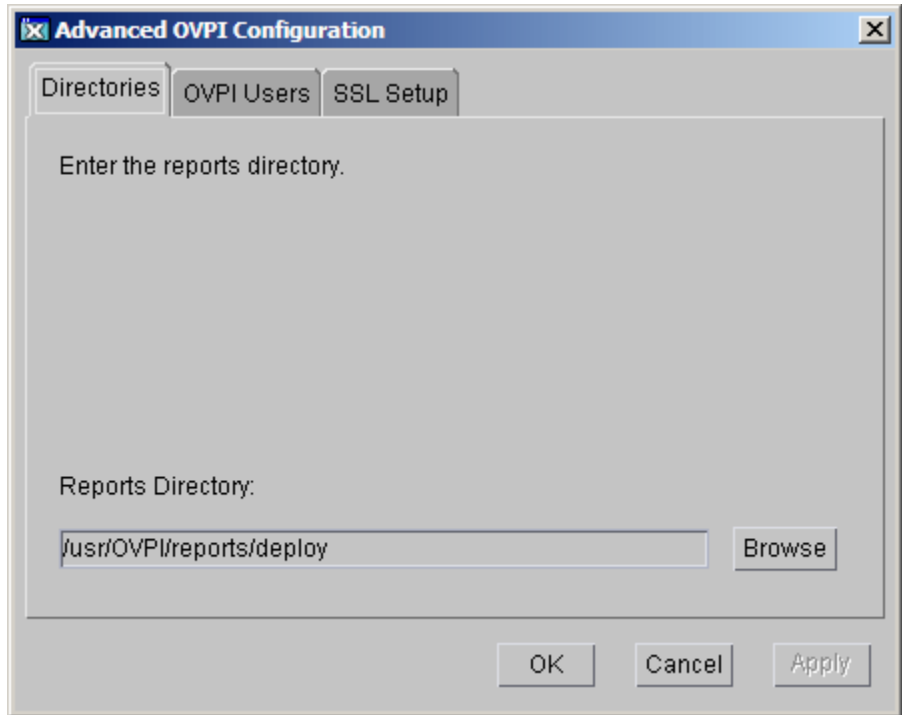
▶ This `trendadm` account is different from the `trendadm` account used for logging on the operating system.

There are no restrictions on the minimum and maximum length or on the characters that can be used in the username and password. Adhere to your company's policy for username and password creation.

- **Password:** Type a password for the Web Access Server administrator account.

You can change password rules after you install PI using the Web Access Server application. See the *HP Performance Insight Administration Guide* for details.

- **Confirm Password:** Retype the password.
 - **HTTP Port:** Accept the default port (80) or type a new port number for the Web Access Server. Any open port can be used.
- 2 If required, click **Advanced**.



The Advanced Configuration window opens, in which you can select the following tabs:

Directories: To change the location of report directories in which all the deployed reports are stored.

- a Accept the default directory or identify a new directory.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

OVPI Users: To create and modify user accounts that are used to log on to PI clients. You can create regular user accounts or administrator accounts. Regular user accounts can access the PI clients. Administrator accounts

can access the administrative features (Administration link) of the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

To add or modify a user account:

- a Click **Add User**. A default username (new-user), password (new-user), and role (user) appears, along with the created user accounts.
- b Double-click the name or password, delete the value, and type a new value. Select either **user** or **admin** for Role.
- c Click **Apply**.

To remove a user account:

- a Select the user name and click **Remove User**.
- b Click **Apply** and then click **OK** to return to the Web Access Server Settings window.

You can also create, modify, and delete user accounts after you install PI using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

SSL Setup: To enable SSL communications. You can use SSL communication to enable secure communication between the Web Access Server and a supported web browser, Report Viewer, Report Builder, and the Management Console.

Select the **Enable SSL** check box to enable SSL communications and create a self-signed certificate. The self-signed certificate is required to enable SSL. This certificate has a validity of 90 days.

The standard HTTP port is not disabled by selecting this option. Thus, the secured SSL port and the unsecured HTTP port are both enabled.

- **SSL Port:** Accept the default value or type a new value.
- **Keystore Password:** Type a password of six characters or more.

Record the password and keep it safely. You need it to generate a signed certificate.

After you generate your self-signed certificate, it is stored in the certificate repository. This password lets the Web Access Server access the certificate repository.


Send this certificate to a certificate authority to receive a signed digital certificate or generate another self-signed certificate before the 90-day validity expires. After signing the digital certificate, import it using the Web Access Server application. You can also use the Web Access Server to change SSL settings after you install PI. See the *HP Performance Insight Administration Guide* for details.

The remaining fields require information that must be provided if you are generating an SSL key that is verified and signed by a certificate-signing authority. This information is used by the person who checks the certificate to ensure that the certificate is valid.

- **Organization** (Optional): Type the name of your organization, for example, “ABC Systems, Inc.”
- **Org. Unit** (Optional): Type the name of your department or division, for example, “Northeast Sales”.
- **City** (Optional): Type the name of your city or locality, for example, “Los Angeles”.
- **State** (Optional): Type the name of your state or province, for example, “California”.
- **Country** (Required): Type your two-letter country code in the Country box, for example, “US”.

- 3 Click **Apply**.
- 4 Click **OK** to return to the Web Access Server Settings window.
- 5 Click **Next**. The Summary window opens.

Task 13: Review the installation information and Install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
 In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

To install report packs and datapipes, see the instructions in the *HP Performance Insight Administration Guide*.

6 Installing HP Performance Insight in a Distributed Environment

There are numerous ways to install PI in a distributed environment. This chapter describe how to individually install the PI components in a representative complex distributed configuration discussed in [Chapter 1, Introduction](#).

The order of installation in a distributed environment is:

- 1 Install the PI Database Schema and PI Performance Manager on the central database server.
- 2 Install the Web Access Server. If you have more than one Web Access Server, repeat the installation procedure for each.
- 3 Install report packs on the central database server. Do not install datapipes on the central database server unless the central server is polling.
- 4 Deploy reports to each Web Access Server. You can defer this task till the installation is complete.
- 5 Install the PI Database Schema and PI Performance Manager on each satellite database server.

At this point, you can discover the network on the satellite database servers.

- 6 Install report packs and datapipes on each satellite database server.
- 7 Install the Remote Poller component on each remote polling system. If you have more than one remote polling system, you must repeat the installation procedure for each.

At this point, you can perform a type discovery of each satellite database server, configure report packs for operation in the distributed environment, and configure polling policies for remote polling systems. You can also defer this task till the installation is complete.

- 8 Install the PI client applications on individual workstations whose users might access the Web Access Server.



Ensure that Sybase server is started before installing PI.

Log On and Start the Setup Program

- 1 Log on to the local system as **root**.
- 2 Insert the HP Performance Insight Installation DVD in the DVD-ROM drive and mount the DVD using the following instructions:

Operating System	Command
HP-UX	<p>Use the SAM utility to mount the DVD-ROM, or type the following commands:</p> <pre>mkdir /dvdrom mount /dev/dsk/dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p>
Solaris	<p>If the File Manager window does not open automatically, type the following command as root user:</p> <pre>mkdir /dvdrom mount -r /dev/dsk/ dvd_devicename /dvdrom</pre> <p>In this instance, <i>dvd_devicename</i> is the name of the DVD-ROM device.</p> <ul style="list-style-type: none"> • Display the <i>dvd_label</i> by typing the command: <pre>ls -l /dvdrom</pre> • Change directory by typing the command: <pre>cd /dvdrom/dvd_label</pre> <p>In this instance, <i>dvd_label</i> identifies the DVD name.</p>
Red Hat Linux	<p>If the File Manager window does not open automatically, type the following command as root user:</p> <pre>mount -r /dev/dvdrom <mount_directory></pre> <p>In this instance, <i>mount_directory</i> is the directory where contents of the DVD-ROM are stored.</p>

- 3 If the setup program does not start automatically, locate the setup program and start it by typing the command:

```
./setup
```

The Setup Utilities window opens.

Installing PI on the Central Server

In a distributed environment, you must first install PI on the Central Server. You can then install the Satellite Servers and register them with the Central Server.

Installing PI on a Central Server is similar to installing PI on a standalone server. However, there are two differences:

- You must install the PI Database Schema and Performance Manager on the Central Server. Installing the other components on Central Server is optional. ([Task 2](#) on page 73.)
- Select **Central Server** in the Server Role window, instead of Standalone Server. ([Task 3](#) on page 74.)

For the complete installation, follow the instructions in [Chapter 5, Installing HP Performance Insight on a Standalone Server](#).

Installing PI on a Satellite Server

Install the PI Database Schema and PI Performance Manager on the database server of a satellite server.

This procedure is almost similar to installing the PI Database Schema and PI Performance Manager on a standalone system.

Task 1: Start the PI installation program

- 1 If you have not already started the PI installation program, start it now. The Setup Utilities window opens.

For 32-bit Linux and other UNIX platforms, the following window opens:.



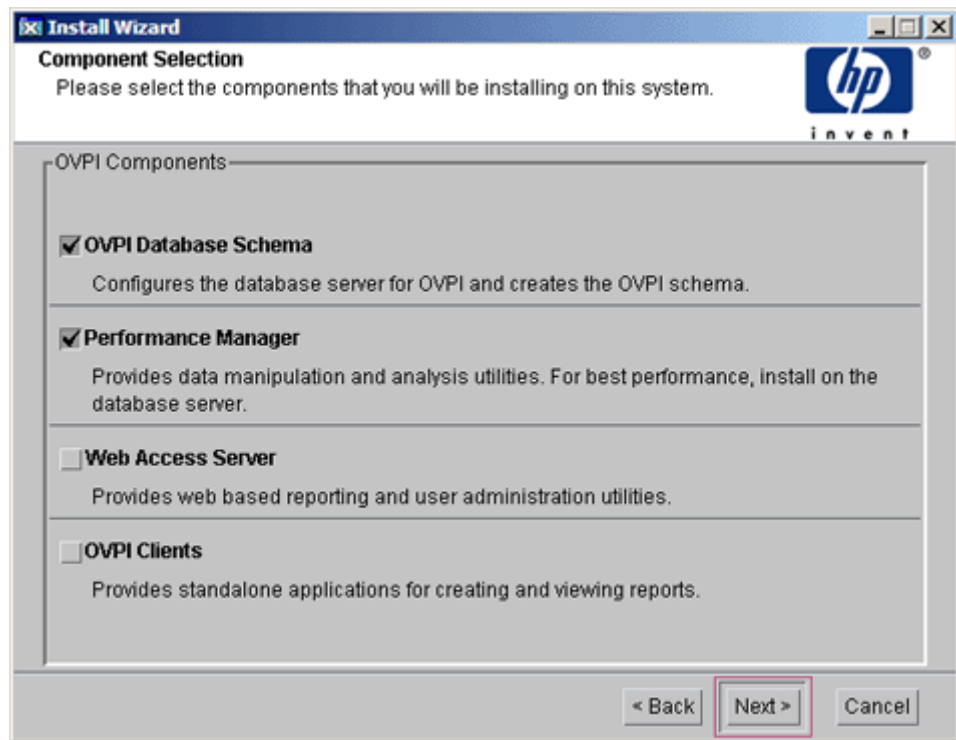
For 64-bit Linux platform, the following window opens:



- 2 Select **OVPI 5.41.0** from the Install section of the window. The Welcome window opens.
- 3 Read the contents in the Welcome window and click **Next**. The License Agreement window opens.
- 4 Accept the license agreement and click **Next**. In the Component Selection window opens.

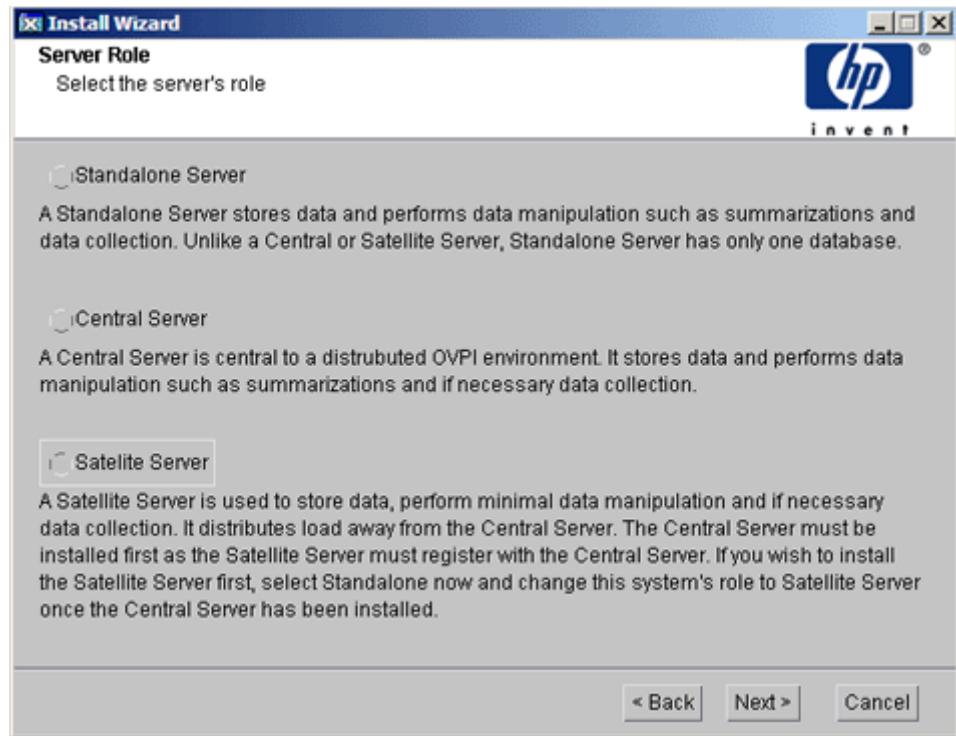
You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

Task 2: Select the PI components you want to install



- 1 Select **OVPI Database Schema** and **Performance Manager**.
(**OPTIONAL**) If you want to install all the four components on the Satellite Server, select Web Access Server and OVPI Clients as well.
- 2 Click **Next**. The Server Role window opens.

Task 3: Select a role for the database system



1 Select **Satellite Server**.

If you want to change the role at a later time, use the System and Network Administration application in the PI Management Console. For more information, see the *HP Performance Insight Administration Guide*.

2 Click **Next**. The Central Server Registration window opens.

Task 4: Specify the host name and port number for the Satellite Server

Install Wizard

Central Server Registration

Enter the information necessary to register with the Central Server.

hp
invent

Central Server's Host Name:
TEST1

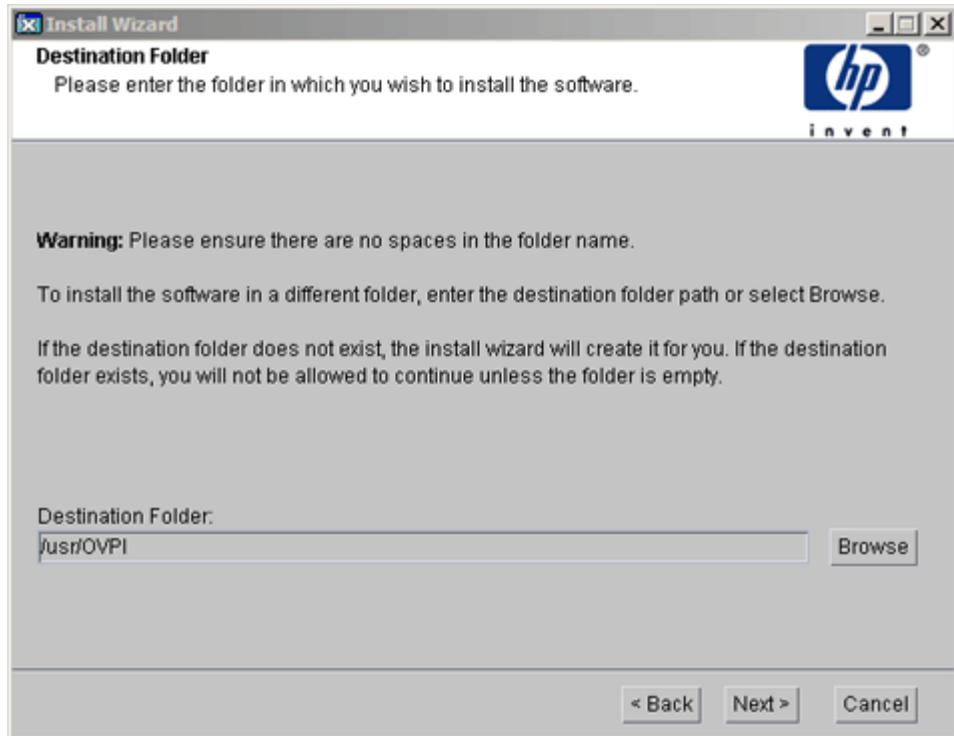
Central Server's Port Number:
80

The Central Server is configured to use SSL

< Back Next > Cancel

- 1 Specify the host name of the central server with which you want to register this satellite server.
- 2 Specify the port number of the central server (the default value is 80).
Host name and port number are required to synchronize the information stored in the `systems.xml` file. For secure communication, you can select the The Central Server is Configured to use SSL check box.
The registration is completed at the end of the installation process.
- 3 Click **Next**. The Destination Folder window opens.

Task 5: Specify an installation directory for the PI software



1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link. The directory path, however, must not contain any spaces.

The Installation Program does the following:

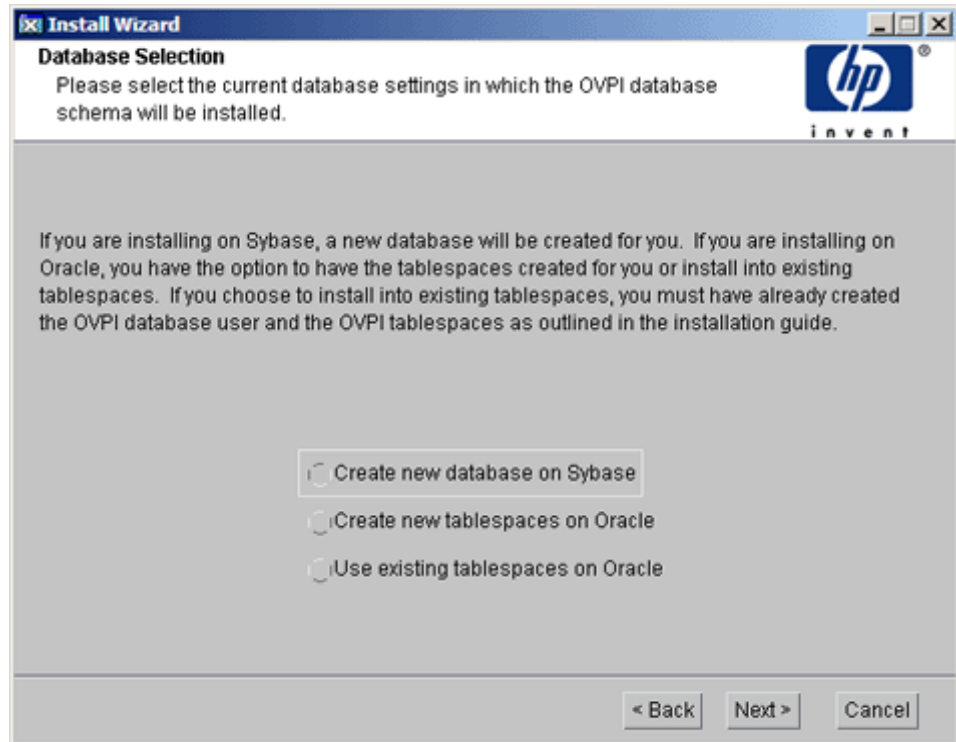
- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.

- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.

- 2 Click **Next**. The Database Selection window opens.

Task 6: Select the RDBMS on which the PI database instance must be installed



- 1 Read the content displayed in the window and select one of the three options given.

If you select the **Create new database on Sybase** option ensure that there is no existing database user account (dsi_dpipes) or dsi_dpipes user. Otherwise, the installation fails.

- 2 Click **Next**. The Sybase Reference Using Sybase Administrator User window opens.

Task 7: Locate and connect to the database

Sybase Reference Using Sybase Administrator User
Please enter the following information to locate and connect to the Sybase database.

Server Settings

Sybase Server Name (DSQUERY):
TEST_SYBASE

Sybase Host Name:
test.hp.com

Sybase TCP/IP Port Number:
2052

User Settings

Sybase Administrator (SA) Password:

Sybase Directory:
/usr/Sybase

In the Sybase Reference Using Sybase Administrator User window, locate and connect to the Sybase database.

1 Accept the default values or type new values for the following parameters:

- **Sybase Server Name (DSQUERY):** The name of the Sybase SQL Server (this name is case sensitive.) By default, the client applications search for information in this server. You can find the name of this server in the Sybase interfaces file. The Sybase interfaces file is located on the system where you installed the Sybase SQL Server.

For more information about the Sybase interfaces file, see [Appendix B, The Sybase Interfaces File](#).

- **Sybase Host Name:** This is the name of the system on which you installed Sybase.

- **Sybase TCP/IP Port Number.** The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems. In addition to <DSQUERY>, there are several other Sybase SQL Servers that are assigned port numbers during the installation. These servers are the following:

Sybase Server	Port Numbers
<DSQUERY>_BS	2053
<DSQUERY>_MS	2054
<DSQUERY>_HS	2055
<DSQUERY>_XP	2056

You must manually start each of these servers.

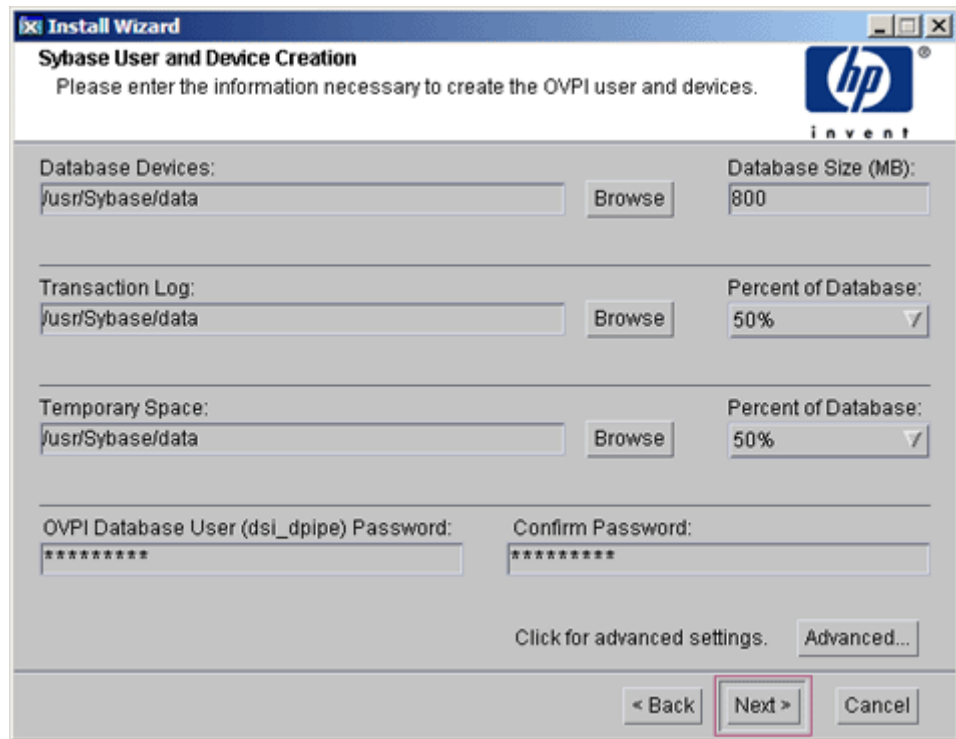
- **Sybase Administrator (SA) Password:** If you changed the Sybase Administrator password, during the Sybase installation, from a NULL value to an actual password, type that password in the Sybase Administrator (SA) Password box.

If you did not change the Sybase Administrator password, you can leave this box blank.

- **Sybase Directory:** The directory in which you installed Sybase. Click **Browse** to select a different directory. After selecting a directory, click **Open** to return to the Sybase Reference Using Sybase Administrator User window.

- 2 Click **Next**. The Sybase User and Device Creation window opens.

Task 8: Create the Sybase user account and the new database devices



In the Sybase User and Device Creation window, create the PI database user account and database devices.

The installation wizard creates the device files for the PI database using Sybase Adaptive Server. Files are created within Sybase for the PI database, transaction log, and temporary space. The PI database uses the device files to store its data. (If raw devices are used, no device files are created.)

By default, the installation wizard creates the device files in a subfolder called `dbfiles` under the Sybase installation directory. You can change the name of this folder at this point in the installation. The folder name must not contain any spaces.



All Sybase devices are created using the `vstart=512` option. This enables you to use labeled file systems with PI. For example, if the size of your database is 800 MB, only 799 MB of it is available, and 1 MB is allocated for the label.

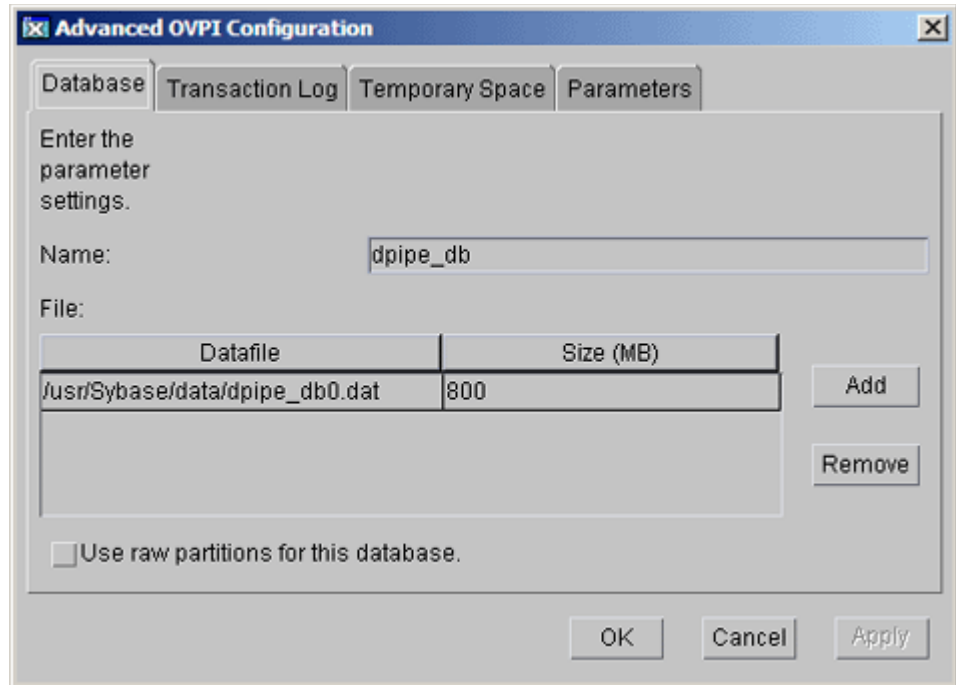
- 1 Accept the default values or type new values for the following parameters:
 - **Database Devices and Database Size (MB):** Type the file location of the database device and its size.
 - **Transaction Log and Percent of Database:** Type the file location of the transaction log and the amount of space allocated to it in the database.
 - **Temporary Space and Percent of Database:** Type the file location of the temporary space and the amount of space allocated to it in the database.
 - ▶ The temporary space (dpipe_temp) and the transaction log (dpipe_log) be approximately 50% the size of the database device (dpipe_db). For example, if the database (dpipe_db) is 800 MB, then the temporary space (dpipe_temp) and temporary log (dpipe_log) should be 400 MB each.
 - **PI Database User (dsi_dpipe) Password:** Type a password for the PI database user account (dsi_dpipe).

The password must start with an alphabetic character and must be between one and 30 characters in length. The minimum length is six. Valid characters are all alphanumeric characters, the pound (#), and the underscore (_). The password is case sensitive.
 - **Confirm Password:** Retype the password.
- 2 (Optional) If required, click **Advanced** to display the Advanced OVPI Configuration window.

You can use the window to:

 - Add files to or remove them from the PI database devices (dpipe_db, dpipe_temp, and dpipe_log). You can use raw partitions for these devices (Database, Transaction Log, and Temporary Space tabs). S0 and Veritas raw partitions are supported. See Task 9.
 - Modify the Sybase configuration parameters (Parameters tab). See Task 10.
- 3 Click **Next**. The Performance Manager Settings window opens. See [Task 12](#) on page 116.

Task 9: (Optional) Modify the default database devices



- 1 Select the tab associated with the device (Database, Transaction Log, or Temporary Space) you want to modify.
- 2 To add a file to a database device, click **Add**, and then click the Datafile arrow, and select a file from the list.

► You must create at least one file for each device.

A precalculated size for the device appears next to the device's name in the Size (MB) column. If you are using raw partitions, do not change this value.

- 3 To edit a **File-system database** file, double-click the file, path, or size cell.
- 4 To remove a file:
 - a Click on the file, and press the **Tab** key.

- b Press the up or down arrow key to select a file and then use the up or down arrow keys to navigate to the file you want to remove.
 - c Click **Remove**.
- 5 To use a raw partition for a database device, do the following:
- a Select the tab associated with the device for which you want to use a raw partition.
 - b Select the **Use raw partitions for this database** check box.

The installation application finds disk partitions that are not mounted, used, swapped or listed in the `/etc/vfstab` file. This prevents unmounted (but available incase the administrator want to mount them again) file systems from being used by the installation wizard.

- 6 Click **Apply** after you finish making all the changes.
- 7 Click **OK** to return to the Sybase User and Device Creation window.

In the Sybase User and Device Creation window, you might notice the following changes:

- If you chose a raw partition for a particular database device, the database device appears dimmed in the window.
- If you added a file to or removed a file from one of the devices, the recalculated percentages and database size is listed on the window.
- If a database device has several files that are located in different directories, the fields for the database device appears dimmed in the window.

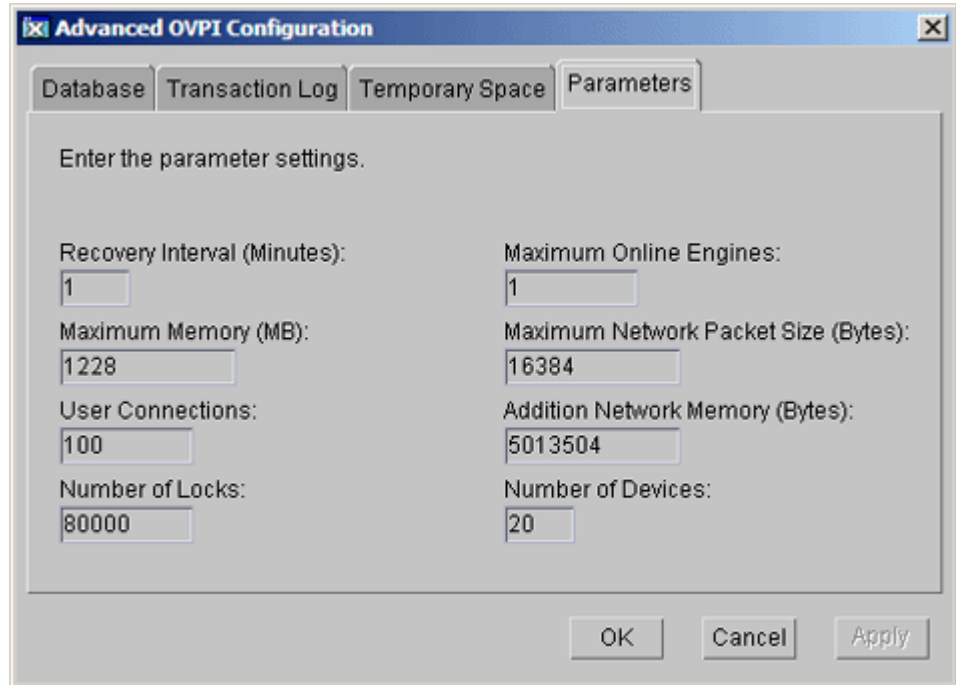
- 8 Click **Next** to continue the installation. See [Task 12](#) on page 116.

Task 10: (Optional) Changing Sybase Configuration Parameters



Only a Sybase database administrator must change the values for these parameters.

To change your Sybase configuration parameters:



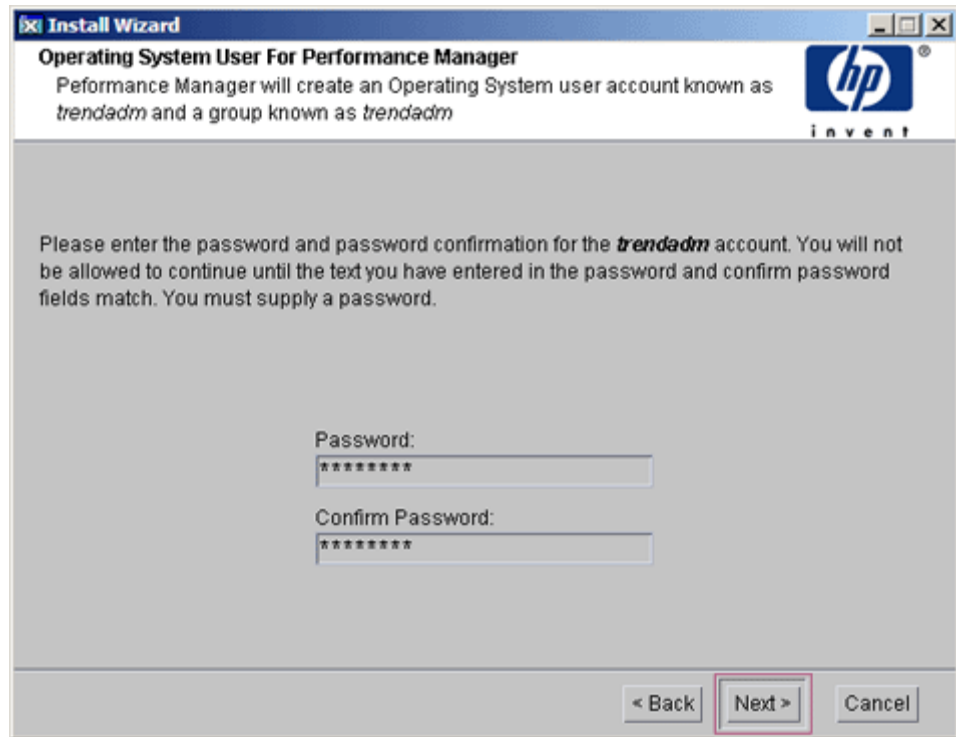
- 1 Select the Parameters tab. The Parameters tab contains the following options that you can use:
 - **Recovery Interval (Minutes):** To set the maximum number of minutes the SQL Server must use to recover a database in case of system failure.
 - **Maximum Memory (MB):** To set the size of memory that the SQL Server allocates from the operating system.
 - **User Connections:** To set the maximum number of user connections that can be connected to a SQL Server at the same time. The global variable @@max_connections stores the maximum values for your system. It varies according to operating system.
 - **Number of Locks:** To set the number of available locks.
 - **Maximum Online Engines:** To control the number of engines in a symmetric multiprocessor environment.

If your system uses a single CPU, the recommended value is 1. If you increase the value, there is a possibility that Sybase slows down due to internal contention. However, if your system uses multiple CPUs, the value may be increased to benefit from the multiple CPU architecture.

- **Maximum Network Packet Size (Bytes):** To set the maximum network packet size that a client program can request.
 - **Additional Network Memory (Bytes):** To allocate additional memory for clients that request packet sizes larger than the default packet size for the server.
 - **Number of Devices:** To limit the number of database devices that the SQL Server can use.
- 2 Click **Apply** after you finish making all the changes.
 - 3 Click **OK** to return to the Sybase User and Device Creation window.
 - 4 Click **Next** to continue the installation.

Task 11: [Create or modify the operating system account](#)

Read the content displayed in the Operating System User for Performance Manager window. `trendadm` is an operating system account and group. `trendadm` preserves the environment in which PI runs.



The trendadm account created in this step is used to log on to the operating system and is different from the trendadm account created later, which is used to log on to the Web Access Server application.

The system prompts you for different information depending on whether the operating system and group account already exist.

- If the operating system account and group do not exist, the Create OS User window opens.

To create the operating system account and group:

- Create a password for the trendadm account by typing values for the following:
 - **Password:** The password must be at least one character long. There is no maximum on length. You can use any characters. Adhere to your company's policy for password creation.
 - **Confirm Password:** Retype the password.

b Click **Next**.

- If the operating system account and group exist, the Existing OS User window opens.

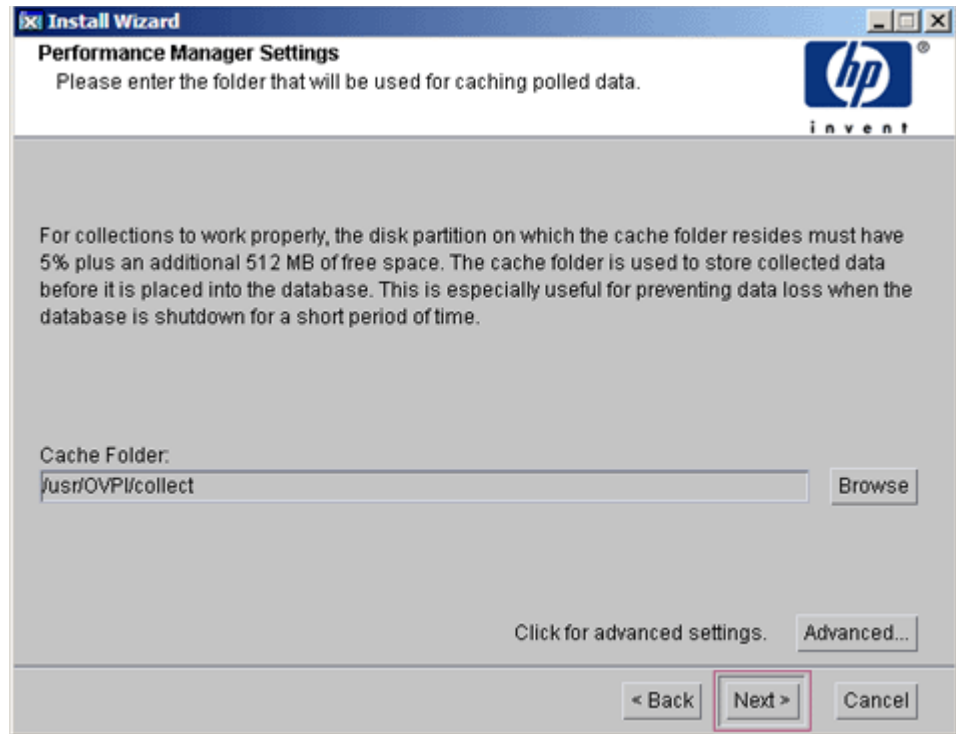
To modify the operating system account user environment:

a Click one of the following:

- **Modify user environment:** This parameter updates the trendadm account's `.profile` or `.cshrc` with the PI environment variables (`COLLECT_HOME`, `DPIPE_HOME`, `DPIPE_TMP`, and `TREND_LOG`).
- **Do not modify user environment:** This parameter does not update the account's `.profile` or `.cshrc` with the PI environment variables. If you select this option, you must manually add the PI environment variables later.

b Click **Next**.

Task 12: Configure polling collections

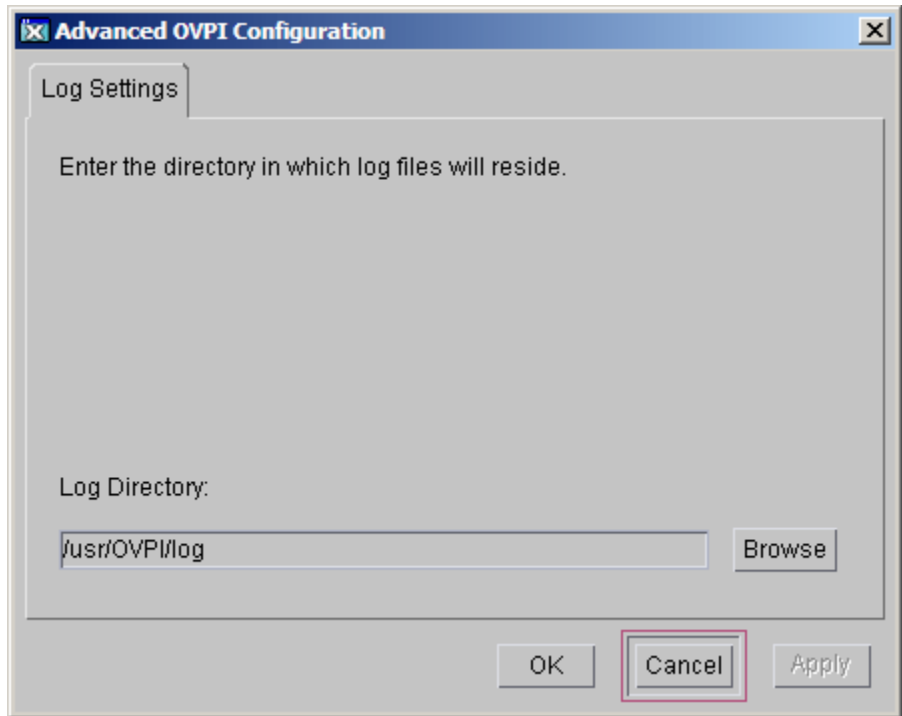


In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.

- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

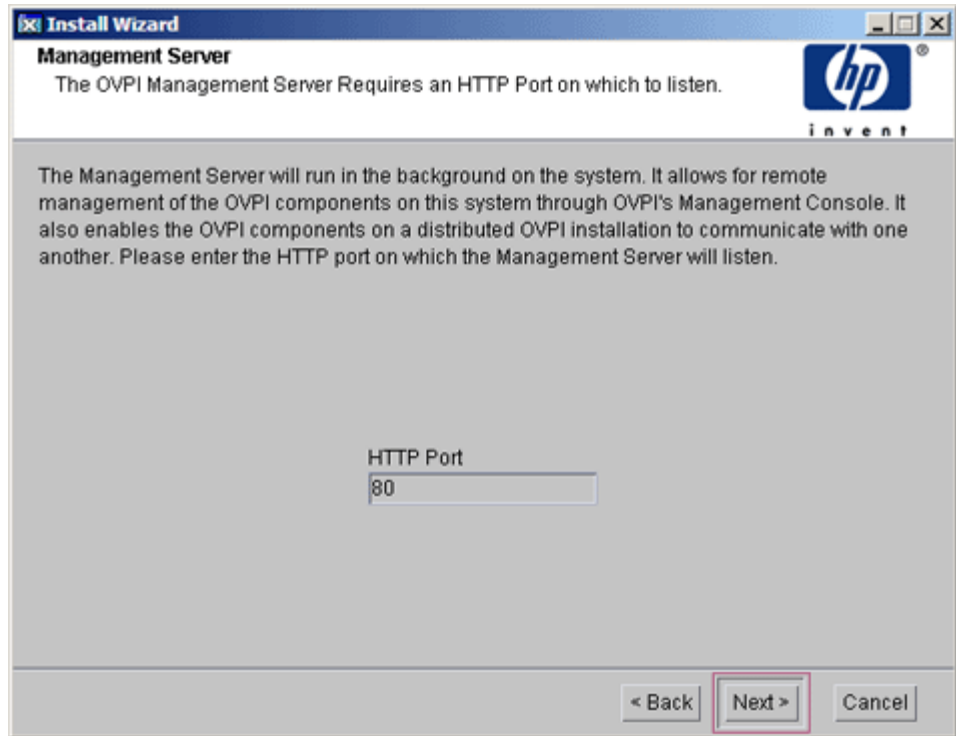
- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.



Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files must be saved.

- 3 Click **OK** to apply changes and return to the Performance Manager Settings window.
- 4 Click **Next**.

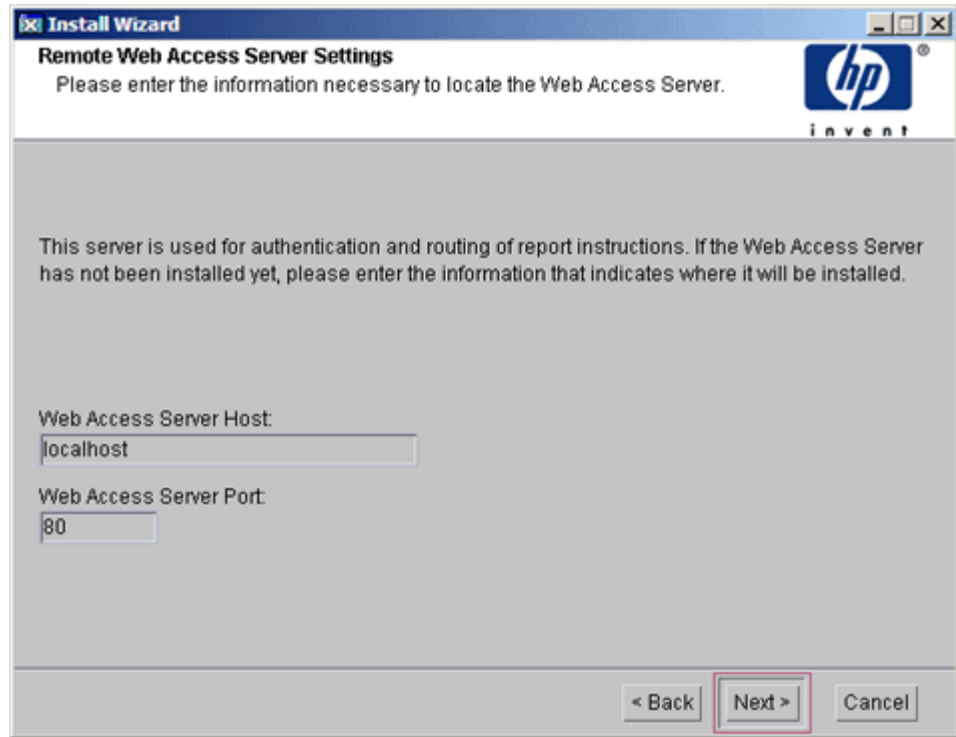
Task 13: Specify an HTTP port number through which the PI Management Server communicates



In the Management Server window:

- 1 Type the port number through which the PI management server communicates. The default value is 80.
- 2 Click **Next**.

Task 14: Specify the information required to locate the Web Access Server



In the Remote Web Access Server Settings window:

- 1 Type the name of the Web Access Server Host and the Web Access Server Port.
- 2 Click **Next**.

Task 15: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
 - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.

- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

Task 16: [Install other PI components as required](#)

- To install the Web Access Server, see [Installing the Web Access Server](#) on page 121.
- To install Remote Pollers, see [Installing the Remote Poller Component](#) on page 129.
- To install Client Applications, see [Installing the HP Performance Insight Client](#) on page 127.

Installing the Web Access Server

Install and start the Sybase database before installing the Web Access Server.


During installation, the system prompts you to provide the remote management server host name and port number. The host name and port name are used by the Installation Program to download database information from the database system.

If you did not install the database, the installation continues. However, you must use the Management Console to configure the database system after the installation.

The procedure for installing Web Access Server in a distributed setup is almost similar to the procedure for installing the Web Access Server on a standalone system.

Task 1: Start the PI installation program

- 1 If you have not started the PI installation program, start it now. The Setup window opens.
- 2 Select **OVPI 5.41.0** from the Install section of the window. The Welcome window opens.
- 3 Read the contents in the Welcome window and click **Next**. The License Agreement window opens.
- 4 Accept the license agreement and click **Next**. The Component Selection window opens.

 You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

Task 2: Select the PI components to install

In the Component Selection window, to select the components to install.

- 1 Select **Web Access Server** from the Install section of the window. Clear all other check boxes.
- 2 Click **Next**.

Task 3: Specify an installation directory for the PI components

If you installed another PI component on this system, you provided directory information. Continue to [Task 4](#) on page 122.

1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.


2 Click **Next**. The Web Access Server Settings window opens.

Task 4: Specify an administrator and port for the Web Access Server

Use the Web Access Server Settings window to create a PI administrator account for the Web Access Server, as well as an HTTP port on which to listen.

1 Type values for the following parameters:

- **Username:** Accept the default username for the Web Access Server administrator, or type a new name. This account is used to log on to the Web Access Server.

 This `trendadm` account is different from the `trendadm` account used for logging on the operating system.

There are no restrictions on the minimum and maximum length or on the characters that can be used in the username and password. Adhere to your company's policy for username and password creation.

- **Password:** Type a password for the Web Access Server administrator account.

You can change the password rules after you install PI using the Web Access Server application. See the *HP Performance Insight Administration Guide* for details.

- **Confirm Password:** Retype the password.
- **HTTP Port:** Accept the default port (80) or type a new port number for the Web Access Server. Any open port can be used.

- 2 If required, click **Advanced** to open the Advanced Configuration window, where you can select the following tabs:

Directories: To modify the report directories. The reports directories are where all deployed reports are stored.

- a Accept the default directory or identify a new directory.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

OVPI Users: To create and modify user accounts that are used to log on to PI clients like the Management Console, Report Builder, Report Viewer, and Web Access Server. You can create regular user accounts or administrator accounts. Regular user accounts can access the PI clients. Administrator accounts can access the administrative features (Administration link) of the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

To add or modify a user account:

- a Click **Add User**. A default user name (new-user), password (new-user), and role (user) appears, along with the created user accounts.
- b Double-click the name or password, delete the value, and type a new value. Select either **user** or **admin** for Role.
- c Click **Apply**.

To remove a user account:

- a Select the user name and click **Remove User**.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

You can also create, modify, and delete user accounts after you install PI using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

SSL Setup: To enable SSL communications. You can use SSL communication to enable secure communication between the Web Access Server and a supported web browser, Report Viewer, Report Builder, and the Management Console.

Select the **Enable SSL** check box to enable SSL communications and create a self-signed certificate. The self-signed certificate is required to enable SSL. This certificate has a validity of 90 days.

The standard HTTP port is not disabled by selecting this option. Thus, the secured SSL port and the unsecured HTTP are both enabled.

- **SSL Port:** Accept the default value or type a new value.
- **Keystore Password:** Type a password of six characters or more.

Record the password and keep it safely. You need it to generate a signed certificate.

After you generate your self-signed certificate, it is stored in the certificate repository. This password lets the Web Access Server access the certificate repository.

Send this certificate to a certificate authority to receive a signed digital certificate or generate another self-signed certificate before the 90-day validity expires. After signing the digital certificate, import it using the Web Access Server application. You can also use the Web Access Server to change SSL settings after you install PI. See the *HP Performance Insight Administration Guide* for details.

The remaining fields require information that must be provided if you are generating an SSL key that must be verified and signed by a certificate-signing authority. This information is used by the person who checks the certificate to ensure that the certificate is valid.

- **Organization** (Optional): Type the name of your organization, for example, “ABC Systems, Inc.”
- **Org. Unit** (Optional): Type the name of your department or division, for example, “Northeast Sales”.
- **City** (Optional): Type the name of your city or locality, for example, “Los Angeles”.

- **State** (Optional): Type the name of your state or province, for example, “California”.
 - **Country** (Required): Type your two-letter country code in the Country box, for example, “US”.
- 3 Click **Apply**.
 - 4 Click **OK** to return to the Web Access Server Settings window.
 - 5 Click **Next**. The Remote Management Server Settings window opens.

Task 5: Supply information about the remote Management Server.

- 1 Specify information for the following parameters:
 - **Remote Management Server Host:** Type the name of the Management Server host.
 - **Remote Management Server Port:** Type the HTTP port number through which the Management server host communicates.

If the system is unable to connect to the database to obtain database information, a warning message appears. You may choose to continue with the installation, however, after the installation finishes, you must set up the database connection through the Management Console.

- 2 Click **Next**. The Summary window opens.

Task 6: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
 - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

Task 7: Install other PI components as required

- To install Client Applications, see [Installing the HP Performance Insight Client](#) on page 127.
- To install Remote Pollers, see [Installing the Remote Poller Component](#) on page 129.

Installing the HP Performance Insight Client

PI clients provide the interface between PI and its users, and are installed as a group on any networked system.

Task 1: Start the PI installation program

- 1 If you did not start the PI Installation Program, start it now.
- 2 The Setup window opens. Select **OVPI 5.41.0** from the Install section of the window.
- 3 The Welcome window opens. Read the contents in the Welcome window and click **Next**.
- 4 The License Agreement window opens. Accept the license agreement and click **Next**.



You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

Task 2: Select the PI components to install

The Component Selection window opens. Use the window to select the components to install.

- 1 Select **OVPI Clients** from the Install section of the window. Clear all other check boxes.
- 2 Click **Next**.

Task 3: Specify an installation directory for the PI software.

If you installed another PI component on this system, you provided directory information. Continue to [Task 4](#) on page 128.

- 1 Follow either of the two options:
 - Accept the default destination directory.
 - Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.


- 2 Click **Next**. The Remote Web Access Server Settings window opens.

Task 4: Specify the information needed to access the Web Access Server

Use the Remote Web Access Server Settings window to enter information about where the Web Access Server must be installed.

- 1 Accept the defaults or specify values for the following parameters:
 - **Web Access Server Host:** Type the name of the Web Access Server.
 - **Web Access Server Port:** Type the port number for the Web Access Server.
- 2 Click **Next**.

Task 5: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
 -  In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

Task 6: Install other PI components as required

To install Remote Pollers, see [Installing the Remote Poller Component](#).

Installing the Remote Poller Component

You do not need to install the Remote Poller component on a system where the PI Performance Manager is installed. Remote Poller component is installed with PI Performance Manager.

Remote Poller systems do not use Performance Manager.

Task 1: Start the PI installation program

- 1 If you have not already started the PI installation Program, start it now. The Setup window opens.
- 2 Select **Remote Poller** from the Install section of the window. The Welcome window opens.
- 3 Read the contents of the Welcome window and click **Next**.
- 4 The License Agreement window opens. Accept the license agreement and click **Next**.



You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

Task 2: Specify an installation directory for the PI components



If you already installed another PI component on this system, you provided directory information. Continue to [Task 3](#) on page 130.

If you installed another PI component on this system, you provided directory information. Continue to [Task 3](#) on page 130.

- 1 Follow either of the two options:
 - Accept the default destination directory.

- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory, a UNIX soft link, or a UNIX hard link. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

- 2 Click **Next**. The Remote Management Server Settings window opens.

Task 3: [Supply information about the database](#)

Use the Remote Management Server Settings window to provide information necessary to locate and download system information required to connect to the remote PI database.

- 1 Specify information for the following parameters:

- **Remote Management Server Host:** Type the name of the database host.
- **Remote Management Server Port:** Type the HTTP port number for the database host.

The database host name and port number are used by the remote poller system to automatically connect with the PI server on which the PI Performance Manager is running. The first time a remote poller connects to the PI server, an information block is downloaded from the PI server and saved on the remote poller.

- 2 Click **Next**. The Performance Manager Settings window opens.

Task 4: Configure polling collections

In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.

- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.
 - a Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files must be saved.
 - b Click **OK** to apply changes and return to the Performance Manager Settings window.
- 3 Click **Next**.

Task 5: Create or modify the operating system account

The Operating System User for Performance Manager window opens. Read the content displayed in this window. `trendadm` is an operating system account and group. `trendadm` preserves the environment in which PI runs.



The `trendadm` account created in this step is used to log on to the operating system and is different from the `trendadm` account created later, which is used to log on to the Web Access Server application.


The system prompts you for different information depending on whether the operating system and group account already exist.

- If the operating system account and group *do not* exist, the Create OS User window opens.

To create the operating system account and group:

- a Create a password for the trendadm account by typing values for the following:
 - **Password:** The password must be at least one character long. There is no maximum on length. You can use any characters. Adhere to your company's policy for password creation.
 - **Confirm Password:** Retype the password.
- b Click **Next**.
- If the operating system account and group exist, the Existing OS User window opens.
To modify the operating system account user environment:
 - a Click one of the following:
 - **Modify user environment:** This parameter updates the trendadm account's `.profile` or `.cshrc` with the PI environment variables (`COLLECT_HOME`, `DPIPE_HOME`, `DPIPE_TMP`, and `TREND_LOG`).
 - **Do not modify user environment:** This parameter does not update the account's `.profile` or `.cshrc` with the PI environment variables. If you select this option, you must manually add the PI environment variables later.
 - b Click **Next**.

Task 6: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
 -  In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
 - c Contact Support (see [Support](#) on page 5).

The Remote Poller does not poll devices until you configure its polling policy. To configure the polling policy, use the Polling Policies application in the Management Console. For more information, see the *HP Performance Insight Administration Guide*.

Client-Only Installation

You can install only the PI clients on any system in a standalone or distributed environment without installing any other PI components on that system. This type of installation is called a client-only installation. A client-only installation enables you to access the Web Access Server for reporting and administration functions from local workstations.

In a client-only installation, you cannot use the following applications from the Management Console Tools menu

- Catalog Manager
- MIB Browser
- SNMP Discovery
- Type Discovery
- Package Manager

Additionally, you can not register a new data table, property table, or automatically add a collection to the database. For full functionality, PI Performance Manager must be installed along with the client.

To install only PI clients, follow the instructions given in [Installing the HP Performance Insight Client](#) on page 127.

7 Post-Installation

After installing Sybase and PI on your system, complete the following tasks:

Apply the Latest Patch

After installing PI, install the latest patch required (if any) for your PI setup. The recent most patch includes all previous patches.

You must have an HP Passport ID to access patches. For information about how to obtain an HP Passport ID, see [Support](#) on page 5.

To locate the most recent patch for this release

- 1 Go to the following url:
www.hp.com/go/hpsoftwaresupport
- 2 Click **Software patches**.
The HP Passport sign-in window opens.
- 3 Enter your HP Passport ID and log on.
- 4 Navigate to the Performance Insight software patches and download the latest patch.

Use a Common Character Set Across Distributed Systems

In a distributed configuration, the central database server, satellite database servers, and polling systems can be installed on different operating systems. Because, the default database character sets might be different for different operating systems, make sure that all database instances and PI clients use a common character set.

Root Permission for Certificate Management Application

The Certificate Management application uses `ovcert` and `ovconfchg` programs present in the `/opt/OV/bin` directory. These programs manage security certificates on the system. You need root privilege to run these programs.

Typically the `trendadm` user, that has no root privileges, launches the Certificate Management application. If you are using the `trendadm` user profile to launch this application, run the `ovswitchuser.sh` script using the following command:

```
/opt/OV/bin/ovswitchuser.sh -existinguser trendadm  
-existinggroup trendadm
```

For more information, see *HP Performance Insight Administration Guide*.

Tasks to perform before installing Report Packs



Perform the following tasks only for Linux 64-bit platform.

Some report packs require a few additional 64-bit compiled perl modules. These modules are shipped with OVPI and are available at the location, `$DPIPE_HOME/data`. Extract these modules manually and place them under appropriate perl modules locations.

To do this, perform the following steps:

- 1 Login as **root** user.
- 2 Unzip the additional perl module bundle:

```
cd $DPIPE_HOME/data  
gunzip HPPI_perl_addon.tar.gz
```
- 3 Extract the perl modules under appropriate perl install location:

```
cd /opt/OV  
tar -xvf $DPIPE_HOME/data/HPPI_perl_addon.tar
```


Complete Immediate Configuration Tasks

- 1 Install the report packs on the central database server and deploy them to the Web Access server.

A report pack is a collection of reports that analyze performance data. Installing the report pack configures PI to summarize and aggregate the data collected by the datapipe.

A datapipe contains directives that PI uses when collecting the data. Installing the datapipe configures PI to collect a specific type of performance data at a specific polling interval.

To install report packs and datapipes, use the PI Package Manager, an application supplied by the Management Console client application. You can choose from a variety of reports. If you are an advanced user, you can also create your own reports.

Before installing a report pack, see the user guide for the report pack. If your configuration has more than one Web Access Server, deploy the report packs on each instance. Do not install datapipes on the central database server unless the central server is polling.

- 2 From the satellite database server, run the discovery utility to discover the network of the managed objects that you plan to poll.

The discovery utility determines if there is a device at a specific IP address, if the device is SNMP-manageable, and if so, what kind of device it is (router, hub, or switch). This information is used to populate and update the tables in the PI database instance.

- 3 Install report packs and datapipes on the satellite database servers, but do not deploy them. You must install the same report packs on the satellite database servers that you installed on the central database server. If you do not plan to use a satellite server as a polling device, you must disable polling on that satellite database server.
- 4 Run type discovery on the satellite database servers.
- 5 In a distributed configuration, configure report packs and polling policies for the distributed configuration. For example, modify the report package polling policies, located on the satellite database servers, such that the policies start collecting data from the system on which the remote poller component is installed.

Other configuration tasks include:

- Configuring the trendtimer utility to schedule activities to run at specific times
- Creating data collections (types and sources of data)
- Configuring polling policies
- Configuring users and groups
- Creating views for presenting data
- Configuring the Web Access Server
- Configuring the PI database
- Scheduling and generating reports

These configuration tasks are explained in detail in the *HP Performance Insight Administration Guide*.

Take a Backup

After installing Sybase Database and PI, take a backup of both the installations. For instructions, see the *HP Performance Insight Administration Guide*.

Confirm that PI is Running and Collecting Data

To verify that PI is running and collecting data type the following command at the command line:

```
ps -ef | grep trendtimer
```

The output looks similar to the following:



The path of program depends on where PI is installed.

```
trendadm 1755      1 0 Apr 13?          0:10 /usr/OVPI/bin/
trendtimer -s /usr/OVPI/lib/trendtimer.sched
```

If the process is not listed, trendtimer is not running.

You can also verify the JBoss process. Although JBoss is not required for PI to collect data successfully, it is required for activities using the web server. For example, to view reports.

Type either of the following commands:

- **ps -ef | grep java**

The output looks similar to the following:

```
root 22284 22271 0 06:28:04?          10:11 /opt/OV/nonOV/  
jdk/b/bin/java -Dprogram.name=run.sh -server -Xms32m  
-Xmx256m.....
```

- **ps -ef | grep jboss**

The output looks similar to the following:

```
root      11250 11191 0 Jul10 pts/1      00:06:30 /opt/OV/nonOV/  
jdk/b/bin/java -Dprogram.name=run.sh -server -Xms32m -Xmx256m  
-Dtrend.home=/usr/OVPI -Dfile.encoding=UTF-8  
-Djava.awt.headless=true.....
```

If the process is not listed, the web server is not running.



The path of program depends on where PI is installed.

Install JBoss 4.2.3



For 64-bit Linux platform, you do not have to install JBoss version 4.2.3 as it is installed by default.

PI 5.41 installs JBoss version 4.0.5 by default for 32-bit Linux and other UNIX platforms. After installing PI 5.41, install JBoss version 4.2.3 to ensure that the latest JBoss security fix is applied.

You can retain the JBoss 4.0.5 folders and files. These will not impact the performance of PI.

To install JBoss 4.2.3, log in as root user and run the following command from the command prompt:

```
/opt/OV/nonOV/jdk/b/bin/java -cp $DPIPE_HOME/lib/piweb.jar
-Djava.library.path="$DPIPE_HOME/bin;$DPIPE_HOME/lib"
-Dtrend.home="$DPIPE_HOME" -Dinstaller.home="<Installation
Directory>" com.trinagy.config.install.JBoss423Setup
```



The above command is a one line command. Copy and paste the command in a notepad and remove the extra lines before pasting it in the command prompt window.

In this instance, *<Installation_Directory>* is the directory where the PI installables are located and `$DPIPE_HOME` is the directory where you installed PI.

Example:

```
/opt/OV/nonOV/jdk/b/bin/java -cp $DPIPE_HOME/lib/piweb.jar
-Djava.library.path="$DPIPE_HOME/bin;$DPIPE_HOME/lib"
-Dtrend.home="$DPIPE_HOME" -Dinstaller.home="/pidepot"
com.trinagy.config.install.JBoss423Setup
```

JBoss 4.2.3 is installed in the `/opt/OV/nonOV/PiJBoss/4.23.000` folder.

Starting and Stopping PI

- To start all PI processes, run the following commands:

On HP-UX

```
/sbin/init.d/ovpi_timer start
```

```
/sbin/init.d/ovpi_httpd start
```

On Solaris and Linux

```
/etc/init.d/ovpi_timer start
```

```
/etc/init.d/ovpi_httpd start
```

- To stop all PI processes, run the following commands:

On HP-UX

```
/sbin/init.d/ovpi_timer stop
```

```
/sbin/init.d/ovpi_httpd stop
```

On Solaris and Linux

```
/etc/init.d/ovpi_timer stop
```

```
/etc/init.d/ovpi_httpd stop
```

Troubleshooting PI Installation

PI Log Files

All PI log files are located in `$TREND_LOG/`

All information related to PI installation is logged in `install.log`. For all errors related to PI installation see this log file.

8 Upgrading to Sybase 15.0.2

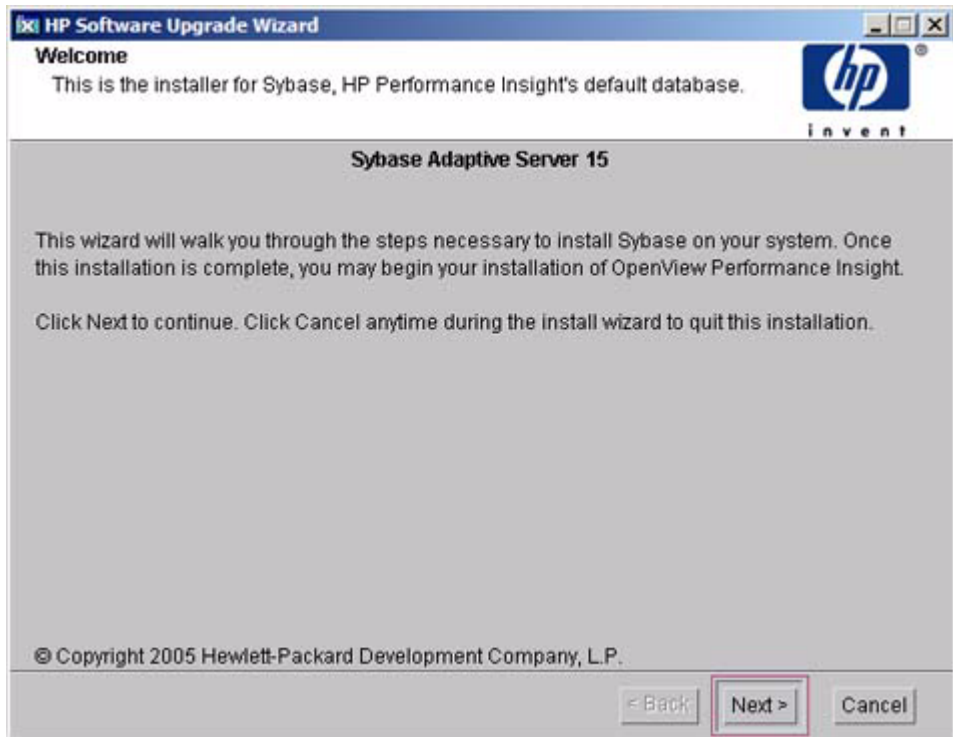
You can use the PI installer to upgrade Sybase 15.0.2 on HP-UX and Solaris systems.

Upgrading Sybase

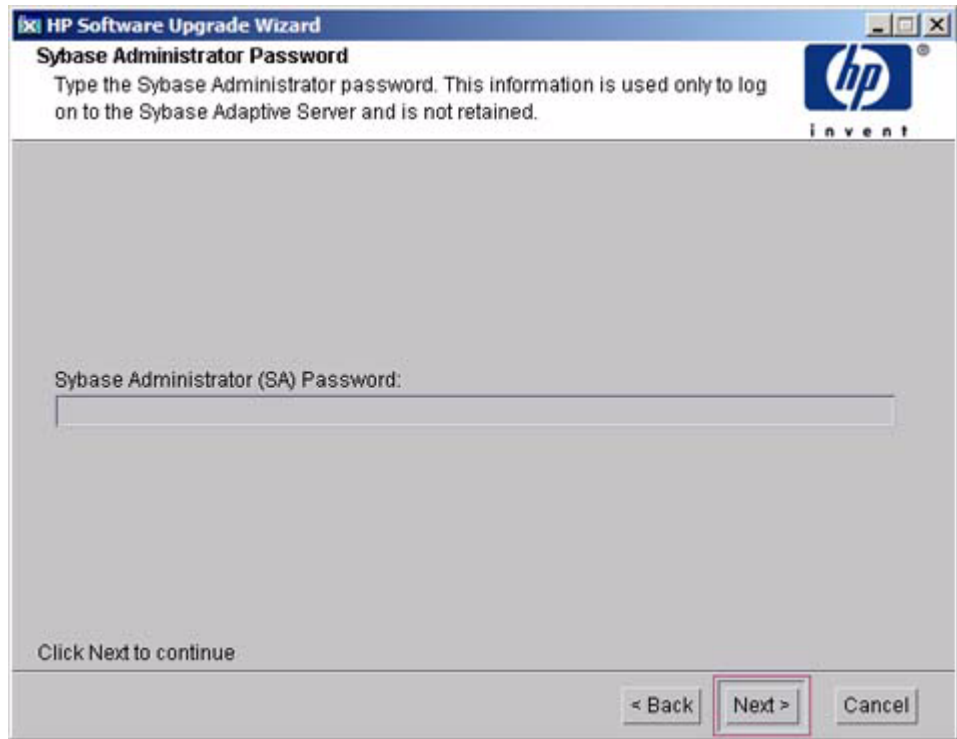
Before upgrading Sybase on HP-UX, Solaris, or Linux systems, ensure that you have installed all the latest Java patches on your system. See [Task 2: Install All the Patches Required for Java](#) on page 36 for more information.

You can use the Upgrade Wizard to upgrade Sybase. Follow these steps:

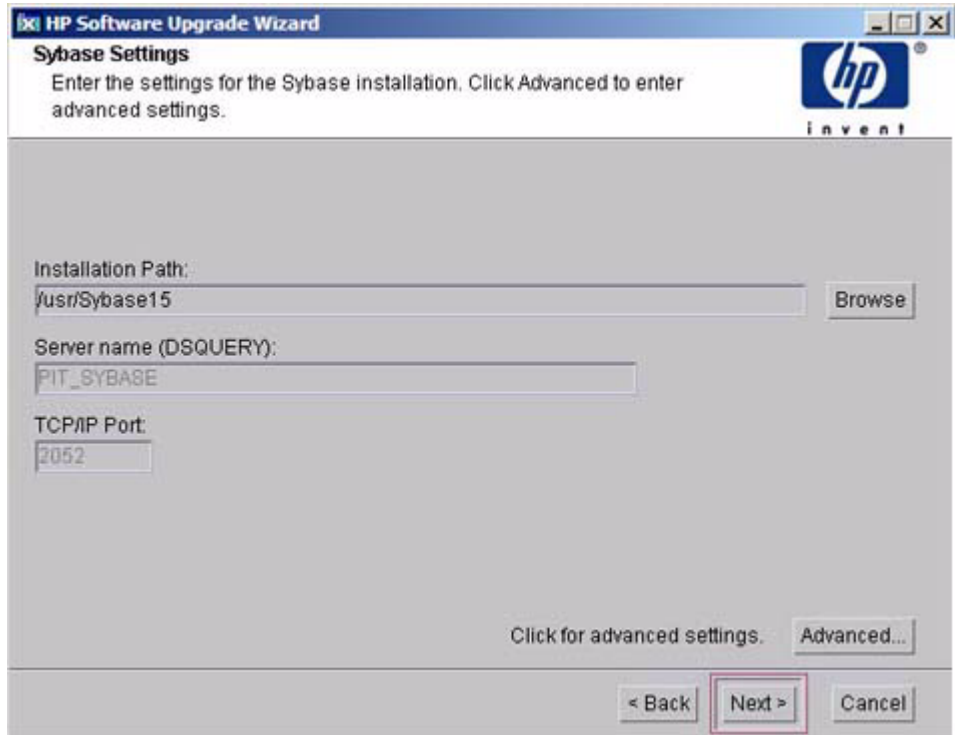
- 1 Run the Setup Utilities program from the product DVD. The Setup Utilities window opens.
- 2 Click **Sybase 15.0.2**. The Welcome window opens.



- 3 Click **Next**. The Sybase Administrator Password window opens.



- 4 Enter your password. The Sybase Settings window opens.




- 5 Enter the required information and if required click **Advanced**. The Advanced OVPI Configuration window opens.

▶ The **Advanced...** button is unavailable when you upgrade from Sybase 15.0.1 to 15.0.2.

Under the General tab, enter the directory path of Error log file and click **Apply**.

Under the Sysystemdb Device tab, enter the required information and click **Apply**. Under the Additional Procedures Device tab, enter the required information and click **Apply** and then click **OK**.

- 6 In the Sybase Setting window, click **Next**. The Summary window opens.

- 7 Read the contents displayed in the Summary window and click **Install**. The Installation Progress window opens. It shows the progress of the installation as it occurs.
 -  In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.
- 8 Click **Done** after the installation is over.

9 Upgrading PI 5.10.010 to PI 5.41

You can upgrade to PI 5.41 if you currently have PI 5.10.010

You can upgrade to PI 5.41 whether you have a standalone or a distributed setup. The installation process provided in this section applies to all environment. However, if you have a distributed environment, you must first upgrade your database schema. See [Chapter 8, Upgrading to Sybase 15.0.2](#) for instructions.

After you upgrade your database, install the distributed components in any order.

The remote poller must be upgraded separately from PI. However, the procedure is the same.

Pre-Upgrade Tasks

You must complete the following tasks before you upgrade to PI 5.41.

Task 1: (For Solaris Only) Upgrade the Operating System

If you are currently using Solaris 8.0, you must upgrade the operating system to Solaris 10.0.

Task 2: Verify that Java patches are running

PI 5.41 includes Java 1.5. During upgrade PI 5.41 installs Java 1.5 in a separate folder.

You must install the appropriate Java patches required for your operating system (see [Task 2: Install All the Patches Required for Java](#) on page 36).

Task 3: Upgrade your Sybase database

You must upgrade to Sybase 15.0.2 database. For information about upgrading Sybase databases, see [Chapter 8, Upgrading to Sybase 15.0.2](#).

Task 4: Stop the OVPI Timer

Stop the OVPI Timer on all systems (including remote pollers) connected to the PI server or database being upgraded. For more information about stopping or starting the OVPI Timer, see the *HP Performance Insight Administration Guide*.

Task 5: Run the Pre Upgrade Checker (Optional)

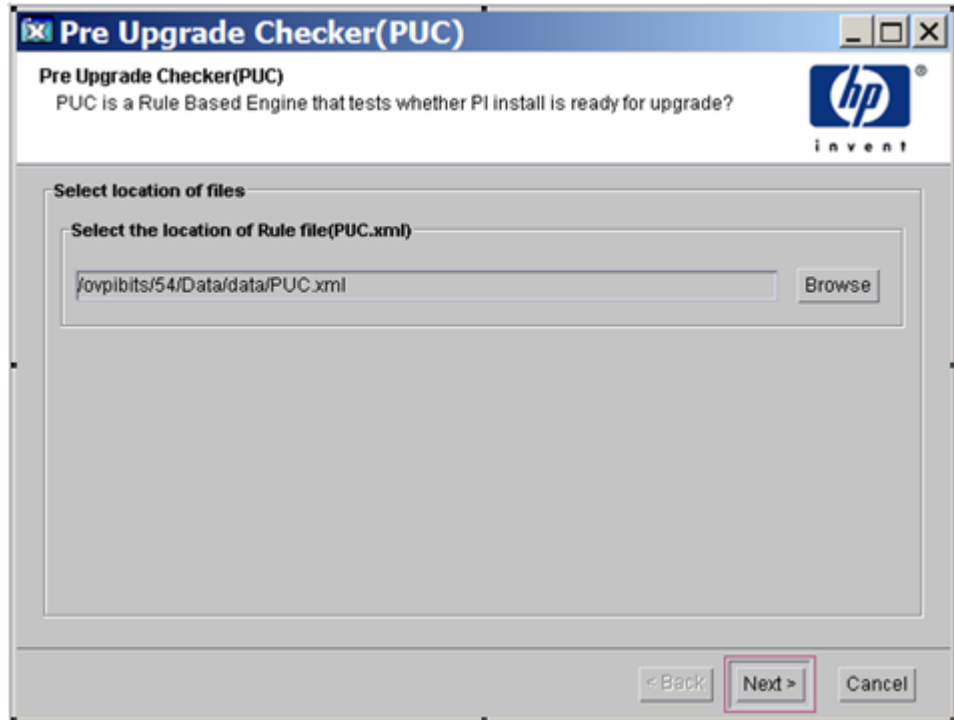
The Pre Upgrade Checker (PUC) is a new functionality introduced with PI 5.41 upgrade. This is not a mandatory task, but running the PUC prevents possible errors during upgrade.

PUC is a rule-based engine that can perform some pre-defined tests detailed in an XML file. These tests check for the existence or non-existence of pre-defined conditions and show the status of your environment's suitability for upgrade.

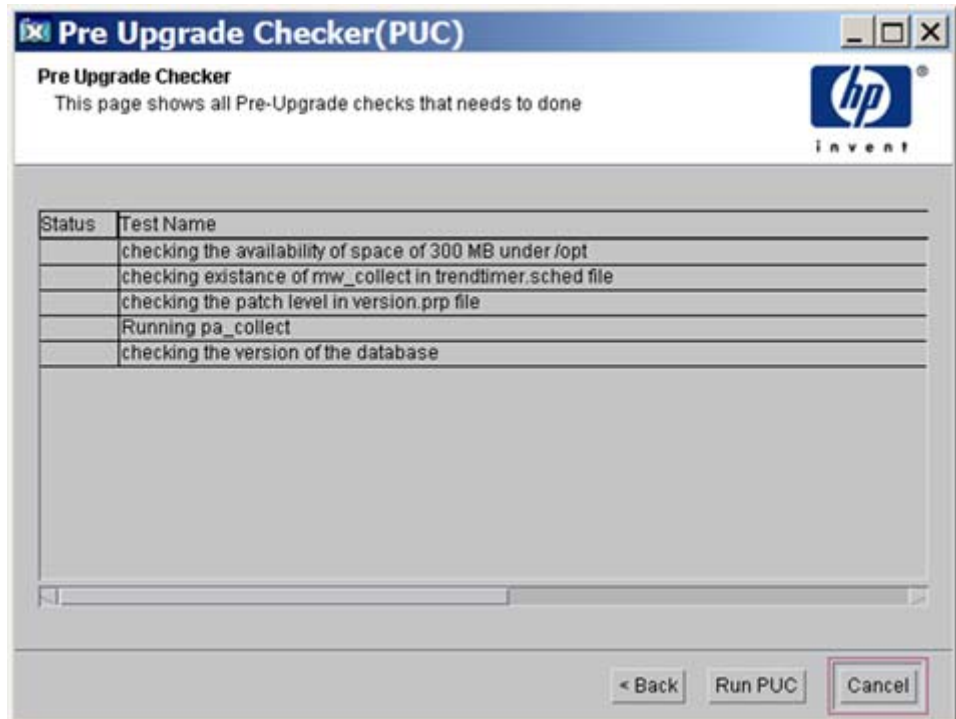
To run the PUC:

- 1 Run the Setup Utilities program from the product DVD. The Setup Utilities window opens.

- 2 Click **Pre Upgrade Checker** from the Upgrade section. The Pre Upgrade Checker (PUC) window opens.

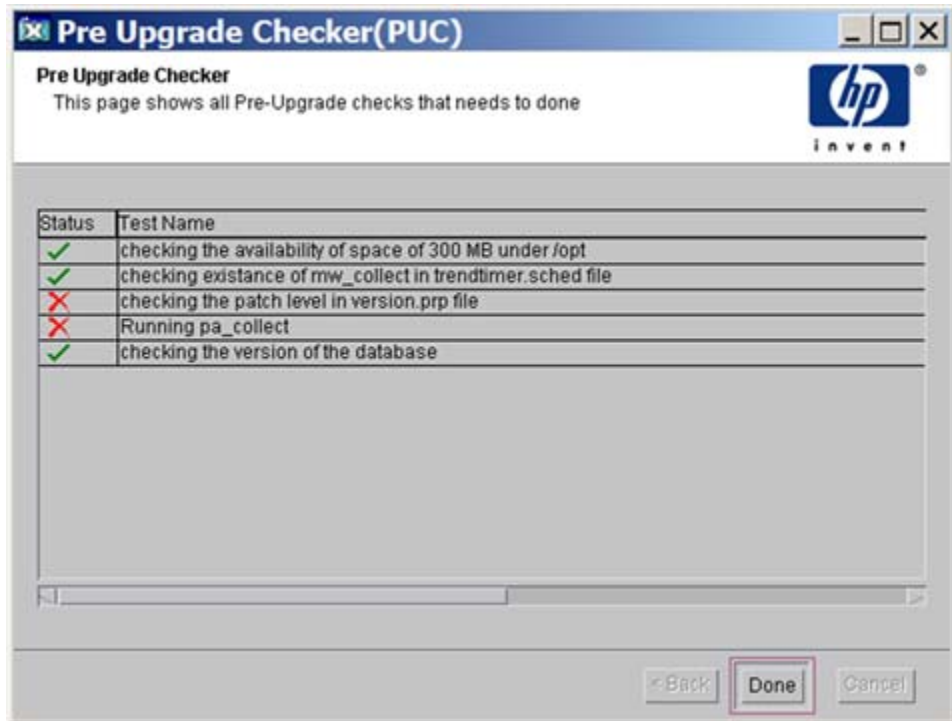


- 3 Click browse to locate the PUC.xml file on your local system.
PUC.xml contains a set of pre-defined tests that are run to validate your setup. Download PUC.xml from www.hp.com/go/hpsoftwaresupport (search for id number **KM528404**) and save it on your local system.
- 4 Click **Next**. A window with the list of tests to be performed appears.

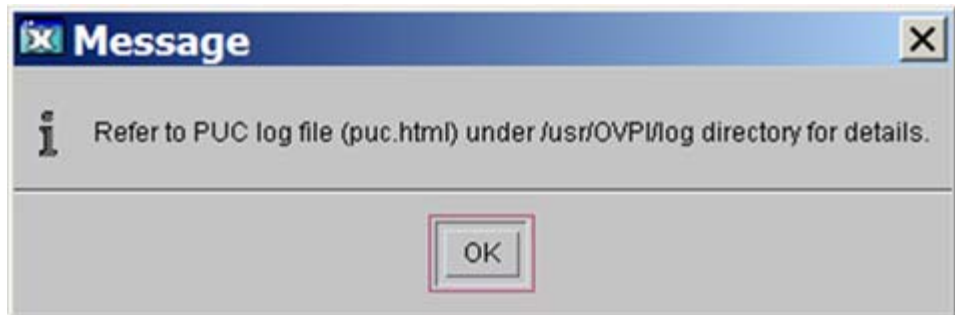


- ▶ The tests that are listed depend on your setup and might differ from the ones listed in the previous image.

- 5 Click **Run PUC**. The status of each test appears.



- 6 Click **Done**. A message window appears with information about the log file to refer for details of the tests.



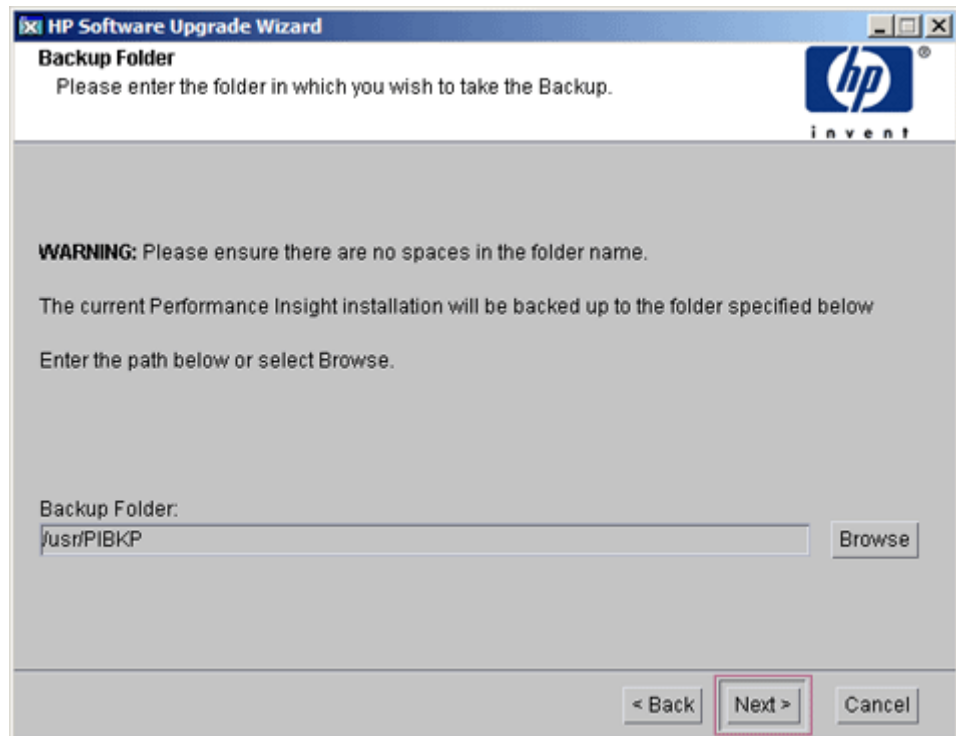
- 7 Click **OK**.

Open the `puc.html` file from the `/usr/OVPI/log` directory to find out the errors (if any) and correct them before upgrading PI.

Upgrading PI

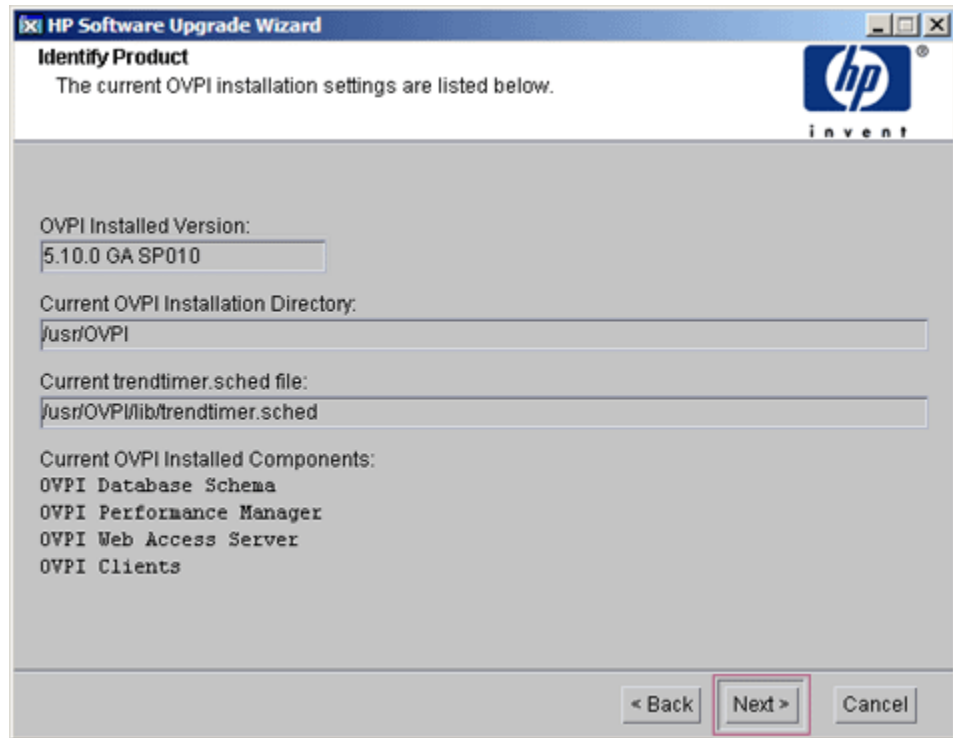
To upgrade PI to version 5.41, follow these steps:

- 1 Run the Setup Utilities program from the product DVD.
- 2 Select **OVPI 5.41.0** from the Upgrade section. The Welcome Page opens.
- 3 Click **Next**. The License Agreement window opens.
- 4 Accept the terms of the license agreement and click **Next**. The Backup Folder window opens.



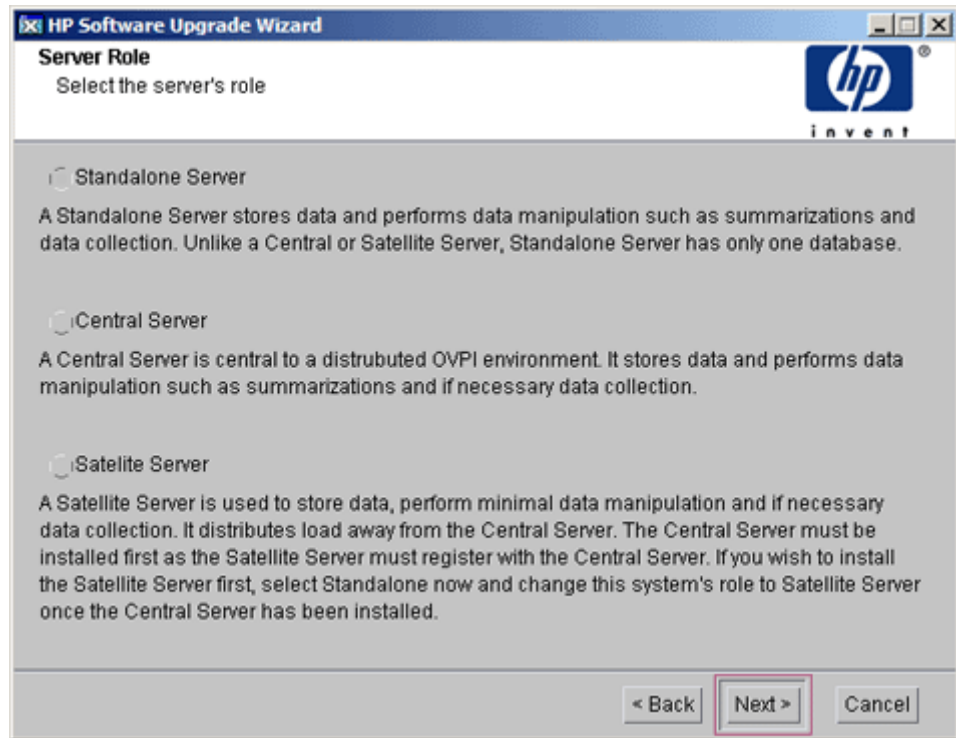
Enter the name and path of the folder you want to set as the backup folder or accept the default path mentioned in the window.

- 5 Click **Next**. The Identify Product window opens.



The Identify Product window displays information for the product currently installed, including the existing installed components.

- 6 Click **Next**. The Server Role window opens.



Select the server role for the PI installation.

- 7 Click **Next**. The Sybase Administrator Password window opens.



If you had set the SA password, type it here and click **Next**. If you did not set the password, leave the field blank.

- 8 Click **Next**. The Summary Window opens. Read the contents displayed in the Summary window.
 - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.
- 9 Click **Install**. The Installation Progress window opens. It shows the progress of the installation as it occurs.
- 10 Click **Done** after the installation is over.

Upgrading Report Packs

After you upgrade PI, you must upgrade the report packs to version RNS14. Start the OVPI Timer.

Upgrading Remote Pollers

PI provides the ability to install or upgrade a remote poller separately from the PI installation.

When upgrading remote pollers, you do not have to provide database information. Also, the Server Role window does not appear.

10 Upgrading PI 5.30 to PI 5.41

You can upgrade to PI 5.41 if you currently have any one of the following versions of PI:

- PI 5.30
- PI 5.31
- PI 5.31.001

You can upgrade to PI 5.41 whether you have a standalone or a distributed setup. The installation process provided in this section applies to all environment.

The remote poller must be upgraded separately from PI. However, the procedure is the same.

Pre-Upgrade Tasks

You must complete the following tasks before you upgrade to PI 5.41.

Task 1: [\(For Solaris Only\) Upgrade the Operating System](#)

If you are currently using Solaris 8.0, you must upgrade the operating system to Solaris 10.0.

Task 2: [Verify that Java patches are running](#)

PI 5.41 includes Java 1.5. During upgrade PI 5.41 installs Java 1.5 in a separate folder.

You must install the appropriate Java patches required for your operating system (see [Task 2: Install All the Patches Required for Java](#) on page 36).

Task 3: [Stop the OVPI Timer](#)

Stop the OVPI Timer on all systems (including remote pollers) connected to the PI server or database being upgraded. For more information about stopping or starting the OVPI Timer, see the *HP Performance Insight Administration Guide*.

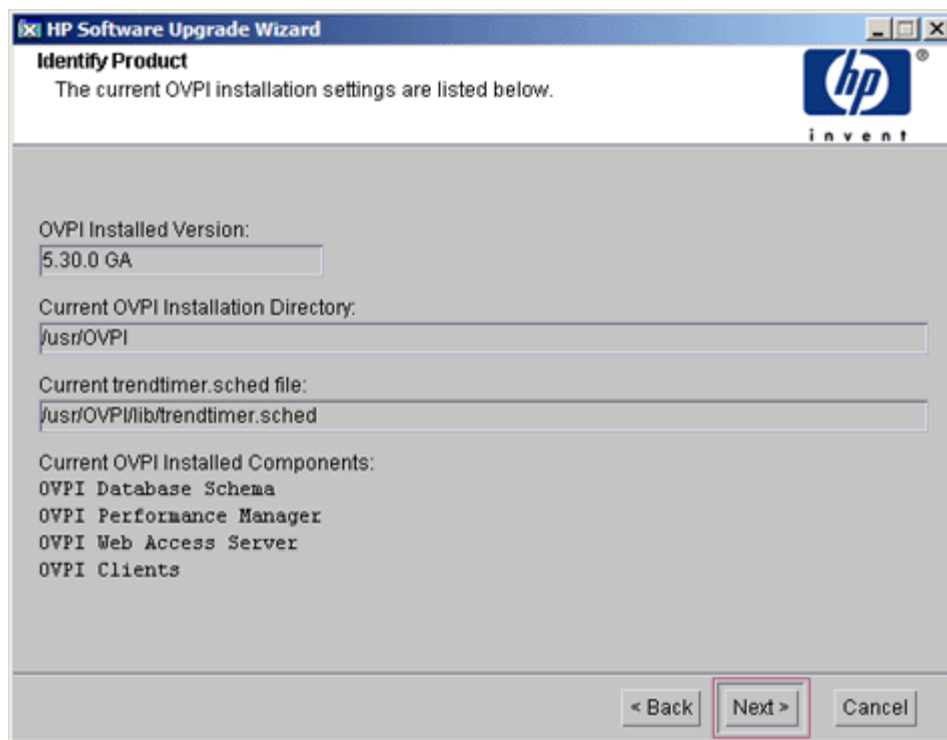
Task 4: [Run the Pre Upgrade Checker \(Optional\)](#)

The Pre Upgrade Checker (PUC) is a new functionality introduced with PI 5.41 upgrade. This is not a mandatory task, but running the PUC prevents possible errors during upgrade.

PUC is a rule-based engine that can perform some pre-defined tests detailed in an XML file. These tests check for the existence or non-existence of certain pre-defined conditions and show the status of your environment's suitability for upgrade. For information about how to run PUC, see [Run the Pre Upgrade Checker \(Optional\)](#) on page 160.

Upgrading PI

- 1 Run the Setup Utilities program from the product DVD.
- 2 Select **OVPI 5.3 to 5.41**. The Welcome Page opens.
- 3 Click **Next**. The License Agreement window opens.
- 4 Accept the terms of the license agreement and click **Next**. The Backup Folder window opens.
- 5 Enter the name and path of the folder you want to set as the backup folder or accept the default path mentioned in the window.
- 6 Click **Next**. The Identify Product window opens.




The Identify Product window displays information for the product currently installed, including the existing installed components.


- 7 Click **Next**. The pop-up window Stopped Server? opens. Click **Yes** to proceed or **No** to go back and stop the PI server and processes.

If you click **Yes**, the Sybase Administrator Password window opens.

- 8 If you had set the SA password, type it here and click **Next**. If you did not set the password, leave the field blank.
- 9 Click **Next**. The Summary Window opens. Read the contents displayed in the Summary window.

 In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.

- 10 Click **Install**. The Installation Progress window opens. It shows the progress of the installation as it occurs.
- 11 Click **Done** after the installation is over.

 When upgrading to version 5.41 if PI encounters a fatal error, at any stage, you have the option to roll back PI to the previous installed version. You might also stop the upgrade process at the last completed stage and resume the upgrade later. See [Managing PI Upgrade Failure](#) on page 163 for more information about these features.

Upgrading Report Packs

After you upgrade PI, you must upgrade the report packs to version RNS14. Start the OVPI Timer.

Upgrading Remote Pollers

PI provides the ability to install or upgrade a remote poller separately from the PI installation.

When upgrading remote pollers, you do not have to provide database information. Also, the Server Role window does not appear.

Managing PI Upgrade Failure

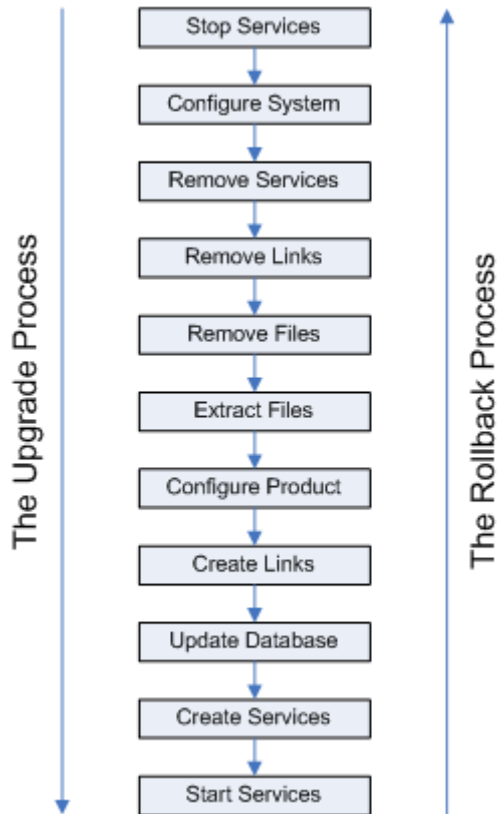
When upgrading to PI version 5.41, if the installer faces a fatal error, PI provides you the following options:

- [Rollback](#)
- [Resume Later](#)

Rollback

If you click **Rollback**, the PI upgrade process is reversed and the system goes back to the previous installed version of PI.

The following flowchart explains the stages during upgrade and roll back:



The rollback process uses the data stored in the PI backup directory that you created when starting the upgrade process.

Information about the rollback data process is logged in the `upgrade_pi_5.41.log` file.

- ▶ The rollback option is not available if the upgrade fails at the Extract Files stage. You can use the **Resume Later** option.

Upgrade might fail at this stage if some PI binaries are still running.

Resume Later

If you click **Resume Later**, the upgrade process saves the upgrade details, till the last successful stage, in a file. When you start the upgrade process again with the resume option, PI upgrade continues from the last successful stage. To resume upgrade, type the following command:

```
<Installation Directory> setup
```

In this instance <Installation Directory> is the directory where PI installables are located.

A message box appears asking if you want to continue with the saved settings. Click **Yes**.

The Setup Utilities window opens. Upgrade according to the normal procedure.

The the upgrade process fails at the Update Database stage, the process rolls back to the last successful stage which is the Create Links stage and saves the data in a file. When you resume the upgrade after rectifying the error, the process starts from the Update Database stage all over again.



Select the Resume Later option only if the error can be rectified in a short duration of time, without affecting other processes. All the upgrade related information is logged in the `upgrade_pi_5.41.log` file.

Use Case: The Upgrade Process Fails at Update Database Stage

- **Click Rollback:** The upgrade process retrieves data from the backup folder and reverts to PI to the previous installed version.
- **Click Resume Later:** Open the `upgrade_pi_5.41.log` file. Find the problem, fix it, and run the setup command with resume option. The Upgrade process starts from where it had failed and completes the Upgrade process to PI 5.41.

11 Uninstalling HP Performance Insight

You must uninstall PI *before* you uninstall the Sybase RDBMS.

Uninstalling PI removes all PI-related tablespaces and the dsi_dpipe user from the database used by PI and only the database remains.

Prerequisites

Complete the following tasks before uninstalling PI:

- 1 Stop the OVPI Timer.
- 2 Stop the OVPI HTTP Server.
- 3 Wait for PI processes to complete.
- 4 Verify that Sybase is still running.

Note the directory locations for the following environment variables. You must remove these directories manually after the un-installation process is over.

- DPIPE_HOME
- DPIPE_TMP
- TREND_LOG
- COLLECT_HOME

Uninstalling PI

Use the OVPI Uninstall Wizard to uninstall PI. It removes all PI components from the local system including the files that were added to the system during PI installation. However, the Uninstall Wizard does not remove the files that were created by users or applications. For example, log files and reports.

Task 1: Start the PI Uninstall Wizard.

- 1 Log on to the local system as **root**.
- 2 Type the following command:

```
$DPIPE_HOME/bin/uninstall
```

In this instance, *\$DPIPE_HOME* is the directory into which you installed PI. The Welcome window opens.

- 3 Click **Next**.

If the PI database schema is installed on the system from which you are uninstalling PI, see [Task 2](#) on page 168.

If the PI database schema is not installed on the system from which you are uninstalling PI, see [Task 3](#) on page 169.

Task 2: Supply the Sybase Administrator password (local Sybase database only)

The Sybase Administrator Password window opens. Do one of the following:

- If you set the Sybase Administrator password, type the password in the Sybase Administrator (SA) Password box and click **Next**.
- If you did not set the Sybase Administrator password, leave the Sybase Administrator (SA) Password box blank and click **Next**.

Task 3: Review and uninstall

The Summary window opens.

- 1 Review the list of components to be uninstalled and click **Uninstall**. The Uninstall Progress window opens. This window shows the status of the uninstall as it occurs.



In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.

- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.
- 3 Continue to [Post-Uninstallation Tasks for PI](#) on page 172.

If the PI uninstall was unsuccessful:

- 1 Click the **Details** button at the bottom of the Uninstall Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

Uninstalling PI Manually

If PI fails to uninstall automatically, you can manually uninstall PI. The PI un-installation might fail if:

- PI processes are still running: Because of this, some files might not get deleted and the system sends warning messages.
- Physical reasons like power failure when the un-installation program is running.
- The PI database is not running or the un-installation program fails to connect to the database.

To manually uninstall PI, follow these steps:

- 1 Login as **root**.
 - 2 Stop all PI processes. Run the following commands:
On HP-UX

```
/sbin/init.d/ovpi_timer stop  
/sbin/init.d/ovpi_httpd stop
```

On Solaris and Linux

```
/etc/init.d/ovpi_timer stop  
/etc/init.d/ovpi_httpd stop
```
 - 3 Close all `trendadm` sessions and ensure that no `trendadm` processes are running.
- 1 Remove all PI files. Run the following commands:

On HP-UX:

```
rm /sbin/init.d/ovpi_timer  
rm /sbin/init.d/ovpi_httpd  
rm /sbin/rc3.d/S99ovpi_timer  
rm /sbin/rc3.d/S99ovpi_httpd
```

On Solaris:

```
rm /etc/init.d/ovpi_timer  
rm /etc/init.d/ovpi_httpd  
rm /etc/rc3.d/S99ovpi_timer  
rm /etc/rc3.d/S99ovpi_httpd
```

On Linux:

```
rm /etc/init.d/ovpi_timer
rm /etc/init.d/ovpi_httpd
rm /etc/rc0.d/K99ovpi_timer
rm /etc/rc0.d/K99ovpi_httpd
rm /etc/rc1.d/K99ovpi_timer
rm /etc/rc1.d/K99ovpi_httpd
rm /etc/rc2.d/K99ovpi_timer
rm /etc/rc2.d/K99ovpi_httpd
rm /etc/rc3.d/S99ovpi_timer
rm /etc/rc3.d/S99ovpi_httpd
rm /etc/rc4.d/S99ovpi_timer
rm /etc/rc4.d/S99ovpi_httpd
rm /etc/rc5.d/S99ovpi_timer
rm /etc/rc5.d/S99ovpi_httpd
rm /etc/rc6.d/K99ovpi_timer
rm /etc/rc6.d/K99ovpi_httpd
```

- 2 Run the following commands to remove the `trend.conf` file and the PI home directory.

```
rm /etc/trend.conf
rm -rf {DPIPE_HOME}
```

- 3 Remove PI user. Run the following command:

```
userdel trendadm
```

- 4 Remove the PI group. Run the following command:

```
groupdel trendadm
```

- 5 Remove the Web Access Server. In the `/opt/OV/nonOV/PiJBoss/405/bin` directory, run the following command:

```
services.bat uninstall
```

Post-Uninstallation Tasks for PI

To prevent potential problems if you plan to reinstall PI, delete the following:

- PI Installation Directory
- The `.ovpi` directory
- Folders containing PI environment variables

Delete the PI Installation Directory

The PI installation directory is the directory in which you installed PI.

The OVPI Uninstall Wizard removes files from the PI directory that were installed by the PI Installation Program. It un-installation process, however, does *not* remove generated files (log files) or files created by users.

Also, if reports deployed for any installed report packs were saved in the PI installation directory, the un-installation process does *not* remove them.



If there are reports or data in the PI directory that you want to save, move those files to another location before continuing.

To delete the PI directory, follow these steps.

- 1 Open a new shell window on the system where PI was installed.
- 2 Type the following command:

```
rm -rf $DPIPE_HOME
```

In this instance, `$DPIPE_HOME` is the directory into which you installed PI. For example, if you installed PI in the `/data` directory, you would type:

```
rm -rf /data/ovpi
```

Delete the `.ovpi` Directory

The `.ovpi` directory stores a user's custom settings. It is present only if the user has run Report Builder, Report Viewer, or Web Access Server.

The `.ovpi` directory is a hidden file. Therefore, you need to make it visible to remove it. The `.ovpi` directory is located in the UNIX home directory.

To delete the `.ovpi` directory, do the following:

- 1 Open a new shell window on the system where PI was installed.
- 2 Type the following command from the home directory:

```
rm -rf .ovpi
```

Delete Folders Containing PI Environment Variables

Manually remove the directories that contain the following environment variables:

- `DPIPE_TMP`
- `TREND_LOG`
- `COLLECT_HOME`



In scenarios where PI is co-existing with HP Performance Agent or HP Operations agent, after uninstalling PI, the `ovcd` process stops.

To manually restart `ovc`, run the following command from the command prompt: `/opt/OV/bin/ovc -start`

Uninstall the RDBMS

Finally, to complete un-installation, uninstall the RDBMS. See [Chapter 12, Uninstalling the Sybase RDBMS](#).

12 Uninstalling the Sybase RDBMS

To uninstall Sybase RDBMS, follow these steps:

- 1 Stop all Sybase servers before running the uninstall program.
- 2 Launch the uninstall program. Follow these steps:
 - a Change your current working directory to the SYBASE directory. The uninstall program is located in `uninstall/ASESuite` directory.
 - b Run the following command:

```
$SYBASE/uninstall/ASESuite/uninstall
```

The Uninstall Welcome window opens.

- 3 Click **Next**. The component selection window opens. All selected components are listed in this window.
- 4 Clear the check box against any component that you want to retain. Click **Next**.

If there is SySAM Network License Server installed on the system, it may be used by other Sybase products. Clear the check box against SySAM Network License Server unless you are sure no other process is using it.

- 5 Click **Next**. The Summary window appears. The summary window displays a list of all Sybase components to be uninstalled.
- 6 Click **Next** to uninstall. A window indicating that the uninstallation process is progressing, opens. There is no progress bar.

One or more confirm delete pop-up windows might appear for files that were modified after Sybase was installed. Click OK to delete those files and continue un-installation.

- 7 When the uninstaller prompts you, remove any user created files that were not deleted by the uninstall program.
- 8 After the uninstallation is over, click **Finish** to exit the uninstall program.

Uninstalling the Sybase RDBMS Manually

If the automatic uninstallation of Sybase fails, you can uninstall Sybase manually. Follow these steps:

- 1 Stop Sybase.

On HP-UX, run the command `/sbin/init.d/sybase stop`

On Solaris and Linux, run the command `/etc/init.d/Sybase stop`

- 2 Remove the Sybase installation directory.

Run the command `rm -rf <sybase_installation_directory>`

- 3 Remove the Sybase user.

Run the command `userdel sybase`

On HP-UX, run the commands:

```
cd /sbin/rc3.d
rm k120 *
rm s120 *
```

On Solaris and Linux, run the commands:

```
cd /etc/rc3.d
rm k120 *
rm s120 *
```

- 4 Run the command `rm /etc/init.d/sybase`.

A Raw Partitions and UNIX File Systems

Difference between a Raw Partition and a UNIX File System

A raw partition on a UNIX system is a part of the disk where no file system has been created. Even though the Sybase Adaptive Server can use UNIX files for database devices, Sybase recommends using raw partitions.

Most UNIX systems use a buffer cache for disk I/O. Writes to disk are stored in the buffer and may not be written to disk immediately. If the Sybase Adaptive Server completes a transaction and sends the result to a UNIX file, the transaction is considered complete, even though the UNIX buffer cache may not have been written to disk. If the system fails before this buffer cache is written, you lose data. In this situation, the Sybase Adaptive Server has no way of knowing that the write to disk eventually failed, and the transaction is not rolled back. In addition, some UNIX operating systems do partial writes. In that case, if the system fails, the Sybase device is corrupted.

Using raw partitions for Sybase devices enables the Sybase Adaptive Server to process its own I/O requests without having to go through the UNIX buffering scheme. Using this method, Sybase Adaptive Server knows exactly what portions of a transaction completed or failed in case of a system failure.

Setting Up a Raw Partition

You must set up the raw partitions needed before you install the PI database, the transaction log, and `tempdb` (if you decide to install `tempdb` on a raw partition).

Sybase executables, libraries, installation, and configuration files reside on a file system. The PI executables, reports, demo database, and documentation also reside on a file system.

You can set up as many raw partitions as necessary to accommodate the size of your PI database, transaction log, and `tempdb`.

Suggested guidelines for setting up the database are as follows:

- Place `tempdb` on a raw partition or on a file system. However, placing `tempdb` on a file system gives better performance. The size of `tempdb` should be 50% of the size of the PI database.
- Place the PI database on either a raw partition or file system.
- Place the transaction log the same way you place the PI database; that is, place it on either a raw partition or on a file system. If you place the transaction log on a raw partition, place it on a different disk spindle from the PI database. The size of the transaction log should be 50% of the size of the PI database.



Do not install any Sybase database components on a raw partition that contains the partition map. Typically, this is found on the first sector of the first cylinder.

Setting Up a Raw Partition on Solaris

Partitions `c0t3d0s3` and `c0t3d0s4` could represent the following:

- `c0t3d0s3`: PI Database (10 GB)
- `c0t3d0s4`: `tempdb` (5 GB)

You can repeat the following procedure, as needed, substituting partition name and size for the raw partitions that you could be using to comprise either the PI database, the transaction log, or `tempdb` (if you are placing `tempdb` on a raw partition).

Using the Command Line Interface

- 1 Run the `format` command.
 - a At the command prompt, type the following:
format
 - b Select the number of the disk on which the raw partition must be created. A list of command options appears.
- 2 Assign partition slices.
 - a Type the following command:

partition

A list of command options appears.

- b Type the following command:

print

A table of the slices on the selected disk appears.

- c Select the number of an available slice.
- d Enter a valid tag (for example, **home**) when prompted.
- e Keep the default permissions (**wm**).
- f Enter the starting cylinder by adding 1 to the highest ending cylinder other than backup.
- g Enter the partition size (for example, **20g** for 20 GB; **35m** for 35 MB).
- h Repeat step b through step g for each partition that you want to create on this disk.

- 3 Label the disk.

- a After the last partition is assigned, type the following command:

label

- b Type **Y** at the prompt.
- c Type **quit** at the prompt.
- d Type the following command (for the second partition in the example used):
label
- e Type **Y** at the prompt.
- f Type **quit** at the prompt.

- 4 Create a raw partition on another disk, if necessary.

Repeat Task 1 through Task 3 to create a raw partition on another disk.

- 5 Change the character block.

For each disk, you must also change the character block. To change the group

ID (using the example partitions), type the following

```
chgrp sybase /dev/dsk/c0t3d0s3
chgrp sybase /dev/rdisk/c0t3d0s3
chgrp -h sybase /dev/dsk/c0t3d0s3
chgrp -h sybase /dev/rdisk/c0t3d0s3
chgrp sybase /dev/dsk/c0t3d0s4
chgrp sybase /dev/rdisk/c0t3d0s4
chgrp -h sybase /dev/dsk/c0t3d0s4
chgrp -h sybase /dev/rdisk/c0t3d0s4
```

Setting Up a Raw Partition on HP-UX

Partitions lv01 and lv02 could represent the following:

- lv01: PI Database (10 GB)
- lv02: tempdb (5 GB)

You can repeat the following procedure, as needed, substituting partition name and size for the raw partitions which you could be using to comprise either the PI database, the transaction log, or tempdb (if you are placing tempdb on a raw partition).

You can set up raw partitions using either the SAM utility or the command line.

Using the SAM Utility

- 1 Log on and start the SAM utility.
 - a Log on as root.
 - b Invoke the SAM utility (typically from the `/usr/sbin` directory). The System Administration Manager window opens.
 - c Double-click the **Disks and File Systems** icon. The Disk and File Systems dialog box opens.
- 2 Decide whether to create a volume group.

If you do *not* need to create a volume group:

 - a Double-click the **Logical Volume** icon.

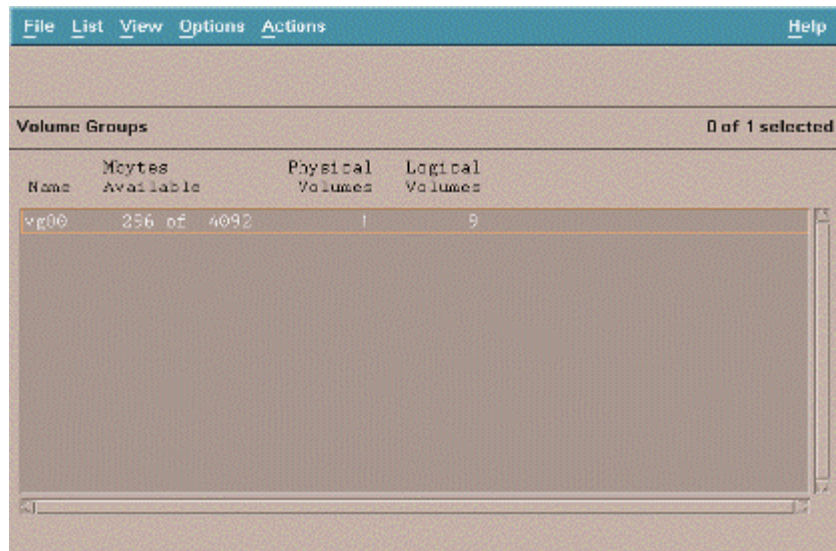
- b From the Actions menu, select **Create**. The Create New Logical Volumes window opens.
- c Click **Select Volume Group**.
- d From the pop-up box, select the volume group.
- e Click **OK**.
- f Click **Define New Logical Volume(s)**.

If you *do* need to create a volume group:

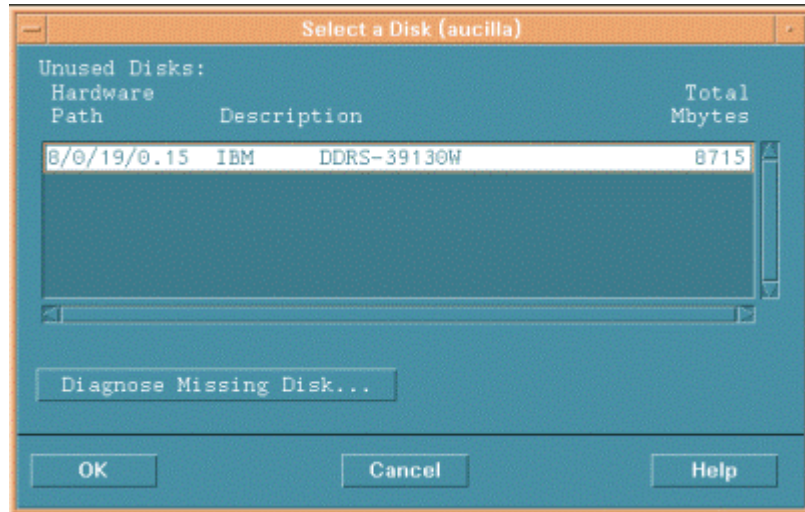
- a Double-click the **Volume Groups** icon.

▶ The interface shown in the following procedure can differ slightly, depending on the version of HP-UX you are using.

The Scanning the Hardware message appears in the Disks and File Systems dialog box, and then the following window opens. (In this example, an existing volume group is listed.)

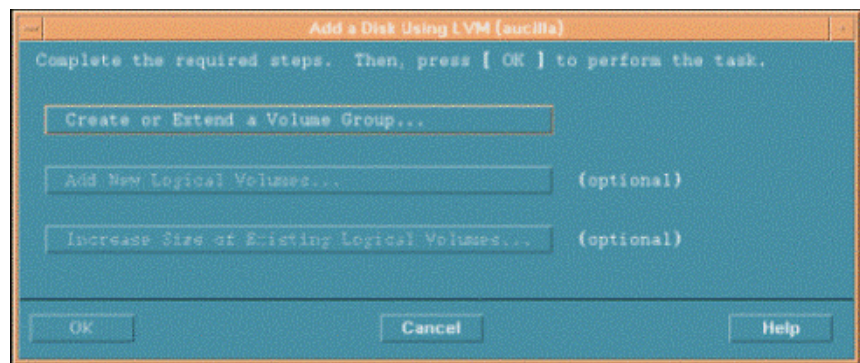


- b Select **Actions**, **Create**, or **Extend**. The Select a Disk dialog box opens.

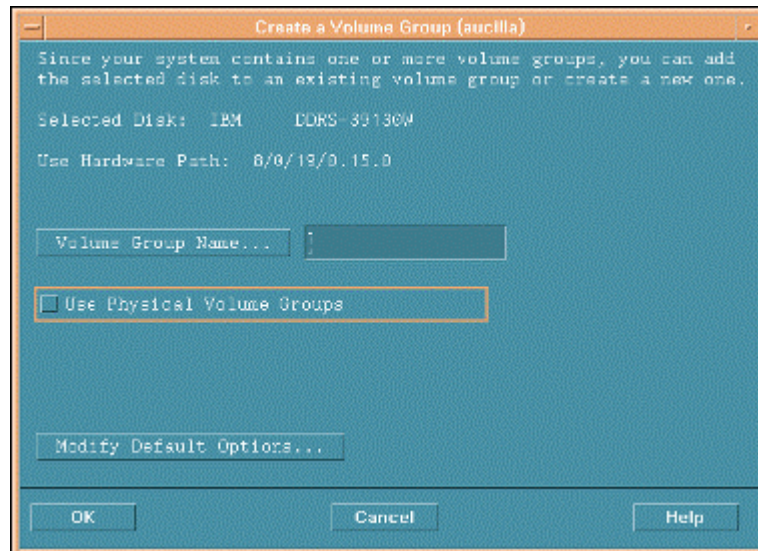


This window identifies the disk's hardware path, the disk's location on the SCSI chain, and total disk capacity in MB.

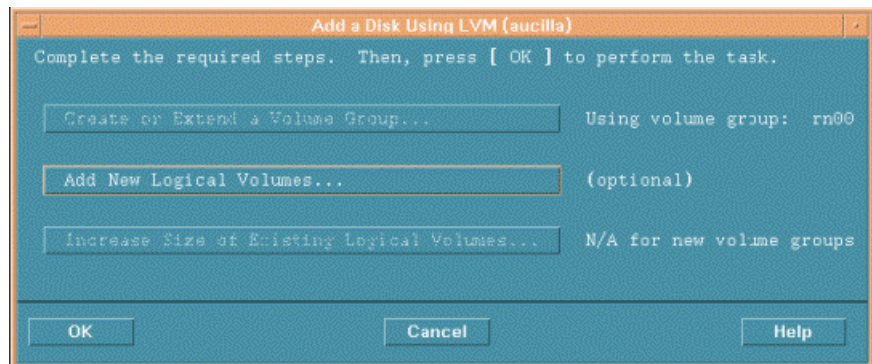
- c Click **OK**. The Add a Disk using LVM dialog box opens. (LVM is the Logical Volume Manager).



- d Click **Create or Extend a Volume Group**. The Create a Volume Group dialog box opens.



- e Type the name of the volume group in the Volume Group Name box (in this example rn00).
- f Click **OK**. The Add a Disk Using LVM dialog box opens.



g Select the **Add New Logical Volumes** button. The Create New Logical Volumes dialog box opens.

▶ Do not click the **OK** button during this procedure. This starts the physical volume creation task, which is an unrelated procedure.

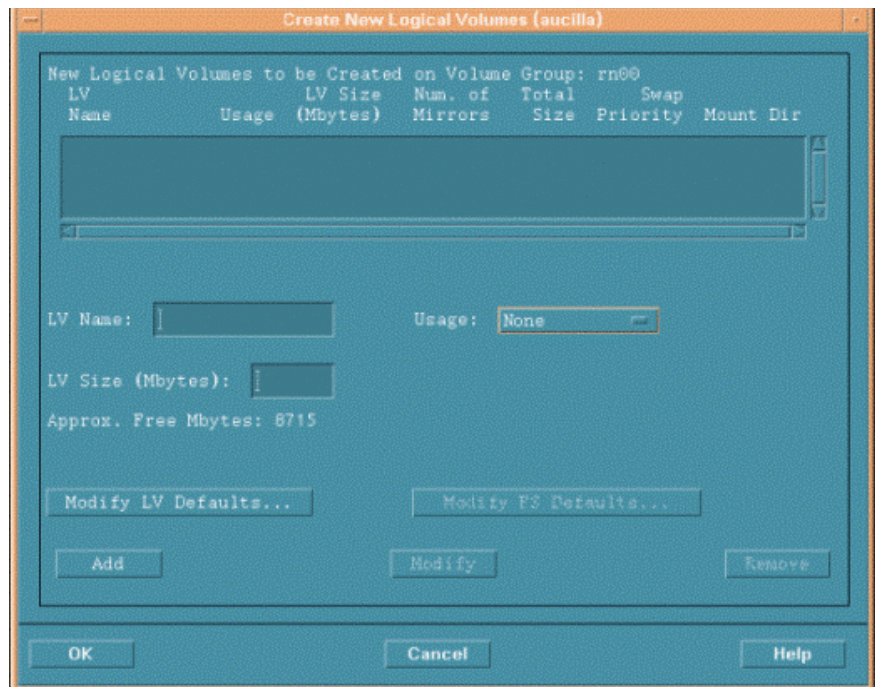
3 Create a new logical volume.

a In the LV Name box, type the name of the logical volume; **lv01** in this example.

b In the LV Size (Mbytes) box, type the size of the logical volume; **10240** in this example.

▶ The physical extent size for the volume group must be a multiple of 4. If you enter a value in the LV Size (Mbytes) box that is not a multiple of 4, a message appears to notify you that the system rounds the value up to the nearest multiple of 4. Click **OK** to dismiss the message and continue.

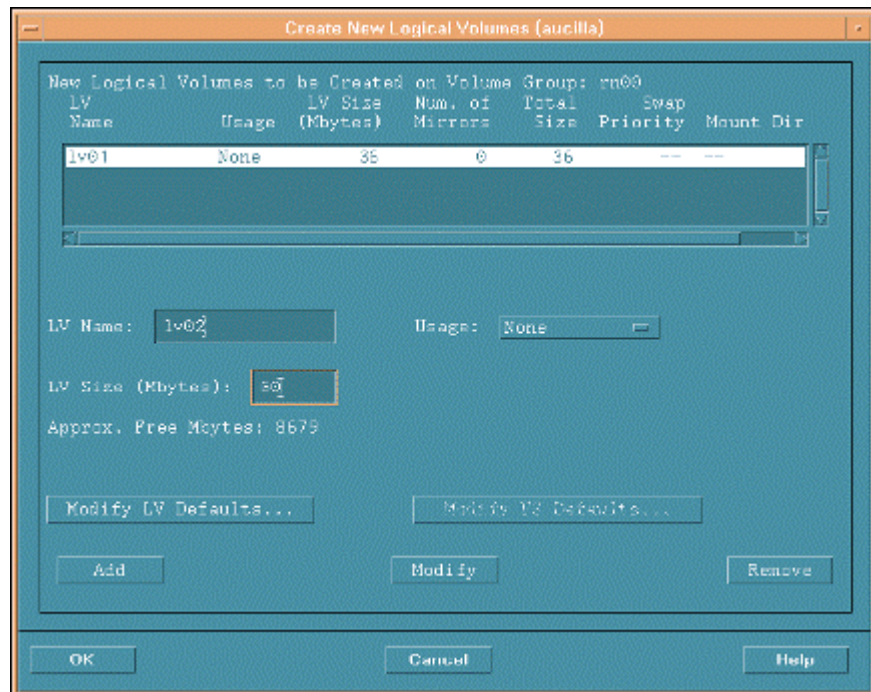
c Select **None** from the Usage list.



- d Click **Add**. The parameters appear in the dialog box.

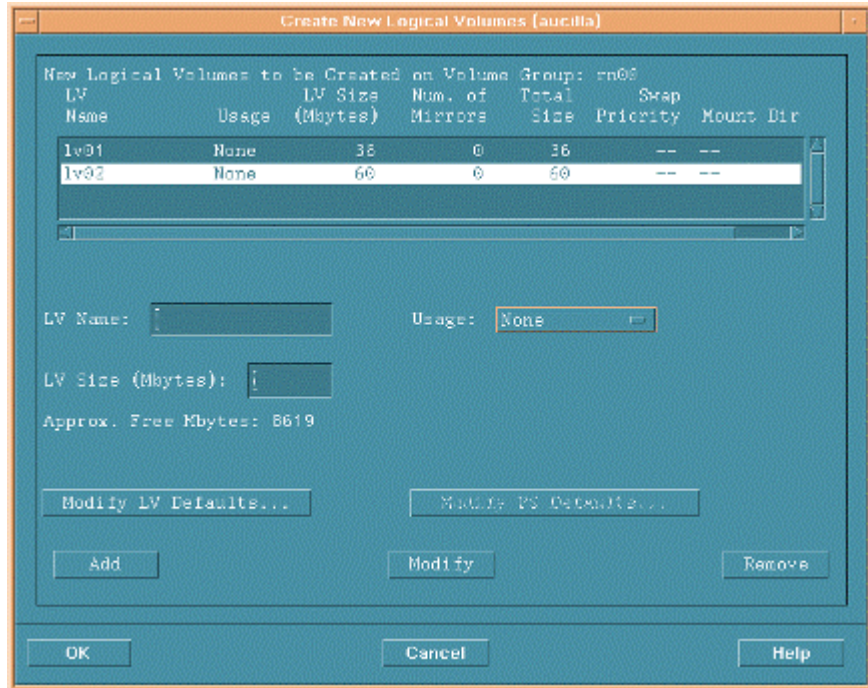
The Create New Logical Volumes dialog box reopens with the newly created logical volume listed.

- e In the LV Name box, type the name of the logical volume; **lv02** in this example.
- f In the LV Size (Mbytes) box, type the size of the logical volume; **5120** in this example. The Create New Logical Volumes dialog box appears as follows:



- g Ensure that the Usage box is set to **None**, and then click **Add**.

The two logical volumes that were created in this procedure are listed.



- h Repeat step e through step g for each raw partition. Adjust the name and size for each partition.

All of the logical volumes you create during the actual procedure are listed.

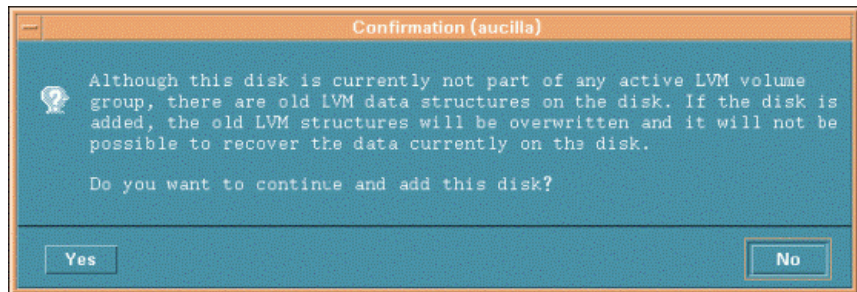
- i Click **OK**.

The Add a Disk Using LVM dialog box reopens.

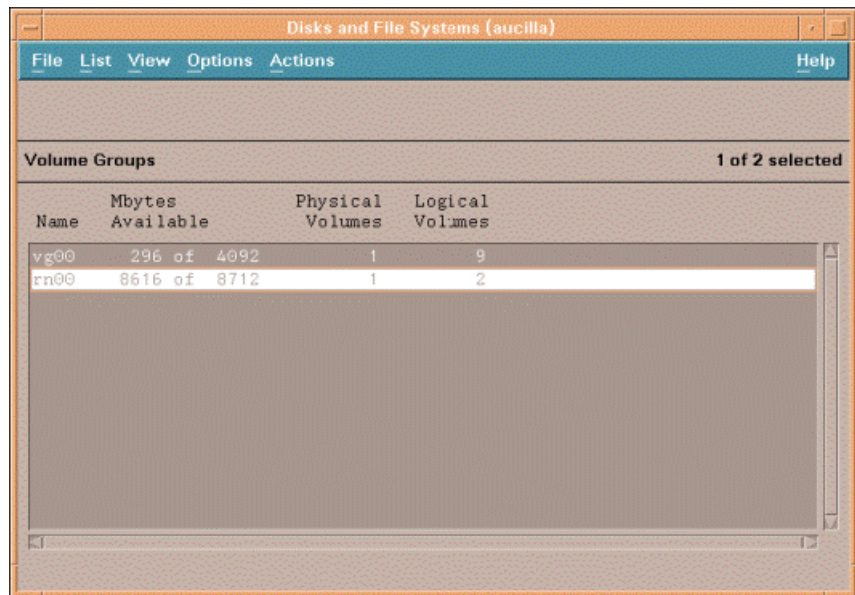
- 4 Add the logical volumes.

- a Click **OK** to add the additional logical volumes.

- b If the following confirmation dialog box opens, click **Yes** to continue the creation of the new logical volume process.



The Disks and File Systems dialog box opens. The newly created logical volumes are listed.



Using the Command Line

- 1 Log on.
 - a Log on as root.

- b Before creating a logical volume, run the `ioscan` command to determine the disks attached to the system and their device file names:

```
ioscan -f -n
```

2 Initialize each disk.

- a Initialize each disk as an LVM disk by using the `pvcreate` command. For example, enter:

```
pvcreate /dev/rdisk/c0t15d0
```



Using the `pvcreate` command results in the loss of all data currently on the physical volume, and you use the character device file for the disk. After a disk is initialized, it is called a physical volume.

- b Create a directory for the volume group; for example:

```
mkdir /dev/rn00
```

- c Create a device file named `group` in the above directory using the `mknod` command. The basic syntax is:

```
mknod /dev/rn00/group c 64 0x010000
```

The “c” following the device file name specifies that `group` is a character device file. The 64 is the major number for the group device file. It is always 64. The 0x010000 (0x020000, and so on) is the major number for the group file in hexadecimal. Each particular 01 (02 and so on) must be a unique number across all volume groups.

Use the `pvdisplay` command to get information about your drive; for example:

```
pvdisplay /dev/dsk/c0t15d0
```

3 Create a volume group.

Create the volume group specifying each physical volume to be included using the `vgcreate` command; for example:

```
vgcreate /dev/rn00 /dev/dsk/c0t15d0
```

The following messages appear as a result of this command:

```
Increased the number of physical extents per physical volume  
to 2178
```

Volume group "dev/rn00" has been successfully created

4 Create a logical volume.

After you create the volume group, create a logical volume using the `lvcreate` command; for example:

```
lvcreate /dev/rn00
```

When LVM creates the logical volume, it creates the block and character device files and places them in the `/dev/rn00/lvol1` directory.

The following message appears as a result of this command:

```
/dev/rn00/lvol1 has been successfully created with character device "/dev/rn00/rlvol1".
```

5 Repeat Task 2 through Task 4 for each raw partition to be created.

6 Allocate disk capacity.

The following commands illustrate how to allocate (extend) disk capacity for the specific `lvol`.

For the PI database:

```
lvextend -L 36 /dev/rn00/lvol1
```

For the Temporary Database:

```
lvextend -L 60 /dev/rn00/lvol2
```



Repeat the entire procedure as needed, substituting partition name and size for the raw partitions that you could be using to comprise either the PI database, the transaction log, or `tempdb` (if you are placing `tempdb` on a raw partition).

B The Sybase Interfaces File

The information in this appendix is supplied for reference purposes only. Any changes to the Sybase interfaces file should be made using the Management Console's System Management application. See the *Performance Insight Administration Guide* for more information about using this application.

Sybase uses a file called an **interfaces** file to locate the SQL Servers on the network. This appendix describes how to create or modify this file using `dsedit`.

You can find the Sybase interfaces file in the following locations:

- UNIX

The interfaces file is located in the Sybase home directory specified by your SYBASE environment variable; for example, `/usr/Sybase`. See [Creating the Sybase Interfaces File](#) on page 192 for details.



Make sure that when you type the SQL Server name that it matches the entry in the Sybase interfaces file exactly.

Creating the Sybase Interfaces File

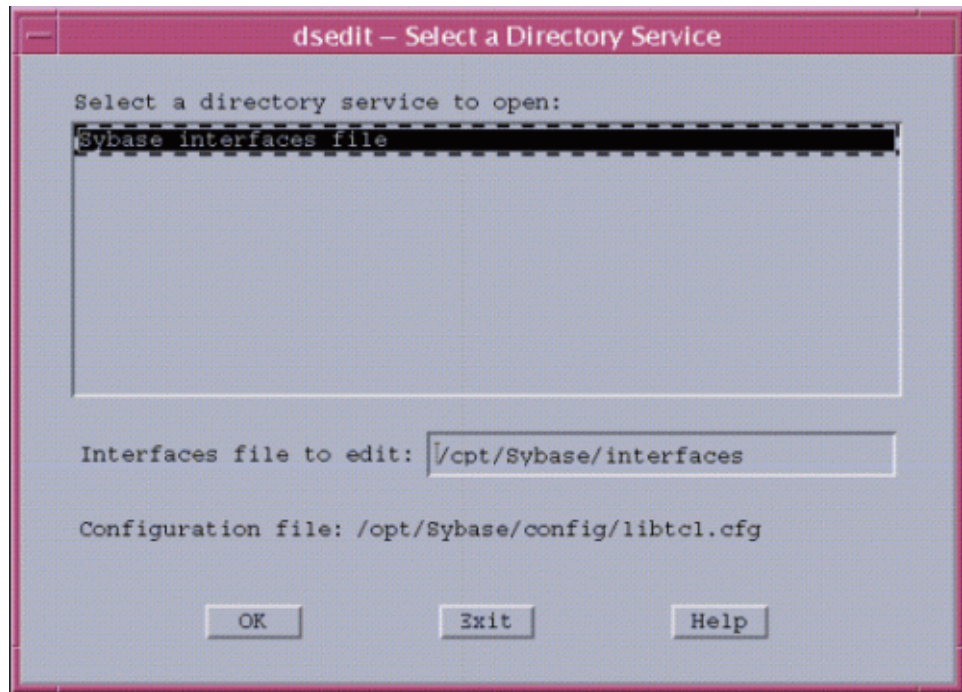
Use the `dsedit` utility to create the Sybase interfaces file for Sybase on UNIX systems.

To create the Sybase interfaces file:

- 1 Open a new shell window.
- 2 Type the following command:

```
$SYBASE/bin/dsedit
```

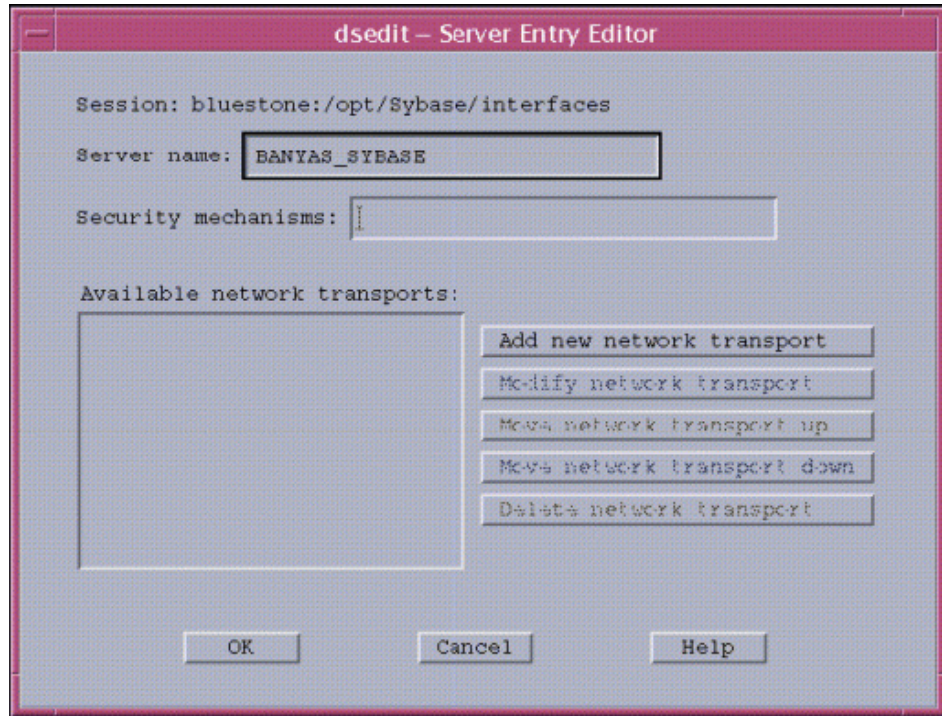
The `dsedit` - Select a Directory Service dialog box opens.



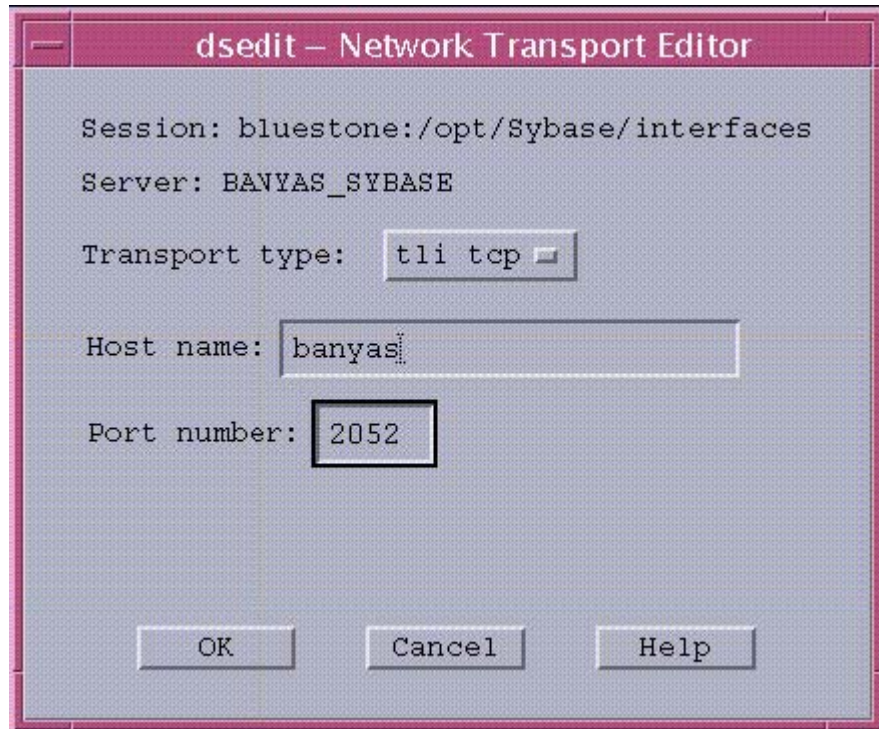
- 3 Select **Sybase interfaces file** in the Select a directory service to open box.
- 4 Verify the path and name of the interfaces file in the Interfaces file to edit box.
- 5 Click **OK**. The `dsedit` - Directory Service Session dialog box opens.



- 6 Select the Sybase server from the Available servers box.
- 7 Click **Add new server entry**. The dsedit - Server Entry Editor dialog box opens.



- 8 Type the name of the secondary Sybase server (**not** the server's host name) in the Server name box (in this example, **BANYAS_SYBASE**).
 - ▶ The Sybase server name is typically *hostname_SYBASE*.
- 9 Click **Add new network transport**. The dsedit - Network Transport Editor dialog box opens.



- 10 In the Transport type list, click **tli tcp**.
 - 11 Enter the secondary server's host name in the Host name box.
 - 12 Enter the port number that is configured for Sybase connections on the secondary server in the Port number box.
 - ▶ The port number for PI servers is typically 2052.
 - 13 Click **OK** to close the dsedit - Network Transport Editor dialog box.
 - 14 Click **OK** to close the dsedit - Server Entry Editor dialog box.
 - 15 Click **Close session** to close the dsedit - Directory Service Session dialog box.
 - 16 Click **Exit** to close the dsedit - Select a Directory Service dialog box.
 - 17 Click **Yes** to confirm that you want to exit from dsedit.
- You can validate the result by viewing the `$SYBASE/interfaces` file.

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