

HP Performance Insight

For the Windows® operating systems

Software Version: 5.41

Configuration Guide for Veritas Cluster

April 2011



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1 Introduction

This guide provides instructions on how to configure HP Performance Insight (PI) in a high availability environment using the Veritas Cluster Server (VCS) 5.0. Configuring PI in high availability environment improves its availability when used as a mission critical application.

▶ This guide does not cover how to set up a Veritas cluster.

High availability (HA), as used in this guide, implies that single points of failure (SPOFs) are eliminated from the environment. Examples of SPOFs include System Processing Unit (SPU), disks and disk controllers, LAN interface cards and cables, and power connection.

These potential SPOFs are removed by clustering the SPUs, mirroring or using RAID technology, providing redundant LAN interface cards, and attaching UPSs to the system. Clustering also facilitates operating system and application upgrades. HA solutions, however, cannot protect against failures caused by defects in applications and OS panics.

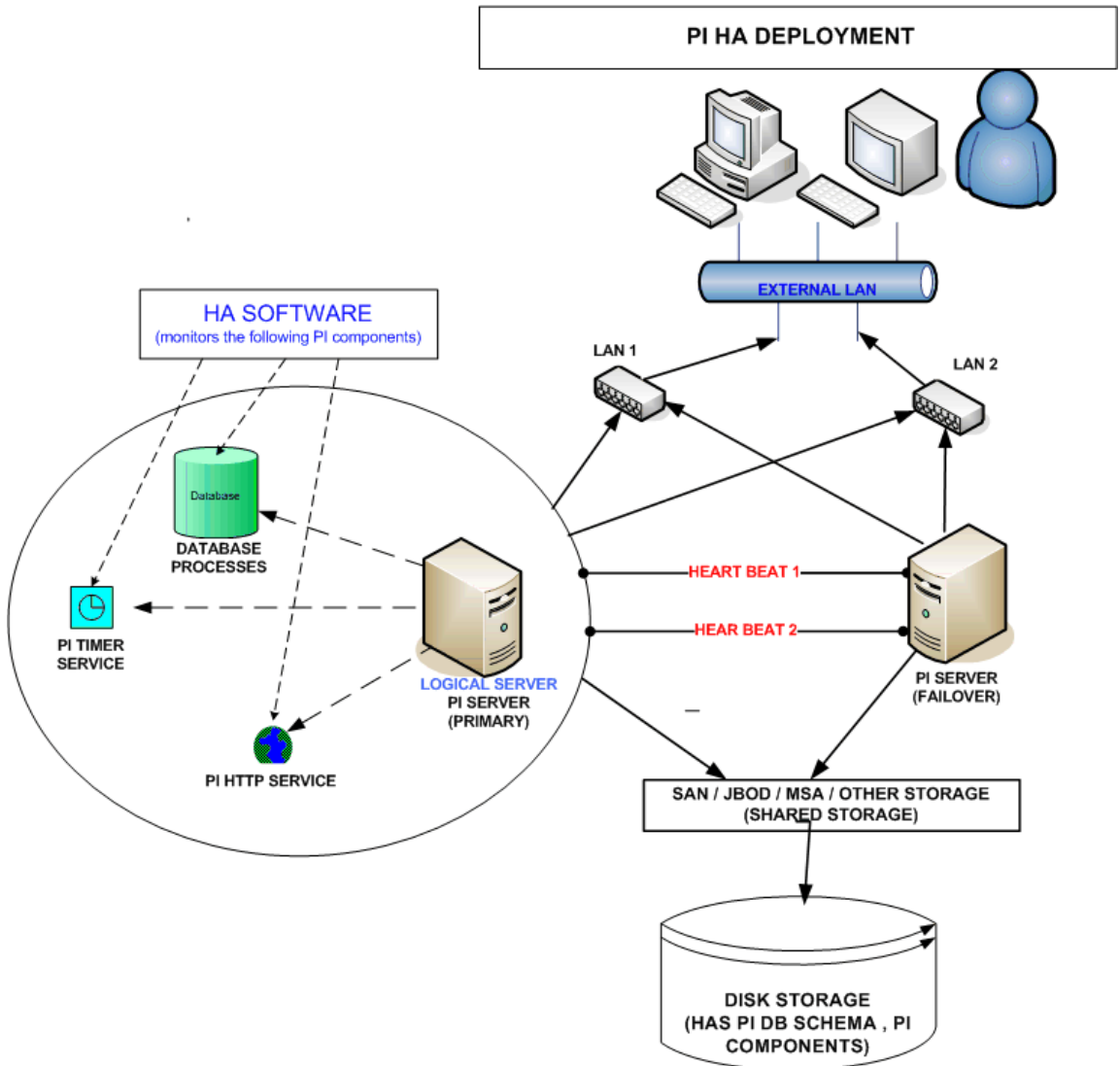
Configuration Considerations

This guide covers the Configuration of a two node cluster using a shared disk with PI 5.41 installed in a standalone setup (All PI components installed on a single machine.)

▶ The scripts provided in this guide can also be used in PI setups where the Performance Manager and database server are installed on a system separate from the Web Access Server/Web Application Server.

The database can be either Sybase or Oracle.

The following graphic provides an overview of the high availability setup:



2 VCS Implementation Prerequisites

The primary requirement for a VCS implementation is that in case of a failover, all the designated processes are initiated seamlessly on the secondary (failover) system and the LAN connection is moved.

To provide access to the application processes regardless of the physical system on which they run, you must assign a logical hostname and associated IP address (wherever applicable) to the one and only physical system currently running. Though both the primary and secondary systems access the same shared disks, it is never at the same time. Only the system currently running the application must read and write to the shared disks.

There are, therefore, two core considerations when implementing high availability with VCS:

- Assigning a logical hostname and associated IP address (wherever applicable)
- Appropriate handling of files both shared and local



OVPI supports active-passive cluster type. At any point of time only one node is active and the other is a standby. It is a failover cluster support.

Hostname and IP Address

For a simple system failover implementation there must be two or more servers that are each capable of hosting a unique “floating” hostname and associated IP address (wherever applicable) that are not associated with a physical system (that is a “logical” hostname and IP address).

Only one of the failover systems will host this name and IP address at any given time. During a system failover, the hostname and IP is “transferred” from the failed server to the failover system. The applications, however, will always access the same hostname and IP.

Both Sybase and Oracle create some files that store the information about the hostname and IP address. PI also stores the values of hostname and IP during installation for use at run time. You must, therefore, set the logical name before installing the database or PI.

Shared Components

In the VCS high availability setup, there are some shared components that must be present on both the primary and secondary nodes. These components are:

- Registry Keys – These keys are created on the primary node, when you install PI and the database. You must export these keys to the secondary node as well.
- Environment Variables – Create the environment variables specific to both PI and the database on both the primary and secondary nodes.

VCS Agents

VCS uses “agents” for monitoring the status and health of various resources, bringing them online, shutting them down in normal and emergency situations. VCS includes the agents required to handle common resources such as:

- Network Interface Cards
- IP addresses
- Physical Disk drives
- Logical Disk drives

Other resources also require similar type of monitoring and process management. For Sybase and Oracle databases, you can use the packages provided by Veritas. These packages include the agents as well.

Minimal-function agents for PI are available. These are: monitor, online, offline, and clean.

For other applications see the VCS Guides that provide the details for creating agents.

3 Configuring PI on VCS

The following variables are used in this chapter:

Name	Description
G:\	The mount point for the database
H:\	The mount point for PI.

Before configuring PI on the VCS cluster, ensure that all the nodes in the cluster can access the shared drives for both PI and the database (G:\ and H:\) through the Java UI Admin Console. However, only the system currently running the application must be able to read and write to the shared disks.

Configuring PI on VCS involves the following tasks:

- Task 1: *Setting Failover Machines*
- Task 2: *Verifying System Resources and Machine Patch Levels*
- Task 3: *Synchronizing System Clocks*
- Task 4: *Setting the Logical Hostname*
- Task 5: *Installing Database and PI on the Primary Node*
- Task 6: *Installing Report Packs*
- Task 7: *Editing trendtimer.sched*
- Task 8: *Completing Basic PI Configuration*
- Task 9: *Completing Post-installation Steps for PI*
- Task 10: *Configuring PI and the Database on the Secondary Node*

Task 1: Setting Failover Machines

To set failover machines, follow these steps:

- 1 In a two node cluster, set one system to function as the primary node and one system to function as secondary node and install the VCS cluster software on both.

Ensure that both the primary and secondary nodes have similar system resources.

This is because when you install the database and PI; the database tuning parameters are set based on the system resources available on the machine on which it is installed. In case there is a failover and the secondary system has significantly less resources than the primary system, the parameters used to initialize and tune the database might not only be sub-optimal but could also prevent the database from being started.



If your hardware availability is limited, you might want to install the database and PI on the less powerful machine to avoid incompatible settings in case of a failover. However, it is best practice to use the more powerful machine as the primary system.

- 2 Set up a shared disk.
- 3 Set one of the machines in the cluster to a floating “virtual” IP address. This IP address shares the primary Network Interface Card (NIC) with the “real” IP address of each system.
- 4 Ensure that VCS is running. To verify, run the following command on both the nodes:

```
hastatus -sum
```

Task 2: Verifying System Resources and Machine Patch Levels

Follow these steps:

- 1 Verify that each failover node has adequate resources (for example, RAM, swap, kernel settings) and patch levels for the operating system and Java before installing the database and PI.
- 2 See the pre-installation checklist provided in the *HP Performance Insight Installation Guide for Windows* before installing PI.

Task 3: Synchronizing System Clocks

PI has many time-dependent, time-critical processes. Therefore, it is important that each machine in the cluster uses the same source for time synchronization to keep data collection, aggregation, reporting, and logging correct and consistent.

Ensure that both the primary and secondary nodes have the same system time.

Task 4: Setting the Logical Hostname



Ensure that the IP assigned for the Veritas cluster is up and running.

Before installing the database and PI, change the physical hostname of the system that will function as the primary node to the logical hostname.

Sample Method

One of the ways to change the physical name to logical name and vice-versa is:

- 1 Save the following script as `hostnamechg.bat` file:

```
SET HOSTNAME=%1

reg add
HKLM\SYSTEM\CurrentControlSet\Control\ComputerName\ComputerName
 /v ComputerName /d %HOSTNAME% /f

reg add
HKLM\SYSTEM\CurrentControlSet\Control\ComputerName\ActiveComputerName
 /v ComputerName /d %HOSTNAME% /f

reg add
HKLM\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters /v
Hostname /d %HOSTNAME% /f

reg add
HKLM\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters /v "NV
Hostname" /d %HOSTNAME% /f
```

- 2 Run the command

```
hostnamechg.bat <logical/physical hostname>
```

Task 5: Installing Database and PI on the Primary Node


You can customize PI and the database installation based on your environment.

You must install both the PI and database on the shared disk.

Installing Oracle Database

To install Oracle database, follow these steps:

- 1 Verify the following:
 - a The primary node is set to return the “logicalhost” name. See the section *Setting the Logical Host Name*.
 - b The shared disk is mounted.
- 2 Follow the instructions provided in the *HP Performance Insight Installation and Upgrade Guide for Oracle – Windows* to install Oracle 10.2.0.1 Enterprise Edition with Partitioning.
- 3 When prompted for the Installation Path, change the default value to G:\Oracle. Continue the installation as per the Installation Guide.
- 4 Verify that the following environment variables exist. If not, create them. See *Creating Environment Variables*.
 - ORACLE_HOME
 - ORACLE_SID
 - ORACLE_BASE
 - ORACLE

 The value of ORACLE_BASE is the same as ORACLE_HOME.
- 5 Download and install the Oracle 10.2.0.4 patch. For details, see the instructions in the *HP Performance Insight Installation and Upgrade Guide for Oracle – Windows* and the README.html available with the 10.2.0.4 patch.

Installing Sybase Database

To install Sybase database, follow these steps:

- 1 Verify the following:
 - b The primary node is set to return the “logicalhost” name. See the section *Setting the Logical Host Name*.
 - c The shared disk is mounted.
- 2 Mount the PI DVD as per the instructions in the *HP Performance Insight Installation and Upgrade Guide for Sybase – Windows* and launch the setup.

- 3 Select **Sybase 15.0.2**
- 4 In the Sybase settings window change the default Installation Path to:
G:\Sybase
- 5 Continue the installation per the instructions in the installation guide.



The name of the Sybase server (the DSQUERY value) defaults to <HOSTNAME_SYBASE> (the HOSTNAME being the logical hostname) during the installation.

For details on installing and configuring Sybase database for PI, see the *HP Performance Insight Installation and Upgrade Guide for Sybase – Windows*.

Installing PI

To install PI, follow these steps:

- 1 Mount the PI DVD.
- 2 Go to **Data** → **Packages** and double-click **HPOvxpl.msi**.
- 3 In the Install wizard, select the shared drive as the path to install. This installs the common components in the shared drive.
- 4 Install PI. For detailed installation steps, see the *HP Performance Insight Installation and Upgrade Guide-Windows* for the respective database.

Task 6: Installing Report Packs

You can install the report packs based on your requirements. For PI 5.41 you must install the report packs only from the August 2009 Release Report Pack CD.

To install the report packs, follow these steps:

- 1 Double-click **setup.bat** in the CD. This extracts the report packs on the shared disk at `DPIPE_HOME\packages` and launches the Package Manager.
- 2 In Package Manager, set the following values:
 - Installation Folder = `H:\OVPI\packages` (default)
 - Deploy Reports = **[checked]** (default)
 - Application Server Name: `logicalhost.<FQDN>`

For details on installing report packs, see the report pack documentation.

Task 7: Editing trendtimer.sched

To collect data using the Report Packs installed on a PI/HA node you must edit the configuration file: %DPIPE_HOME%\lib\trendtimer.sched. This file contains specifications on how trendtimer invokes the collectors. For example, mw_collect, pa_collect, and ee_collect.

Follow these steps:

- 1 Open the file %DPIPE_HOME%\lib\trendtimer.sched.
- 2 Edit the default command-line arguments for all mw_collect entries to include the -H <logical hostname> option along with the -n option. The -H option along with the -n option gives the flexibility to specify the logical name in case of HA and ensures that only the specified nodes get polled.

For example,

OLD

```
5 - - {DPIPE_HOME}/bin/mw_collect -n -i 5 -K 1
. . . . .
24:00+1:00 - - {DPIPE_HOME}/bin/mw_collect -n -i 1440 -K 1
```

NEW

```
5 - - {DPIPE_HOME}/bin/mw_collect -n -H <logical hostname>
-i 5 -K 1
. . . . .
24:00+1:00 - - {DPIPE_HOME}/bin/mw_collect -n
-H <logical hostname> -i 1440 -K 1
```

Task 8: Completing Basic PI Configuration

To complete the basic PI configuration, follow these steps:

- 1 Add nodes (either through a node import via node_manager or with the SNMP discovery).
- 2 Complete type discovery.

- 3 Verify that collections have occurred successfully.

After completing the PI Configuration, change the hostname of the primary node back to the physical hostname. **This step is mandatory.**

See [Setting the Logical Hostname](#) for instructions on changing the hostname.

Task 9: Completing Post-installation Steps for PI and Database

Before starting the post-installation steps, ensure that all the PI and database services are set to “manual” in the Services list. Follow these steps:

- 1 From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools window opens.
- 2 Double-click the **Services** icon. The Services window opens.
- 3 Right-click the service and select **Properties** from the pop-up menu. The service properties window opens.
- 4 In the General Tab, select **Manual** from the Startup Type dropdown menu.
- 5 Click **OK**.

Oracle

Export the following registry keys:

- **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **ORACLE**
- **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **OracleService**<*service_name*>
- **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **Oracle10GTNSListener**<*listener_name*>



Similarly export all other Oracle Service registry key that you may require.

For steps of how to export registry keys, see [Exporting Registry Keys](#).

Sybase

Export the following registry keys:

- **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **SYBASE**

- **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **SybaseUAService**
- **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **SYBSQL_<dbname>_SYBASE**
- **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **SYBXPS_<dbname>_SYBASE_XP**

In this instance <dbname> is the logical hostname of the primary server

For steps of how to export registry keys, see [Exporting Registry Keys](#).

PI

Follow these steps:

- 1 Export the following registry keys:
 - **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **ODBC**
 - **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **Hewlett-Packard**
 - **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **piweb**
 - **HKEY_LOCAL_MACHINE** → **System** → **CurrentControlSet** → **Services** → **TrendTimer**

For steps of how to export registry keys, see [Exporting Registry Keys](#).

- 2 Stop the database service, timer service, HTTP service, and the Oracle listener (if you are using Oracle database).



If these services are not stopped properly on the primary node, they will not start on the secondary node.

Exporting Registry Keys

Follow these steps:

- 1 Click **Start** → **Run**. Type **regedit**. The Registry Editor opens.
- 2 Select the relevant registry key.
- 3 From the File menu, select **Export**. The Export Registry Key window opens.
- 4 Select a location and save the key with a **.reg** extension.
- 5 Repeat steps 2 through 4 for each registry key that needs to be exported.

Task 10: Configuring PI and the Database on the Secondary Node

Configuring PI

Follow these steps:

- 1 Create the following environment variables , with the adjoining values (see *Creating Environment Variables*):
 - DPIPE_HOME
 - DPIPE_TMP
 - COLLECT_HOME
 - TREND_LOG
 - OvDataDir = H:\Program Files\HP OpenView\data\
 - OvInstallDir = H:\Program Files\HP OpenView\
 - OPPERLLIB = H:\Program Files\HP OpenView\nonOV\Perl\bin\lib
- 2 Add <DPIPE_HOME>/bin to the PATH environment variable.
- 3 Add <drive:>\Program Files\HP OpenView\nonOV\jdk\bin and <drive:>\Program Files\HP OpenView\bin to the PATH environment variable. These values are for the common components.
- 4 Import the PI software and services registry keys saved earlier.

To import, copy the registry keys to the secondary node and double-click each key. Click **Yes** in the confirmation window.

Configuring Oracle Database

Follow these steps:

- 1 Create the following environment variables with the adjoining values (see *Creating Environment Variables*) :
 - ORACLE_HOME
 - ORACLE_SID
 - ORACLE_BASE
 - ORACLE
 - DSQUERY = <logical_hostname>

- `DSLISTEN = <logical_hostname>`
- 2 Add the following value to the PATH environment variable:
`<Oracle_home>/bin.`
- 3 Import the Oracle software and services registry keys saved earlier.
To import, copy the registry keys to the secondary node and double-click each key. Click **Yes** in the confirmation window.

Configuring Sybase Database

Follow these steps:

- 1 Create the following system environment variables, with the adjoining values (see *Creating Environment Variables*):
 - `SCROOT = G:\sybase\Shared\Sybase Central 4.3`
 - `SESSIONNAME = RDP-Tcp#2`
 - `SYBASE = G:\sybase`
 - `SYBASE_ASE = ASE-15_0`
 - `SYBASE_JRE = G:\sybase\Shared\Sun\jre142_013`
 - `SYBASE_OCS = OCS-15_0`
 - `SYBASE_SYSAM2 = SYSAM-2_0`
 - `SYBASE_UA = G:\sybase\UAF-2_0`
 - `SYBROOT = G:\sybase`
 - `INCLUDE = G:\sybase\OCS-15_0\include`
 - `LIB = G:\sybase\OCS-15_0\lib`
 - `DSQUERY = <logical_hostname>_SYBASE`
 - `DSLISTEN = <logical_hostname>_SYBASE`
- 2 Add the following values to the PATH environment variable:
`G:\sybase\DataAccess\ODBC\dll;G:\sybase\RPL-15_0\bin;G:\sybase\Shared\Sybase Central 4.3;G:\sybase\UAF-2_0\bin;G:\sybase\OCS-15_0\lib3p;G:\sybase\OCS-15_0\dll;G:\sybase\OCS-15_0\bin;G:\sybase\ASE-15_0\dll;G:\sybase\ASE-15_0\bin;G:\sybase\DBISQL\bin`
- 3 Import the Sybase software and services registry keys saved earlier.

To import, copy the registry keys to the secondary node and double-click each key. Click **Yes** in the confirmation window.

After importing all the registry keys and creating the environment variable, follow these steps:

- 1 Restart the system.
- 2 Verify that all the PI and database services appear in the Services window.

Creating Environment Variables

Follow these steps:

- 1 Right-click **My Computer** → **Properties**.
- 2 Click the **Advanced** tab and then click **Environment Variables**.
- 3 Under System Variables, click **New**. To edit an environment variable, select the variable and then click **Edit**.
- 4 Enter the variable name and value and click **OK**.
- 5 Follow steps c and d to create all the variables.
- 6 Click **OK**.



When uninstalling PI or the database, delete all the registry keys you imported and the environment variables you created from the failover node.

PI and VCS Configuration Scripts

To implement the failover of PI on VCS, you must create VCS “Service Group” and agent scripts to provide monitoring, startup, shutdown, and cleanup activities.

The following scripts are bundled with PI to simplify the configuration of PI failover on VCS:

- The configuration script: `PI_win_vcsconfigure.pl`
- The agent script: `Script.OVPI.VCS.StartStopMonitorClean.pl`.

The Configuration Script

The `PI_win_vcsconfigure.pl` script creates and configures Resource Types, Service Groups, Resources and Resource Dependencies, and configuring VCS to call the `Monitor_OVPI.pl`, `Run_OVPI.pl`, `Halt_OVPI.pl`, and `Clean_OVPI.pl` scripts.

Follow these steps:

- 1 Save the `PI_win_vcsconfigure.pl` script in the `<drive:>\Program Files\Veritas\cluster server\conf\config` directory only.
- 2 Edit the section `USER CUSTOMIZABLE PARAMETERS` (in the beginning of the script) to suit your environment. The instructions are provided within the script as comments.
- 3 Run the `PI_win_vcsconfigure.pl` script. To run the script, type:
`perl PI_win_vcsconfigure.pl`

When you run the `PI_win_vcsconfigure.pl` script, it performs the following functions:

- Creates a service group, `PI_Resource_Group`. In VCS 5.0, you can access this group through the Symantec Veritas Cluster Manager (Java Console). You can use this console to perform administrative functions.
- Creates additional VCS resources for the NIC and IP associated with the service group.
- Adds the resources to the service group such that the four resources are linked together in a dependency tree as follows:


```
// resource dependency tree
//
//   group PI_Resource_Group
//   {
//   Application PI-application
//   {
//     Mount ora-mount-nfs
//     {
//       LVMVolumeGroup pi-volumegroup
//       {
//         IP pi-ip
//         {
//           NIC pi-nic
//         }
//       }
//     }
//   }
//   Mount pi-mount-pi
//   {
//     LVMVolumeGroup pi-volumegroup
//     {
//       IP pi-ip
//       {
//         NIC pi-nic
//       }
//     }
//   }
// }
// }
```

- Enables and starts the resources on the primary node.
- Captures log messages in the following files:

```
<drive:>\Program Files\Veritas\cluster server\log
```


For each resource a log file of the name <ResourceName>_A.log is created. In this instance, A stands for agent.

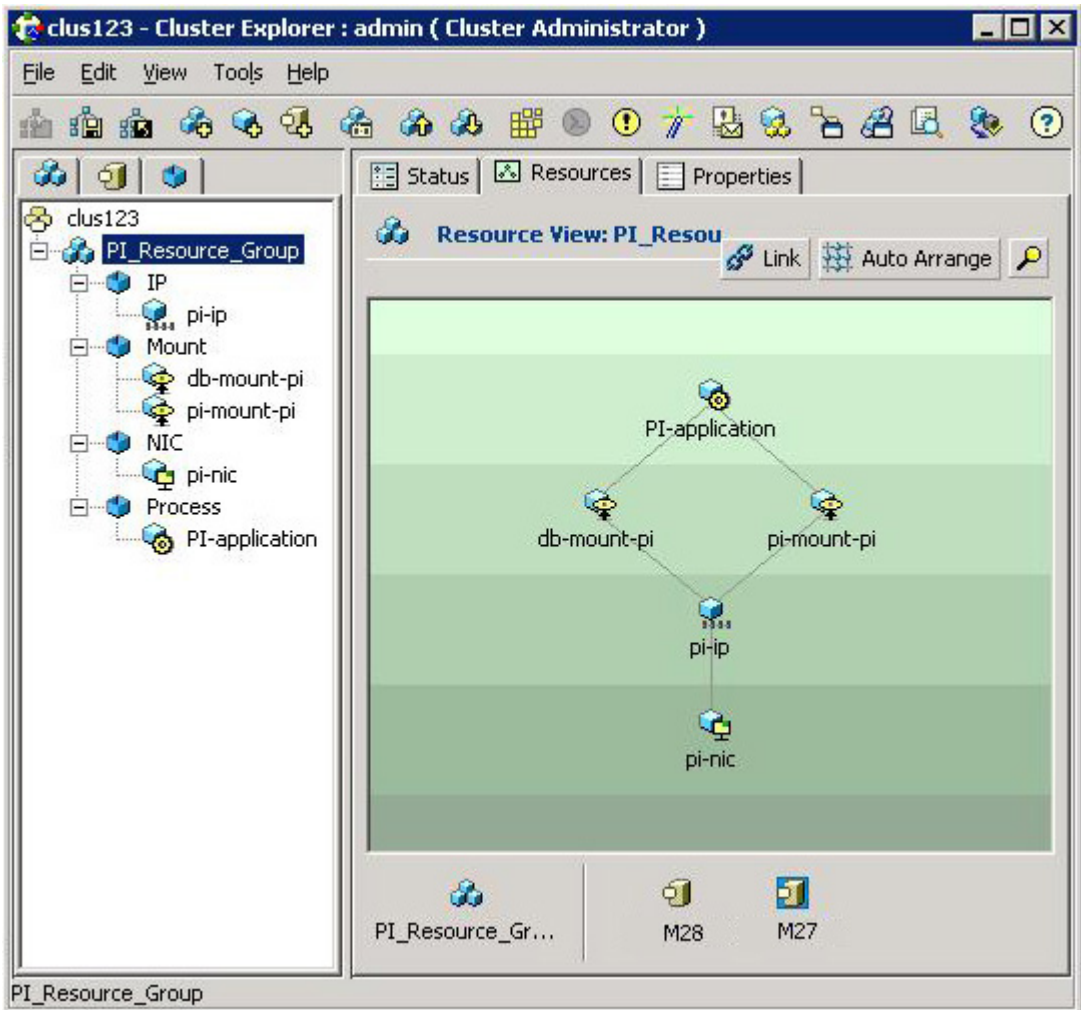
- Informs the cluster about the four agent scripts.

The Agent Scripts

Based on your environment, you must edit the agent script.

To configure the agent script, follow these steps:

- 1 Open the agent script `Script.OVPI.VCS.StartStopMonitorClean.pl`.
- 2 Edit the section `USER CUSTOMIZABLE PARAMETERS` (in the beginning of the script) to suit your environment. The instructions are provided within the script as comments.
- 3 Scroll through the script to the `OVPI_Clean` procedure and include any other binary that you might want to remove.
- 4 Replicate the agent script into the following four scripts:
 - `Monitor_OVPI.pl`
 - `Run_OVPI.pl`
 - `Halt_OVPI.pl`
 - `Clean_OVPI.pl`
- 5 Create a folder on the primary node and place the four scripts in it
- 6 Create a folder with exactly the same name and directory structure on the secondary node and copy the four scripts in it.
 -  If you make a change in any of the four scripts, you must propagate the change to the other three scripts in that folder and then copy all the four scripts to the failover node.
- 7 Launch the Symantec Veritas Cluster Manager (Java Console) on the primary node.
- 8 Right-click **PI_Resource_Group** (in the left pane) and select **Online** → `<node_name>`. The Resource View appears as in the following figure:



The agent scripts log messages in the `VCS_OVPI.log` file. This file is present in the `<drive:>\Documents and Settings\Administrator.<domain_name>\Local Settings\Temp\1` directory.

4 Configuring PI to Function in a Cluster Setup

In a scenario where both the PI and database installations have a physical hostname and IP address (wherever applicable) instead of a logical hostname and IP address, follow these steps to change to logical hostname and IP address (to make them a part of the VCS cluster):

- 1 Install the underlying database for PI.
- 2 Install PI.

Now, the PI installation is usable with the physical name/IP on the clustered node on which it is installed. However, it is not usable with the logical name/IP.

- 3 Replace all occurrences of the physical name and IP address (wherever applicable) with the logical name and IP address. See the section *Changing Hostname on a PI 5.41 Installation*. Replace the “old hostname” and “new hostname,” with the “physical hostname” and “logical hostname,” respectively.

Similarly, replace “Old IP address” and “new IP address” with appropriate values for “physical IP address” and “logical IP address,” respectively.

Changing Hostname on a PI 5.41 Installation

The instructions provided in this section are for a Standalone PI server on which PI is installed. However, you can customize the steps for a distributed environment too.

You will need to change the hostname in the following two scenarios:

- You have to change the name and IP address (wherever applicable) of a non-clustered PI server.
- You have to install/upgrade or apply a patch to a High Availability PI server (in a cluster setup) running under VCS.

In this scenario, the clustered server will host (at least) two IP addresses and hostnames:

- The “physical” or “real” hostname with its associated IP address: You can get this hostname by typing **hostname** at the command prompt.
- The “logical” or “virtual” or “floating” hostname with the associated IP address: This is the virtual machine name that can be shifted from one clustered server to another thereby implementing High Availability (HA).

When you install the complete PI (including report packs) on one of the clustered servers in an HA scenario, the configuration of both PI and the underlying database will be based on the “physical” hostname and the IP address of the clustered server on which PI is installed.

Then, to reconfigure PI and the database to run on the logical/virtual/floating hostname and IP address, you must follow these instructions:

Make the following replaceable values are used in the code given in the instructions. You must make the necessary substitutions as per your environment.

<OLD_HOST> – The “old” hostname. In the HA case, this will be the “physical” hostname obtained when you run **hostname**.

<OLD_IPADDR> – The “old” IP address associated with *<OLD_HOST>*.

<NEW_HOST> – The “new” hostname. In the HA case, this will be the logical/virtual/floating hostname.

<NEW_IPADDR> – The “new” IP address associated with *<NEW_HOST>*.

Changing Hostnames and IP Addresses in the Configuration Files and PI Tables

Follow these steps:

- 1 Stop PI if it is running.
- 2 Start the database.

Oracle: Follow these steps:

- a From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools window opens.
- b Double-click the **Services** icon. The Services window opens.
- c Right-click the service name: **Oracle OraHome 10 TNSListener OracleService** *<db name>*

In this instance, *<db name>* is the name of the PI database. This is the minimum set of services required for PI to run.

- d Select **Start** from the shortcut menu. This starts up the database specified by *%ORACLE_SID%*.

Sybase: Follow these steps:

- a From the Control Panel window, double-click the Administrative Tools icon. The Administrative Tools window opens.
- b Double-click the **Services** icon. The Services window opens.
- c Select **Sybase SQLServer***_server*, where *server* is the name of your Sybase SQL Server.
- d Right-click the service name and then select **Start** from the shortcut menu.
- e Close the Services window.

- 3 Connect to the database using sqlplus or isql as appropriate:

Oracle:

Type, `sqlplus dsi_dpipe/ <Password>`

Sybase:

Type, `isql -Udsi_dpipe -P<Password>`

- 4 Update the DSI_SERVER table.

Oracle:

```
SELECT NAME, HOST_NAME, HOST_ADDRESS FROM DSI_SERVER;
UPDATE DSI_SERVER SET NAME = '<NEW_HOST>'
WHERE NAME = '<OLD_HOST>';
UPDATE DSI_SERVER SET HOST_NAME = '<NEW_HOST>'
WHERE HOST_NAME = '<OLD_HOST>';
UPDATE DSI_SERVER SET HOST_ADDRESS = '<NEW_IPADDR>'
WHERE HOST_ADDRESS = '<OLD_IPADDR>';
SELECT NAME, HOST_NAME, HOST_ADDRESS FROM DSI_SERVER;
```

Sybase:

```
SELECT name, host_name, host_address FROM dsi_server
go
UPDATE dsi_server SET name = '<NEW_HOST>'
WHERE name = '<OLD_HOST>'
go
UPDATE dsi_server SET host_name = '<NEW_HOST>'
WHERE host_name = '<OLD_HOST>'
go
UPDATE dsi_server SET host_address = '<NEW_IPADDR>'
WHERE host_address = '<OLD_IPADDR>'
go
SELECT name, host_name, host_address FROM dsi_server
Go
```

- 5 Update the DSI_INSTALLED_DATAPIPE table. The NAME and HOST_NAME fields appear both with and without the fully qualified domain name appended. If you are using NAME and HOSTNAME field without the domain name appended (and vice-versa) then use the same form when updating these values.



If more than one row is selected by any of the following sql "updates," modify the update statement with a more-specific constraint clause to avoid uniqueness constraint violations.

Oracle:

```
SELECT * FROM DSI_INSTALLED_DATAPIPE;
UPDATE DSI_INSTALLED_DATAPIPE SET NAME = '<NEW_HOST>'
WHERE NAME = '<OLD_HOST>';
UPDATE DSI_INSTALLED_DATAPIPE
SET HOST_NAME = '<NEW_HOST>.<FULL_DOMAIN>'
WHERE HOST_NAME = '<OLD_HOST>.<FULL_DOMAIN>';
UPDATE DSI_INSTALLED_DATAPIPE
SET HOST_ADDRESS = '<NEW_IPADDR>'
WHERE HOST_ADDRESS = '<OLD_IPADDR>';
SELECT * FROM DSI_INSTALLED_DATAPIPE;
```

Sybase:

```
SELECT * FROM dsi_installed_datapipe
go
UPDATE dsi_installed_datapipe SET name = '<NEW_HOST>'
WHERE name = '<OLD_HOST>'
go
UPDATE dsi_installed_datapipe
SET host_name = '<NEW_HOST>.<FULL_DOMAIN>'
WHERE host_name = '<OLD_HOST>.<FULL_DOMAIN>'
go
UPDATE dsi_installed_datapipe
SET host_address = '<NEW_IPADDR>}'
WHERE host_address = '<OLD_IPADDR>'
go
SELECT * FROM dsi_installed_datapipe
go
```

- 6 Stop the database.

Oracle: Follow these steps:

- a From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools window opens.
- b Double-click the **Services** icon. The Services window opens.
- c Right-click the service name: **Oracle OraHome 10 TNSListener OracleService** *<db name>*

In this instance, *<db name>* is the name of the PI database. This is the minimum set of services required for PI to run.

- d Select **Stop** from the shortcut menu.

Sybase: Follow these steps:

- a From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools window opens.
- b Double-click the **Services** icon. The Services window opens.
- c Right-click the service name:
SybaseSQLServer_<hostname>_SYBASE
- d Select **Stop** from the shortcut menu.

- 7 Make the following changes in the database configuration file:

Oracle: Follow these steps:

- a Go to %ORACLE_HOME%\network\admin\
b Open the file **listener.ora** **tnsnames.ora**
- c Replace the old system name with the new system name in files similar to:

```
ADDRESS = (PROTOCOL = TCP) (HOST = .....
```

or

```
snmp.longname.listener = listener_.....
```

- d Save the file. If intelligent agent is installed edit the **snmp_ro.ora** file too.

Sybase: Follow these steps:

- a Go to *<Sybase_home>*\ini\
b Open the file **sql.ini**

- c In the master and query lines replace the physical hostname with the logical hostname (without FQDN).
- 8 Edit the PI configuration files. Follow these steps:
- a Go to %DPIPE_HOME%\data.
 - b Open the file **systems.xml**.



Backup the `systems.xml` file before making any changes to it. If this file is corrupted PI will not work.

- c Replace all occurrences of the old hostname and IP address with the new hostname and IP address:

Example: `<Name><OLD_HOST </Name>`

`<HostName><OLD_HOST>.<FULL_DOMAIN></HostName>`

`<IPAddress><OLD_IPADDR></IPAddress>`

`<Host><OLD_HOST>.<FULL_DOMAIN></Host>`

Oracle:

`<JdbcString>jdbc:oracle:thin:@`

`<OLD_HOST>:1521:vcSORA</JdbcString>`

`<OdbcString>DSN=PI_ORACLE;SID=vcSORA;PORTNUMBER=1521;HOSTNAME=<OLD_HOST></OdbcString>`

Sybase:

`<JdbcString>jdbc:sybase:Tds:`

`<OLD_HOST>.{FULL_DOMAIN}:5000</JdbcString>`

`<OdbcString>DSN=PI_SYBASE;DB=dpipe_db;`

`NA=<OLD_HOST>.{FULL_DOMAIN},5000</OdbcString>`

- d Open the file **config.prp**.



Backup the `config.prp` file before making any changes to it. If this file is corrupted PI will not work.

- e Replace all occurrences of the old hostname and IP address with the new hostname and IP address:

Example: `database.host=<OLD_HOST>`

`appserver.host=<OLD_HOST>`

`localhost=<OLD_HOST>`

`database_schema.host=<OLD_HOST>`

```
server.host=<OLD_HOST>
```

- 9 In a non-HA scenario, change the system name and restart the system. In an HA scenario, use the HA software to enable the Floating/Logical IP address if it is not already enabled.
- 10 Start the database (including the Oracle Listener (for Oracle). Verify that it is running successfully.
- 11 Start PI and verify that it is running successfully.

Installing a Patch in a VCS setup

Before installing any patch in a VCS environment, you must take care of the following:

- The machine on which you want to install the patch must be set to a logical hostname.
- If the patch changes the registry keys and environment variables, propagate the changes to all other failover systems.

To apply a patch, in a VCS setup, follow these steps:

- 1 Stop the PI resource group on all the systems using the Cluster Manager console.
- 2 Change the physical hostname and IP address (wherever applicable) of the primary node to the logical hostname and IP address (wherever applicable). See the section, [Setting the Logical Hostname](#) for instructions on changing hostname and IP address (wherever applicable).
- 3 Install the patch.
- 4 Change the logical hostname and IP address (wherever applicable) back to the physical hostname and IP address (wherever applicable).
- 5 Restart the system.

5 Troubleshooting Veritas Cluster Scripts

PI Resource Creation Scripts

To troubleshoot the PI resource creation scripts, follow these steps:

- 1 Open the `INSTALL.log` file. This file is present in the directory from where you run the resource script.
- 2 Check whether the following attributes are correct:
 - Mount points
 - Virtual host names
 - Directory names
 - File names
 - Agent script names
- 3 Check if the file permissions are appropriate.

PI Agent Script

To troubleshoot the `Script.OVPI.VCS.StartStopMonitorClean.ksh` script, follow these steps:

- 1 Check the `<drive:>\Program Files\Veritas\cluster server\log` folder. This folder contains the logs for all resources. For each resource a log file of the name `<Resourcename>_A.log` is created. In this instance, A stands for agent.
- 2 Open the respective log file to check for error messages.

A References

Software Depots and Versions

PI

The latest version of PI is PI 5.41. You can install PI 5.41 from the product DVD.

Sybase

Use the Sybase version bundled in the PI 5.41 product DVD. The version is 15.0.2.

To verify the version, log in to `isql` and run:

```
select @@version
```

Oracle

PI 5.41 currently supports only Oracle version 10.2.0.4. To verify the version of Oracle, connect to `sqlplus` and run:

```
select * from v$version
```

Report Packs

Use the August 2009 Release Report Pack CD.

Location for PI and Veritas Manuals

Veritas

You can download the latest versions of all the manuals from the following location:

http://www.symantec.com/business/support/all_products.jsp

- VCS 5.1 Administrator's Guide:

ftp://exftpp.symantec.com/pub/support/products/Storage_Foundation_for_Windows/306333.pdf

- VCS 5.1 Installation and Upgrade Guide:

ftp://exftpp.symantec.com/pub/support/products/Storage_Foundation_for_Windows/306341.pdf

- VCS 5.1 Bundled Agents Reference Guide:

ftp://exftpp.symantec.com/pub/support/products/Storage_Foundation_for_Windows/306339.pdf

PI

You can download PI related guides from the following location:

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

Log in to the site using your HP Passport id and select Performance insight from the product list

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