HERMES SoftLab
Citrix Presentation Server
SMART Plug-In for HP
Operations Manager
(SPI for Citrix)

(This version, Version 03.20, is for use with HP Operations Manager for UNIX)

Installation and Configuration Guide

Contents

Contents

Notices

The information contained in this document is subject to change without notice.

Trademarks

Chapter 1

Document Overview

Edition History

New editions are complete revisions of the manual. The printing dates for each edition are listed below.

Edition	Date
First Edition	September 2006
Second Edition	February 2007
Third Edition	November 2007
Fourth Edition	August 2008
Fifth Edition	January 2009

Conventions

The following typographical conventions are used in this manual:

Font	Definition	Example
Italic	Product names, book or manual titles, man page names, and section, table, and figure titles. Emphasis. Window and dialog box names.	Refer to the *SPI for Citrix Installation and Configuration Guide* for additional information. You *must* follow these steps. In the *Node Bank* window, select a node.
Bold	Commands on menus and buttons, dialog box titles and options, menu and icon names.	In the menu, first click **Actions**, and then **Agents**.
`Computer`	File names, syntax, directory names, or text that should be entered on screen or that is displayed on the monitor.	The following file is located on the root directory of the SPI for Citrix installation CD: `ctxspi-readme-unix.txt`.

Product Documentation

With SPI for Citrix, the following documentation is provided:

- *HERMES SoftLab Citrix Presentation Server SMART Plug-In for HP Operations Manager Installation and Configuration Guide*
  Installation and Configuration Guide is available in printed and PDF format (*CTXSPI-InstallGuideUNIX.pdf*).

- *HERMES SoftLab Citrix Presentation Server SMART Plug-In for HP Operations Manager User's Guide*
  User's guide is available in printed and PDF format (*CTXSPI-UserGuideUNIX.pdf*).

- *HERMES SoftLab Citrix Presentation Server SMART Plug-In for HP Operations Manager - Supported Citrix and HP Software Platforms*
  Supported Platforms document is available in PDF format (*CTXSPI-Supported_Platforms.pdf*).

- Release notes
  Release notes are available in TXT format (*ctxspi-release-notes-unix.txt*).

- Readme
  Readme file is available in TXT format (*ctxspi-readme-unix.txt*.).

- HERMES SoftLab license terms file
  License file is available in TXT format (*hsl_license_terms.txt*)

Customer Support

Use the following e-mail and Web page addresses if you need help with the licensing process or while using the product, and if you would like additional information about this or other HERMES SoftLab products.

Licensing

If you encounter any problems with the licensing process, contact the HERMES SoftLab licensing department at:

spi-licensing@hermes-softlab.com

Contacting Support

I M P O R T A N T N O T E

Should you require additional assistance or information while using the product, contact the vendor that shipped the software.

If you have purchased the software directly from HERMES SoftLab, send e-mail to:

support-ctxspi@hermes-softlab.com

Before Contacting Support

Before you contact the support department, have the following information available so that a technical support analyst can work on your problem more efficiently:

- the support file `ctxspi_supp_`*`<node_name>`*`.zip`

    To create the support file `ctxspi_supp_`*`<node_name>`*`.zip`, run the **Collect Support Information** application on one or more nodes and then manually zip `%OvAgentDir%\ctxspi` directory hierarchy on nodes. To run the application, perform the following step:

    1. Go to `SPI for Citrix/CTXSPI-SPI Maintenance/CTXSPI-SPI Support` application group and run the **CTXSPI-Collect Support Information** application on the managed nodes for which you would like to collect the information. The files with the support information are created in the following directory on the node(s):

    `%OvAgentDir%\ctxspi`

2. Manually zip the contents of the above directory hierarchy into the `ctxspi_supp_`*`<node_name>`*`.zip` file, where *`<node_name>`* is the name of the managed node.

- symptoms
- sequence of events leading to the problem
- commands and options that you used
- messages you have received (a description with the time and date)

General Information

For marketing or business-related issues in reference to this or other HERMES SoftLab SPIs, send e-mail to:

spi-info@hermes-softlab.com

Product Web Sites

Visit HERMES SoftLab SMART Plug-In Web site at:

http://www.hermes-softlab.com/products/SPI/about_SPI.html

and the company Web site at:

http://www.hermes-softlab.com/

Chapters Summary

This guide describes how to install, configure, and license HERMES SoftLab Citrix Presentation Server SMART Plug-In for HP Operations Manager to monitor and manage Citrix Presentation Server product components from the HP Software environment. It also addresses and troubleshoots some of the possible installation problems.

N O T E

This document assumes that you are familiar with the HP Operations Manager administration procedures and concepts.

The guide contains the following chapters:

Chapter 2

Installing SPI for Citrix

Guidelines for Installation and Configuration

The following table summarizes procedures to install, configure, and license SPI for Citrix. Make sure to read and perform all the steps, otherwise the product may not work properly.

What you do	Refer to
1. Check the system for compliance with the supported software.	"Preparing for Installation" on page 11.
2. Plan the environment you want to manage with SPI for Citrix.	"Preparing for Installation" on page 11.
3. Install SPI for Citrix on the management server.	"Installing SPI for Citrix on the HPOM Management Server" on page 15.
4. Verify if the installation on the management server was successful.	"Verifying the Installation on the Management Server" on page 16.
5. Configure SPI for Citrix on the management server.	"Configuring SPI for Citrix on the Management Server" on page 18.
6. Distribute and configure SPI for Citrix on the managed nodes.	"Installing SPI for Citrix on the Managed Nodes" on page 21.
7. License the product.	"Licensing SPI for Citrix" on page 23.
8. Check if the configuration is correct.	"Verifying Requirements, Configuration, and Licensing on Managed Nodes" on page 28.
9. Install Reports.	"Installing SPI for Citrix Reports" on page 33.
10.Install Graphs.	"Installing SPI for Citrix User Defined Graphs" on page 34

Preparing for Installation

This chapter describes the pre-requisites required for the installation of SPI for Citrix. To avoid potential problems during the installation, read this chapter carefully. Additionally, to effectively install and use SPI for Citrix, read and follow all steps described in each of the following sections in the order listed below:

- "Installing SPI for Citrix" on page 14
- "Licensing SPI for Citrix" on page 23
- "Verifying Requirements, Configuration, and Licensing on Managed Nodes" on page 28

Hardware Requirements

The HPOM management server and managed nodes hardware requirements can be found in the HP Operations Manager documentation.

The Citrix Presentation Server hardware requirements can be found in the documentation, provided with the Citrix Presentation Server product.

Software Requirements

Citrix Presentation Server versions compatible with SPI for Citrix include all editions of the Citrix Presentation Server products for Windows 2000 and Windows 2003 server family. Additionally, SPI for Citrix is compatible with HP Operations Manager for Unix 7.1x, 8.0x, 8.1x, and 8.2x.

For the complete list of supported platforms and software versions for HPOM/UNIX management server, managed nodes, HP Performance Manager, and HP Reporter, refer to *CTXSPI-Supported_Platforms.pdf*.

I M P O R T A N T

Data Source Integration To Dynamic Data Feed (DSI2DDF) component, version A.01.30 or later, should be installed on the HPOM/U Mgmt Server system if you want to use the reporting functionality.

Additional Requirements

Data Store Consistency

SPI for Citrix can only operate correctly if the Citrix farm Data Store is consistent. Use the `dscheck.exe` application available with the Citrix Presentation Server product to check and fix potential Data Store inconsistencies.

Alternatively, SPI for Citrix provides an application for checking Data Store consistency. You can also use the application **CTXSPI-Check Data Store Consistency** in the *SPI for Citrix / CTXSPI-Presentation Server / CTXSPI-PS Farm* application group.

To check for Data Store consistency using the `dscheck.exe` application, login to one of the Citrix servers using the farm administrator account (Citrix suggests to login to the Data Collector node), and execute from command-line:

`dscheck.exe`

If the application reports any Data Store inconsistencies, you need to resolve them before you continue the installation of the SPI for Citrix. For details on how to resolve Data Store inconsistencies, refer to Citrix documentation about the `dscheck.exe` application.

Windows Script Host

On Windows 2000 managed nodes, make sure that you have Windows Script Host, version 5.6 installed. To check, run the following command:

`cscript | findstr Version`

You should get the following output:

`Microsoft (R) Windows Script Host Version 5.6`

To upgrade, download and install the Windows Script 5.6 for Windows XP and Windows 2000 package from the Microsoft web page.

Measurement of Execution Impact

This section describes the execution impact on a computer's CPU, memory, and disk for the HP Operations Manager for Unix managed nodes. Specifically, the information listed here presents an example of the impact that SPI for Citrix can have on your systems.

The following is an example of the load placed on the systems that we used and how we tested the impact of SPI for Citrix in our lab.

Systems Used:

2xPIII 1 GHz 640Mb RAM, 20Gb HDD

Windows 2000 Advanced Server

Citrix MetaFrame FR2

SPI for Citrix (with Quick Start and Reporter template groups deployed)

Result:

For all Quick Start and Reporter templates - a total of 35 templates - the execution impact was as follows:

- Average CPU consumption for a 5-second duration was 25% for each 5 minutes
- Average Committed Mbytes for a 5-second duration was 4.5Mb for each 5 minutes
- Average Available Mbytes for a 5-second duration was decreased by 5.5Mb for each 5 minutes
- Impact on disk was negligible

Installing SPI for Citrix

This section provides the instructions for installing SPI for Citrix.

If you need additional help with any of the configuration steps described in this chapter, refer to the following HP Operations Manager/Unix manuals:

- *Installation Guide for the Management Server*
- *Concepts Guide*
- *Administrator's Reference Volume I*
- *Administrator's Reference Volume II*

Installation Overview

To install SPI for Citrix, follow the high-level steps below:

1. Install SPI for Citrix product on the HPOM management server (on HP-UX or on Sun Solaris) from the CD provided.

2. Verify the installation.

3. Configure Citrix farm administrator account.

4. Configure Web Interface availability user (optional).

5. Add Citrix Presentation Server, Web Interface, License Server, and Secure Gateway systems as managed nodes on your management server.

6. License the product.

7. Register SPI for Citrix subagent.

8. Install Web Interface management integration (on Web Interface managed nodes only).

9. Distribute SPI for Citrix actions, monitors, and commands to the managed nodes.

10. Verify/check requirements and configuration on the managed nodes.

11. Distribute SPI for Citrix templates to the managed nodes.

Installing SPI for Citrix on the HPOM Management Server

To install SPI for Citrix on the HPOM management server, perform the following steps:

1. Login to the HPOM management server as the user `root`.

2. Verify that HP Operations Manager for UNIX is correctly installed on the management server.

   - HPOM management server and HPOM agent software must be installed on the management server and all server and agent processes must be running. For more information, refer to *HP Operations Manager Installation Guide*.

   - You must have access to the HP Operations Manager management server and all nodes where you will install the SPI for Citrix. During implementation, you will also need access to HP Performance Manager (optional), and HP Reporter (optional).

   - HPOM agents must be installed and running on all Citrix nodes with the `opcmsg` template assigned to those nodes to enable sending a message and starting an action from the management server.

N O T E

During the installation process, all HPOM processes must be "up and running".

3. Insert the SPI for Citrix Installation CD into the CD-ROM drive.

   The CD-ROM is automatically mounted on the Sun Solaris system, with mount point in the /cdrom directory.

4. From the root directory on the Installation CD copy the following files to the `/tmp` directory on the system:

   - For Sun Solaris, the files `hsl_eulsa_sun` and `CTXSPI_03.20.eulsa`.

   - For HP-UX, the files `hsl_eulsa_hpux` and `CTXSPI_03.20.eulsa`.

5. If needed, set the executable permissions using the `chmod` command to the files `hsl_eulsa_hpux` or `hsl_eulsa_sun`, respectively.

6. To obtain the product installation package, you first must agree to the end-user license agreement. In the `/tmp` directory, run from the command line:

   - For Sun Solaris:

   `hsl_eulsa_sun -e CTXSPI_03.20.eulsa`

   - For HP-UX:

```
hsl_eulsa_hpux -e CTXSPI_03.20.eulsa
```

Enter your name and the name of your company and press [ENTER].

The standard HERMES SoftLab Software License Agreement will be displayed. Read it carefully, type I AGREE, and then press [ENTER] to generate the installation package file without the .eulsa extension.

The message will be displayed that will instruct you to save the End User License & Support Agreement to a secure place.

7. Install SPI for Citrix. Note that this step installs all SPI for Citrix features. The installation procedure is the same for Sun Solaris and HP-UX platform. Run the following command:
```
swinstall -s /tmp/CTXSPI_03.20.depot CTXSPI
```

You can check the following log files to verify that the installation phase has completed without errors:

· `/var/adm/sw/swagent.log`
· `/var/adm/sw/swinstall.log`

Verifying the Installation on the Management Server

After the installation has completed successfully, many new HP Operations Manager configuration items are uploaded to the HP Operations Manager database on the management server.

To review these new items, start the HPOM administrator GUI, open the corresponding windows (Message Group Bank, Node Group Bank, Application Bank, Message Source Templates, and User Profile Bank), and check for the following new configuration items (visible to the HP Operations Manager administrator):

New message groups:

· ctxspi
· ctxspi_int

New node groups:

· CTXSPI-Presentation_Server
· CTXSPI-Web_Interface
· CTXSPI-Citrix_License_Server
· CTXSPI-Secure_Gateway

New top level application group:

- SPI for Citrix

New top level template group:

- SPI for Citrix

New user profile:

- CTXSPI Operator
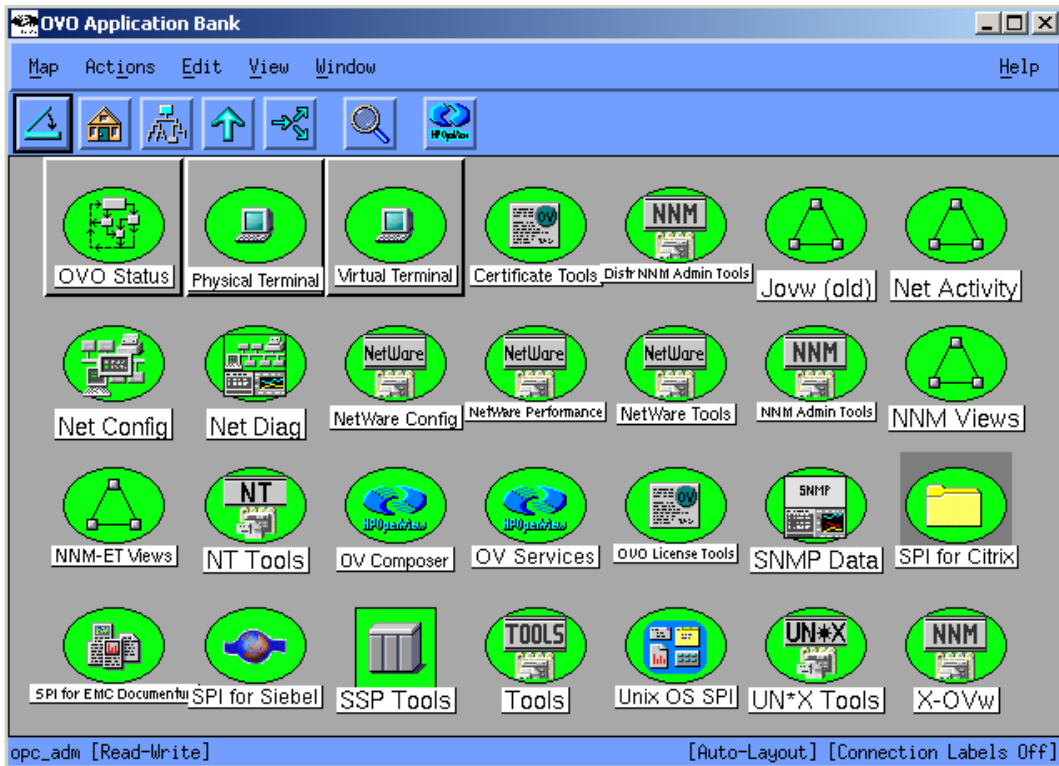
Figure 1. Application Bank
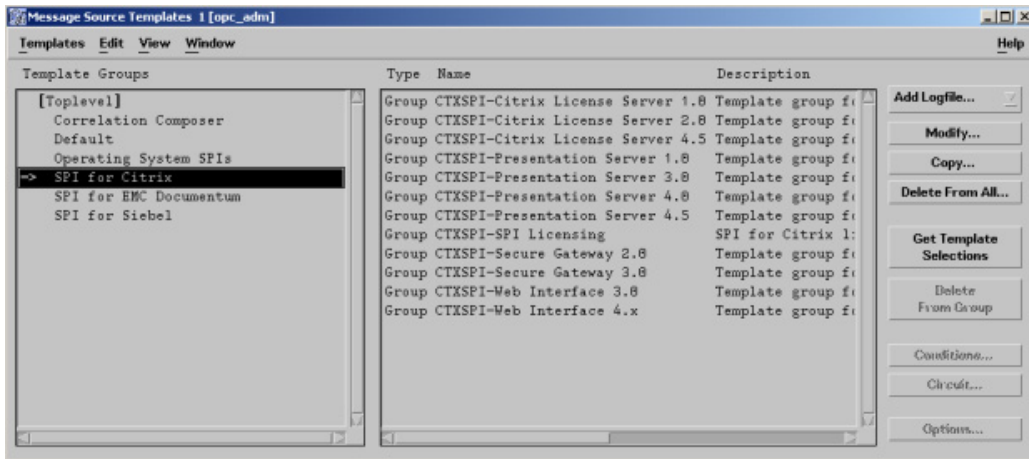
Figure 2. Message Source Templates

N O T E

> Refer to *SPI for Citrix User's Guide* for detailed information about Applications
> and Application Groups as well as Templates and Template Groups.

Configuring SPI for Citrix on the Management Server

Make sure that the SPI for Citrix applications are assigned to the HPOM user(s),
operator and/or administrator, who will be using the SPI for Citrix applications. To
ensure that SPI for Citrix messages appear correctly in the HPOM message browser,
the new message groups, `ctxspi` and `ctxspi_int` need to be assigned to the HPOM
user(s), operator, and/or administrator, who will be using the SPI for Citrix
applications.

N O T E

> You can use CTXSPI Operator user profile to assist you in organizing the HP
> Operations Manager users.

Setting Up Farm Administrator Accounts

For SPI for Citrix to work correctly on a managed node, a Citrix farm administrator's
account and password must be configured for each farm to be managed.

Additionally, you will need to make the Citrix Administrator the local administrator (put it into the local administrator group) of every Citrix node that you are managing. The easiest way to do this is to add the Citrix Administrator account to the domain group which is the administrator of the managed nodes to which SPI is distributed.

IMPORTANT

Farm administrator account must be the local administrator of each individual Citrix server, must have full access granted to farm, and be allowed to log in to Citrix systems interactively.

NOTE

For each farm that you want to manage with SPI for Citrix, you need to enter the farm administrator account for that farm.

The CTXSPIConfig application is located in:

`/opt/OV/ctxspi/bin/CTXSPIConfig`

You can run it with one of the following four options:

Option	Description
list	Lists farm administrators
add	Adds a farm administrator
delete	Deletes a farm administrator
change	Changes a farm administrator password

list

To list farm administrator accounts for all farms, run from the command line:

`./CTXSPIConfig -list`

A list of farm administrator accounts appears:

```
No.  Farm name        Farm username       Farm domain
1    FARM_FR1         XPACCAdmin           TESTMF
```

add

To add a farm administrator account, perform the following steps:

1. From the command line, run:

```
./CTXSPIConfig -add
```

2. You will be asked to enter the following farm account information: farm name, farm domain, farm username, and a password for this farm. After you have entered the farm account information, the list view appears with the detailed information about all the farm administrator accounts:

```
No.   Farm name       Farm username       Farm domain
1     FARM_FR1        XPACCAdmin           TESTMF
2     FARM_FR2        XPACCAdmin           TESTMF
```

delete

To remove a farm administrator account, perform the following steps:

1. From the command line, run:

   ```
   ./CTXSPIConfig -delete
   ```

2. You will be asked to enter the account number of the farm you want to remove. After you have entered the farm account number, the list view appears where you can see that the farm is no longer available.

```
No.   Farm name       Farm username       Farm domain
1     FARM_FR1        XPACCAdmin           TESTMF
```

change

To change the password for the farm administrator account, perform the following steps:

1. From the command line, run:

   ```
   ./CTXSPIConfig -change
   ```

2. You will be asked to enter and retype a new password for the farm you want to change.

IMPORTANT

Each time you add, remove, or modify any of the farm administrator accounts, you need to distribute SPI for Citrix installation and configuration on all Citrix Presentation Server managed nodes. Also, run the CTXSPI-Check Requirements/ Configuration application against each managed node to make sure farm administrator account is correctly applied to the Citrix Presentation Server managed nodes.

Setting Up Web Interface Availability User Account

SPI for Citrix performs active monitoring on Web Interface managed nodes by simulating user's activity on the Web Interface. You must set up a user account that will be used for probing Web Interface availability. It is recommended to create a new user and assign this user the applications that you would like to monitor actively. The user does not need administrative rights, the only restriction is that the same user must be used for every farm.

Once the user is properly configured on the Citrix side, it must be configured inside SPI for Citrix. Run the **CTXSPIConfig** application and specify **#WIUSER** as the name of the farm when you add a new user account. The special **#WIUSER** token is used to differentiate between a farm administrator and a Web Interface Availability user. Since a hash character is a reserved character, it is impossible to collide with the actual farm name.

For instructions on how to use the **CTXSPIConfig** application, see "Setting Up Farm Administrator Accounts" on page 18.

I M P O R T A N T

Each time you add, remove, or modify Web Interface availability user account, you need to distribute SPI for Citrix installation and configuration on all Web Interface managed nodes. Also, run the CTXSPI-Check Requirements/ Configuration application against each Web Interface managed node to make sure Web Interface availability user account is set up on the managed nodes.

Installing SPI for Citrix on the Managed Nodes

To install SPI for Citrix on the managed nodes, first add Citrix Presentation Server, Web Interface, License Server, and Secure Gateway systems as managed nodes on the management server, and then distribute the installation and configuration. Finally, distribute the SPI for Citrix templates.

Adding Nodes to the Management Server

When you are adding the managed node to the management server, select your communication type carefully by following the steps below:

1. Start the HPOM Console and log in as an HPOM Administrator (`opc_adm`).

2. In the *Node Bank* window click **Actions**, followed by **Node**, and then **Add**.

3. In the *Add Node* window that opens enter the **Node Name**, and then select the proper **Machine Type** and **OS Name**.

---

4. Click **[OK]** to exit the *Add Node* window.

N O T E

Make sure that the agent on the node is running.

Also, add the node to the CTXSPI group. Refer to *HP Operations Manager for UNIX* online documentation for more information on adding nodes.

Distributing SPI for Citrix to the Managed Nodes

Once the SPI for Citrix is installed on the HPOM management server and the configuration is uploaded, distribute the software components and the configuration to the managed nodes by following the steps below. Note that the Administrator should also customize the thresholds within the templates.

1. Make sure that all prerequisites listed in "Software Requirements" on page 11 are met.

2. Start the HPOM Console and log in as an HPOM Administrator (`opc_adm`).

3. To ensure that CTXSPI messages appear correctly in the HPOM message browser, add the target nodes as members of their corresponding new node group CTXSPI. This node group and the new message groups, `ctxspi` and `ctxspi_int`, need to be assigned to the HPOM user(s), operator and/or administrator, who will be using the instrumentation. This can be performed by manually assigning the responsibilities to these users or by using the CTXSPI Operator user profile.

4. Select the target node in the *HP Operations Manager Node Bank* window.

5. In the menu click **Actions**, followed by **Agents**, and then **Install/Update SW & Config**. The *Install/Update Software and Configuration* window appears.

6. Select the following checkboxes: **Actions**, **Monitors**, and **Commands**, and then click **[OK]**.

Licensing SPI for Citrix

Before you can start using SPI for Citrix, you must obtain a valid license key for every managed node that you want to monitor with this product.

I M P O R T A N T

After the trial usage license expires, the product will automatically become unusable. To extend your use of the product, contact HERMES SoftLab Licensing Department at spi-licensing@hermes-softlab.com.

To obtain and activate product license keys, perform the following steps:

1. "Distribute the Licensing Template on Managed Nodes" on page 23.

2. "Generate the License Request File" on page 24.

3. "Obtain the License Activation File" on page 24.

4. "Merge and Deploy the License Files" on page 25.

For a diagram of the licensing procedure overview, refer to "Licensing Overview" on page 48.

Distribute the Licensing Template on Managed Nodes

1. Start the HPOM Console and log in as an HPOM Administrator (`opc_adm`).

2. In the *Node Bank* window, select the node(s) to which you want to deploy the templates.

3. From the menu, first click **Actions**, and then **Agents**. Click **Assign Templates** to open the *Define Configuration* window.

4. Click **Add** to open the *Add Configuration* window.

5. Click **Open Template Window** to open the *Message Source Templates* window.

6. In the *Template Group* list, expand **SPI for Citrix** and then in the right pane select the **CTXSPI-SPI Licensing** group.

7. In the *Add Configuration* window, click **Get Template Selections** and then **[OK]**. The selected template is now added to the list of templates in the *Define Configuration* window.

8. From the menu, first click **Actions,** and then **Agents**. Click **Install/Update SW & Config** to open the *Install/Update Software and Configuration* window.

9. Select the checkboxes **Templates**, **Actions**, **Commands**, and **Monitors**. and click **[OK]**. The template required for licensing CTXSPI-LicOpcMsg is installed on the managed node.

Generate the License Request File

1. In the *Node Bank* window, first click **Window**, and then **Application Bank**. The *Application Bank* window opens.

2. Double-click the **SPI for Citrix/CTXSPI-SPI Maintenance/CTXSPI-SPI Licensing** group.

3. Run the **CTXSPI-1. Clear License Request File on Mgmt Server** application to clear the ctxspi_license_requests.dat license request file on the management server.

4. Run the **CTXSPI-2. Generate License Request for Node** application on the managed nodes for which you need licenses. In the *Customized Startup-Application* window, in the **Additional Parameters** field, replace the string "Your Company Name" with the name of your company. Click **[OK]** to generate the ctxspi_license_requests.dat license request file.

Obtain the License Activation File

1. To obtain the license activation file:
   - Use the Licensing portal:
     Go to http://spi.hermes-softlab.com/licensing/, register, and upload the license request file. The system will automatically process your request. When registering to the Permanent licenses page, have your PO information ready. You can also access the Temporary licenses page to obtain 30-day license keys for evaluation or testing purposes.

   or

   - Send e-mail to the Licensing Department:
     Send the generated license request file by e-mail to the HERMES SoftLab Licensing Department at spi-licensing@hermes-softlab.com. You will receive the license activation file usually within 24 hours. If you have bought the product and need immediate response, contact HERMES SoftLab by telephone and e-mail (see contact information on License Entitlement Certificate).

2. You will receive a license activation file `ctxspi_licact_new.dat` by e-mail.

Merge and Deploy the License Files

1. Copy the `ctxspi_licact_new.dat` file to the following directory: `/opt/OV/ctxspi/conf`.

2. In the *CTXSPI- SPI Licensing* application group, run the **CTXSPI-3. Merge License Activation Codes on Mgmt Server** application to merge the `ctxspi_licact_new.dat` file with the SPI license file.

3. In the *Install/Update Software and Configuration* window, distribute **Actions**, **Commands**, and **Monitors** to all managed nodes for which you have requested the licenses.

Verify Licensing

To check if the licensing was successful, run the **CTXSPI-List License Activation Codes** application to list the activated license activation codes.

Registering SPI for Citrix Subagent

You need to register the SPI for Citrix subagent with the HPOM agent on every node that is going to be managed by the SPI for Citrix, or SPI for Citrix will not operate correctly.

To register the SPI for Citrix subagent, perform the following steps:

1. In the *Node Bank* window first click **Window**, and then **Application Bank**. The *Application Bank* window opens.

2. Double-click the **SPI for Citrix/CTXSPI-SPI Maintenance/CTXSPI-SPI Configure** application group.

3. Run the **CTXSPI-Register Subagent** application to register the SPI for Citrix subagent on the managed node.

The application displays the results of the operation when it completes.

Installing Web Interface Integration

On Citrix Web Interface managed nodes you need to perform an additional setup step to enable management of these nodes.

I M P O R T A N T

This procedure restarts Internet Information Server (IIS) on the managed node, so plan the time of installation carefully.

To install the SPI for Citrix Web Interface integration on the managed node(s), perform the following steps:

1. In the *Node Bank* window, click **Window**, and then **Application Bank**. The *Application Bank* window opens.

2. Double-click the **SPI for Citrix/CTXSPI-Web Interface/CTXSPI-WI Configure** application group.

3. Right-click the **CTXSPI-Install WI Monitoring** application and choose **Customized Startup**. The *Customized Startup-Application* window opens.

4. In the **Additional Parameters** field, set the parameter to `allow_iis_restart` (remove `_not`).

5. Click **[OK]** to install.

The application displays the results after it completes the installation.

Verifying Requirements, Configuration, and Licensing on Managed Nodes

This section describes the final step that needs to be performed on a node to ensure that all requirements are met and that configuration of SPI for Citrix is complete.

I M P O R T A N T

Do not distribute any Citrix monitoring templates to a Citrix managed node until you make sure that the node has been correctly configured.

Check Requirements and Configuration Information

To check SPI for Citrix requirements and configuration and gather troubleshooting information, use the **CTXSPI-Check Requirements/Configuration** application. It is located in the *CTXSPI-SPI Maintenance/CTXSPI-SPI Support* application group.

After you have completed licensing your product and SPI for Citrix is installed and configured, perform the following steps to finalize the setup of SPI for Citrix.

When SPI for Citrix is installed and configured (that is, licenses are configured, software and configuration is updated), from the *CTXSPI-SPI Support* application group run the application **CTXSPI-Check Requirements/Configuration** against all Citrix managed nodes. This application will check each configuration and output a few cases indicating whether the check is OK or not.

Note that the following application outputs are always listed in the *Application Output* field of the *Application Status* dialog box. Refer to , , and .

Application Output	Area Verified
Valid SPI for Citrix license	Configuration
SPI Data Collector deployed	Configuration
SPI for Citrix subagent running	Configuration
SPI for Citrix plug-in manager running	Configuration

Table 1. General Checks

Application Output	Area Verified
Citrix Presentation Server	
MFCOM service is running	Requirement
Citrix Presentation Server version	Requirement
Farm admin account well configured	Configuration
Farm admin account is local admin	Configuration
Citrix Web Interface	
Citrix Web Interface version	Requirement
Windows OS version	Requirement
ISAPI site filter installed	Configuration
ISAPI site extension installed	Configuration
WI user account configured	Configuration
Citrix License Server	
Citrix License Server version	Requirement
Citrix Secure Gateway	
Citrix Secure Gateway version	Requirement

Table 2. Specific Node Type Checks

Application Output	Area Verified
Latest required patch applied	Configuration

Table 3. SPI for Citrix upgrade Check

```
┌─────────────────────────────────────────────────────────────────────────┐
│ 🖼 Output of Application No. 12                                  _ □ X │
├─────────────────────────────────────────────────────────────────────────┤
│ Executed Application                                                     │
│ ┌─────────────────────────────────────────────────────────────────────┐ │
│ │CTXSPISwitch.cmd chkreqall                                           │ │
│ └─────────────────────────────────────────────────────────────────────┘ │
│                                                                         │
│ Application Output                                                       │
│ ┌─────────────────────────────────────────────────────────────────┬─┐ │
│ │                                                                   │▲│ │
│ │         Command Output              No. 1 of 1                    ├─┤ │
│ │                                     Node: vmmfxp31.tesmf.hsl      │ │ │
│ │                                     Time: 01/21/09 13:52:09       │ │ │
│ │                                                                   │ │ │
│ │                                                                   │ │ │
│ │ Managed node: VMMFXP31                                            │ │ │
│ │ Part of farm (without quotes): "Farm PS-40"                       │ │ │
│ │ =================================================================  │ │ │
│ │                                                                   │ │ │
│ │                                                                   │ │ │
│ │ 1. General checks                                                 │ │ │
│ │ ------------------                                                │ │ │
│ │   Valid Citrix SPI license            OK                          │ │ │
│ │   SPI Data Collector deployed         OK                          │ │ │
│ │   Citrix SPI subagent running         OK                          │ │ │
│ │   Citrix SPI plug-in manager running  OK                          │ │ │
│ │                                                                   │ │ │
│ │ 2. Specific node type checks                                      │ │ │
│ │ ----------------------------                                      │ │ │
│ │   Citrix Presentation Server          Installed                   │ │ │
│ │     MFCOM service is running          OK                          │ │ │
│ │     Citrix Presentation Server version OK                         │ │ │
│ │     Farm admin account well configured OK                         │ │ │
│ │     Farm admin account is local admin  OK                         │ │ │
│ │   ----------------------------------------------------------------│ │ │
│ │   Citrix Web Interface                Installed                   │ │ │
│ │     Citrix Web Interface version      OK                          │ │ │
│ │     Windows OS version                OK                          │ │ │
│ │     ISAPI site filter installed       OK                          │ │ │
│ │     ISAPI site extension installed    OK                          │ │ │
│ │     WI user account configured        OK                          │ │ │
│ │   ----------------------------------------------------------------│ │ │
│ │   Citrix License Server               Not installed               │ │ │
│ │   ----------------------------------------------------------------│ │ │
│ │   Citrix Secure Gateway               Not installed               │ │ │
│ │   ----------------------------------------------------------------│▒│ │
│ │                                                                   │ │ │
│ │                                                                   │ │ │
│ │ 3. SPI for Citrix upgrade check                                   │ │ │
│ │ -------------------------------                                   │ │ │
│ │   Latest required patch applied       OK                          │▼│ │
│ │◄────────────────────────────────────────────────────────────────►│ │ │
│ └─────────────────────────────────────────────────────────────────┴─┘ │
│                                                                         │
│ ┌──────┐ ┌──────┐ ┌───────┐ ┌───────┐              ┌──────┐           │
│ │Close │ │ Stop │ │Save...│ │Retry..│              │ Help │           │
│ └──────┘ └──────┘ └───────┘ └───────┘              └──────┘           │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 3. Check Requirements/Configuration Application Output OK

```
┌─────────────────────────────────────────────────────────────────────────┐
│ 🗗 Output of Application No. 5                              _□×            │
├─────────────────────────────────────────────────────────────────────────┤
│ Executed Application                                                      │
│ │CTXSPISwitch.cmd chkreqall                                              │
│                                                                           │
│ Application Output                                                        │
│ ┌───────────────────────────────────────────────────────────────────┐  │
│ │ ████████████████████████████████████████████████████████████████    │  │
│ │          Command Output                 No. 1 of 1                   │  │
│ │                                         Node: vmmfxp31.tesmf.hsl     │  │
│ │                                         Time: 01/21/09 12:36:25      │  │
│ │                                                                      │  │
│ │ Managed node: VMMFXP31                                               │  │
│ │ Part of farm (without quotes): "Farm PS-40"                          │  │
│ │ ===============================================================      │  │
│ │                                                                      │  │
│ │ 1. General checks                                                    │  │
│ │ ------------------                                                   │  │
│ │   Valid Citrix SPI license            Failed                        │  │
│ │      Failed to open license activation file for reading.            │  │
│ │   SPI Data Collector deployed         OK                            │  │
│ │   Citrix SPI subagent running         OK                            │  │
│ │   Citrix SPI plug-in manager running  OK                            │  │
│ │                                                                      │  │
│ │ 2. Specific node type checks                                         │  │
│ │ ----------------------------                                         │  │
│ │   Citrix Presentation Server          Installed                     │  │
│ │     MFCOM service is running          OK                            │  │
│ │     Citrix Presentation Server version  OK                          │  │
│ │     Farm admin account well configured  OK                          │  │
│ │     Farm admin account is local admin   OK                          │  │
│ │   ----------------------------------------------------------        │  │
│ │   Citrix Web Interface                Installed                     │  │
│ │     Citrix Web Interface version      OK                            │  │
│ │     Windows OS version                OK                            │  │
│ │     ISAPI site filter installed       OK                            │  │
│ │     ISAPI site extension installed    OK                            │  │
│ │     WI user account configured        OK                            │  │
│ │   ----------------------------------------------------------        │  │
│ │   Citrix License Server               Not installed                 │  │
│ │   ----------------------------------------------------------        │  │
│ │   Citrix Secure Gateway               Not installed                 │  │
│ │   ----------------------------------------------------------        │  │
│ │                                                                      │  │
│ │                                                                      │  │
│ │ 3. SPI for Citrix upgrade check                                      │  │
│ │ -------------------------------                                      │  │
│ │   Latest required patch applied       OK                            │  │
│ │                                                                      │  │
│ │                                                                      │  │
│ │ One or more checks failed. Please correct the issue and re-run the tool again. │  │
│ └───────────────────────────────────────────────────────────────────┘  │
│                                                                           │
│ ┌───────┐ ┌──────┐ ┌───────┐ ┌───────┐                      ┌──────┐    │
│ │ Close │ │ Stop │ │ Save..│ │Retry..│                      │ Help │    │
│ └───────┘ └──────┘ └───────┘ └───────┘                      └──────┘    │
└─────────────────────────────────────────────────────────────────────────┘
```
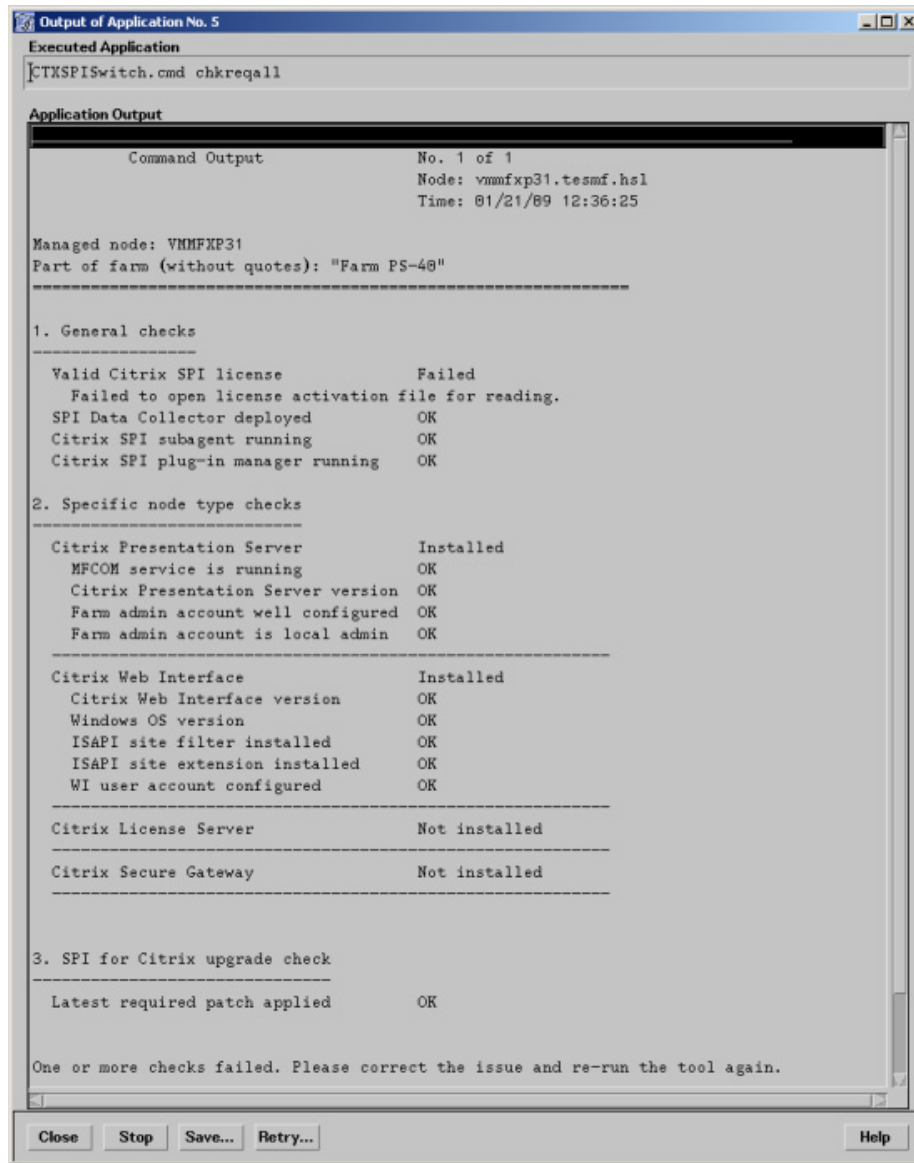
Figure 4. Check Requirements/Configuration Application Output Failed

For additional information on the *CTXSPI-SPI Support* application group, refer to *SPI for Citrix User's Guide*.

On Citrix Presentation Server managed nodes, an additional check needs to be performed that verifies the farm's Data Store consistency. As this is a farm wide check, it only needs to be performed on one server per farm.

To perform the Data Store consistency check, perform the following steps:

1. In the *Node Bank* window first click **Window**, and then **Application Bank**. The *Application Bank* window opens.

2. Double-click the application group **SPI for Citrix/CTXSPI-Presentation Server/ CTXSPI-PS Farm**.

3. Run the **CTXSPI-Check Data Store Consistency** application against one of Presentation Servers to verify if farm's Data Store database is consistent. There is no need to execute the application against more than one server in the farm.

N O T E

CTXSPI-Check Data Store Consistency application can only be executed on a node that has a direct connection to the farm's Data Store, or the application will report an error.

If there are any issues with farm's Data Store consistency, check with Citrix Presentation Server product manuals on how to resolve those.

Installing SPI for Citrix Reports

To install SPI for Citrix on a Reporter system, perform the following steps:

1. Where HP Reporter is installed, login to your Windows machine as the user administrator.

2. Make sure that HP Reporter is correctly installed on your system.

3. Insert the SPI for Citrix Installation CD into your computer.

4. Navigate to the root directory on the installation CD and execute:

   `CTXSPI_Reports_03.20.exe`

5. At the end of the installation procedure, verify the installation on the Reporter system. To verify the installation, start *HP Reporter* and select **Reports**. Listed under Reports is SPI for Citrix. Begin to use Reports when, after at least two days, performance data is collected on the managed nodes.

Configuring SPI for Citrix Reports

Reporter system will only generate SPI reports for those nodes that are put into the SPI for Citrix Reporter node group and have the corresponding Data Collection template groups distributed and running.

SPI for Citrix configures a *SPI for Citrix* auto-group (File -> Configure -> Auto Groups) to help with that task. If SPI for Citrix node group is not generated automatically, you need to create it manually.

When Reporter system discovers a node and detects that the node has SPI-related data, this node is automatically added in this group. If by any chance this does not happen for some nodes, place them into the SPI for Citrix Reporter group manually.

Installing SPI for Citrix User Defined Graphs

SPI for Citrix graphs can be installed on HP Performance Manager product. Graph templates are stored in a plain text file called `VPI_GraphsSPI for Citrix.txt`.

Installing on the HP Performance Manager System

To install graphs, copy the SPI for Citrix graph templates file `VPI_GraphsSPI for Citrix.txt` on the HP Performance Manager system to the following locations:

`/var/opt/OV/conf/perf/`
`/opt/OV/newconfig/OVPM/`

To verify the installation, open the HP Performance Manager and click the **Display** tab. In the right pane, you will see the main **SPI for Citrix** graph category.

Chapter 3

Upgrading SPI for Citrix

Introduction

This chapter describes how to upgrade older versions of SPI for Citrix to version 03.20.

Upgrading Older Versions of SPI for Citrix to Version 03.20

High-level transition steps are:

1. Manually backup any customizations to the instrumentation.

2. Backup the current SPI for Citrix configuration using the transition tool.

3. Uninstall older version of SPI for Citrix.

4. Install SPI for Citrix 03.20.

5. Restore previous SPI for Citrix configuration using the transition tool.

6. Manually restore any customizations to the instrumentation.

These high-level steps are described in detail in the following sections.

Manually backup any customizations to the instrumentation

The SPI for Citrix 03.20 installation uploads new default sets of templates and application on your HPOM management server and overwrites all custom changes. If you would like to preserve your customizations (for example, to thresholds, message severities, polling intervals) and use them with the new version, you must backup them and then restore them on the new installation.

Optionally, if you do not have many customizations, you can just record the changes and reapply them on the new set of templates or application.

N O T E

Check the SPI for Citrix Release notes to see which templates have been changed from the previous version to version 03.20. If you have customized these templates before upgrade, you will have to merge your changes with the new ones.

Backup current SPI for Citrix configuration using the transition tool

1. Insert the SPI for Citrix Installation CD into the CD-ROM drive.

2. Navigate to the root directory on the installation CD and copy the `CTXSPI-UpgradeHelper.sh` file to the local drive.

3. Go to the folder you copied the script to and execute the transition tool by typing:

   `./CTXSPI-UpgradeHelper.sh -backup`

   The script will backup the current SPI for Citrix configuration and instrumentation to the `/var/adm/sw/save/ctxspi_backup` directory.

N O T E

The transition tool will transfer only the current SPI for Citrix configuration, thus relieving the HPOM administrator of having to repeat the licensing and farm administrator accounts setup procedure. It will not transfer any customizations in instrumentation (for example, changed parameters in a particular template), it will only backup SPI for Citrix instrumentation for safe keeping.

Uninstall SPI for Citrix

To effectively uninstall SPI for Citrix, read and follow all steps described in Chapter 4, "Uninstalling SPI for Citrix". The uninstallation steps are the same for SPI for Citrix, version 03.20.

N O T E

To completely uninstall SPI for Citrix, you must first remove it from the HP Operations Manager managed nodes and then from the HP Operations Manager management server.

Make sure to uninstall all eventual SPI for Citrix patches prior to uninstalling SPI for Citrix base package on the HP Operations Manager management server.

Install SPI for Citrix 03.20

Install SPI for Citrix 03.20 to the HP Operations Manager management server according to the instructions provided in Chapter 2, "Installing SPI for Citrix".

Restore previous SPI for Citrix configuration using the transition tool

Go to the folder where the `CTXSPI-UpgradeHelper.sh` file is located and execute the transition tool by typing:

`./CTXSPI-UpgradeHelper.sh -conf_restore`

The script will restore the previous SPI for Citrix configuration from the `/var/adm/sw/save/ctxspi_backup` directory.

Manually restore any customizations to the instrumentation

Apply custom changes that have been preserved in step 2.

N O T E

Check SPI for Citrix Release notes to see which templates have been changed from older versions to version 03.20. If you have customized these templates before upgrade, you will have to merge your changes with the new ones.

Chapter 4

Uninstalling SPI for Citrix

Uninstallation Overview

To completely uninstall SPI for Citrix, you must first remove it from the HPOM managed nodes and then from the HPOM management server. Although the uninstall process is automatic, some manual steps are required.

To effectively uninstall SPI for Citrix, read and follow all steps described in each of the following sections:

- "Uninstalling from the Managed Nodes" on page 41
  Detailed steps on how to remove SPI for Citrix from the Managed Nodes.

- "Uninstalling from the Management Server" on page 42
  Detailed steps on how to remove SPI for Citrix from the Management Server.

- "Uninstalling SPI for Citrix Reports" on page 43
  Detailed steps on how to remove SPI for Citrix from a system that contains the HP Reporter product.

- "Uninstalling SPI for Citrix User Defined Graphs" on page 44
  Detailed steps on how to remove SPI for Citrix user defined graphs from the HP Performance Manager system.

Uninstalling from the Managed Nodes

To uninstall SPI for Citrix from the managed nodes, perform the following steps:

1. Start the HPOM Console and log in as HPOM Administrator (`opc_adm`).

2. In the *Nodes Bank* window, select the SPI for Citrix managed node from which you want to remove the SPI.

3. Click **Actions**, then **Agents**, and then **Assign Templates**. In the *Define Configuration* window, remove the CTXSPI templates and templates group. After you remove the templates, click **[OK]**.

4. In the *Node Bank* window, click **Actions**, then **Agents**, and then **Install/Update SW & Config**. In the *Install/Update Software and Configuration* window, select the **Templates** checkbox. Click **[OK]** to begin the distribution.

5. On Web Interface managed nodes only, double-click **SPI for Citrix** in the *Application Bank* window. In the window that opens, double-click the **CTXSPI-Web Interface**, and then **CTXSPI-WI Configure** application group. To unininstall the Web Interface integration, right-click the application **CTXSPI-Uninstall WI Monitoring** and choose **Customized Startup**. In the *Customized Startup-Application* window, in the **Additional Parameters** field, set the parameter to `allow_iis_restart` (remove `_not`) and click **[OK]**.

6. In the *Application Bank* window, double-click **SPI for Citrix**. In the window that opens, double-click the **CTXSPI-SPI Maintenance**, and then **CTXSPI-SPI Configure** application group. To unregister the Citrix SPI subagent, run the application **CTXSPI-Unregister Subagent** against the managed node.

7. In the *Application Bank* window, double-click **SPI for Citrix**. In the window that opens, double-click the **CTXSPI-SPI Maintenance**, and then **CTXSPI-SPI Uninstall** application group. To remove the Citrix SPI instrumentation, run the application **CTXSPI-Remove SPI from Managed Node** against the managed node.

8. Perform those steps for every managed node with SPI for Citrix installed.

Uninstalling from the Management Server

Make sure to uninstall all eventual SPI for Citrix patches prior to uninstalling the SPI for Citrix Version 03.20 base package.

To uninstall SPI for Citrix from an HPOM management server, perform the following steps:

1. Login to the HPOM management server as the user `root`.

2. In case you have not done so already, uninstall all SPI for Citrix managed nodes. For instructions refer to section "Uninstalling from the Managed Nodes" on page 41.

3. On the HPOM management server, manually remove the following items:
   - `ctxspi` and `ctxspi_int` in the Message Group Bank
   - **CTXSPI-Presentation_Server**, **CTXSPI-Web_Interface**, **CTXSPI-Citrix_License_Server** and **CTXSPI-Secure_Gateway** in the Node Group Bank
   - **CTXSPI Operator** in the User Profile Bank
   - **SPI for Citrix** in the Application Bank
   - **SPI for Citrix** template group and templates in the Message Source Template

4. After you have removed the items listed, uninstall SPI for Citrix. From the command line, run as user `root`:

   `swremove CTXSPI`

5. Verify that all CTXSPI entries are removed from the list. From the command line, run the following command:

   `swlist`

You can also check the following log files for any problems that may have occurred during the removal process:

`/var/adm/sw/swagent.log`

`/var/adm/sw/swremove.log`

Uninstalling SPI for Citrix Reports

To uninstall SPI for Citrix from a system that contains the HP Reporter product, perform the following steps:

1. Login to your Windows machine where the HP Reporter is installed as the user with administrator permissions.

2. Open *Control Panel* and double-click **Add/Remove Programs**.

3. Select **SPI for Citrix Reports 03.20** and click **Change/Remove** to uninstall the SPI for Citrix reports.

NOTE

If any patches have been installed on top of the base Reports package, they need to be uninstalled before the base product in the reverse order of their installation.

Uninstalling SPI for Citrix User Defined Graphs

To uninstall SPI for Citrix graphs from an HP Performance Manager system, delete the SPI for Citrix graph definition file.

Uninstalling from the HP Performance Manager

To uninstall graphs on the HP Performance Manager system, delete the SPI for Citrix graph definition file `VPI_GraphsSPI for Citrix.txt` from the following locations:

```
/var/opt/OV/conf/perf/
/opt/OV/newconfig/OVPM/
```

Chapter 5

Troubleshooting

Troubleshooting Assistance

This chapter describes the possible errors that can occur during SPI for Citrix installation and gives instructions on how to solve them.

Currently, there are no known issues or workarounds regarding the SPI for Citrix installation.
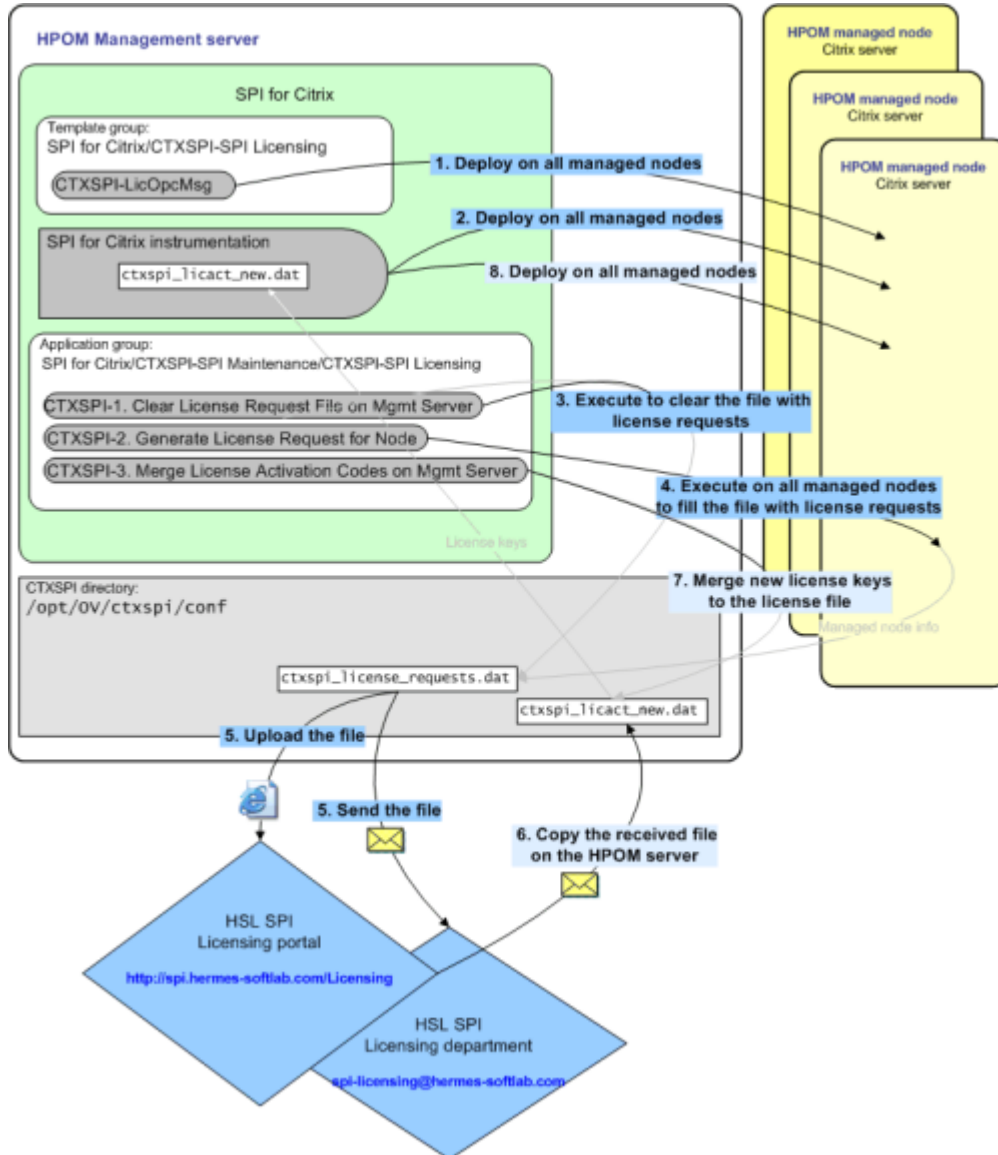
Appendix A

Licensing

Licensing Overview

For detailed instructions on how to perform the licensing procedure, see "Licensing SPI for Citrix" on page 23.

Appendix B

File Locations

File Tree on the Management Server

Below is a list of file locations for SPI for Citrix located on the management server:

Directories:
```
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/intel/nt/cmds
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x64/win2k3/cmds
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x86/winnt/cmds
```

Files:
```
CTXSPI_APPS.spec
CTXSPI_AVAILB.spec
CTXSPI_AVAILF.spec
CTXSPI_AVAILS.spec
ctxspi_cat.cmd
CTXSPI_COLLECT_PERF.pfd
CTXSPI_FARM.spec
CTXSPI_LSLU.spec
CTXSPI_PROFILE.spec
CTXSPI_PROFILES.spec
CTXSPI_PSLD.spec
CTXSPI_SESM.spec
CTXSPI_SESS.spec
CTXSPI_SESX.spec
CTXSPI_SGS2.spec
CTXSPI_SGS3.spec
CTXSPI_SICA.spec
ctxspi_svcrule.xml
CTXSPI_SVCS.spec
CTXSPI_WIFL.spec
CTXSPI_WILD.spec
CTXSPIAppsLog.cmd
CTXSPI-Avail.vbs
CTXSPIAvailLog.cmd
CTXSPI-CLSServices.vbs
CTXSPICollectPerf.cmd
CTXSPI-DataStore.vbs
CTXSPI-DispLogons.vbs
CTXSPIDumpDdf.exe
CTXSPIFarmLogUx.cmd
CTXSPIFarmProbe_net11.exe
CTXSPIFarmProbe_net20.exe
CTXSPILicensing.exe
CTXSPI-LogonThrottler.vbs
CTXSPILogToDdf.cmd
CTXSPILsluLog.cmd
CTXSPI-LsTools.vbs
CTXSPIMsgCenterx64.dll
CTXSPIMsgCenterx86.dll
```

```
CTXSPIMsgEng.dll
CTXSPI-NodeTypes.vbs
CTXSPI-OsAndTSServices.vbs
CTXSPIPerfDumpDdf.exe
CTXSPIPFA.exe
CTXSPIPG.exe
CTXSPIPLS_Win2000.sys
CTXSPIPLS_Win2003_x64.sys
CTXSPIPLS_Win2003_x86.sys
CTXSPIPLSx64.exe
CTXSPIPLSx86.exe
CTXSPIPLT.exe
CTXSPIPM.exe
CTXSPIPM.ini
CTXSPIPMP.exe
CTXSPIProfileLog.cmd
CTXSPIProfilesLog.cmd
CTXSPI-ProfilesStatus.vbs
CTXSPI-ProfileStatus.vbs
CTXSPIPsldLog.cmd
CTXSPI-PSLogonPolicyTools.vbs
CTXSPI-PSServices.vbs
CTXSPI-PsTools.vbs
CTXSPI-RemoveWholeSPI.vbs
CTXSPI-Service.vbs
CTXSPISesxLogUx.cmd
CTXSPI-SGService.vbs
CTXSPISubAgent.exe
CTXSPISubAgent.reg
CTXSPISubAgent.xml
CTXSPISupport.exe
CTXSPISupportCallie.exe
CTXSPISwitch.cmd
CTXSPITraceMsg.exe
CTXSPIUtil.exe
CTXSPIWI_TPL.ini
CTXSPIWiExtension.dll
CTXSPIWiFilter.dll
CTXSPIWiflLog.cmd
CTXSPI-WiInstall.vbs
CTXSPIWildLog.cmd
CTXSPIWIMP.exe
CTXSPI-WiPolicyTools.vbs
CTXSPI-WiTools.vbs
CTXSPI-WiUninstall.vbs
CTXSPIWrap.exe
```

Directory:
`/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/intel/nt/monitor`

Files:

```
ctxspi_svcrule.xml
CTXSPIconf.ini
CTXSPISwitch.cmd
CTXSPIUtil.exe
CTXSPIWrap.exe
```

Directories:
```
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x64/win2k3/monitor
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x86/winnt/monitor
```
File:
```
CTXSPIconf.ini
```

Directory:
```
/opt/OV/ctxspi/bin
```
Files:
```
CTXSPIConfig
CTXSPILicensing
ctxspi_updsvc.sh
```

Directory:
```
/opt/OV/ctxspi/conf
```
File:
```
CTXSPIconf.ini
```

File Tree on the Managed Node

Below is a list of file locations for SPI for Citrix located on the managed node for the DCE-based agent:
```
<OvAgentDir>\bin\OpC\cmds
(same as /var/opt/OV/share/databases/OpC/mgd_node/customer/ms/intel/nt/cmds
on the management server)
```

```
<OvAgentDir>\bin\OpC\monitor
(same as /var/opt/OV/share/databases/OpC/mgd_node/customer/ms/intel/nt/
monitor on the management server)
```

Below is a list of file locations for SPI for Citrix located on the managed node for the HTTPS-based agent:

```
<OvAgentDir>\bin\instrumentation
```

(same as `/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x86/winnt/cmds` and `/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/x86/winnt/monitor` on the management server combined)

In the following folders, temporary files are created during the SPI execution for both, DCE-based and HTTPS-based agent:
`<OvAgentDir>\ctxspi\bin`
`<OvAgentDir>\ctxspi\conf`
`<OvAgentDir>\ctxspi\data`
`<OvAgentDir>\ctxspi\log`
`<OvAgentDir>\ctxspi\support`