HP Operations Smart Plug-ins for Infrastructure

for HP Operations Manager for Windows®, UNIX®, and Linux operating systems

Software Version: 1.00

Installation Guide

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http://h20230.www2.hp.com/new_access_levels.jsp

Contents

1 Installation Overview

This guide instructs you on how to install HP Smart Plug-ins for Infrastructure (Infrastructure SPIs) 1.00, upgrade from Virtualization Infrastructure SPI 1.00 to the current version, and related information.

The Infrastructure SPIs form a software suite that integrates fully with HP Operations Manager (HPOM) and extends HPOM's management scope to include distributed enterprise-wide base infrastructure on Microsoft Windows and Linux systems. Infrastructure SPIs help you to monitor high-availability clusters (HA clusters) and virtual infrastructure on the network. It enables relating the cross domain IT infrastructure events with relevant applications and databases in the console, and mapping them into a hierarchical service map while eliminating redundant infrastructure and processes.

Figure 1   Infrastructure SPIs package structure
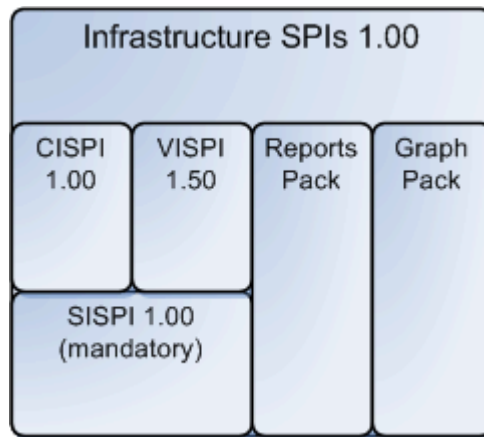
The Infrastructure SPIs version 1.00 contains of the following components:

- The Smart Plug-in for Systems Infrastructure version 1.00 (Systems Infrastructure SPI or SISPI 1.0). This SPI monitors individual systems. Its installation is mandatory while installing Infrastructure SPIs.

- Smart Plug-in for Virtualization Infrastructure version 1.5 (Virtualization Infrastructure or VISPI 1.5). This SPI monitors VMware ESX /ESXi and Microsoft Hyper-V servers and the virtual machines hosted on them.

- Smart Plug-in for Cluster Infrastructure version 1.00 (Cluster Infrastructure SPI or CISPI 1.0). This SPI can be used to monitor the following clusters:

  — HP ServiceGuard for Linux

  — Microsoft Cluster Server

  — RHEL Cluster Server

  — VERITAS Cluster for Windows and Linux

- Reporting package to generate and view reports.

- Graphing package to generate and view graphs.

Infrastructure Smart Plug-ins DVD Content

The Infrastructure SPIs 1.00 DVD contains:

- Following Smart Plug-ins:
  - Systems Infrastructure SPI version 1.00.
  - Virtualization Infrastructure SPI version 1.50.
  - Cluster Infrastructure SPI version 1.00.
- Reporting packages for use with HP Reporter and graphing packages for use with HP Performance Manager.
- Product documentation.

Product Descriptions

The Infrastructure SPIs media contains the software, documentation, and applicable HP Reporter and HP Performance Manager integration for each Smart Plug-in.

Systems Infrastructure SPI version 1.00

The Systems Infrastructure SPI helps administrators monitor individual system infrastructure performance that is analyzed based on a number of monitoring aspects such as capacity, availability, and utilization.

Virtualization Infrastructure SPI version 1.50

The Virtualization Infrastructure SPI helps administrators monitor virtualized infrastructure such as VMware ESX/ ESXi servers and Microsoft Hyper-V servers on the network. It monitors the performance of host virtual machines and the capacity utilization, availability, and resource consumption of the guest virtual machines and resource pools (in the case of VMware setup). The Virtualization Infrastructure SPI uses metrics provided by HP Performance agent for performance and configuration information.

Cluster Infrastructure SPI version 1.00

The Cluster Infrastructure SPI helps administrators monitor the availability of HA cluster (or failover cluster) infrastructure on the network.

Reports and Graphs

The reports provide a picture of system, cluster, or virtualization resources. You can integrate the Infrastructure SPIs with HP Reporter to generate reports based on collected metric data from the managed nodes. The HP Reporter reporting package can be installed on a Windows management server.

You can also generate graphs to analyze the metric data collected. To generate and view graphs from data collected by the Infrastructure SPIs, use HP Performance Manager with HPOM. The HP Performance Manager graphing package can be installed on a Windows, Linux, or HP-UX management server.

Information on Infrastructure SPIs is available in the product documents listed below.

Table 1   Documents provided with Infrastructure SPIs

Document	Location	Purpose
Installation Guide	`<CD\DVD-ROM>\Documents`	To provide step-by-step instructions on installing, upgrading, configuring, and performing various tasks in Infrastructure SPIs.
Concepts Guide	`<CD\DVD-ROM>\Documents`	To provide information on Infrastructure SPIs architecture and key concepts used.
Online Help	Available on HPOM console **Help** drop-down menu	To guide the user to perform the following tasks: • Using the SPI policies • Using the SPI tools • Using Reports • Using Graphs The online help is specific to the individual Infrastructure SPI.
User Guide	`<CD\DVD-ROM>\Documents`	To guide the user to perform the following tasks: • Using the SPI policies • Using the SPI tools • Using Reports • Using Graphs The user guide is specific to the individual Infrastructure SPI.
Release Notes	`<CD\DVD-ROM>`	To provide information on the SPI release.

The installation guide, concepts guide, user guides, and release notes are available on the Infrastructure SPIs DVD. You can directly access them from the DVD or copy the documents on the local system for reference.

To check for the most recent edition of Infrastructure SPIs documents, go to: **http:// h20230.www2.hp.com/selfsolve/manuals**.

Licenses for the Software

Infrastructure SPIs is a software suite containing three Smart Plug-ins:

— Systems Infrastructure SPI

— Virtualization Infrastructure SPI

— Cluster Infrastructure SPI

The license for Infrastructure SPIs is based on Virtualization Infrastructure SPI. No separate license required for Systems Infrastructure SPI or Cluster Infrastructure SPI.

The license for Virtualization Infrastructure SPI is applicable according to the number of *host machines* in virtualized environment that are managed by HPOM server.

- In case of Microsoft Hyper-V, the licensing depends on the number of Hyper-V hosts added in the node bank. These host systems are managed nodes and require an additional Virtualization Infrastructure SPI license

- In the case of VMware infrastructure, all ESX and ESXi hosts managed via vMA virtual appliances require licenses per host. No separate licenses are required for guest virtual machines.

- Any node added in the node bank as a SNMP node/message-allowed node using auto-addition feature requires a HPOM Target Connector license.

For additional information on managed and monitored nodes, refer to the HP Operations Manager documentation on licensing.

The Virtualization Infrastructure SPI comes with a trial license that allows you to use the product for 60 days after you install it. When you first start the Virtualization Infrastructure SPI you are prompted to request a permanent license key password. A permanent password can be obtained at this time or deferred. To obtain your license key password at installation, follow the instructions in the message box that appears on screen at product startup.

For more information about how to obtain a license, how to apply the permanent license key password, or how to view a license report on HPOM, refer to the *HP Operations Manager for Windows Installation Guide* or *HP Operations Manager for UNIX Installation Guide.*

Language Options

HP Software for Infrastructure SPIs 1.00 version is available in English. You can install Infrastructure SPIs in a non-English system locale, with user interface elements, web pages, logfiles, online help and user documentation available in English language.

2 Installing Infrastructure SPIs

This chapter provides the information you need to install the Infrastructure SPIs.

You must install the Infrastructure SPIs on the HPOM management server. The installation wizard guides you through the entire process of SPI installation.

Installation Prerequisite

Before installing the Infrastructure SPIs, make sure that you have installed only the supported hardware and software versions. For recent updates to information about the management server operating system versions, the managed node operating system versions, and the related HP product versions that are supported by the Infrastructure SPIs, see the individual SPI release notes:

- *HP Operations Manager Smart Plug-in for Systems Infrastructure Release Notes*
- *HP Operations Manager Smart Plug-in for Virtualization Infrastructure Release Notes*
- *HP Operations Manager Smart Plug-in for Cluster Infrastructure Release Notes*

Supported Management Server Platforms

Table 2   Supported Platforms

Operating Systems	Supported HP Operations Manager (HPOM) Versions
Microsoft Windows	HPOM for Windows 8.10 + patches up to OVOW_00048*
HP-UX	HPOM for UNIX 9.0
Linux	HPOM for Linux 9.0

* To know details about the required patches on HPOM for Windows, see Release Notes.

Supported Managed Node Platforms

Table 3   Supported Platforms

Operating Systems	Supported HP Operations Agent Versions
Microsoft Windows	8.60
Red Hat Enterprise Linux	8.60
SuSE Linux Enterprise Server	8.60

Supported HP Performance Agent Versions

- In case of Systems Infrastructure and Cluster Infrastructure SPI, installation of HP Performance Agent is not mandatory. However if HP Performance Agent is already installed on the managed nodes, make sure it is upgraded to version 5.00.

- In case of Virtualization Infrastructure SPI, HP Performance Agent version 5.00 is mandatory for metric collection used by the SPI policies.

For information about installing HP Performance Agent, see *HP Performance Agent Installation, Upgrade and Migrate Guide*.

Supported HP Performance Manager Versions

- To install the graphing package on HP-UX or Microsoft Windows operating system, make sure you have HP Performance Manager version 8.20 (with software patches). To know details about the required patches, see Release Notes.

- To install the graphing package on Linux, make sure you have HP Performance Manager version 8.21 or later version installed on the server.

Supported HP Reporter Versions

To install the reporter package for Infrastructure SPIs, make sure you have HP Reporter version 3.80 installed on the system.

Installation

To install the Infrastructure SPIs 1.00 on your systems, you must log on as administrator (for Windows systems) or root user (for HP-UX and Linux systems).

You can install Infrastructure SPIs on the HPOM for Windows, HPOM for UNIX, or HPOM for Linux systems by following the procedures described in the following sections:

- Installing the Infrastructure SPIs on Windows
- Installing the Infrastructure SPIs on HP-UX or Linux

Installing the Infrastructure SPIs on Windows

Read the rest of this guide before you start the installation wizard to plan your decisions and gather the information that you need.

You can install Infrastructure SPIs on your Windows management server by using either of the following procedures:

- Attended Installation
- Unattended Installation

Attended Installation

To carry out attended installation:

1 Close all open applications.

2 If installing from a CDROM/DVD, insert the Infrastructure SPIs CD/DVD media into the CD/DVD-ROM drive of the management server/console system and open the media contents in explorer window.

Or

Download the Infrastructure SPIs media image file (.iso) from the following HP Software Partner Portal (account and password required), and burn the image on a physical media or mount the image file as a virtual CD using software such as Microsoft Virtual CD-ROM from the control panel:

https://h10078.www1.hp.com/cda/hpdc/display/main/ search_results.jsp?zn=bto&cp=54_4012_100__

Figure 2   Infrastructure SPIs media contents
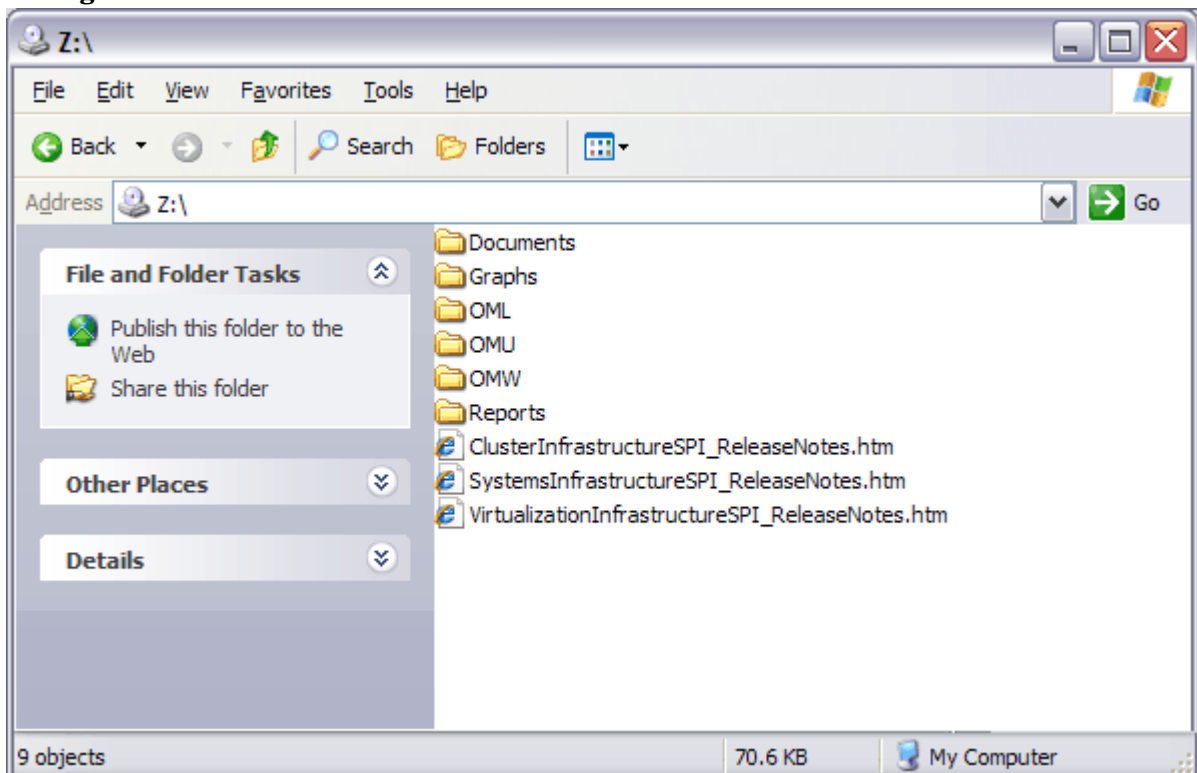
3 Once the media is available, navigate to the OMW folder click **HPInfraSPI_01.00_setup.exe** to start the installer.

The installation wizard appears.

4 If you see Application requirement check warnings box display, click **Continue**

Figure 3 Introduction (Install) page of the installation wizard.
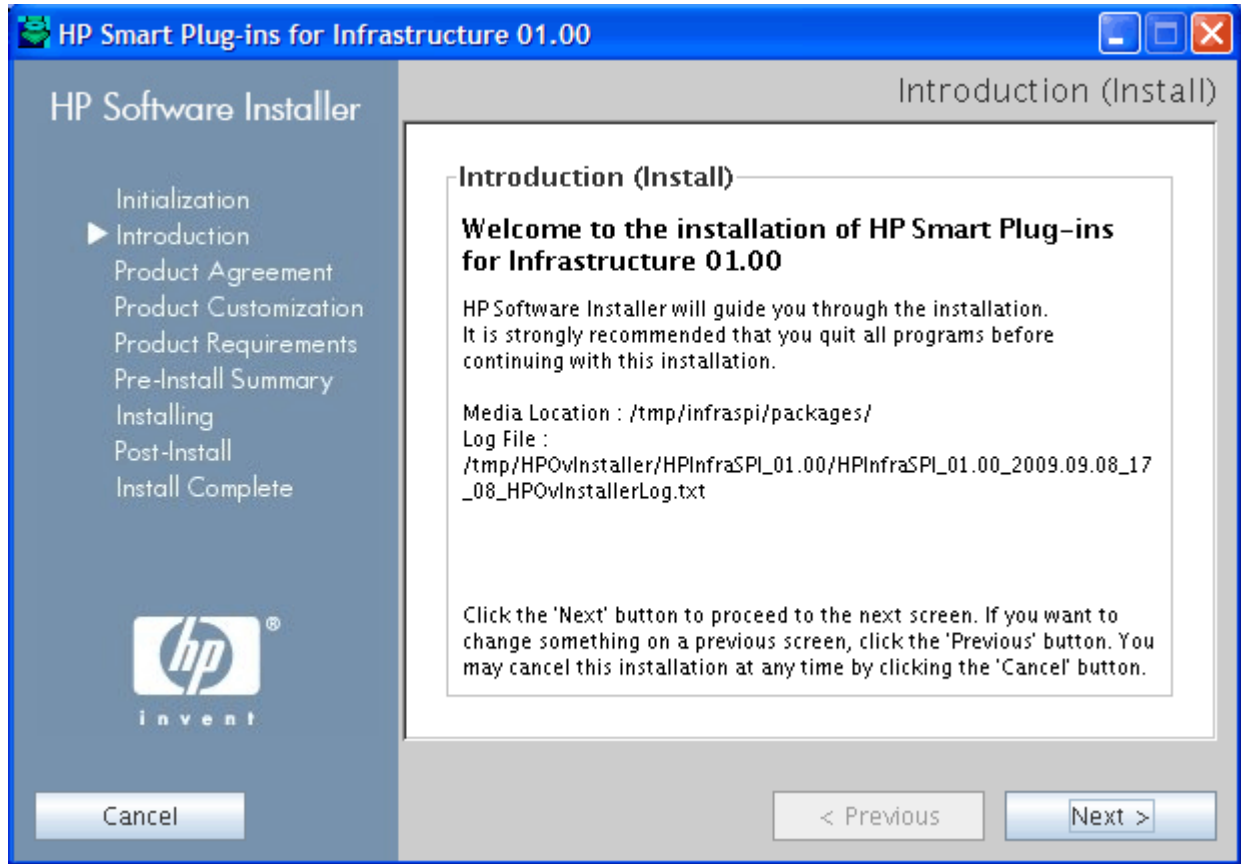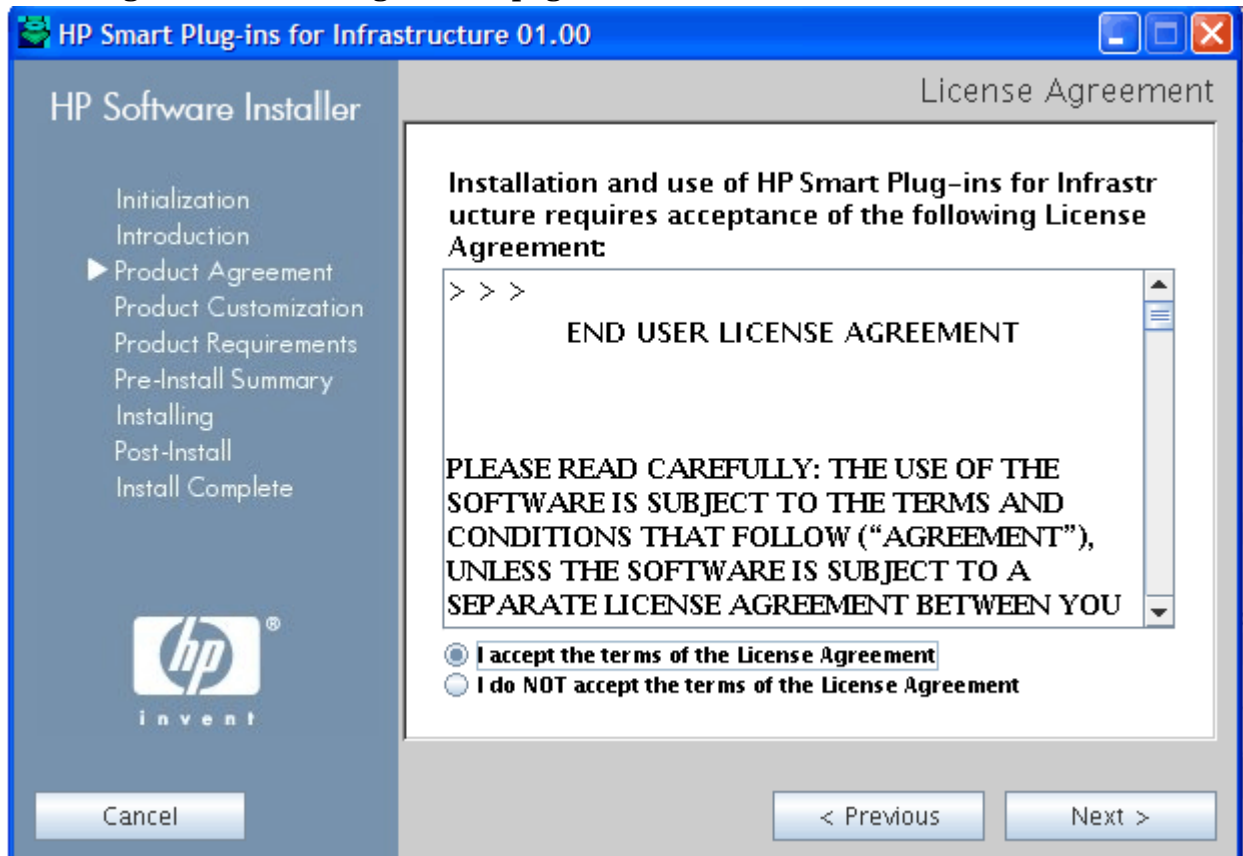

5   On the Introduction (Install) page of the installation wizard, click **Next**.

The License Agreement page appears.

Figure 4   License Agreement page

6   Read the terms of license agreement and select the 'I accept the terms of License Agreement' option and click **Next**.

The Select Features page opens displaying the list of components that can be installed.

7   *HP Smart Plug-in for Systems Infrastructure* is mandatory. The other options are:

— *HP Smart Plug-in for Cluster Infrastructure*

Select this option to monitor cluster infrastructure.

— *HP Smart Plug-in for Virtualization Infrastructure*

Select this option to monitor virtualization infrastructure

— *HP Smart Plug-in for Infrastructure - Graphs*

Select this option if you want to install the HP Performance Manager graphing package for Infrastructure SPIs. This requires HP Performance Manager to be already installed on the HPOM server.

— *HP Smart Plug-in for Infrastructure- Reports*

Select this option if you want to install the reporter package for Infrastructure SPIs on HPOM server. This requires HP Reporter to be already installed on the HPOM server.

If HP reporter is installed on a separate system connected to HPOM, follow the instructions in Installing Report Package.

After you select the options, click **Next**.

The Infrastructure SPIs installation starts installing files on the management server.

8   Follow the on-screen instructions and progress through the installation process using the **Next** and **Install** buttons.

The installation wizard displays the Installer Completed dialog box after you complete the installation.

9   Click **Done** to complete the installation.

Unattended Installation

The unattended installation enables the HP Software Installer to run without any user interaction.

To carry out unattended installation:

1   Open the Windows command prompt and type the name of the drive, where the Infrastructure SPIs HPInfraSPI_01.00_setup.exe file is located, as shown below:

<CD/DVD-ROM or temp>:

The drive can be on local system where the Infrastructure SPIs package is downloaded, or the CD/DVD-ROM drive containing the Infrastructure SPIs files.

2   Run the following command to change your current directory location:

cd OMWindows

3   Enter the following syntax at the command prompt:

HPInfraSPI_01.00_setup.exe -i silent

The installation process happens in the background.

You can open the **Windows Task Manager →Processes**, and check for the HPInfraSPI_01.00_setup.exe listed. You can also check the log files available for the SPIs installed at *<install dir>*\install*<relevant SPI folder>*\log to verify if the installation is complete. By default the *<install dir>* is C:\Program Files\HP\HP BTO Software.

For group installation, you can use the oviiinstallparam.ini file. The oviiinstallparam.ini file is created in the system temporary directory after you run the installer once in GUI/Console mode. The system temporary directory for Windows is %TMP%.

Once this file is generated, you can use it as an input configuration for the silent installation. You can define groups such as *server* and *client* groups to contain features for server side application and client side application specifically. Groups are mutually exclusive and you can install only one group at a time. The installer displays a group select panel to allow you to select features for a specific group.

Installing the Infrastructure SPIs on HP-UX or Linux

You can install Infrastructure SPIs on your UNIX system by using any of the following procedures:

• Attended Installation
• Unattended Installation

Attended Installation

You can install Infrastructure SPIs on your HP-UX or Linux systems through graphical and command line interfaces.

Installing Infrastructure SPIs through Graphical Interface

To install Infrastructure SPIs using X 11 interface, perform the following tasks:

1 Login as a root user.

2 When installing from a CD/DVD-ROM, insert the Infrastructure SPIs CD/DVD media into the CD/DVD-ROM drive. If necessary, mount the CD/DVD-ROM.

Or

Download the Infrastructure SPIs media image file (.iso) from the HP Software Partner Portal (account and password required), and burn the image on a physical media or mount the ISO image on a `temp` directory:

**https://h10078.www1.hp.com/cda/hpdc/display/main/
search_results.jsp?zn=bto&cp=54_4012_100__**

3 In the terminal window verify that the `DISPLAY` environment variable is set correctly to your workstation by entering:

`echo $DISPLAY`

If the `DISPLAY` environment variable is not set correctly, set it correctly to view the console GUI properly.

`export DISPLAY=<IP Address or host name of the local system from where you are installing Infrastructure SPIs>:0.0`

4 Run the following command to change your current directory location, depending upon the operating system of the management server where you are installing Infrastructure SPIs.

cd *<OML / OMU>*

5 Start a X Window System Client (X11 client) on the system if required. The X Window System Client is required to view the graphical user interface (GUI) for installation. For example, you can use Reflection X.

6 Run the following:

`<CD/DVD-ROM or temp>./HPInfraSPI_01.00_setup.bin`

7 On the Introduction (Install) page of the installation wizard, click **Next**. The License Agreement page appears.

8 Read the terms of license agreement and select the 'I accept the terms of License Agreement' option and click **Next**.

The Select Features page opens displaying the list of components that can be installed.

9 The Systems Infrastructure SPI is mandatory. Select the graph package and remaining Smart Plug-ins that you want to install and click **Next**.

The Infrastructure SPIs installation starts installing packages on the management server.

10 Follow the on-screen instructions and progress through the installation process using the **Next** and **Install** buttons.

The installation wizard displays the Installer Completed dialog box after you complete the installation.

11 Click **Done** to complete the installation.

Installing Infrastructure SPIs through Command Line Interface

To install Infrastructure SPIs through Command Line interface:

1 Run the following command:

   <CD/DVD-ROM or temp>./**HPInfraSPI_01.00_setup.bin -i console**

2 When the prompt, 'I accept the terms of the License Agreement' for the License information appears, type **Y** to accept the terms and continue installation.

   The installer checks all the Installation Requirements.

3 Click **Enter** to continue. List of components that can be installed appears.

4 Click **Enter** to continue.

   When the installation is complete, you will receive a message stating that the installation is completed successfully.

Unattended Installation

Installation carried out in unattended mode installs all the three Infrastructures SPIs and Infrastructure SPIs graphing package on the management server.

To carry out unattended installation:

1 Login as a root user.

2 Insert the Infrastructure SPIs CD/DVD-ROM media into the CD/DVD drive. If necessary, mount the CD/DVD-ROM.

3 Run the following command to change your current directory location, depending upon the operating system of the management server where you are installing Infrastructure SPIs.

   cd *<OML/ OMU>*

4 Type the following syntax at the command prompt:

   <CD/DVD-ROM or temp>./**HPInfraSPI_01.00_setup.bin -i silent**

5 To verify the installation, check the log files.

For group installation, you can use the ovinstallparams_*YYYY.MM.DD_hh_mm*.ini file. In this instance, DD indicates the day, MM indicates the month, YYYY indicates the year, hh indicates the hour, and mm indicates the minutes. The file name indicates the time stamp when the last install was performed.

The ovinstallparams_*YYYY.MM.DD_hh_mm*.ini file is created in the system temporary directory after you run the installer once in GUI/Console mode. The system temporary directory for UNIX and Linux operating systems is /tmp.

Once this file is generated, you can use it as an input configuration for the silent installation. You can define groups such as *server* and *client* groups to contain features for server side application and client side application specifically. Groups are mutually exclusive and you can install only one group at a time. The installer displays a group select panel to allow you to select features for a specific group.

Installing Infrastructure SPIs in a Cluster Environment

In a clustered installation of HPOM it is necessary to keep the installation consistent on all nodes, regardless of which of the physical cluster nodes it is currently running on. A consistent installation means that all nodes have the same SPIs and HPOM patches installed. A clustered installation also requires a consistent configuration of HPOM on all cluster nodes.

Before installing the Infrastructure SPIs in cluster environment, make sure that the first node you select to install Infrastructure SPIs on, is an active cluster node otherwise the installation on first node will fail. Subsequently install the same package on each cluster node. Alternatively, you can save the selection configuration file (ini file created by the installer) on the first node, and use it to install the same set of packages on other cluster nodes.

⚠ The HPOM console does not function properly until you install the SPI on all nodes in the HPOM cluster.

Installing Report Package

If HP Reporter and HPOM for Windows are installed on the same system, no separate installation for the Infrastructure SPIs is necessary. It gets installed along with the Infrastructure SPIs if you select the option on the *The Select Features* page of the installer.

If HP Reporter is installed on a system where HPOM is not installed (stand-alone system), run the **InfraSPI-Reporter.msi** file. This setup installs the Infrastructure SPIs report package on the stand-alone HP Reporter system.

Installing Graphing Package

If HP Performance Manager and HPOM for Windows are installed on the same system, no separate installation is necessary for the Infrastructure SPIs graphing package. It gets installed along with the Infrastructure SPIs if you select the option on the Select Features page of the installer.

If HP Performance Manager is installed on a system where HPOM is not installed (stand-alone system), you need to integrate the HP Performance Manager and HPOM systems. For information on how to integrate HP Performance Manager with HPOM for UNIX, and Linux operating systems, see Integrating HP Performance Manager with the HPOM for UNIX, Linux.

Installation Results

Following are the results after successful installation of Infrastructure SPIs:

After installation of Infrastructure SPIs on the HP-UX and Linux systems, the related log files are available in the `/tmp/HPOvInstaller/HPInfraSPI_01.00` directory. The application directory is `/opt/OV/` and data directory is `/var/opt/OV/`.

- On successful installation on the Windows systems, the `HP\HP BTO Software\InfraSPI` folder is added to the **Start > Programs** menu. The related log files are available in the `<temp_directory>/HPOvInstaller` directory.

The format of the file name of log file is `Util-MM-dd-yyyy.log.0`. In this instance, `MM` indicates the month, `dd` indicates the day, and `yyyy` indicates the year. The file name indicates the time stamp when the last install was performed.

See Product documentation on page 9, for a comprehensive list of documentation on Infrastructure SPIs.

### Removal of Autodeployment for Operating System SPIs

While installing Infrastructure SPIs, the installer checks for the presence of the Operating System SPIs on the HPOM for Windows server. If present, the Infrastructure SPI installation disables the policy autodeployment for the Operating System SPIs.

This is to ensure that whenever a node is added into the HPOM for Windows node bank, Systems Infrastructure SPI discovery policy is autodeployed in place of Operating system SPIs.

Upgrading the Infrastructure SPIs

This section describes how to upgrade the Virtualization Infrastructure SPI version 1.00 to Infrastructure SPIs version 1.00 (that includes Virtualization Infrastructure SPI 1.50).

Figure 5   Logical representation of the upgradation
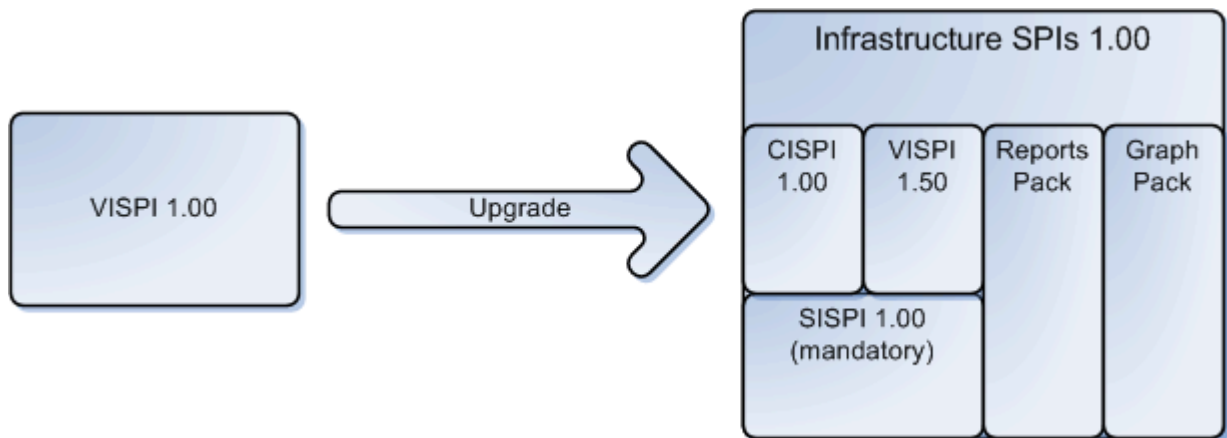
The Virtualization Infrastructure SPI version 1.00 (VISPI 1.0) supports HPOM for Windows. The SPI monitors the VMware ESX servers and the virtual machines hosted on them. It contains policies to monitor systems infrastructure and virtualization infrastructure. The Infrastructure SPIs version 1.00 groups these policies separately under Systems Infrastructure SPI version 1.00 (SISPI 1.0) and Virtualization Infrastructure SPI version 1.5 (VISPI 1.5).

The Virtualization Infrastructure SPI 1.50 supports HPOM for Windows, UNIX, and Linux operating systems. The VISPI 1.5 monitors VMware ESX /ESXi and Microsoft Hyper-V servers.

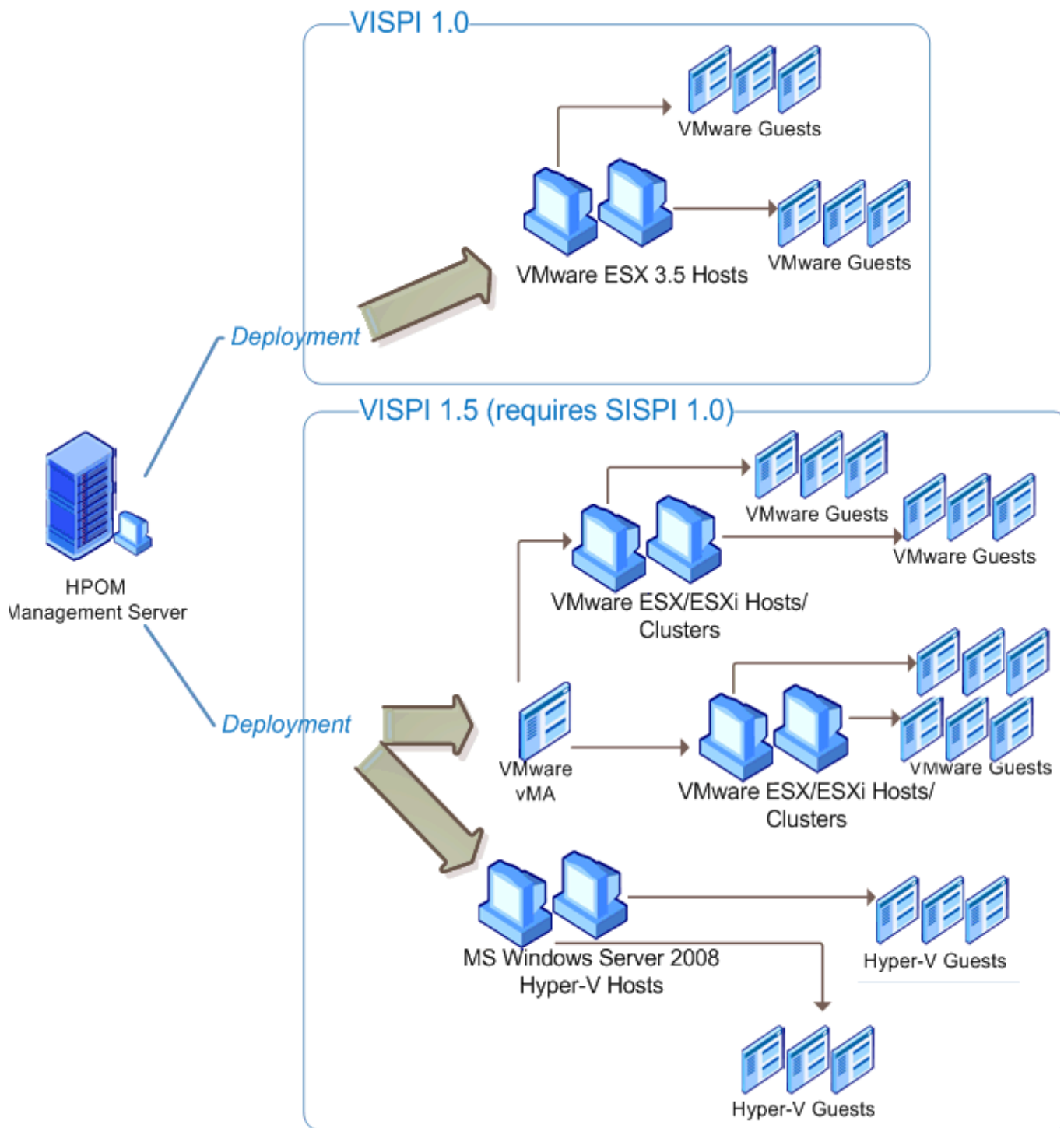During installation if you select the Virtualization Infrastructure SPI, the installer checks for the presence of previous version of Virtualization Infrastructure SPI. If found, the installer will upgrade it to Virtualization Infrastructure SPI 1.50 automatically. The systems infrastructure related policies that are a part of Virtualization Infrastructure SPI 1.00 are updated in Systems Infrastructure SPI version 1.00.

The upgrade process automatically removes the policies of Virtualization Infrastructure SPI 1.0 from the managed nodes. Automatic policy removal can fail if the network is down or the connection to nodes or HP Operations Agent on the nodes fail. In such a case, you can manually remove Virtualization Infrastructure SPI 1.0 policies from VMware ESX nodes.

The Virtualization Infrastructure SPI 1.00 policies were deployed to the VMware ESX host machine. Whereas Virtualization Infrastructure SPI 1.50 monitors the VMware ESX/ ESXi hosts through VMware vMA and monitors the Hyper-V hosts directly. The policy deployment for Virtualization Infrastructure SPI 1.50 is:

- In a VMware setup, the policies are deployed on vMA.

- In a Hyper-V setup, the policies are deployed on Microsoft Windows Server 2008 with Hyper-V role enabled.

The image below displays the policy deployment for Virtualization Infrastructure SPI 1.00 and Virtualization Infrastructure SPI 1.50.

VISPI 1.0

VMware Guests

VMware ESX 3.5 Hosts   VMware Guests

Deployment

HPOM
Management Server

VISPI 1.5 (requires SISPI 1.0)

VMware Guests

VMware ESX/ESXi Hosts/
Clusters   VMware Guests

Deployment

VMware
vMA   VMware ESX/ESXi Hosts/
Clusters   VMware Guests

MS Windows Server 2008
Hyper-V Hosts   Hyper-V Guests

Hyper-V Guests

To manually remove Virtualization Infrastructure SPI 1.0 policies from the managed nodes, follow these steps:

1   Identify the VMware ESX nodes on which the earlier version of the Virtualization Infrastructure SPI is deployed.

2   Right-click one of the identified nodes, and then click **View → Policy Inventory**. The details pane displays the list of deployed policies.

3   Select all policies in the details pane, right-click, and then click **All Tasks** → **Disable**.

4   Select all policies in the details pane, right-click, and then click **All Tasks** → **Remove**.

5   Repeat step 2 to step 4 for all nodes on the earlier versions of Virtualization Infrastructure SPI policies are deployed.

6   Install the Infrastructure SPIs from the DVD by following the procedure described in Installing Infrastructure SPIs chapter.

7   Re-deploy the instrumentations and policies manually if they are not deployed automatically.

Upgrade Results

After upgradation, the related log files are available in the `<temp_directory>/HPOvInstaller` directories. The log files also contain appropriate messages. The format of the file name of log file is `Util-MM-dd-yyyy.log.0`. In this instance, *MM* indicates the month, *dd* indicates the day, and *yyyy* indicates the year.

The upgrade action automatically updates the SPI configurations for policies, tools, and service models, on HPOM for Windows management servers. The set-up process removes the existing Virtualization Infrastructure SPI from the management server and replaces it with the newer version.
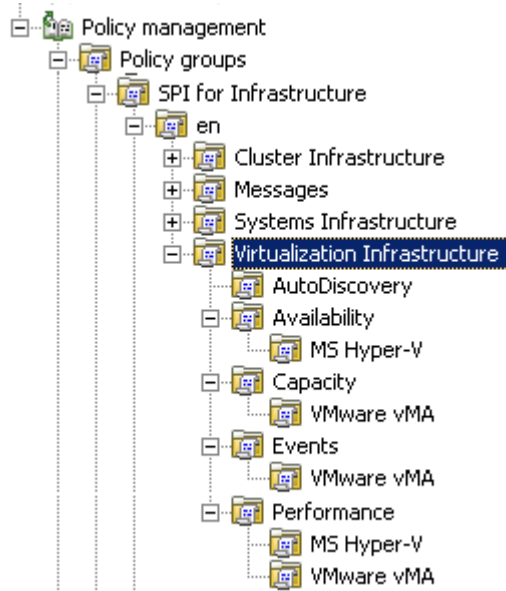
Policies

The current release of the Virtualization Infrastructure SPI contains the following changes or additions to policies and policy groups:

• Policy Group

The current release of the Virtualization Infrastructure SPI contains new policy grouping according to the monitored aspects and the platforms on which the policies are supported on.

Figure 6   Policy grouping for Virtualization Infrastructure SPI **1.5**

• Policy Version Number

The Virtualization Infrastructure SPI version 1.5 release updates the version number for all policies to "150.0".

- Policies

The Virtualization Infrastructure SPI version 1.5 release contains new as well as updated policies. These policies are supported on VMware vMA and Microsoft Hyper-V systems. For a list of policies that are provided in the Virtualization Infrastructure SPI version 1.5, see *HP Operations Smart Plug-in for Virtualization Infrastructure Release Notes*. For description and details about each policy provided in the Virtualization Infrastructure SPI version 1.5, see *HP Operations Smart Plug-in for Virtualization Infrastructure User Guide*.

Tools

- Tool Group

The current release of the Virtualization Infrastructure SPI contains new tool grouping.

Figure 7   Tools grouping for Virtualization Infrastructure SPI 1.5
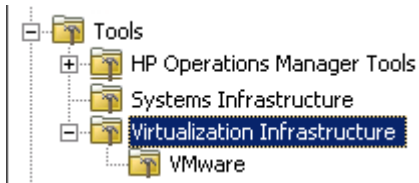
- Tools

The current Virtualization Infrastructure SPI release contains new as well as updated tools. These tools are supported on VMware vMA systems.

Migrating from Operating System SPIs to Infrastructure SPIs

Installing Infrastructure SPIs will result in some changes in Smart Plug-in for Microsoft Windows operating system and Smart Plug-in f or UNIX operating system (Operating System SPIs). Infrastructure SPI installation disables the policy autodeployment for the Operating System SPIs. For information, see Removal of Autodeployment for Operating System SPIs.

To migrate from Operating System SPIs to Infrastructure SPIs, perform the following tasks:

Task 1:   Removing policies for Operating System SPIs from Managed Nodes

The software suite for Infrastructure SPIs provides you a script to undeploy policies for Operating System SPIs from all Windows managed nodes (excludes windows 2000 server) and Linux managed nodes that are configured on HPOM for Windows.

To run the script on the management server use the following commands:

```
cd %OvInstallDir%/install/INFRASPI/support/

cscript Undeploy_OSSPIPolicies.vbs
```

The script removes policies for Operating System SPIs from windows and Linux managed nodes but does not remove them from the management server database inventory.

If the managed node is down or unreachable, the policy removal would fail. For details see the log file at <OvInstallDir>/install/INFRASPI/log/.

▶ The script can be used to remove policies from managed nodes configured on HPOM for windows. For managed nodes configured on HPOM for UNIX operating systems, you can manually remove the policies.

Task 2:   Deploying policies for Infrastructure SPIs

Before deploying/ assigning policies to the managed nodes, you need to run Systems Infrastructure SPI discovery. For details, see Getting Started.

3 Validation

After you install the Infrastructure SPIs, add nodes that you want to monitor to the management console. Also, deploy necessary policies and perform certain configuration tasks on the added managed nodes to begin the monitoring operation.

The Infrastructure SPIs installation/ configuration adds components to the HPOM console tree (left pane) as follows:

Components of the Infrastructure SPIs on HPOM for Windows

Services

When you add the nodes to the HPOM for Windows node bank, the System Infrastructure SPI service discovery policy is autodeployed to the nodes.

- The System Infrastructure SPI service discovery policy discovers the systems infrastructure and services on the node, and adds this information to the HPOM Services area. Select **Services** → **Systems Infrastructure**, to view the Systems Infrastructure SPI service map that graphically represents the discovered systems/ instances.

  The discovery policy is not autodeployed on the existing nodes. To know more about running discovery on existing nodes, see Manually Deploying the Discovery Policy.

- If the System Infrastructure discovery policy identifies the managed node as a VMware vMA or Microsoft Hyper-V node, it initiates the Virtualization Infrastructure SPI discovery.

  For more information about VMware vMA, go to the following web site:

  http://www.vmware.com/support/developer/vima/.

  For more information about Microsoft Hyper-V, go to the following web site:

  http://www.microsoft.com/virtualization/products/server/default.mspx.

  The Virtualization Infrastructure SPI discovery policy automatically discovers the ESX, ESXi, and VCenter servers (configured on vMA nodes that are discovered by Systems Infrastructure SPI discovery) along with the virtual machines hosted on them. The guest virtual machines hosted on Hyper-V server are not automatically added to the node bank. You can manually add them to the node bank.

  The discovery policy adds the discovered elements to the HPOM service map. Select **Services** → **Virtualization Infrastructure**, to view the Virtualization Infrastructure SPI service map that graphically represents the discovered virtual systems.

- If the System Infrastructure discovery policy identifies the cluster nodes, it initiates the deployment of Cluster Infrastructure discovery policy on the nodes. The Cluster Infrastructure discovery discovers the clusters, cluster nodes, and resource groups. Select **Services** → **Cluster Infrastructure**, to view the Cluster Infrastructure SPI service map.

The root element for the installed Infrastructure SPIs appears under Services in the HPOM console as displayed in the image below.
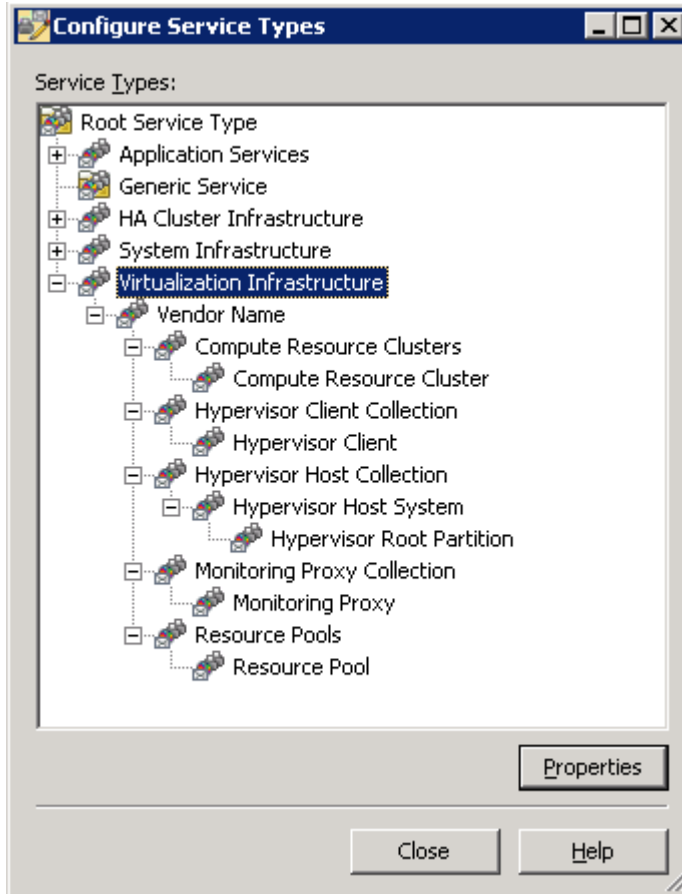

Service Type Models

The service type models display the service type categories that the nodes from node bank are logically assigned to. You can view the service type model in HPOM for Windows.
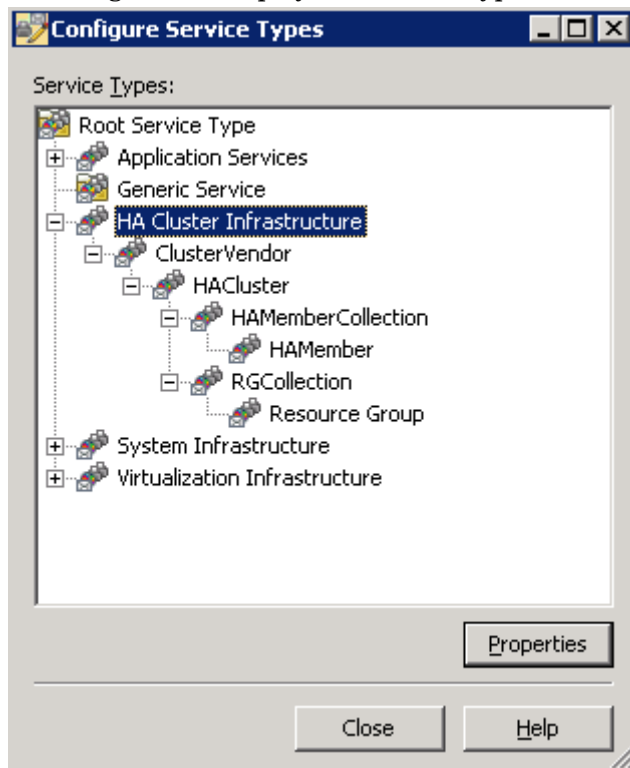
The image below displays the service type model for Systems Infrastructure SPI.
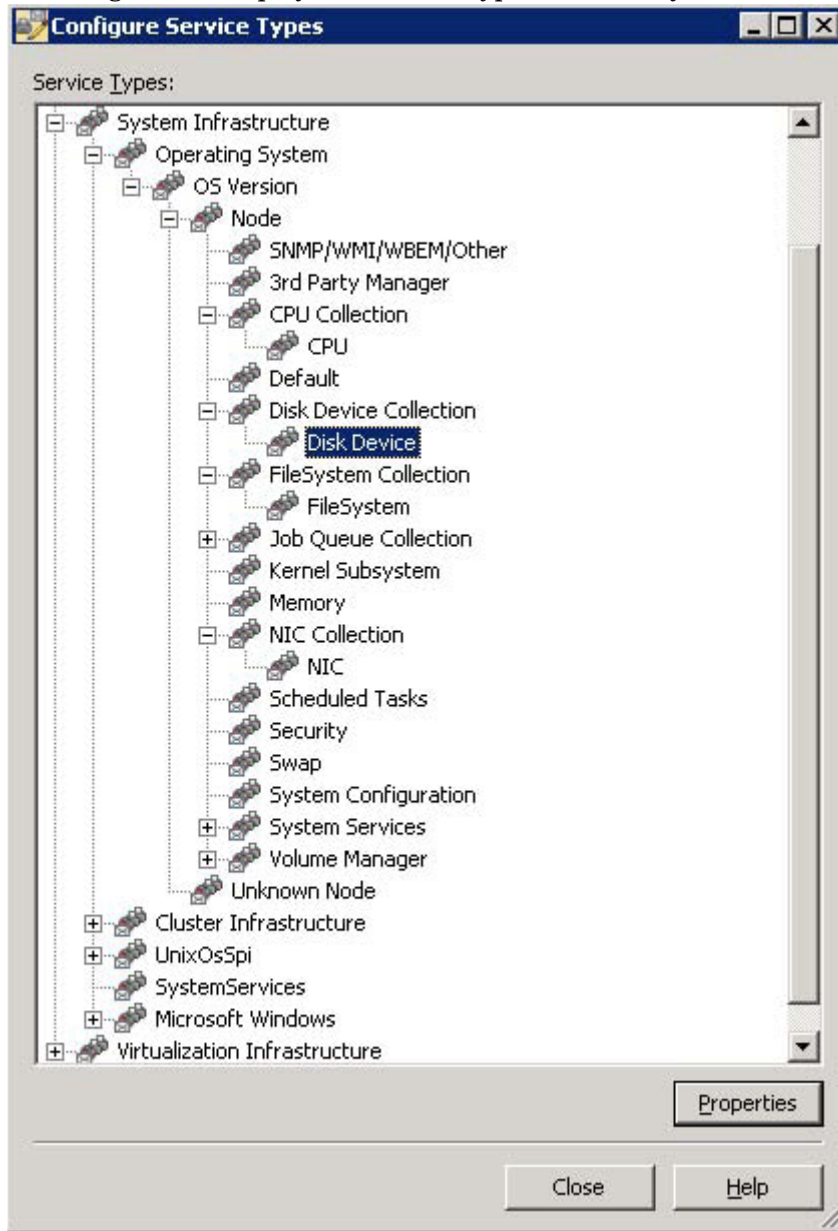
The image below displays the service type model for Virtualization Infrastructure SPI

The image below displays the service type model for Cluster Infrastructure SPI

Tools

Tools are provided for the System Infrastructure SPI and Virtualization Infrastructure SPI. You can access the Systems Infrastructure SPI tool group by selecting **Tools → Systems Infrastructure**, and Virtualization Infrastructure SPI tools group by selecting **Tools → Virtualization Infrastructure**, as displayed in the image below.
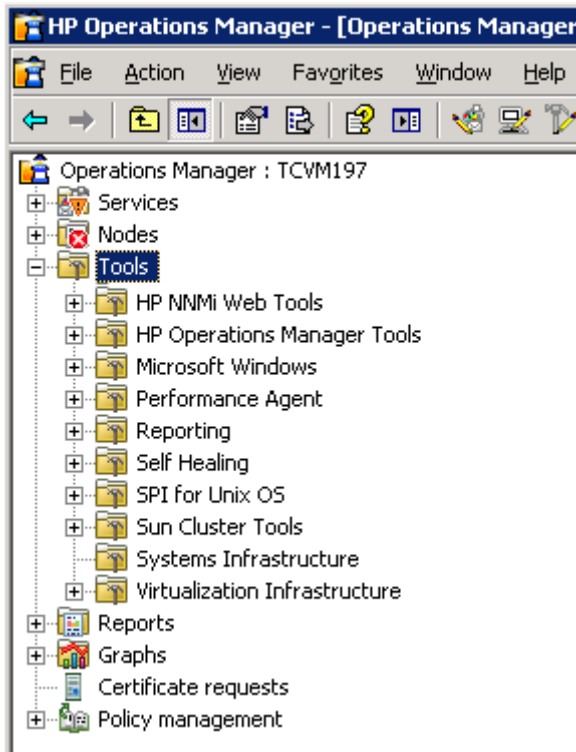
Policy management

To view and access the Systems Infrastructure SPI policies, select **Policy management → Policy groups → SPI for Infrastructure → en → Systems Infrastructure**.

To view and access the Virtualization Infrastructure SPI policies, select **Policy management → Policy groups → SPI for Infrastructure → Virtualization Infrastructure**.
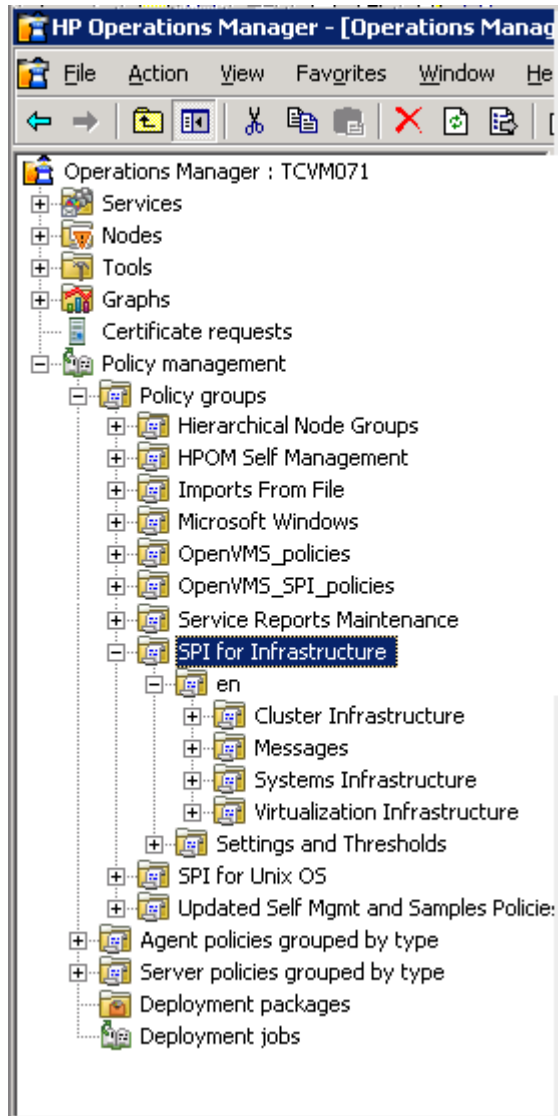
To view and access the Cluster Infrastructure SPI policies, select **Policy management → Policy groups → SPI for Infrastructure → Cluster Infrastructure**.

The image below displays the policy groups for these SPIs.

Reports

You can integrate the Systems Infrastructure SPI by installing the HP Reporter to generate web-based reports on metric data.

If HP reporter is installed on the HPOM for Windows, you can view reports from the console. To view a report, expand **Reports** in the console tree, and then double-click individual reports. The image below displays the created reports group in HPOM for Windows console.
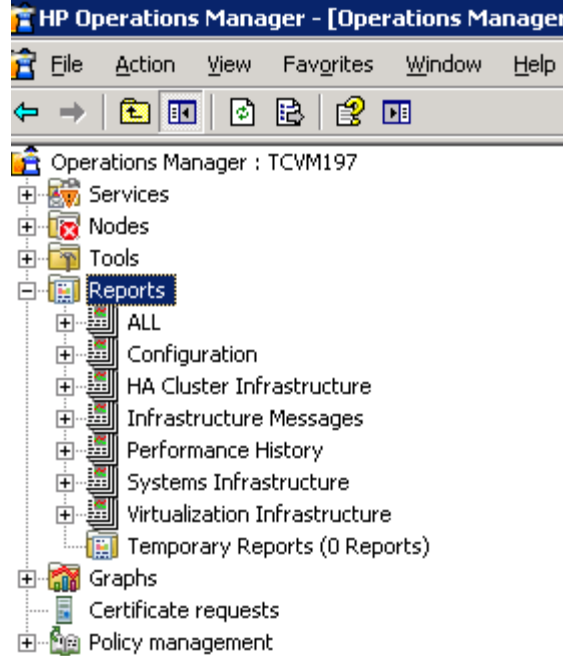
Alternatively, if HP reporter is installed on a separate (stand-alone) system connected to the HPOM management server, you can view the reports on HP reporter stand-alone system. To view HP Reporter GUI on stand-alone system, see HP Reporter GUI.

For details on installing the reporter package see Installing Report Package.

Graphs

A set of preconfigured graphs are provided with the System Infrastructure SPI and Virtualization Infrastructure SPI. To access the graphs from the HPOM console, you must install HP Performance Manager on the HPOM management server prior to the installation of Infrastructure SPI graph package.

You can access the Systems Infrastructure SPI graphs by selecting **Graphs**→ **InfraSPI** → **Systems**, and Virtualization Infrastructure SPI graphs by selecting **Graphs**→ **InfraSPI** → **Virtualization**, as displayed in the image below.
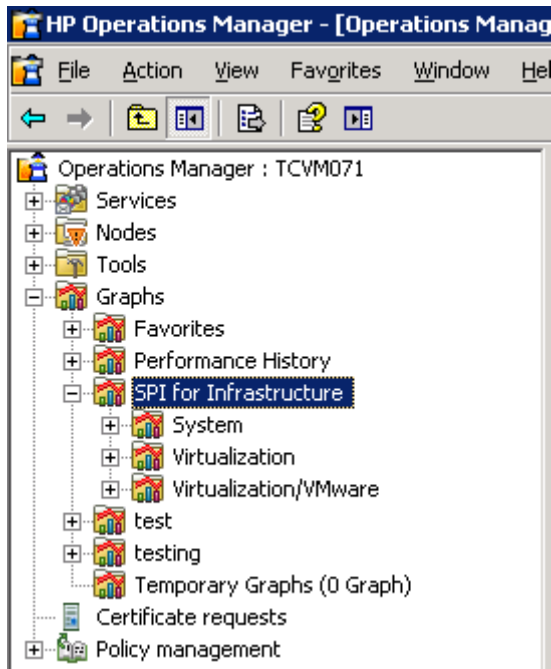

Alternatively, if HP Performance Manager is installed on a separate (stand-alone) system connected to the HPOM management server, you can view the graphs on HP Performance Manager stand-alone system.

Components of the Infrastructure SPIs on HPOM for UNIX/ Linux

Services

The discovery policy discovers the systems infrastructure and services on the node, and adds this information to the HPOM Services area. The map view displays the real-time status of your infrastructure environment. In case of HPOM for UNIX and Linux operating systems, the discovery policy is not deployed automatically. To discover the infrastructure, manually deploy the discovery policy. To know about how to deploy discover policy manually, see Manually Deploying the Discovery Policy.

• When you add the virtualization server or host servers as nodes to the HPOM node bank, the Systems Infrastructure service discovery policy is autodeployed to the nodes. The discovery policy identifies the managed node as a VMware vMA or Microsoft Hyper-V node and initiates Virtualization Infrastructure SPI discovery.

For more information about VMware vMA, go to the following web site:

http://www.vmware.com/support/developer/vima/.

For more information about Microsoft Hyper-V, go to the following web site:

http://www.microsoft.com/virtualization/products/server/default.mspx.

The Virtualization Infrastructure SPI discovers the virtual machines (guest machines) hosted on the managed nodes (host machines), and adds this information to the HPOM Services area. Select **Services** → **Virtualization Infrastructure** → **Show Graph**, to view the Virtualization Infrastructure SPI service map. The service map graphically represents the discovered virtual systems.

- When you add the cluster nodes to the HPOM node bank, first the Systems Infrastructure service discovery policy runs on it automatically. It identifies the cluster nodes and initiates the deployment of Cluster Infrastructure discovery policy on the nodes. The Cluster Infrastructure discovery discovers the clusters, cluster nodes, and resource groups. Select **Services** → **Cluster Infrastructure** → **Show Graph**, to view the Cluster Infrastructure SPI service map.

Tools

Tools are provided for the System Infrastructure SPI and Virtualization Infrastructure SPI. You can access the Systems Infrastructure SPI tool group by selecting the **Tool Bank** → **Systems Infrastructure**, and Virtualization Infrastructure SPI tools group by selecting **Tool Bank** → **Virtualization Infrastructure**, as displayed in the image below

Policy management

To view and access the Systems Infrastructure SPI policies, select **Policy Bank** → **SPI for Infrastructure** → **en** → **Systems Infrastructure**.

To view and access the Virtualization Infrastructure SPI policies, select **Policy Bank** → **SPI for Infrastructure** → **Virtualization Infrastructure**.

To view and access the Cluster Infrastructure SPI policies, select **Policy Bank** → **SPI for Infrastructure** → **Cluster Infrastructure**.

The image below displays the policy groups for these SPIs.

Reports

The HP reporter is installed on a separate (stand-alone) system connected to the HPOM management server for UNIX or Linux operating system. You can view the reports on HP reporter stand-alone system. The image below displays the HP Reporter UI on the stand-alone system.

Figure 8   HP Reporter GUI
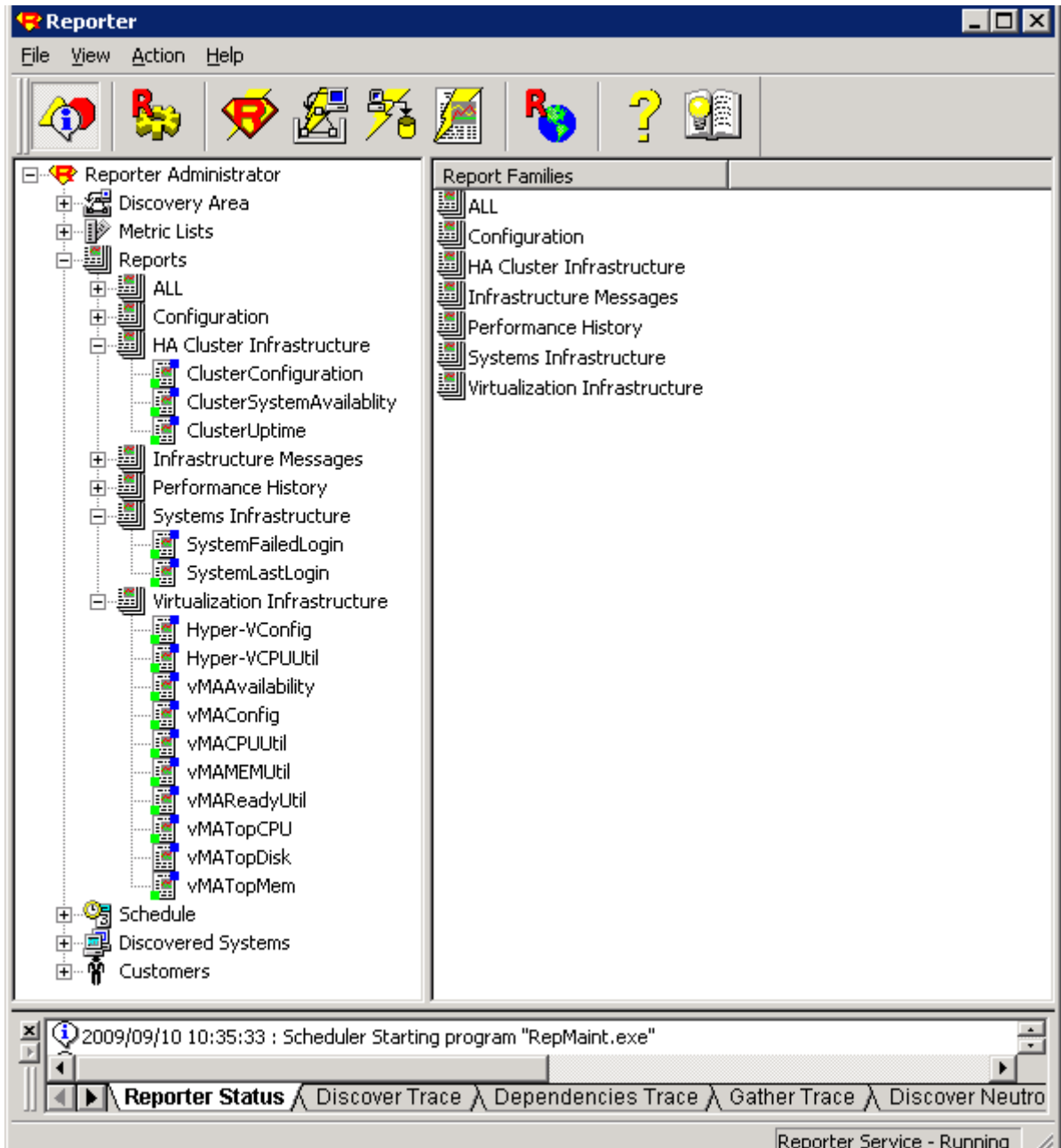
For more information on integration of HP reporter with HPOM, see *HP Reporter Installation and Special Configuration Guide*.

Graphs

A set of preconfigured graphs are provided with the System Infrastructure SPI and Virtualization Infrastructure SPI. To access the graphs from the HPOM console, you must install HP Performance Manager on the HPOM management server prior to the installation of Infrastructure SPI graph package.

To access the graphs, select the active message, open the Message Properties window, and click **Actions.** Under the Operator initiated action section, click **Perform**. Alternatively you can, right-click active message, select **Perform/Stop Action** and click **Perform Operator-Initiated Action**.

Alternatively, if HP Performance Manager is installed on a separate (stand-alone) system connected to the HPOM management server, you can view the graphs on HP Performance Manager stand-alone system. For information on how to integrate HP Performance Manager with HPOM for UNIX, and Linux operating systems, see Integrating HP Performance Manager with the HPOM for UNIX, Linux.

4 Getting Started

Auto-deployment is supported on new nodes added to HPOM for Windows node bank. When you add a node to the HPOM for Windows node bank, first the Systems Infrastructure discovery policy runs on it automatically. If the node is identified as a cluster node or server hosting virtual machines, the deployment of Cluster Infrastructure SPI discovery or Virtualization Infrastructure SPI discovery is initiated as appropriate.

Manually Deploying the Discovery Policy

For existing nodes in the HPOM for Windows node bank at the time of InfraSPI installation, and nodes managed from HPOM for UNIX and Linux, the discovery is not deployed automatically. You must manually deploy the following policies before you manually deploy the discovery policy.

Task 1: Deploy the following policies on managed node:

- *InfraSPI-Messages* policy. To access this policy select **Policy management → Policy groups → SPI for Infrastructure → en → Messages**

- *SI-SystemDiscovery policy*. To access this policy select **Policy management → Policy groups → SPI for Infrastructure → en → Systems Infrastructure → AutoDiscovery**

- *OPC_OPCMON_OVERRIDE_THRESHOLD* and *OPC_PERL_INCLUDE_INSTR_DIR* policies. To access these policies select **Policy management → Policy groups → SPI for Infrastructure → Settings and Thresholds → Agent Settings**

Task 2: Deploy the following policy on management server:

InfraSPI-ServerSetting policy. To access this policy select **Policy management → Policy groups → SPI for Infrastructure → Settings and Thresholds → Server Settings**

Integrating HP Performance Manager with the HPOM for UNIX, Linux

To integrate HPOM for UNIX or HPOM for Linux server with HP Performance Manager, follow these steps:

- If HP Performance Manager is installed on the HPOM server, run the following command:

    `# /opt/OV/contrib/OpC/OVPM/install_OVPM.sh`

    `install_OVPM.sh <nodename>:<port>`

    Example: `install_OVPM.sh test.ovtest.com:8081`

- If HP Performance Manager is installed on a remote system connected to HPOM server, follow these steps:

    a Copy the graph templates from the remote system where HP Performance Manager is installed to the HPOM server. To know about the graph types and their location on the system, see *HP Performance Manager Administrator Guide*.

b   Run the following command on HPOM server:

 # /opt/OV/contrib/OpC/OVPM/install_OVPM.sh

install_OVPM.sh <nodename>:<port>

Example: **install_OVPM.sh test.ovtest.com:8081**

The above steps set HP Performance Manage host system configuration setting that is used when launching graphs from events in the HPOM operator GUI.

Assigning Policies

In case of HPOM for Windows, several default policies are automatically deployed on the supported managed nodes during installation. Deploying the default policies to your managed nodes provides the fastest and the simplest way for you to begin receiving data and messages from your environment. You can modify and save preconfigured policies with new names to create custom policies for your own specialized purposes and manually deploy them to the managed nodes.

Deploying Policies from HPOM for Windows Server

To manually deploy policies from HPOM for Windows, follow these steps:

1   Right-click the policy you want to deploy.

2   From the menu, select **All Tasks**.

3   Select **Deploy on**. The Deploy policies on dialog box opens.

4   Select the option **Select nodes from the tree**. From the list of managed nodes, select the nodes where you want to deploy the policy.

5   Click **OK**.

Figure 9   Deploy policies on dialog box
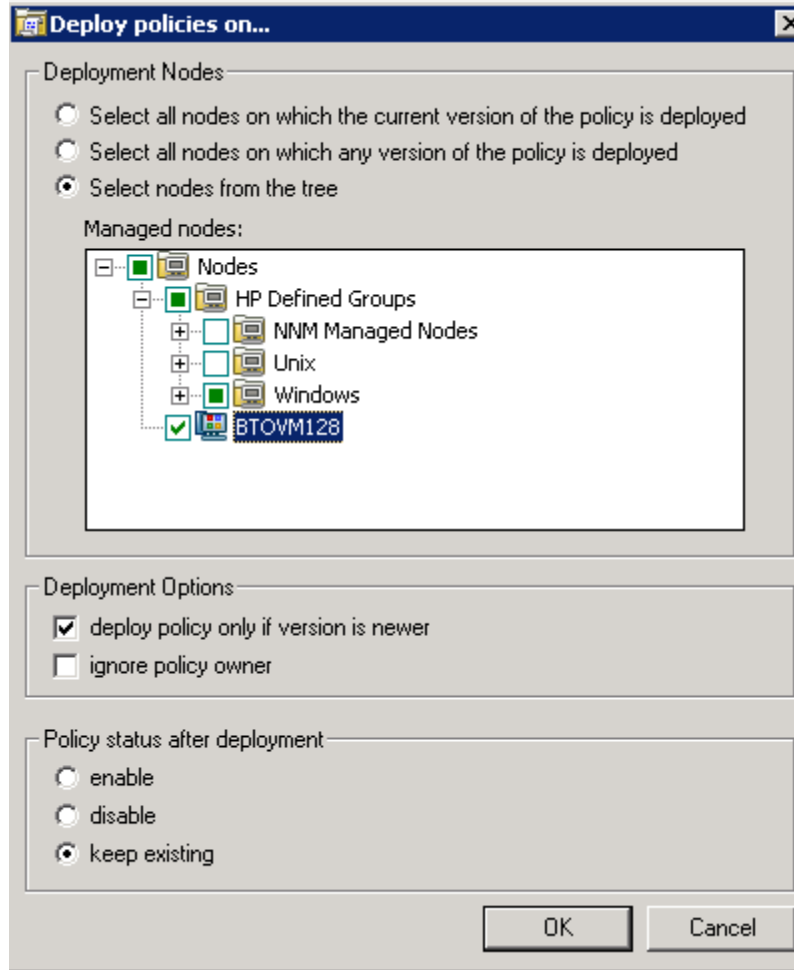
In case of HPOM for UNIX/Linux, the service discovery policy does not automatically deploy policies to the nodes. You can manually deploy them.

Deploying policies from HPOM for UNIX/Linux Server

Before you deploy policies, make sure that the nodes have been added to the management server and have HP Operations Agent software installed. For more information on how to add nodes to the management server, refer to the *HP Operations Manager for Unix Online Help*.

To deploy policies from HPOM for UNIX/ Linux follow these steps:

Task 1:   Assign Policy or Policy group

1   Log on to HPOM as the administrator. The HPOM Administration UI appears.

2   Click **Policy Bank** under the Objects Bank category. The Policy Bank window opens.

3   In the Policy Bank window, select the policy or policy groups you want to assign to a node or a node group.

4   Select **Assign to Node/Node group...** from the **Choose an Action** drop-down box and click submit.

The select window opens.

5   Select the node or the node groups and click **OK**.

The selected policy(s) is assigned to the node(s).

Task 2:   Deploy Policy(s)

1   From the HPOM Console, click **Node Bank** under the Objects Bank category. The Node Bank window opens.

2   In the Node Bank window, select the nodes or node groups on which you want to deploy policy(s).

3   Select **Deploy Configuration...** from the **Choose an Action** drop-down box and click submit.

The selector window opens.

4   Select the **Distribute Policies** check box and click **OK**.

The policy(s) is deployed on the selected node(s).

Initial Policies

The following policies are the most commonly used policies that can be deployed on the managed nodes without additional configuration. You can select and deploy the listed policies depending on your requirement.

Systems Infrastructure Policies

The following Systems Infrastructure SPI polices require minimum or no configuration changes. The table enlists policies along with their path in the HPOM console, and the operating system supported by these policies.

Policy	Path	Windows	Linux
SI-SystemDiscovery	SPI for Infrastructure/en/Systems Infrastructure/AutoDiscovery	Yes	Yes
SI-MemoryUtilization-AT	SPI for Infrastructure/en/Systems Infrastructure/Capacity	Yes	Yes
SI-CPUSpikeCheck	SPI for Infrastructure/en/Systems Infrastructure/Performance	Yes	Yes
SI-CPUBottleneckDiagnosis	SPI for Infrastructure/en/Systems Infrastructure/Performance	Yes	Yes
SI-MemoryBottleneckDiagnosis	SPI for Infrastructure/en/Systems Infrastructure/Performance	Yes	Yes
SI-DiskCapacityMonitor	SPI for Infrastructure/en/Systems Infrastructure/Capacity	Yes	Yes

Policy	Path	Windows	Linux
SI-SwapCapacityMonitor	SPI for Infrastructure/en/Systems Infrastructure/Capacity	Yes	Yes
InfraSPI-Messages	SPI for Infrastructure/en/Messages	Yes	Yes
OPC_PERL_INCLUDE_INSTR_DIR	SPI for Infrastructure/Settings and Thresholds/Agent Settings	Yes	Yes
OPC_OPCMON_OVERRIDE_THRESHOLD	SPI for Infrastructure/Settings and Thresholds/Agent Settings	Yes	Yes
SI-LinuxBootLog	SPI for Infrastructure/en/Systems Infrastructure/Logs/Linux	No	Yes
SI-LinuxSecureLog	SPI for Infrastructure/en/Systems Infrastructure/Logs/Linux	No	Yes
SI-LinuxKernelLog	SPI for Infrastructure/en/Systems Infrastructure/Logs/Linux	No	Yes
SI-MSWindowsServer_NFSWarnError	SPI for Infrastructure/en/Systems Infrastructure/Logs/Windows	Yes	No
SI-MSWindowsServer_DNSWarnError	SPI for Infrastructure/en/Systems Infrastructure/Logs/Windows	Yes	No
SI-MSWindowsServer_WindowsLogonWarnError	SPI for Infrastructure/en/Systems Infrastructure/Logs/Windows	Yes	No
SI-MSWindowsServer_TerminalServiceWarnError	SPI for Infrastructure/en/Systems Infrastructure/Logs/Windows	Yes	No
SI-MSWindowsServer_DHCPWarnError	SPI for Infrastructure/en/Systems Infrastructure/Logs/Windows	Yes	No

Cluster Infrastructure Policies

The following Cluster Infrastructure SPI polices require minimum or no configuration changes. The table enlists policies along with their path in the HPOM console, and the clusters supported by these policies:

Policy	Path	MS Cluster and Veritas Cluster Server on Windows	RH Cluster, ServiceGuard, and Veritas Cluster Server on Linux
CI-ClusterMonitor	SPI for Infrastructure/en/Cluster Infrastructure/Availability/ Monitors	Yes	Yes
CI-ClusterNodeMonitor	SPI for Infrastructure/en/Cluster Infrastructure/Availability/ Monitors	Yes	Yes
CI-ClusterResGroupMonitor	SPI for Infrastructure/en/Cluster Infrastructure/Availability/ Monitors	Yes	Yes
CI-ClusterDiscovery	SPI for Infrastructure/en/Cluster Infrastructure/AutoDiscovery	Yes	Yes
CI-ClusterDataCollector	SPI for Infrastructure/en/Cluster Infrastructure/Availability/Data Collector	Yes	Yes
CI-MSWindowsClusterServer_NetworkWarnError	SPI for Infrastructure/en/Cluster Infrastructure/Logs/MS Cluster Server	Yes	No
CI-MSWindowsClusterServer_NodeWarnError	SPI for Infrastructure/en/Cluster Infrastructure/Logs/MS Cluster Server	Yes	No
CI-MSWindowsClusterServer_StorageWarnError	SPI for Infrastructure/en/Cluster Infrastructure/Logs/MS Cluster Server	Yes	No
CI-MSWindowsClusterServer_AvailabilityWarnError	SPI for Infrastructure/en/Cluster Infrastructure/Logs/MS Cluster Server	Yes	No

Virtualization Infrastructure Policies

The following Virtualization Infrastructure SPI polices require minimum or no configuration changes. The table enlists policies along with their path in the HPOM console, and the virtual operating environments supported by these policies:

Policy	Path	MS Windows 2008 Server (Hyper-V role enabled)	Vmware vMA
VI-Discovery	SPI for Infrastructure/en/ Virtualization Infrastructure/ AutoDiscovery	Yes	Yes
VI-StateMonitor	SPI for Infrastructure/en/ Virtualization Infrastructure/ Availability	Yes	Yes
VI-VMCpuEntitlementUtilizationMonitor-AT	SPI for Infrastructure/en/ Virtualization Infrastructure/ Performance	Yes	Yes
VI-VMwareVMMemoryPerformanceMonitor	SPI for Infrastructure/en/ Virtualization Infrastructure/ Performance/VMware vMA	No	Yes
VI-VMwareHostsCPUUtilizationMonitor	SPI for Infrastructure/en/ Virtualization Infrastructure/ Performance/VMware vMA	No	Yes
VI-VMwareHostMemoryHealthMonitor	SPI for Infrastructure/en/ Virtualization Infrastructure/ Performance/VMware vMA	No	Yes
VI-VMwareVMFSUtilizationMonitor	SPI for Infrastructure/en/ Virtualization Infrastructure/ Capacity/VMware vMA	No	Yes
VI-VMwareVMMemoryUsage-AT	SPI for Infrastructure/en/ Virtualization Infrastructure/ Capacity/VMware vMA	No	Yes
VI-VMEventCollector	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-VMwareEventTypes	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-VMwareDRSEvent	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-VMwareRenameEvent	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes

Policy	Path	MS Windows 2008 Server (Hyper-V role enabled)	Vmware vMA
VI-VMwareVMCreationRemoval Event	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-VMwareVMPoweredOnOffEv ent	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-VMwareVMSuspendedResum eEvent	SPI for Infrastructure/en/ Virtualization Infrastructure/ Events/VMware vMA	No	Yes
VI-MSHyperVHostServiceMonit or	SPI for Infrastructure/en/ Virtualization Infrastructure/ Availability/MS Hyper-V	Yes	No
VI-MSHyperV_HyperVisorAdmi nWarnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_HyperVisorOpera tionalWarnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_HyperVisorWarn Error	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_VMMSAdminWa rnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_VMMSOperation alWarnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_VMMSWarnErro r	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_WorkerAdminWa rnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No
VI-MSHyperV_WorkerOperation alWarnError	SPI for Infrastructure/en/ Virtualization Infrastructure/Logs/ MS Hyper-V	Yes	No

Reports

The reports provided by Systems Infrastructure SPI and Cluster Infrastructure SPI depend upon policies. The following table enlists the reports and policies that are required to be deployed on the managed node to collect data for corresponding reports.

In case of Virtualization Infrastructure SPI, the data collection for reports does not depend upon policy deployment. The data is collected by the HP Performance Agent deployed on the managed nodes.

Reports	Policies	Managed Node Platform	SPI
Last Logins/ Unused Logins	SI-MSWindowsLastLogonsCollector	Windows	Systems Infrastructure
Last Logins/ Unused Logins	SI-LinuxLastLogonsCollector	Linux	Systems Infrastructure
Failed Login	SI-MSWindowsFailedLoginsCollector	Windows	Systems Infrastructure
Failed Login	SI-UNIXFailedLoginsCollect	Linux	Systems Infrastructure
Cluster Configuration	CI-ClusterDataCollector	Windows Linux	Cluster Infrastructure
Cluster Uptime	CI-ClusterDataCollector	Windows Linux	Cluster Infrastructure
Cluster System Availability	CI-ClusterDataCollector	Windows Linux	Cluster Infrastructure

5 Removing Infrastructure SPIs

This chapter describes the tasks required to remove the Infrastructure SPIs from the management server and the Infrastructure SPIs policies from the managed nodes.

You can remove the Infrastructure SPIs installed on your Windows, HP-UX, or Linux systems by using the procedures described in the following sections.

Uninstalling the Infrastructure SPIs from Management Server

Perform the following tasks to remove the Infrastructure SPIs from the management server:

- Uninstalling the Infrastructure SPIs from Windows server
- Uninstalling the Infrastructure SPIs from UNIX or Linux server

Uninstalling the Infrastructure SPIs from Windows server

Task 1:   Remove Policies from the Managed Nodes

Perform the following tasks to remove the policies for Infrastructure SPIs from the managed nodes:

1   In the HPOM console tree, expand the folders **Operations Manager** → **Policy Management** → **Policy groups** → **SPI for Infrastructure**.

2   Right-click **SPI for Infrastructure**, and then select **All Tasks** → **Uninstall from...**

3   In the Uninstall Policies dialog box, select **All Nodes**.

4   Click **OK**.

You must wait until all policies are uninstalled from all nodes. The status of policy uninstallation can be viewed in the Deployment jobs window.

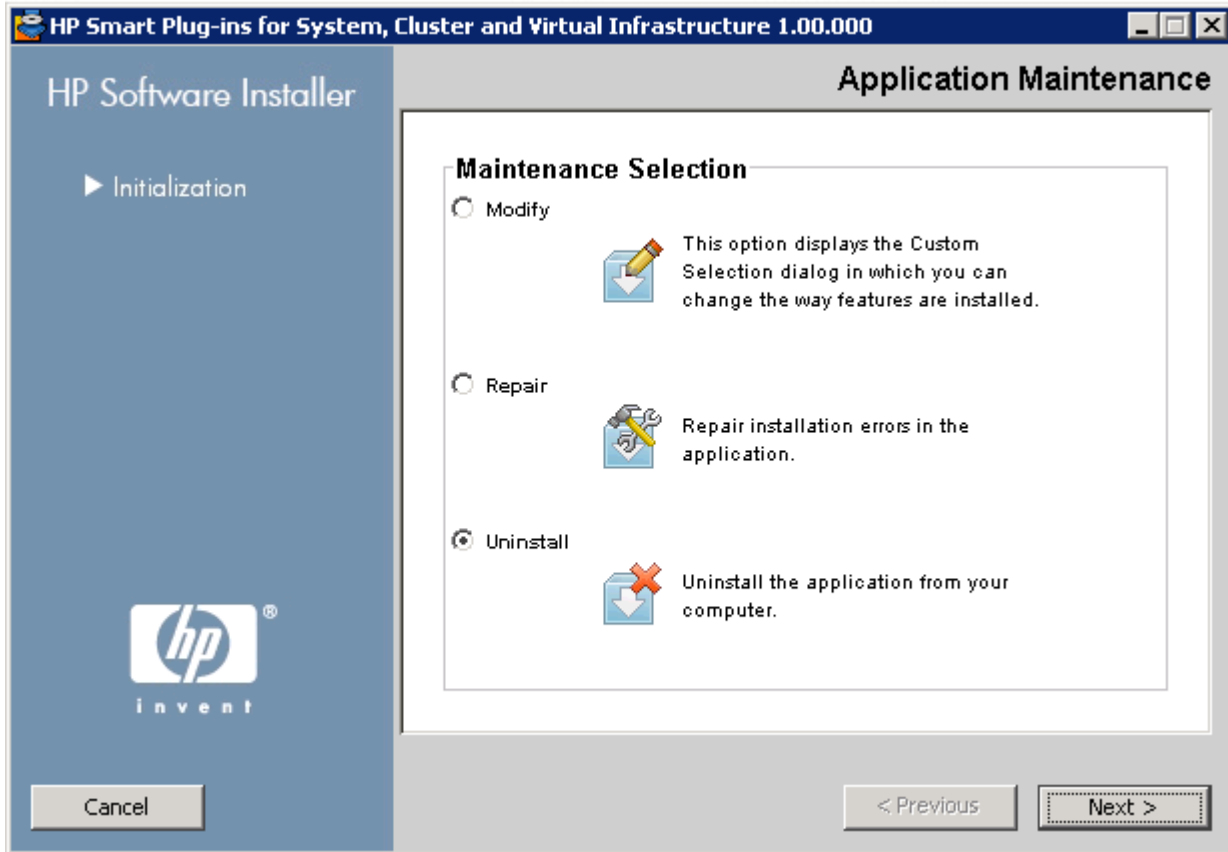Task 2:   Remove the Infrastructure SPIs from the Management Server

Attended Uninstallation of Infrastructure SPIs

To uninstall Infrastructure SPIs using the uninstallation wizard,

1   To start HP Infrastructure SPIs Uninstallation wizard from control panel:

  a   Go to **Start** → **Settings** → **Control Panel**.

  b   Double-click **Add or Remove Programs**.

  c   Select *HP Smart Plug-ins for Infrastructure* and click **Change/Remove** to uninstall.

Alternatively, you can start Infrastructure SPIs uninstallation wizard from the HP Smart Plug-ins for Infrastructure DVD or the installer directory:

a   Open the temporary directory containing the Infrastructure SPIs Installer package.

b   Click **HPInfraSPI_01.00_setup.exe** to start the uninstallation wizard.

2   If you see Application requirement check warnings box display, click **Continue**.

The Application Maintenance page opens.

3   Select Uninstall and click **Next**.

The Pre-Uninstall Summary page appears.

4   Click **Uninstall**. The wizard starts uninstalling the Infrastructure SPIs.

5   Click **Done** to complete uninstallation.

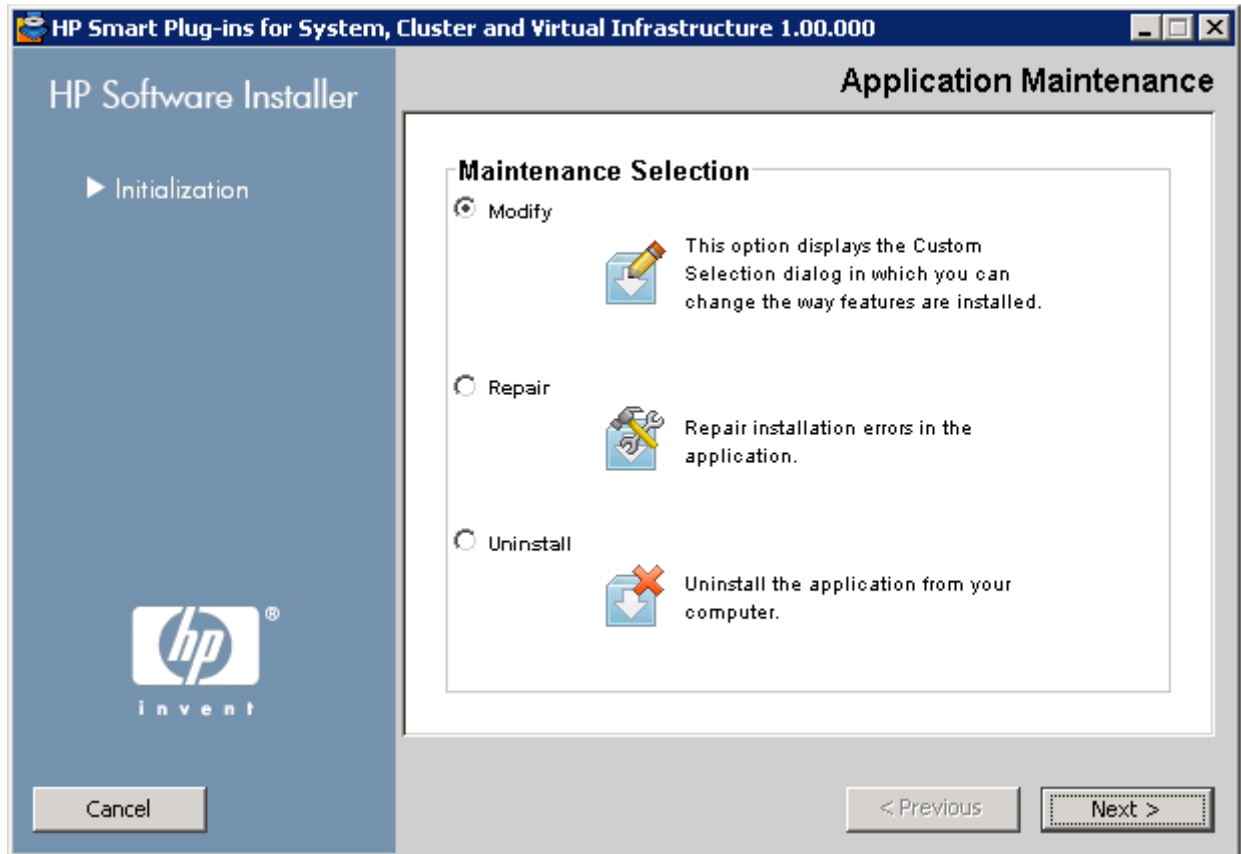## Attended Uninstallation of an Individual Infrastructure SPI

To uninstall any one of the three Infrastructure SPIs using the Uninstallation wizard, follow these steps:

1   To start HP Infrastructure SPIs Uninstallation wizard from control panel:

a   Go to **Start → Settings → Control Panel**.

b   Double-click **Add or Remove Programs**.

c   Select *HP Smart Plug-ins for Infrastructure* and click **Change/Remove** to uninstall.

Alternatively, you can start Infrastructure SPIs Uninstallation wizard from the HP Smart Plug-ins for Infrastructure DVD or the installer directory:

a   Open the temporary directory containing the Infrastructure SPIs Installer package.

b   Click **HPInfraSPI_01.00_setup.exe** to start the uninstallation wizard.

2   If you see Application requirement check warnings box display, click **Continue**.

The Application Maintenance page opens.

3   Select Modify and click **Next**.

The Pre-Install Summary page appears.

4   Select all the options that you want to continue with except the SPI that you want to uninstall.

5   Click **Modify**. The wizard starts uninstalling the Infrastructure SPIs.

At this stage the selected SPIs, reporter package, and graphing package are ignored as they are already installed. The SPI that is not selected gets uninstalled.

6   Click **Done** to complete uninstallation of the individual SPI.

Unattended Uninstallation

To uninstall the Infrastructure SPIs through command prompt:

To uninstall the Infrastructure SPIs through command prompt:

1   Open the Windows command prompt and change the directory to `C:\Program Files\ HP\HP BTO Software\Uninstall\HPInfraSPI`.

2   Run the following command.

```
setup.exe -i silent -DUNINSTALL
```

Uninstalling the Infrastructure SPIs from UNIX or Linux server

This process completely removes the Infrastructure SPIs installation, including policies for Infrastructure SPIs, from the HPOM Management Server. Any customization (copies of Infrastructure SPIs default policies) residing in other HPOM policy groups should also be removed. Follow these steps in order to ensure a proper removal.

Removing Infrastructure SPIs from the management server

Uninstalling Infrastructure SPIs through Graphical Interface

To uninstall Infrastructure SPIs using X 11 interface, perform the following tasks:

1   Log on as `root`, and open a terminal window.

2   In the terminal window verify that the `DISPLAY` environment variable is set correctly to your workstation by entering:

    `echo $DISPLAY`

    If the `DISPLAY` environment variable is not set correctly, set it correctly to view the console GUI properly.

    ```
    export DISPLAY=<IP Address or host name of the local system from where you
    are installing Infrastructure SPIs>:0.0
    ```

3   Change to the directory `/opt/OV/Uninstall/HPInfraSPI`.

4   Start a X Window (or X11) system client on the system. The X Window System Client is required to view the graphical user interface (GUI) for installation. For example, you can use Reflection X.

5   Run the command:

    `./setup.bin`

6   Select **Uninstall**. The wizard starts uninstalling the Infrastructure SPIs.

7   Follow the on-screen instructions and progress through the uninstallation process using the **Next** and **Uninstall** buttons.

8   Click **Done** to complete uninstallation.

Uninstalling Infrastructure SPIs through Command Line Interface

To uninstall the Infrastructure SPIs through command prompt:

1   Change to the directory `/opt/OV/Uninstall/HPInfraSPI`.

2   Run the following command:

    `./setup.bin -i console`

    The following appears: `PRESS <ENTER> TO CONTINUE:`.

3   Press **ENTER** to continue.

    The options to modify, repair or uninstall appear.

4   Type **3** to select uninstallation.

    The following appears: `PRESS <ENTER> TO CONTINUE:`.

5   Press **ENTER** to continue.

When the uninstallation is complete, you will receive a message stating that the uninstallation is completed successfully.

Removing Infrastructure SPIs from a Clustered Server Environment

To remove the Infrastructure SPIs from a cluster HPOM for Windows environment, follow these steps:

Remove Infrastructure SPIs from the clustered management servers

Follow the steps in the section Removing Infrastructure SPIs from the management server.

When you have finished the uninstallation on one management server, proceed to the next management server in the cluster. (You can choose any management server in the cluster to begin the uninstallation.)

You are notified when uninstallation is complete.

Uninstallation Results

The following are not removed after uninstalling Infrastructure SPIs:

- Nodes that are automatically added in the node bank using auto-add feature are not removed. This is to avoid potential loss of alert messages. You can take a backup of the assigned events if required, and manually remove the nodes.

- The top-level service elements such as *Virtualization Infrastructure* and *HA Cluster Infrastructure* are not removed although the relevant SPI models are removed. The service map is cleaned up after relevant discovery policies are undeployed from all nodes.

We appreciate your feedback!

If an email client is configured on this system, by default an email window opens when you click on the bookmark "Comments".

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