

ComTrade Citrix Smart Plug-in for HP Software (SPI for Citrix)

*(This version, Version 03.60, is for use with
HP Operations Manager for Linux and UNIX)*

Installation and Configuration Guide

Contents

Notices	iii
Trademarks	iii
Document Overview	1
Edition History	2
Conventions.....	3
Product Documentation	4
Customer Support	5
Licensing.....	5
Contacting Support.....	5
General Information	6
Product Web Sites	6
Chapters Summary	7
Installing SPI for Citrix	9
Guidelines for Installation and Configuration	10
Preparing for Installation	12
Prepare Hardware and Software	12
Plan and Prepare the Citrix Environment	14
Obtain Installation Packages	17
Installing SPI for Citrix on the Management Server	18
Verifying the Installation on the Management Server	19
Configuring SPI for Citrix on the Management Server	20
Configuring XenApp Farm Administrator Accounts	20
Configuring Desktop Delivery Controller Farm Administrator Accounts	21
Configuring Provisioning Server Farm Administrator Accounts	22
Configuring Web Interface and Application Availability (Optional).....	23

Installing SPI for Citrix on the Managed Nodes	28
Adding Managed Nodes to the Management Server	28
Deploying SPI for Citrix to the Managed Nodes	28
Licensing SPI for Citrix	29
Deploy the Licensing Policy on Managed Nodes.	29
Generate the License Request File	29
Obtain the License Activation File	30
Merge and Deploy the License Files.	30
Verify Licensing.	31
Registering SPI for Citrix Subagent	32
Installing Web Interface Integration (Optional)	33
Installing Application Availability Monitoring Components (Optional)	34
Verifying Requirements, Configuration, and Licensing on Managed Nodes	35
Check Requirements and Configuration Information.	35
Installing SPI for Citrix Reports	39
Configuring SPI for Citrix Reports	39
Installing SPI for Citrix User Defined Graphs	41
Uninstalling SPI for Citrix	43
Uninstallation Overview.	44
Uninstalling from the Managed Nodes	45
Uninstalling from the Management Server.	46
Uninstalling SPI for Citrix Reports.	48
Uninstalling SPI for Citrix User Defined Graphs	49
Licensing	51
Licensing Overview	52

Notices

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

COMTRADE D.O.O. PROVIDES THIS MATERIAL "AS IS" AND MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. COMTRADE D.O.O. SHALL NOT BE LIABLE FOR ERRORS CONTAINED HEREIN OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, PERFORMANCE OR USE OF THIS MATERIAL WHETHER BASED ON WARRANTY, CONTRACT, OR OTHER LEGAL THEORY.

Trademarks

This document contains proprietary information, which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced or translated to another language without the prior written consent of ComTrade d.o.o.

HP® and OpenView® are registered trademarks of the Hewlett-Packard Company in the United States and other jurisdictions.

Citrix®, ICA®, MetaFrame®, Program Neighborhood®, Citrix Presentation Server™, Xen®, Citrix XenApp™, Citrix XenDesktop®, Citrix Provisioning Services™, Citrix XenServer®, NetScaler®, and Citrix Delivery Center™ are registered trademarks of Citrix Systems, Inc. in the United States and other jurisdictions.

Linux® is a registered trademark of Linus Torvalds.

UNIX® is a registered trademark in the U.S. and other countries licensed exclusively through X/Open Company, Ltd.

Sun™ and Solaris™ are trademarks of Sun Microsystems, Inc.

Microsoft®, Windows®, Windows® 2000, Windows Server™ 2003, Windows Server™ 2008, and Windows NT® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Internet Explorer® is a registered trademark of Microsoft Corporation in the United States and/or other countries.

Intel® Core™ is a trademark of Intel Corporation in the United States and other countries.

All other product names are the property of their respective trademark or service mark holders and are hereby acknowledged.

ComTrade d.o.o.

Litijska 51

SI-1000 Ljubljana

Slovenia, Europe

<http://www.comtrade.com>

Copyright © 2010 ComTrade d.o.o.

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
Sixth Edition	November 2009
Seventh Edition	June 2010
Eighth Edition	December 2010

Conventions

The following typographical conventions are used in this manual:

Font	Definition	Example
<i>Italic</i>	Product names, book or manual titles, man page names, and section, table, and figure titles. Emphasis. Window and dialog box names.	Refer to the <i>SPI for Citrix Installation and Configuration Guide</i> for additional information. You <i>must</i> follow these steps. The <i>Define Configuration</i> window opens.
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 files with the support information are created in the following directory: <code>%OvAgentDir%\ctxspi\support.</code>

Product Documentation

With SPI for Citrix, the following documentation is provided:

- *SPI for Citrix Installation and Configuration Guide*
Installation and Configuration Guide is available in printed and PDF format (*CTXSPI-InstallGuideUNIX.pdf*).
- *SPI for Citrix User's Guide*
User's guide is available in printed and PDF format (*CTXSPI-UserGuideUNIX.pdf*).
- *SPI for Citrix Quick Reference Guide*
Quick reference guide is available in PDF format (*CTXSPI-QuickReferenceUNIX.pdf*).
- *SPI for Citrix - Supported Citrix and HP Software Platforms*
Supported Platforms document is available in PDF format (*CTXSPI-SupportedPlatforms.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*).
- ComTrade license terms file
License file is available in TXT format (*comtrade_software_license_support_terms_signed.txt*)

If you need additional help with any of the configuration steps described in this manual, refer to the HP Operations Manager manuals.

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 ComTrade products.

Licensing

To obtain the license activation file, visit the ComTrade licensing portal:

<http://spi.comtrade.com/licensing/>

or send e-mail to the following address:

spi-licensing@comtrade.com

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

spi-licensing@comtrade.com

Contacting Support

IMPORTANT

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 ComTrade, send e-mail to:

support-ctxspi@comtrade.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, perform the following step:

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

%OvAgentDir%\ctxspi\support

2. Manually zip the contents of the 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 ComTrade SPIs, send e-mail to:

spi-info@comtrade.com

Product Web Sites

Visit ComTrade Smart Plug-in Web site at:

http://managementproducts.comtrade.com/smart_plug-in/citrix_xen

and the company Web site at:

<http://www.comtrade.com>

Chapters Summary

This guide describes how to install, configure, and license SPI for Citrix to monitor and manage Citrix product components from the HP Software environment. It also addresses and troubleshoots some of the possible installation problems.

NOTE

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

The guide contains the following chapters:

- [“Installing SPI for Citrix” on page 9](#)
This chapter provides detailed instructions on what must be performed to successfully install, configure, and license SPI for Citrix.
- [“Uninstalling SPI for Citrix” on page 43](#)
This chapter describes how to uninstall SPI for Citrix.
- [“Troubleshooting” on page 61](#)
This chapter provides instructions on what to do if you encounter any installation-related problems.
- Appendix A, [“Licensing” on page 51](#)
This chapter provides a visual overview of the licensing process.
- Appendix B, [“File Locations” on page 61](#)
This chapter presents the SPI for Citrix directory structure on the management server and managed nodes.

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 hardware and software.	"Prepare Hardware and Software" on page 12.
2. Plan and prepare the environment you want to manage with SPI for Citrix.	"Plan and Prepare the Citrix Environment" on page 14.
3. Obtain installation packages.	"Obtain Installation Packages" on page 17.
4. Install SPI for Citrix on the management server.	"Installing SPI for Citrix on the Management Server" on page 18.
5. Verify if the installation on the management server was successful.	"Verifying the Installation on the Management Server" on page 19.
6. Configure a XenApp farm administrator account.	"Configuring XenApp Farm Administrator Accounts" on page 20.
7. Configure a Desktop Delivery Controller farm administrator account.	"Configuring Desktop Delivery Controller Farm Administrator Accounts" on page 21.
8. Configure a Provisioning Server farm administrator account.	"Configuring Provisioning Server Farm Administrator Accounts" on page 22.
9. Configure Web Interface and application availability (optional).	"Configuring Web Interface and Application Availability (Optional)" on page 23.
10. Deploy SPI for Citrix on the managed nodes.	"Installing SPI for Citrix on the Managed Nodes" on page 28.
11. License the product.	"Licensing SPI for Citrix" on page 29.
12. Register SPI for Citrix subagent.	"Registering SPI for Citrix Subagent" on page 32.
13. Install Web Interface integration (optional).	"Installing Web Interface Integration (Optional)" on page 33.

14. Install Application Availability monitoring components (optional).	"Installing Application Availability Monitoring Components (Optional)" on page 34.
15. Check if the configuration is correct.	"Verifying Requirements, Configuration, and Licensing on Managed Nodes" on page 35.
16. Install reports.	"Installing SPI for Citrix Reports" on page 39.
17. Install graphs.	"Installing SPI for Citrix User Defined Graphs" on page 41.

Preparing for Installation

The following must be ensured before you may start with SPI for Citrix installation:

- Check if SPI for Citrix supports your Citrix and HP Software platforms
- Make sure that HP Operations Manager is correctly installed on the management server
- The Citrix environment is prepared
- All nodes in the monitored environment are added as managed nodes to the HP Operations Manager
- Complete Citrix configuration data is available
- Managed nodes are configured
- SPI for Citrix installation package is available

Prepare Hardware and Software

Make sure that hardware and software requirements are met.

Hardware Requirements

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

The Citrix Delivery Center hardware requirements can be found in the documentation, provided with the Citrix products.

Measurement of Execution Impact

This section describes the execution impact on a computer's CPU, memory, and disk for the HP Operations Manager 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.

System used:

Intel Core 2 Quad 2.66 GHz, 8 GB RAM, 256 GB HDD

Microsoft Windows Server 2003 Enterprise x64 Edition, Service Pack 2

Citrix Presentation Server 4.5, Citrix Web Interface 4.5

SPI for Citrix (with complete Presentation Server and Web Interface policy groups deployed)

Result:

For all XenApp and Web Interface policies - a total of 86 policies - the execution impact was as follows:

- Average CPU utilization was 0.66 %
- Average memory utilization was 133.4 MB
- Impact on disk was negligible

Software Requirements

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

IMPORTANT

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

Data Store Consistency

SPI for Citrix can only operate correctly if the XenApp and Desktop Delivery Controller farm data stores are consistent. Use the `dscheck.exe` tool available with the Citrix XenApp and Desktop Delivery Controller products to check and fix potential data store inconsistencies.

Alternatively, SPI for Citrix provides a tool for checking data store consistency. You can also use the **CTXSPI-Check Data Store Consistency** tool in the **SPI for Citrix / CTXSPI-XenApp / CTXSPI-XA Farm** or **SPI for Citrix / CTXSPI-Desktop Delivery Controller / CTXSPI-DDC Farm** tool group.

To check for data store consistency using the `dscheck.exe` tool, 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 tool 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` tool.

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 on the managed node:

```
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.

Plan and Prepare the Citrix Environment

Setting up HP Software

Make sure that HP Operations Manager 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` policy assigned to those nodes to enable sending a message and starting an action from the management server.

Setting up Farm Administrator User Accounts

For SPI for Citrix to work correctly on a managed node, a XenApp, Desktop Delivery Controller, or Provisioning Server farm administrator account must be configured for each farm to be managed.

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

IMPORTANT

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

Setting up Web Interface Availability (Optional)

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.

Setting up Application Availability (Optional)

SPI for Citrix performs active availability and performance monitoring of published applications from the end-user's perspective. The monitoring starts with a virtual user's connection to the Citrix Web Interface, simulating user's authentication and application request, and ends with simulated application transactions commonly performed by the end users. Application availability monitoring is performed on a special type of managed node - Application Probing Server. Any Windows server can be used as a probing server, though it is recommended but not required that no Citrix product other than Citrix Online plug-in (formerly Citrix ICA client) is installed on this node. Application availability is a resource intensive activity and may affect the performance of your Citrix product, for example XenApp, on the probing server.

Application Probing Server uses two types of user accounts. A launching user account is used to launch the Internet Explorer and Citrix Online plug-in components. All application availability processes on the Application Probing Server are running in the context of this user. A probing user account is used to login to the Citrix Web Interface and request a published application. The requested published application on the XenApp server is running in the context of this user.

You can have the same user configured as both a launching and a probing user. A separation is provided for deployment scenarios where the probing server is in a remote location without the connection to the domain controller and access to the Citrix user accounts database. The probing server is not required to be in the domain and the launching user account is not required to be a domain user account. You can also use the same user for Web Interface and application availability probing.

IMPORTANT

The launching user must be a local administrator of the probing server to interact with the SPI for Citrix infrastructure. Only one launching user can be configured for all probing servers.

The probing user account does not need administrative rights. The published applications, against which you would like to check the availability, should be

assigned to this user and placed to the root folder of the Web Interface. You can configure more than one probing user to better organize the application availability probing on more than one location (Web Interface).

During the application availability probing, the probing users must not leave remnant disconnected sessions when they disconnect from the XenApp servers. The probing user will reconnect to the sessions left in the disconnected state in the subsequent probing, producing incorrect availability results. To ensure that the disconnected probing sessions will not be reused, you must configure them to terminate. The easiest way to do it is to edit probing user account settings on your domain controller:

1. Go to **Start** menu > **Administrative Tools** > **Active Directory Users and Computers**.
2. Click the **Users** folder.
3. Right click the probing user and select **Properties** from the context menu.
4. In the **Properties** dialog, select the **Session** tab.
5. Set **End a disconnected session** to 1 minute.
6. Set **When a session limit is reached or connection is broken** to **End session**.

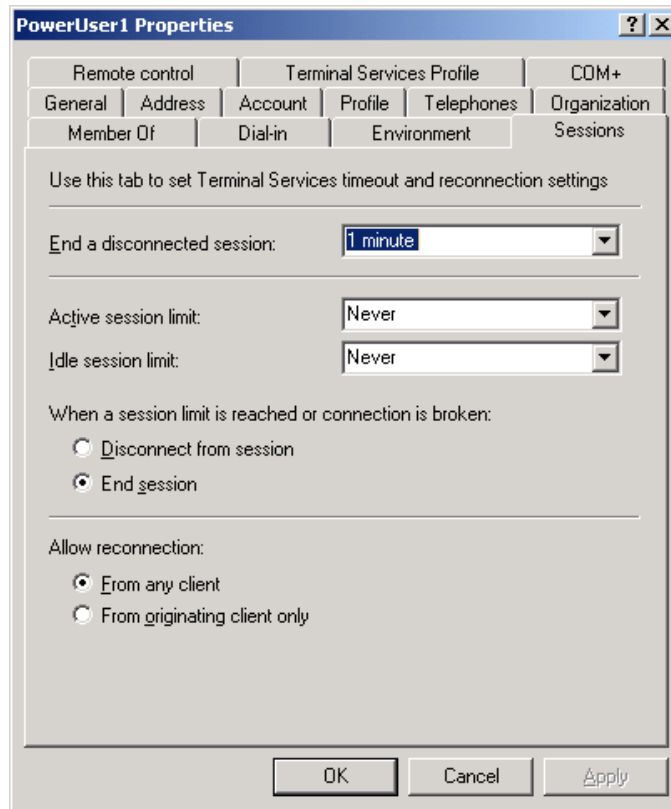


Figure 1. Settings in the Sessions tab of the Properties dialog

Obtain Installation Packages

To install SPI for Citrix and Reports, you need the following installation packages:

- `ctxspi_03.60_sunOS.pkg.bin`, `ctxspi_03.60_HP-UX.sdtape.bin`, or `ctxspi_03.60_Linux.rpm.bin`
- `comtrade_eu1sa_sunOS`, `comtrade_eu1sa_HP-UX`, or `comtrade_eu1sa_Linux`
- `ctxspi-reports_03.60_windows_NT.exe`

You can find them on your installation DVD or download them from the SPI for Citrix download pages.

Installing SPI for Citrix on the Management Server

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

1. Copy the following files to the /tmp directory on the system:
 - For HP-UX, the files `comtrade_eulsa_HP-UX` and `ctxspi_03.60_HP-UX.sdtape.bin`.
 - For Sun Solaris, the files `comtrade_eulsa_SunOS` and `ctxspi_03.60_SunOS.pkg.bin`.
 - For Linux, the files `comtrade_eulsa_Linux` and `ctxspi_03.60_Linux.rpm.bin`.
2. If needed, set the executable permissions using the `chmod` command to the files `comtrade_eulsa_SunOS`, `comtrade_eulsa_HP-UX`, or `comtrade_eulsa_Linux`, respectively.
3. To obtain the product installation package, you must first agree to the end-user license agreement. In the /tmp directory, run from the command line:
 - For HP-UX:
`./comtrade_eulsa_HP-UX -e ctxspi_03.60_HP-UX.sdtape.bin`
 - For Sun Solaris:
`./comtrade_eulsa_SunOS -e ctxspi_03.60_SunOS.pkg.bin`
 - For Linux:
`./comtrade_eulsa_Linux -e ctxspi_03.60_Linux.rpm.bin`

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

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

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

4. Install SPI for Citrix. Note that this step installs all SPI for Citrix features. Run the following command:
 - For HP-UX:
`swinstall -s /tmp/ctxspi_03.60_HP-UX.sdtape ctxspi`
 - For Sun Solaris:
`pkgadd -d /tmp/ctxspi_03.60_sunOS.pkg`

- For Linux:
rpm -ihv /tmp/ctxspi_03.60_Linux.rpm

Verifying the Installation on the Management Server

After the installation has completed successfully, new HPOM configuration items are uploaded to the HPOM database on the management server.

To review these new items, start the HPOM administrator UI and check for the following new configuration items (visible to the HPOM administrator):

New top level policy group:

- SPI for Citrix

New top level tool group:

- SPI for Citrix

New node groups:

- CTXSPI-ApplicationProbingServer
- CTXSPI-CitrixLicenseServer
- CTXSPI-DesktopDeliveryController
- CTXSPI-ProvisioningServer
- CTXSPI-SecureGateway
- CTXSPI-WebInterface
- CTXSPI-XenApp

New message groups:

- ctxspi
- ctxspi_int

New category:

- SPI_for_Citrix

New user profile:

- CTXSPI Operator

NOTE

Refer to *SPI for Citrix User's Guide* for detailed information about Tools and Tool Groups as well as Policies and Policy 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.

NOTE

You can use CTXSPI Operator user profile to assist you in organizing the HPOM users.

Configuring XenApp Farm Administrator Accounts

To configure a farm administrator account for each XenApp farm you are going to manage, perform the following steps:

1. Select the appropriate farm administrator account. For more information about the farm administrator account, see [“Setting up Farm Administrator User Accounts” on page 14](#).
2. From the command line, run the configuration tool:
`/opt/ov/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 1, and then enter 1 again.
4. Enter the following information for the farm administrator account:
 - The name of the XenApp farm (case sensitive)
 - The domain name
 - The user name
 - The password (and confirm password)

To remove the farm administrator account, run the configuration tool. In the menu, enter 1, and then enter 3.

To change the farm administrator account password, run the configuration tool. In the menu, enter 1, and then enter 2.

To display a list of all configured farm administrator accounts, run the configuration tool. In the menu, enter 1, and then enter 4.

IMPORTANT

Each time you add, remove, or modify any of the farm administrator accounts, you need to deploy SPI for Citrix instrumentation on all XenApp managed nodes. Also, run the CTXSPI-Check Requirements/Configuration tool against each managed node to make sure farm administrator account is correctly applied to the XenApp managed nodes.

Configuring Desktop Delivery Controller Farm Administrator Accounts

To configure a farm administrator account for each Desktop Delivery Controller farm you are going to manage, perform the following steps:

1. Select the appropriate farm administrator account. For more information about the farm administrator account, see [“Setting up Farm Administrator User Accounts” on page 14](#).
2. From the command line, run the configuration tool:
`/opt/ov/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 2, and then enter 1.
4. Enter the following information for the farm administrator account:
 - The name of the Desktop Delivery Controller farm (case sensitive)
 - The domain name
 - The user name
 - The password (and confirm password)

To remove the farm administrator account, run the configuration tool. In the menu, enter 2, and then enter 3.

To change the farm administrator account password, run the configuration tool. In the menu, enter 2, and then enter 2.

To display a list of all configured farm administrator accounts, run the configuration tool. In the menu, enter 2, and then enter 4.

IMPORTANT

Each time you add, remove, or modify any of the farm administrator accounts, you need to deploy SPI for Citrix instrumentation on all Desktop Delivery Controller managed nodes. Also, run the CTXSPI-Check Requirements/Configuration tool

against each managed node to make sure farm administrator account is correctly applied to the Desktop Delivery Controller managed nodes.

Configuring Provisioning Server Farm Administrator Accounts

To configure a farm administrator account for each Provisioning Server farm you are going to manage, perform the following steps:

1. Select the appropriate farm administrator account. For more information about the farm administrator account, see [“Setting up Farm Administrator User Accounts” on page 14.](#)
2. From the command line, run the configuration tool:
`/opt/OV/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 3, and then enter 1.
4. Enter the following information for the farm administrator account:
 - The name of the Provisioning Server farm (case sensitive)
 - The domain name
 - The user name
 - The password (and confirm password)

To remove the farm administrator account, run the configuration tool. In the menu, enter 3, and then enter 3.

To change the farm administrator account password, run the configuration tool. In the menu, enter 3, and then enter 2.

To display a list of all configured farm administrator accounts, run the configuration tool. In the menu, enter 3, and then enter 4.

IMPORTANT

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

Configuring Web Interface and Application Availability (Optional)

Configuring a User Account for Web Interface Availability

To configure a probing user account for Web Interface availability, perform the following steps:

1. Select the appropriate probing user account. For more information about the probing user account, see [“Setting up Web Interface Availability \(Optional\)” on page 15](#).
2. From the command line, run the configuration tool:
`/opt/ov/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 5, and then enter 1.
4. Enter the following information for the probing user account:
 - The domain name
 - The user name
 - The password (and confirm password)

To remove the probing user account, run the configuration tool. In the menu, enter 5, and then enter 3.

To change the probing user account password, run the configuration tool. In the menu, enter 5, and then enter 2.

To display a list of all configured probing user accounts, run the configuration tool. In the menu, enter 5, and then enter 4.

IMPORTANT

Each time you add, remove, or modify the probing user account, you need to deploy SPI for Citrix instrumentation on all Web Interface managed nodes. Also, run the CTXSPI-Check Requirements/Configuration tool against each Web Interface managed node to make sure Web Interface availability user account is configured on the managed nodes.

Configuring User Accounts for Application Availability

To configure a launching user account for application availability, perform the following steps:

1. Select the appropriate launching user account. For more information about the launching user account, see [“Setting up Application Availability \(Optional\)” on](#)

[page 15](#).

2. From the command line, run the configuration tool:
`/opt/OV/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 4, next enter 1, and then enter 1 again.
4. Enter the following information for the launching user account:
 - The domain name (leave empty for the local user)
 - The user name
 - The password (and confirm password)

To remove the launching user account, run the configuration tool. In the menu, enter 4, next enter 1, and then enter 3.

To change the launching user account password, run the configuration tool. In the menu, enter 4, next enter 1, and then enter 2.

To display a list of all configured launching user accounts, run the configuration tool. In the menu, enter 4, next enter 1, and then enter 4.

IMPORTANT

Each time you add, remove, or modify the launching user account, you need to deploy SPI for Citrix instrumentation on all Application Probing Server managed nodes. Also, run the CTXSPI-Check APS Requirements/Configuration tool against each Application Probing Server managed node to make sure that the launching user account is configured on the managed nodes.

After you modify the launching user account, you may have to restart the subagent on all Application Probing Server managed nodes for the new settings to take effect.

To configure a probing user account for application availability, perform the following steps:

1. Select the appropriate probing user account. For more information about the probing user account, see [“Setting up Application Availability \(Optional\)” on page 15](#).
2. From the command line, run the configuration tool:
`/opt/OV/ctxspi/bin/CTXSPIConfig`
3. In the menu, enter 4, next enter 2, and then enter 1.
4. Enter the following information for the probing user account:

- The domain name
- The user name
- The password (and confirm password)

To remove the probing user account, run the configuration tool. In the menu, enter 4, next enter 2, and then enter 3.

To change the probing user account password, run the configuration tool. In the menu, enter 4, next enter 2, and then enter 2.

To display a list of all configured probing user accounts, run the configuration tool. In the menu, enter 4, next enter 2, and then enter 4.

IMPORTANT

Each time you add, remove, or modify the probing user account, you need to deploy SPI for Citrix instrumentation on all Application Probing Server managed nodes. Also, run the CTXSPI-Check APS Requirements/Configuration tool against each Application Probing Server managed node to make sure the probing user account is configured on the managed nodes.

Configuring Launching Policy for Application Availability

For the application availability to work, you must properly configure Application Probing Server, launching user, probing user, and either one of application availability launching policies, **CTXSPI-AppAvailStartAllApps** or **CTXSPI-AppAvailStartNextApp**.

To configure the policies, edit the following command line parameters:

- `/user:<enter_username_here>`
Replace `<enter_username_here>` with the application availability probing user. Type only the user name, do not type the domain name.
- `/url:<enter_site_url_here>`
Replace `<enter_site_url_here>` with the URL of the Web Interface that provides the applications to probe for availability.

For more information about the configuration of launching policies, see the *SPI for Citrix User's Guide*.

Configuring Application Transactions for Application Availability

Application availability measurement is divided into several phases, starting from the user's connection to the Citrix Web Interface, simulating user's authentication and application request, and ending with the synthetic application transactions commonly performed by the end users. The last phase is not measured unless you

configure the transactions to be performed after the requested application is started on the XenApp server and delivered to the end user.

To configure synthetic transactions for all applications that you are going to probe for their availability, perform the following steps:

1. Edit the `CTXSPIApp1Probe.xml` file(s) in the SPI for Citrix instrumentation directory:
`/var/opt/OV/share/databases/OpC/mgd_node/instrumentation/
SPI_for_Citrix/windows/`
2. Enter synthetic transactions for each application and save the file. For more information about the XML syntax, see the *SPI for Citrix User's Guide*.

IMPORTANT

Unregister and register again the SPI for Citrix subagent on Application Probing Server managed nodes each time you modify the `CTXSPIApp1Probe.xml` file and deploy SPI for Citrix instrumentation.

All synthetic transactions in the XML file are written in plain text. You might not want to store the sensitive data, such as passwords, in plain text and transfer it over the network. Use the configuration tool to store the sensitive data and reference it inside the XML file. For more information on how to reference the sensitive data from the XML file, see the *SPI for Citrix User's Guide*.

To configure sensitive data for application availability, perform the following steps:

1. From the command line, run the configuration tool:
`/opt/OV/ctxspi/bin/CTXSPIConfig`
2. In the menu, enter 4, next enter 3, and then enter 1.
3. Enter the following information for the sensitive data:
 - An entry, which will be used as a reference to the sensitive data in the XML file
 - A value of the sensitive data that will be encrypted (and confirm the value)

To remove the sensitive data, run the configuration tool. In the menu, enter 4, next enter 3, and then enter 3.

To change the sensitive data, run the configuration tool. In the menu, enter 4, next enter 3, and then enter 2.

To display a list of all configured sensitive data entries, run the configuration tool. In the menu, enter 4, next enter 3, and then enter 4.

IMPORTANT

Each time you add, remove, or modify the sensitive data, you need to deploy SPI for Citrix instrumentation on all Application Probing Server managed nodes.

Installing SPI for Citrix on the Managed Nodes

To install SPI for Citrix on the managed nodes, first add XenApp, Desktop Delivery Controller, Provisioning Server, Web Interface, Citrix License Server, Application Probing Server, and Secure Gateway systems as managed nodes on the management server. Assign the SPI_for_Citrix category to every managed node and deploy the SPI for Citrix instrumentation. Finally, deploy the SPI for Citrix policies.

Adding Managed Nodes to the Management Server

For information on adding managed nodes to the management server and adding nodes that you want to manage, refer to your HPOM online documentation. After the managed node is added to the management server, assign it to the specific SPI for Citrix node group.

NOTE

Make sure that the agent on the node is running.

Deploying SPI for Citrix to the Managed Nodes

Once the SPI for Citrix is installed on the HPOM management server and the configuration is uploaded, deploy the software components and the configuration to the managed nodes. Note that the administrator should also customize the thresholds within the policies.

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.

You do not need a new license key for the Application Probing Server managed node, because it uses licenses of other managed nodes. The application availability will be measured only for the number of licensed XenApp managed nodes.

IMPORTANT

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

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

1. “[Deploy the Licensing Policy on Managed Nodes](#)” on page 29.
2. “[Generate the License Request File](#)” on page 29.
3. “[Obtain the License Activation File](#)” on page 30.
4. “[Merge and Deploy the License Files](#)” on page 30.

For a diagram of the licensing procedure overview, refer to “[Licensing Overview](#)” on page 52.

Deploy the Licensing Policy on Managed Nodes

1. Deploy the CTXSPI-LicOpcMsg policy from the SPI for Citrix / CTXSPI-SPI Licensing policy group on all SPI for Citrix nodes.
2. Deploy SPI for Citrix instrumentation on all Citrix nodes. Note that this step might already be performed as part of the SPI installation.

Generate the License Request File

1. Go to the SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI-SPI Licensing tool group.
2. Run the CTXSPI-1. Clear License Request File on Mgmt Server tool to clear the `ctxspi_license_requests.dat` license request file on the management server.

3. Run the **CTXSPI-2. Generate License Request for Node** tool on the managed nodes for which you need licenses. In the **Additional Parameters** field, replace the parameter "Your Company Name" with the name of your company.
4. The licence request file will be created in the SPI for Citrix instrumentation directory on the management server (`/var/opt/OV/share/databases/OpC/mgd_node/instrumentation/SPI_for_Citrix`).

Obtain the License Activation File

1. To obtain the license activation file:
 - Use the Licensing portal:
Go to <http://managementpacks.comtrade.com/mp-licensing/>, register, and upload the license request file. The system will automatically process your request. When registering to the Permanent licenses page, have your purchase order (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 ComTrade Licensing Department at spi-licensing@comtrade.com. You will receive the license activation file usually within 24 hours. If you have bought the product and need immediate response, contact ComTrade 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:
`/var/opt/OV/share/databases/OpC/mgd_node/instrumentation/SPI_for_Citrix`
2. In the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI- SPI Licensing** tool group, run the **CTXSPI-3. Merge License Activation Codes on Mgmt Server** tool to merge the `ctxspi_licact_new.dat` file with the SPI license file.
3. Deploy the SPI for Citrix instrumentation on all managed nodes for which you have requested the licenses.

Verify Licensing

To check if the licensing was successful, go to the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI- SPI Licensing** tool group and run the **CTXSPI-List License Activation Codes** tool 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. Go to the **SPI for Citrix/CTXSPI-SPI Maintenance/CTXSPI-SPI Configure** tool group.
2. Run the **CTXSPI-Register Subagent** tool to register the SPI for Citrix subagent on the managed node.

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

Installing Web Interface Integration (Optional)

On Citrix Web Interface managed nodes, perform an additional setup step to enable real-user passive monitoring.

IMPORTANT

This procedure installs the ISAPI site filter and extension and 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. Go to the **SPI for Citrix / CTXSPI-Web Interface / CTXSPI-WI Configure** tool group.
2. Run the **CTXSPI-Install WI Monitoring** tool. In the *Additional Parameters* field, set the parameter to `allow_iis_restart` (remove `_not`).

The tool displays the results after it completes the installation.

Installing Application Availability Monitoring Components (Optional)

On the Application Probing Server managed nodes, perform an additional setup step to prepare Application Probing Server for the active application availability monitoring.

To install application availability monitoring components, perform the following steps:

1. Go to the **SPI for Citrix / CTXSPI-Application Probing Server / CTXSPI-APS Configure** tool group.
2. Run the **CTXSPI-Install APS Monitoring** tool to install application availability monitoring components.

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

IMPORTANT

Ensure that the launching user has already been logged on to the Application Probing Server managed node before running this tool.

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.

IMPORTANT

Do not deploy any Citrix monitoring policies 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** and **CTXSPI-Check APS Requirements/Configuration** tools. They are located in the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI-SPI Support** tool 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, accounts and licenses are configured, instrumentation is deployed, subagent registered, Web Interface integration installed, and application availability monitoring components installed), from the **CTXSPI-SPI Support** tool group run the **CTXSPI-Check Requirements/Configuration** tool against all but Application Probing Server managed nodes. This tool will check each configuration and output a few cases indicating whether the check is OK or not.

Note that the following tool outputs are always listed in the *Tool Output* field of the *Tool Status* dialog box. Refer to [Table 1. on page 35](#), [Table 2. on page 36](#), and [Table 3. on page 37](#).

Tool 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

Tool Output	Area Verified
<i>Citrix XenApp</i>	
Farm membership	Configuration
MFCOM service is running	Requirement
Citrix XenApp version	Requirement
Farm admin account well configured	Configuration
Farm admin account is local admin	Configuration
<i>Citrix Web Interface</i>	
Citrix Web Interface version	Requirement
Windows OS version	Requirement
ISAPI site filter installed	Configuration
ISAPI site extension installed	Configuration
ISAPI site configured	Configuration
WI user account configured	Configuration
<i>Citrix License Server</i>	
Citrix License Server version	Requirement
<i>Citrix Secure Gateway</i>	
Citrix Secure Gateway version	Requirement
<i>Citrix Desktop Delivery Controller</i>	
Farm membership	Configuration
Citrix IMA Proxy Service is running	Requirement
Citrix Desktop Delivery Controller version	Requirement
Microsoft .NET Framework version	Requirement
<i>Citrix Provisioning Server</i>	
Farm membership	Configuration
Citrix PVS Soap Server is running	Requirement
Citrix Provisioning Server version	Requirement
Microsoft .NET Framework version	Requirement

Table 2. Specific Node Type Checks

Tool Output	Area Verified
Latest required patch applied	Configuration

Table 3. SPI for Citrix upgrade Check

From the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI-SPI Support** tool group, run the **CTXSPI-Check APS Requirements/Configuration** tool against all Application Probing Server managed nodes. This tool will check each configuration and output a few cases indicating whether the check is OK or not.

Note that the following tool outputs are always listed in the *Tool Output* field of the *Tool Status* dialog box. Refer to [Table 4. on page 37](#) and [Table 5. on page 37](#).

Tool Output	Area Verified
Microsoft .NET Framework version	Requirement
Microsoft Internet Explorer version	Requirement
Citrix Online Plug-in version	Requirement
Citrix Simulation API constraints	Requirement

Table 4. External requirements

Tool Output	Area Verified
Valid SPI for Citrix target license	Configuration
Launching user account configured	Configuration
Probing user accounts configured	Configuration
SPI for Citrix subagent running	Configuration
SPI for Citrix plug-in manager running	Configuration

Table 5. Internal requirements

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

On XenApp and Desktop Delivery Controller 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. Go to the **SPI for Citrix / CTXSPI-XenApp / CTXSPI-XA Farm** or **SPI for Citrix / CTXSPI-Desktop Delivery Controller / CTXSPI-DDC Farm** tool group.
2. Run the **CTXSPI-Check Data Store Consistency** tool against one of XenApp or Desktop Delivery Controller managed nodes to verify if farm's data store database is consistent. There is no need to execute the tool against more than one server in the farm.

NOTE

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

If there are any issues with farm's data store consistency, check with Citrix 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. Run the `ctxspi-reports_03.60_windows_NT.exe` self-extracting package.
4. During the installation procedure, you can select the following reporter groups:
 - . Citrix XenApp
 - . Citrix XenDesktop
 - . Citrix XenServer
 - . Citrix Infrastructure (Web Interface, Licensing Server, Secure Gateway)
 - . Support (troubleshooting)
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 only generates SPI reports for those nodes that are put into the SPI for Citrix Reporter node group and have the corresponding Data Collection policy groups distributed and running.

SPI for Citrix configures **SPI for Citrix** auto-groups (**File -> Configure -> Auto Groups**) to help with that task. If SPI for Citrix node groups are not generated automatically, run from the command line:

```
%0vInstallDir%\bin\RepMaint.exe -g
```

If they are still not generated, create them manually.

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

NOTE

If you need a group of reports that was not selected and installed during the SPI for Citrix Reporter installation, you can add it later. You can also remove a reporter group. To do that, click the Windows Start button and navigate to All Programs -> ComTrade -> SPI for Citrix Reports and select a reporter group you want to enable or disable.

Installing SPI for Citrix User Defined Graphs

SPI for Citrix graphs can be installed on HP Performance Manager product. For supported versions, refer to the SPI for Citrix Supported Platforms document. Graph policies are stored in a plain text file named `VPI_GraphsSPI for Citrix.txt`.

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

`/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

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 45](#)
Detailed steps on how to remove SPI for Citrix from the Managed Nodes.
- [“Uninstalling from the Management Server” on page 46](#)
Detailed steps on how to remove SPI for Citrix from the Management Server.
- [“Uninstalling SPI for Citrix Reports” on page 48](#)
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 49](#)
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. On Application Probing Server managed nodes only, go to the **SPI for Citrix / CTXSPI-Application Probing Server / CTXSPI-APS Configure** tool group. To uninstall the application availability monitoring components, run the **CTXSPI-Uninstall APS Monitoring** tool against the managed node.
2. On Web Interface managed nodes only, go to the **SPI for Citrix / CTXSPI-Web Interface / CTXSPI-WI Configure** tool group. To uninstall the Web Interface integration, run the **CTXSPI-Uninstall WI Monitoring** tool against the managed node. In the *Additional Parameters* field, set the parameter to `allow_iis_restart (remove_not)`.
3. To unregister the SPI for Citrix subagent, go to the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI-SPI Configure** tool group and run the **CTXSPI-Unregister Subagent** tool against the managed node.
4. To remove the SPI for Citrix instrumentation, go to the **SPI for Citrix / CTXSPI-SPI Maintenance / CTXSPI-SPI Uninstall** tool group and run the **CTXSPI-Remove SPI from Managed Node** tool against the managed node.
5. Perform these steps for every managed node with SPI for Citrix installed.

Uninstalling from the Management Server

NOTE

Make sure to uninstall all eventual SPI for Citrix patches prior to uninstalling the SPI for Citrix version 03.60 base package.

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

1. 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 45.
2. Manually remove **SPI for Citrix** policies.
3. Manually remove **SPI for Citrix** tools.
4. Manually remove **CTXSPI-ApplicationProbingServer**, **CTXSPI-CitrixLicenseServer**, **CTXSPI-DesktopDeliveryController**, **CTXSPI-ProvisioningServer**, **CTXSPI-SecureGateway**, **CTXSPI-WebInterface**, and **CTXSPI-XenApp** node groups.
5. Manually remove **ctxspi** and **ctxspi_int** message groups.
6. Manually remove **SPI_for_Citrix** category.
7. Manually remove **CTXSPI Operator** user profile.
8. Manually remove **SPI for Citrix** service map (if one was created). From the command line, run as user root:

```
opcservice -remove CTXSPI_ServicesRoot
opcservice -remove -calc CTXSPI_Application_CR CTXSPI_Default_CR
opcservice -remove -prop CTXSPI_Default_PR CTXSPI_Dependency_PR
```
9. Uninstall SPI for Citrix. From the command line, run as user root:
 - For Sun Solaris:

```
pkgrm ctxspi
```
 - For HP-UX:

```
swremove ctxspi
```
 - For Linux:

```
rpm -e ctxspi
```

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

- . For Sun Solaris:
`pkginfo | grep ctxspi`
- . For HP-UX:
`swlist | grep ctxspi`
- . For Linux:
`rpm -qa | grep ctxspi`

Uninstalling SPI for Citrix Reports

On a system that has the HP Reporter product installed, uninstall the SPI for Citrix Reports package from the Windows Control Panel.

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 `VPI_GraphsSPI for Citrix.txt` from the following location:

`/opt/ov/newconfig/OVPM/`

Appendix A

Licensing

Licensing Overview

For detailed instructions on how to perform the licensing procedure, see “[Licensing SPI for Citrix](#)” on page 29.

