

**HERMES SoftLab  
Citrix MetaFrame  
SMART Plug-In  
for HP OpenView  
(SPI for Citrix MetaFrame)**

*(This version, A.01.12, is for use with  
HP OpenView Operations for UNIX)*

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**SPI for Citrix MetaFrame  
Installation and  
Configuration Guide**

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## Edition History

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

First Edition:	February 2004
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## 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	Refer to the <i>SPI for Citrix MetaFrame Installation and Configuration Guide</i> for additional information.
	Emphasis	You <i>must</i> follow these steps.
	Window and dialog box names	From the <i>Define Configuration on...</i> window, select a node.
<b>Bold</b>	Selection of items	Select <b>Actions</b> followed by selecting <b>Agents</b> then <b>Assign Templates...</b> and assign the template.
Computer	File names, syntax, directory path 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 MetaFrame installation CD: <code>readme.txt</code> .
[Button]	Buttons in the user interface or keyboard keys	Click [OK]. Press the [Ctrl] key.

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Quick Introduction to SPI for  
Citrix MetaFrame

## Overview

**HERMES SoftLab Citrix MetaFrame SMART Plug-In for HP OpenView (SPI for Citrix MetaFrame)** is designed specifically for use with Citrix MetaFrame products from HP OpenView environments. Developed by HERMES SoftLab Group, it proactively and securely manages a distributed, Citrix MetaFrame environment from one, centralized point. Additional benefits of using SPI for Citrix MetaFrame include the following:

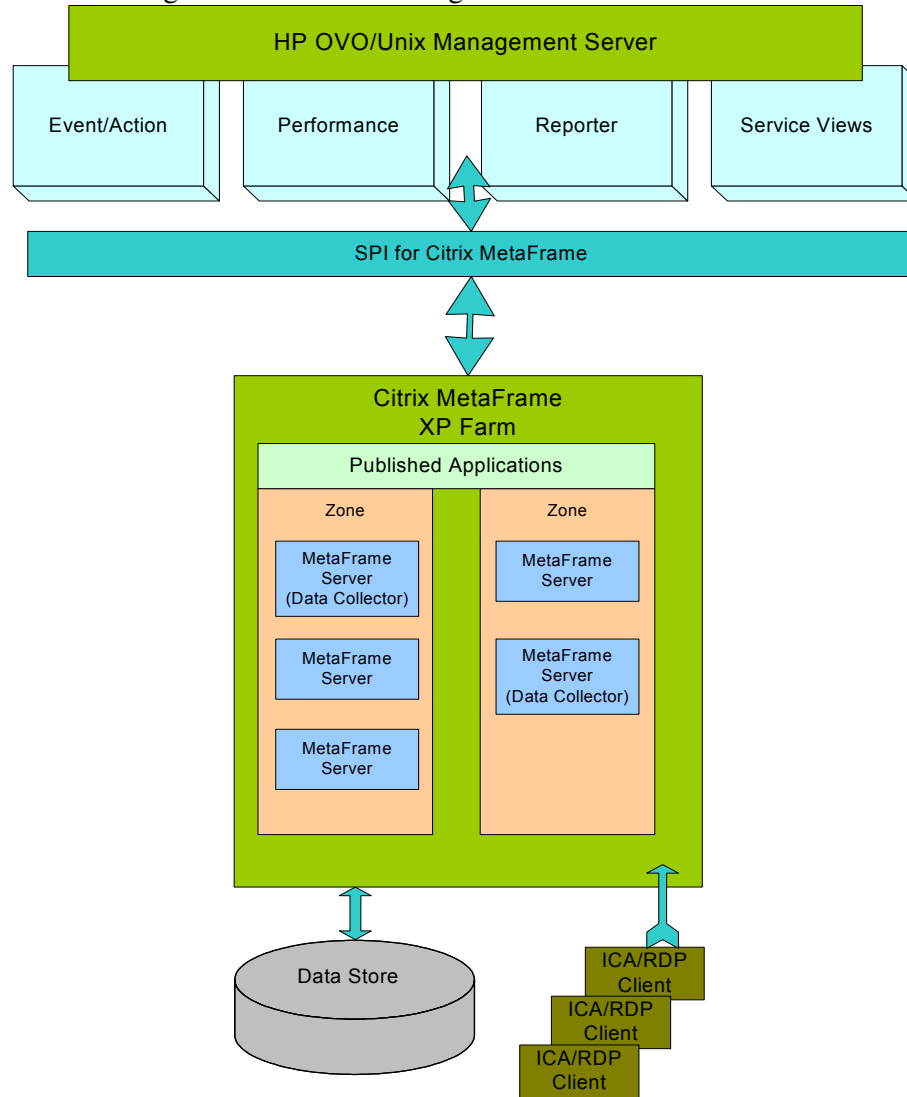
- ❑ Alerts on failures of critical and optional MetaFrame Presentation Server services
- ❑ Immediately identifies internal MetaFrame issues by forwarding relevant System and Application Event Log messages
- ❑ Notifies on important MetaFrame farm changes and risky configurations that can lead to farm instability
- ❑ Supervises session and published application activity parameters and alerts when they reach defined thresholds
- ❑ Provides farm, zone, server and user-oriented session management, making actions, such as "Send a message to all sessions of a user" or "Logoff all sessions on a server", straightforward, atomic operations
- ❑ Enhances an administrator's toolbox by providing various informational tools including version/service pack information for each server in a farm, and so on
- ❑ Regularly records resource consumption of critical and optional MetaFrame Presentation Server services
- ❑ Collects session and published application activity beyond what is available via performance counters (for example, session state, number of session processes, full domain\username of a user, logon time, and so on)

- ❑ Reports resource consumption of MetaFrame Presentation Server services for top servers in a farm
- ❑ Provides insight into session activity by generating numerous reports on their resource consumption, their relation to users, session states, transmission activity, session duration, and so on
- ❑ Generates reports on published application activity with regard to server resource consumption, users, duration of use, and so on
- ❑ Automatically discovers MetaFrame farm servers, published applications, and their dependencies in a farm, and creates a corresponding service map model
- ❑ Regularly updates the MetaFrame farm service map model according to changes detected in a farm

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## High-level Architecture

Below is a high-level architecture diagram of SPI for Citrix MetaFrame.



## Main Components of SPI for Citrix MetaFrame

The main components of SPI for Citrix MetaFrame include the following:

- HP OpenView Operations/UNIX Templates
- HP OpenView Operations/UNIX Applications
- HP OpenView Operations/UNIX Reports
- HP OpenView Operations/UNIX Service Navigator Map

Although these components are discussed in detail in the chapters that follow, a brief description of each is listed below.

### **Templates**

Templates instruct HP OpenView Operations for UNIX engines how to solve system management issues, for example, “Monitor CPU Utilization”. Additionally, when a specific system event occurs, templates can generate HP OpenView Operations for UNIX messages. These messages then trigger automatic or operator-initiated actions.

### **Applications**

HP OpenView Operations for UNIX applications are used to run specific applications or utilities on managed nodes. Additionally, their output can be displayed on the console. SPI for Citrix MetaFrame implements many HP OpenView Operations for UNIX applications.

## **Reports**

This version of SPI for Citrix MetaFrame produces reports on the following information:

- How much CPU time, physical, and virtual memory MetaFrame services consume on each MetaFrame server
- MetaFrame published application use on farm and server level
- Logon/logoff activity on farm and server level
- Detailed user activity (list of sessions, duration of each session, CPU, memory, and swap usage of each session)
- User and published application accounting information useful for billing purposes
- Top 10 reports on published application resource consumption and server end-user latency
- Threshold assistant reports that help you adjust monitoring templates to your MetaFrame environment

Reports are generated via the HP OpenView Reporter product.

## **Service Navigator Map**

HP OpenView Service Navigator is a component of the HP OpenView Operations Java-based operator GUI. This component enables you to manage your IT (information technology) environment while focusing on the IT services that you provide.

SPI for Citrix MetaFrame contains support for Service Navigator; it automatically generates a MetaFrame service map of the Citrix MetaFrame enterprise configuration.

## Contact Information

This chapter contains e-mail and Web page addresses you can use if you want to obtain the license activation file for the product, if you need help while using the product, and if you would like additional information about this or other HERMES SoftLab products.

### Licensing

- To obtain the license activation file online:  
Go to <http://spi.hermes-softlab.com/licensing/>, register, and upload the license request file. The system will automatically process your request and send you the license activation file by e-mail. Have your PO information ready.
- To obtain the license activation file via e-mail:  
Send the generated license request file by e-mail to the HERMES SoftLab Licensing Department at [spi-licensing@hermes.si](mailto:spi-licensing@hermes.si). You will receive the license activation file usually within 24 hours. If you need immediate response, contact HERMES SoftLab by telephone and e-mail (see contact information on License Entitlement Certificate).

### Contacting Support

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#### **I M P O R T A N T   N O T E**

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**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-metafspi@hermes.si](mailto:support-metafspi@hermes.si)

## **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](mailto: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](http://www.hermes-softlab.com/products/SPI/about_SPI.html)

and the company Web site at:

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



## Getting Started

The purpose of this chapter is to help you to get started quicker in using SPI for Citrix MetaFrame. This chapter also provides basic information about using the SPI. However, for additional, detailed information on working with SPI for Citrix MetaFrame, refer to the information in the chapters that follow.

## File Locations

Below is a list of file locations for SPI for Citrix MetaFrame.

Server side instrumentation of SPI for Citrix MetaFrame is located on the management server in:

```
/opt/OV/metafspi
```

SPI for Citrix MetaFrame instrumentation is located on the management server in:

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

and

```
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/\  
intel/nt/cmds
```

Reporter components are installed on the Reporter system in:

```
<ReporterDataDir>\reports\METAFSPI
```

and

```
<ReporterInstallDir>\newconfig\packages
```

Additionally, the following printable documents are located on the SPI for Citrix MetaFrame installation CD:

readme-unix.txt  
metafspi-release-notes-unix.txt  
metafspi\_license.txt  
METAFSPI-UNIXGuide.pdf

## **Navigating Within This Guide**

Refer to the information below for instructions on where to go for additional information about a particular subject.

<i>For information on...</i>	<i>Go to....</i>
SPI for Citrix MetaFrame features and where to go for product assistance	Chapter 1: Quick Introduction to SPI for Citrix MetaFrame
Hardware and software requirements	Chapter 2: Installing SPI for Citrix MetaFrame
How to install SPI for Citrix MetaFrame on the management server	Chapter 2: Installing SPI for Citrix MetaFrame
How to install SPI for Citrix MetaFrame on a Reporter system	Chapter 2: Installing SPI for Citrix MetaFrame
How to configure the farm administrator account	Chapter 2: Installing SPI for Citrix MetaFrame
How to license SPI for Citrix MetaFrame	Chapter 2: Installing SPI for Citrix MetaFrame
How to configure HP OpenView Operations for Unix and SPI for Citrix MetaFrame	Chapter 2: Installing SPI for Citrix MetaFrame
How to assign applications	Chapter 3: SPI for Citrix MetaFrame Usage
How to assign templates	Chapter 3: SPI for Citrix MetaFrame Usage
Integrating SPI for Citrix MetaFrame with HP OpenView Reporter	Chapter 3: SPI for Citrix MetaFrame Usage
How to automatically generate a	Chapter 3: SPI for Citrix

MetaFrame Service Navigator map of the Citrix MetaFrame enterprise configuration	MetaFrame Usage
Detailed application and template definitions	Chapter 4: Reference Information
Removing SPI for Citrix MetaFrame from your environment	Chapter 2: Installing SPI for Citrix MetaFrame
Errors and how to solve them	Chapter 5: Troubleshooting

## Summary of Installation and Configuration Tasks

To use this SPI more efficiently, follow the chart below.

<p><b>1.</b> Ensure that your system environment meets the SPI for Citrix MetaFrame hardware and software requirements.</p>	<p><b>SEE CHAPTER 2</b> →</p>	<p>Check the following:</p> <ul style="list-style-type: none"> <li>- Operating system platform</li> <li>- Citrix MetaFrame platform</li> <li>- HP OpenView platform</li> </ul>
<p><b>2.</b> Install SPI for Citrix MetaFrame on an HP OpenView management server and, if applicable, on a Reporter system.</p>	<p><b>SEE CHAPTER 2</b> →</p>	<ul style="list-style-type: none"> <li>- Install the product from the CD provided</li> <li>- Verify the installation</li> </ul>
<p><b>3.</b> Perform licensing of SPI for Citrix MetaFrame</p>	<p><b>SEE CHAPTER 2</b> →</p>	<ul style="list-style-type: none"> <li>- Verify that licensing has been performed</li> </ul>
<p><b>3.</b> Configure HP OpenView Operations and SPI for Citrix MetaFrame.</p>	<p><b>SEE CHAPTER 2</b> →</p>	<ul style="list-style-type: none"> <li>- Establish security (MetaFrame farm passwords); performed on the management server</li> <li>- Place MetaFrame nodes under control of the management server (if necessary)</li> <li>- Assign templates to the MetaFrame nodes</li> </ul>
<p><b>4.</b> Execute applications and assign templates.</p>	<p><b>SEE CHAPTER 3</b> →</p>	<ul style="list-style-type: none"> <li>- Make sure applications have been executed and templates assigned</li> </ul>
<p><b>5.</b> Use SPI for Citrix MetaFrame to collect metrics.</p>	<p><b>SEE CHAPTER 3</b> →</p>	<ul style="list-style-type: none"> <li>- Make sure that an HP OpenView Operations Agent is installed on all systems targeted for metrics collection</li> </ul>
<p><b>6.</b> Integrate SPI for Citrix MetaFrame with HP OpenView Reporter to create Web-based reports.</p>	<p><b>SEE CHAPTER 3</b> →</p>	<ul style="list-style-type: none"> <li>- Properly configure and install reports for HP OpenView Reporter</li> <li>- Assign templates</li> </ul>
<p><b>7.</b> Generate MetaFrame Service Navigator map of the Citrix MetaFrame enterprise configuration.</p>	<p><b>SEE CHAPTER 3</b> →</p>	<ul style="list-style-type: none"> <li>- Perform autodiscovery</li> </ul>

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Installing SPI for Citrix  
MetaFrame

## Pre-requisites and Supported Platforms

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

- Installing and Removing SPI for Citrix MetaFrame
- SPI for Citrix MetaFrame Licensing Overview
- Verifying Requirements and Configuration

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## Hardware Requirements

The HP OpenView Management Server hardware requirements can be found in the following manual:

- *HP OpenView Operations Installation Guide for the Management Server*

The HP OpenView Managed Nodes hardware requirements can be found in the following manual:

- *HP OpenView Operations Administrator's Reference II*

The Citrix MetaFrame hardware requirements can be found in the documentation that is provided with the Citrix MetaFrame software.

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## Software Requirements

Citrix MetaFrame versions compatible with SPI for Citrix MetaFrame include all editions of the Citrix MetaFrame Presentation Server products for Windows 2000 and Windows 2003 server family. Additionally, SPI for Citrix MetaFrame is compatible with HP OpenView Operations for Unix 7.10 and 8.x.

### **OVO/Unix Management Server:**

- OVO/Unix 7.10 on Solaris 7 and 8
- OVO/Unix 7.10 on HP-UX 11.0 and 11i
- OVO/Unix 8.x on Solaris 8 and 9
- OVO/Unix 8.x on HP-UX 11.0 and 11i

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### **I M P O R T A N T   N O T E :**

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

### **Managed Node:**

- Citrix MetaFrame XPs/XPa/XPe 1.0 SP1/FR1, SP2/FR2, SP3/FR3 or SP4/FR3 running on Windows 2000 and Windows 2003 server family (where applicable)
- Citrix MetaFrame Presentation Server 3.0 Standard/Advanced/Enterprise edition, running on Windows 2000 and Windows 2003 server family

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**I M P O R T A N T   N O T E :**

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**If you are using Citrix MetaFrame 1.0 SP2/FR2, you also need to apply to each MetaFrame server a hotfix XE102W083. This is required for the Reporter group of templates to correctly gather performance data.**

**HP OpenView Reporter:**

- HP OpenView Reporter 3.5

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**I M P O R T A N T   N O T E :**

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**With Reporter 3.5, Reporter patch OVR\_00008 or later must be installed.**

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## Additional Requirements

### Data Store Consistency

SPI for Citrix MetaFrame can only operate correctly if the MetaFrame farm Data Store is consistent. Use the `dscheck.exe` tool available with MetaFrame Presentation Server XP 1.0 SP3/FR3 and MetaFrame Presentation Server 3.0 to check and fix potential Data Store inconsistencies.

To check for Data Store consistency, login to one of the MetaFrame 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 with the installation of the SPI for Citrix MetaFrame. For details on how to resolve Data Store inconsistencies, refer to MetaFrame documentation about the `dscheck.exe` tool.



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## Measurement of Execution Impact

This section describes the execution impact on a computer's CPU, memory and disk for the HP OpenView Operations for Unix managed nodes. Specifically, the information listed here presents an example of the impact that SPI for Citrix MetaFrame 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 MetaFrame in our lab.

*Systems Used:*

2xPIII 1 GHz 640Mb RAM, 20Gb HDD  
Windows 2000 Advanced Server  
Citrix MetaFrame FR2  
SPI for Citrix MetaFrame (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 and Removing SPI for Citrix MetaFrame

This section discusses how to install SPI for Citrix MetaFrame, re-install SPI for Citrix MetaFrame templates and applications, and how to uninstall SPI for Citrix MetaFrame.

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

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

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## High-level Steps Required to Install SPI for Citrix MetaFrame on the Management Server

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

1. Install SPI for Citrix MetaFrame product on the HP OpenView Operations management server (on HP-UX or on Sun Solaris) from the CD provided.
2. Verify installation.
3. Establish security (configure MetaFrame farm administrator passwords).
4. If not already present on your system, place MetaFrame nodes under control of your management server.

5. License the product
6. Distribute SPI for Citrix MetaFrame actions, monitors, and commands to the managed nodes
7. Verify/check requirements and configuration
8. Distribute SPI for Citrix MetaFrame templates to the managed nodes

Each of these steps is described in further detail in the sections that follow.

---

## Installing SPI for Citrix MetaFrame on the Management Server

To install SPI for Citrix MetaFrame on the HP OpenView Operations management server perform the following steps:

1. Login to the HP OpenView Operations management server as the user `root`.
2. Check the following prerequisites:

```
/usr/sbin/swlist | grep ITO
```

The bundles, `ITOEngOraAll` and `ITOEngSvcNav` versions A.07.10, or higher, must be installed on your system.

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### **N O T E :**

**During the installation process, all HP OpenView Operations processes must be “up and running”.**

3. Insert the SPI for Citrix MetaFrame 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 `HSLSPIeula_sun` and `METAFSPI_Sun.tar.gz.eula`.
  - For HP-UX 11.00 and 11i, the files `HSLSPIeula_hpux` and `METAFSPI_HPUX11.x.sdtape.gz.eula`.
5. If needed, set the executable permissions using the `chmod` command to the files `HSLSPIeula_hpux` or `HSLSPIeula_sun`, respectively.

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

- For Sun Solaris:  
`HLSPIeula_sun -f METAFSPI_Sun.tar.gz.eula`
- For HP-UX 11.00 and 11i:  
`HLSPIeula_hpux -f METAFSPI_HPUX11.x.sdtape.gz.eula`

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 `.eula` extension.

7. Decompress the installation package:

- For Solaris:
  1. First, decompress the `gz` file:  
`gzip -d METAFSPI_Sun.tar.gz`
  2. Then, extract the files from the `tar` file:  
`tar xvf METAFSPI_Sun.tar`
- For HP-UX 11.00 and 11i:  
  
`gzip -d METAFSPI_HPUX11.x.sdtape.gz`

8. Install SPI for Citrix MetaFrame. Note that this step installs all SPI for Citrix MetaFrame features. The installation is platform specific.

- To install SPI for Citrix MetaFrame on Sun Solaris:
  - a) Run the following command:  
`./install -i`  
  
This will install the `METAFSPI_Sun pkgadd` on the Solaris system.

- b) The installation script asks if you want to install the installation package or quit installation. Press `quit` to stop the installation process or `[Enter]` if you want to continue.
  - c) You will be notified when the installation is finished:  
`Installation of <METAFSPI> was successful.`
  - d) Verify that the installation phase has completed without errors by checking the following log file:  
`/tmp/metafspi.install.log`
- To install SPI for Citrix MetaFrame on HP-UX
    - a) Run the following command:  
`swinstall -s /tmp/METAFSPI_HPUX11.x.sdtape  
METAFSPI-All`
    - b) Verify that the installation phase has completed without errors by checking the following log files:  
`/var/adm/sw/swagent.log` and  
`/var/adm/sw/swinstall.log`

---

## Verify Installation on the Management Server

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

To review these new items, start the HP OpenView Operations administrator GUI (graphical user interface) then open the corresponding windows (Message Group Bank, Node Group Bank, Application Bank, Message Source Templates, and User Profile Bank).

The following new configuration items are visible to the HP OpenView Operations administrator:

New message groups:

- metafspi
- metafspi\_int

New node group:

- METAFSPI

New top level application group:

- SPI for Citrix MetaFrame

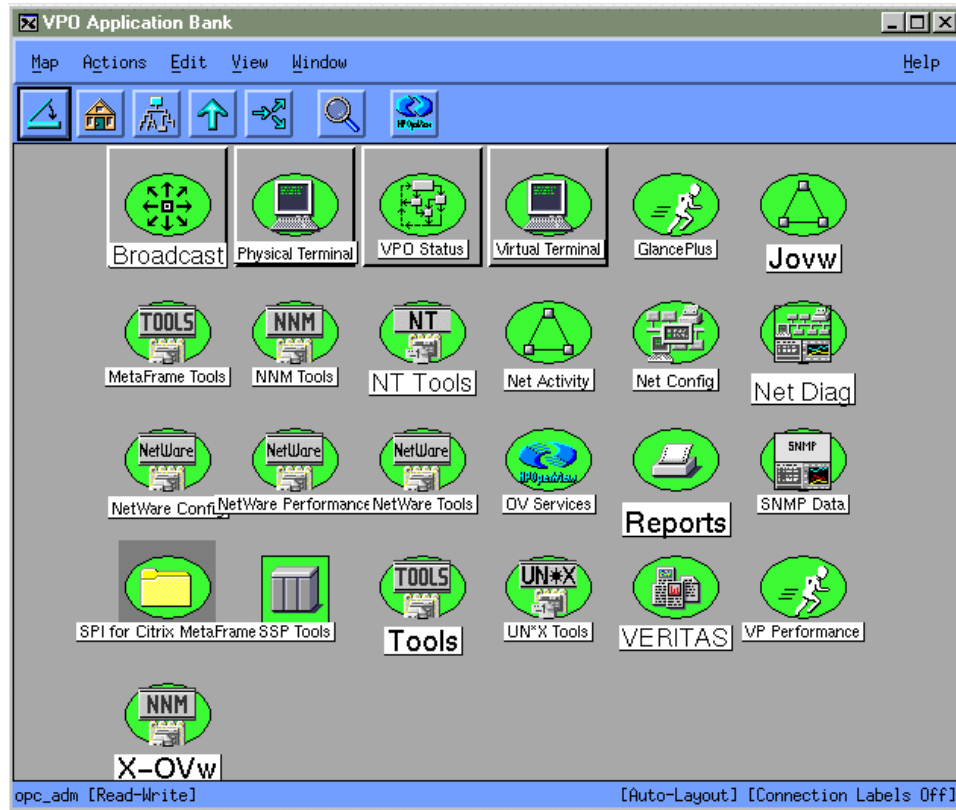
New top level template group:

- SPI for Citrix MetaFrame

New user profile:

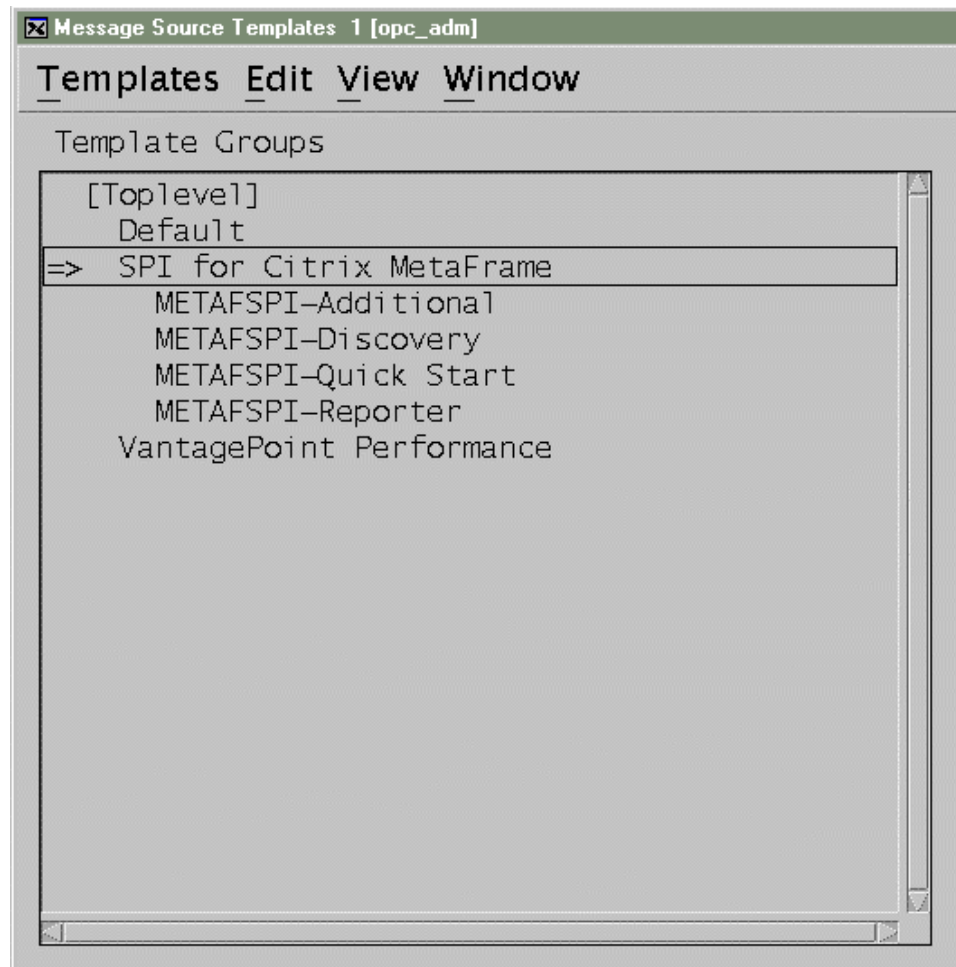
- METAFSPI Operator

## Application Bank





## Message Source Templates



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**NOTE :**

Refer to *Chapter 4: Reference Information* for detailed information about Applications and Application Groups as well as Templates and Template Groups.

## Additional Steps on the Management Server

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

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### **N O T E :**

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**You can use METAFSPI Operator user profile to assist you in organizing the HP OpenView Operations users.**

## **Setup Farm Administrator Accounts and Establish Security**

In order for SPI for Citrix MetaFrame to work correctly on a managed node, a MetaFrame 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 MetaFrame 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.

## **Configure HP OpenView Operations and SPI for Citrix MetaFrame to Monitor Citrix MetaFrame on Managed Nodes**

Information on how to configure HP OpenView Operations and SPI for Citrix MetaFrame on the managed nodes is described in the following sections.

## **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 HP OpenView Operations Console and log in as an HP OpenView Operations Administrator (opc\_adm).
2. From the *Node Bank* window, select **Actions** followed by selecting **Node** then **Add...**
3. In the *Add Node* window that appears, add the Node name then select the proper Machine type and OS Name.
4. Once information has been added, to exit the *Add Node* window, press [OK].

---

### **N O T E :**

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**Make sure that the agent on the node is running.**

Also, add the node to the METAFSPI group. Refer to your “HP OpenView Operations for UNIX” online documentation for more information on adding nodes.

## **Distributing SPI for MetaFrame Templates, Monitors, Actions, and Commands to the Managed Nodes**

Once the SPI for Citrix MetaFrame is installed on the HP OpenView Operations management server and the configuration is uploaded, you must 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 the section, *Software Requirements*, are met.
2. Start the HP OpenView Operations Console and log in as an HP OpenView Operations Administrator (opc\_adm).
3. To ensure that METAFSPI messages appear correctly in the HP OpenView Operations message browser, make sure that the target nodes are members of their corresponding new node group METAFSPI. This node group and the new message groups, metafspi and metafspi\_int, need to be assigned to the HP OpenView Operations 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 METAFSPI Operator user profile.
4. Select the target node in the HP OpenView Operations *Node Bank* window.
5. From the menu, select **Actions** followed by selecting **Agents** then **Install/Update SW & Config...** The *Install/Update Software and Configuration* window appears.
6. Select the following checkboxes: **Actions**, **Monitors**, and **Commands** then press [OK].

---

## Installation on a Reporter System

To install SPI for Citrix MetaFrame on a Reporter system, perform the steps that follow.

1. Where HP OpenView Reporter is installed, login to your Windows machine as the user administrator.
2. Make sure that HP OpenView Reporter is correctly installed on your system.
3. Insert the SPI for Citrix MetaFrame Installation CD into your computer.
4. Navigate to the root directory on the installation CD and execute:  
  
`METAFSPI-Reporter.exe`
5. At the end of the installation procedure, verify the installation on the Reporter system. To verify the installation, start HP OpenView Reporter and select **Reports**. Listed under Reports is **SPI for Citrix MetaFrame**. Begin to use Reports when, after at least two days, performance data are collected on the managed nodes.

---

## Farm Administrator Account Configuration Application

SPI for Citrix MetaFrame includes the `METAFSPIconfig` configuration application. This application generates the `METAFSPIsec.dat` file, which is then assigned to the managed nodes in order for instrumentation to use information within when interacting with a MetaFrame server. Note that the contents of this file are encrypted and should only be manipulated on the management server using the `METAFSPIconfig` application.

---

### NOTE :

---

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

The `METAFSPIConfig` application is located in:

```
/opt/OV/metafspi/METAFSPIConfig
```

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

<i>Option</i>	<i>Action performed</i>
<code>list</code>	Lists farm administrators
<code>add</code>	Adds a farm administrator
<code>delete</code>	Deletes a farm administrator
<code>change</code>	Changes a farm administrator password

Follow the instructions below to run the `METAFSPIConfig` configuration application.

## list

To list all farms, perform the following:

From the command line, run:

```
./METAFSPIConfig -list
```

A list of farms appears:

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

## add

To add a farm, perform the following steps:

1. From the command line, run:

```
./METAFSPIConfig -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 farms:

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:

```
./METAFSPIConfig -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:

```
./METAFSPIConfig -change
```

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



---

## SPI for Citrix MetaFrame Licensing

To start using SPI for Citrix MetaFrame, you will need to purchase a product license (either temporary or permanent) for every node that will be monitored by SPI for Citrix MetaFrame.

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### **N O T E :**

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**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.si](mailto:spi-licensing@hermes.si).**

---

## Licensing Procedure

Listed below are the steps you must perform to obtain a license needed to use SPI for Citrix MetaFrame.

### **Distribute the Licensing Template to Managed Nodes**

1. Start the HP OpenView Operations Console and log in as an HP OpenView Operations Administrator (opc\_adm).
2. From the *Node Bank* window, select the node(s) to which you want to distribute the template to.
3. From the menu, select **Actions** followed by selecting **Agents** then **Assign Templates**. The *Define Configuration* window opens.
4. Click **Add** to open the *Add Configuration* window.
5. Click **Open Template Window...** to open the *Message Source Templates* window.

6. From the **Template Group** list, expand **SPI for Citrix MetaFrame/METAFSPI-Quick Start** and then in the right pane select the **METAFSPI-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, select **Actions** followed by selecting **Agents** then **Install/Update SW & Config...**. The *Install/Update Software and Configuration* window opens.
9. Select the following checkboxes: **Templates, Actions, Commands, Monitors** and press [OK]. The template required for licensing METAFSPI-LicOpCMsg is installed on the managed node.

## Generate the License Request File

1. From the *Node Bank* window, select **Window** followed by selecting **Application Bank**. The *Application Bank* window opens.
2. Double-click the **SPI for Citrix MetaFrame/METAFSPI Licensing** group.

---

### NOTE :

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**Perform the next step only if you have already performed a license procedure and would like to generate a license request for additional nodes.**

3. Run the *1. Clear License Request File on Mgmt Server* application to clear the `metafspi_license_requests.dat` license request file on the management server.
4. Run the *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. Press [OK] to generate the license request. Note that this tool creates license requests on each selected node and sends them to the management server, which will put all of them to one file: `metafspi_license_requests.dat`.

## 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. When registering, have your PO information ready. The system will automatically process your request and send you the license activation file by e-mail.

-or-

- Send e-mail:

Send the generated license request file by e-mail to the HERMES SoftLab Licensing Department at [spi-licensing@hermes.si](mailto:spi-licensing@hermes.si). You will receive the license activation file usually within 24 hours. If you 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 `metafspi_licact_new.dat`.

## **Merge and Distribute the License Files**

1. Copy the `metafspi_licact_new.dat` file to following directory:  
`/opt/OV/metafspi`
2. From the **METAFSPI Licensing** application group, run the *3. Merge License Activation Codes on Mgmt Server* application to merge the `metafspi_licact_new.dat` file with the SPI license file. When you run this application for the first time, the application will merge the license activation file `metafspi_licact_new.dat` with the empty SPI license activation file `metafspi_licact.dat`. Both files are located on the management server in the following directory: `/opt/OV/metafspi`.
3. From the *Install/Update Software and Configuration* window, distribute monitor to all managed nodes for which you have requested METAFSPI licenses.

## **Verify Licensing**

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

---

## Verifying Requirements and Configuration

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

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### Using the Check Requirements/Configuration Application to Check Requirements and Configuration Information

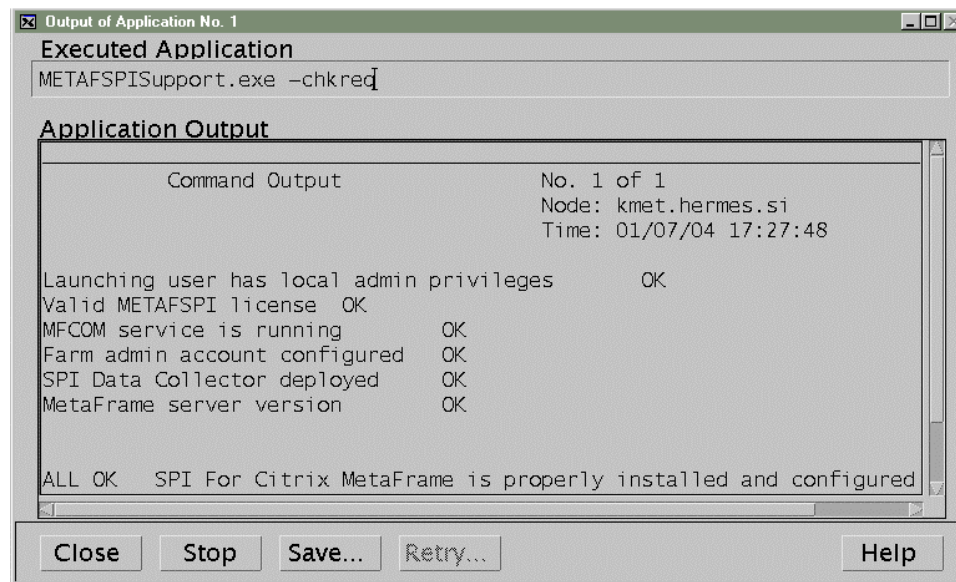
The **Check Requirements/Configuration** application located in the **METAFSPI Support** application group provides troubleshooting information and helps you verify SPI for Citrix MetaFrame requirements and configuration information. Once you have completed licensing your product, follow the steps below to finalize the setup of SPI for Citrix MetaFrame.

When SPI for Citrix MetaFrame is installed and configured (that is, licenses are configured, software and configuration is updated), from the **METAFSPI Support** application group, run the application **Check Requirements/Configuration** against all MetaFrame managed nodes. This application will check each configuration and output a few cases indicating whether the check is OK or not. *Figure 1: Check Requirements/Configuration Application Output OK*, which follows, displays a scenario where the application has been run and the configuration is correct. *Figure 2: Check Requirements/Configuration Application Output Failed* shows a “failed” scenario where the check found that a valid METAFSPI license is missing.

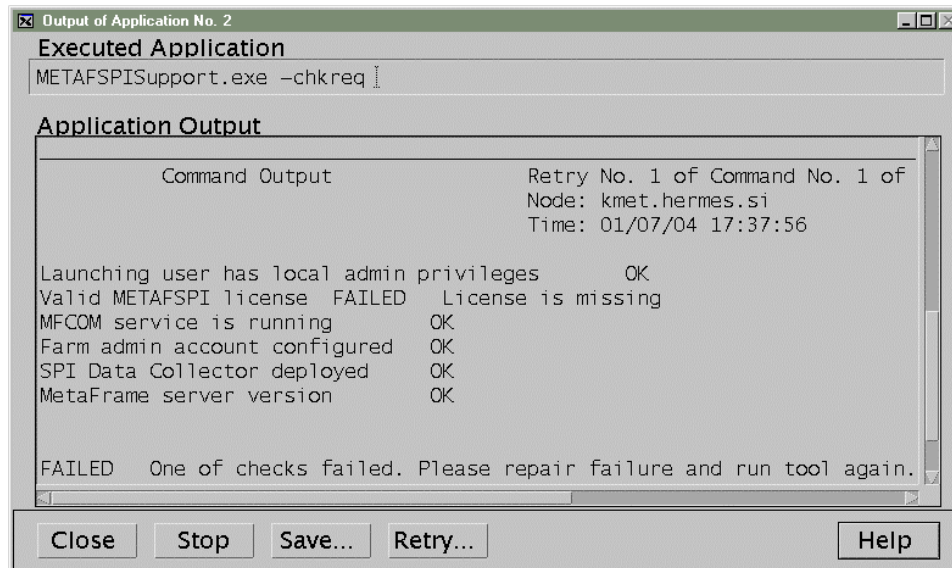
Note that the following application outputs are always listed in the *Application Output*: field of the *Application Status* dialog box.

<i>Application Output</i>	<i>Area Verified</i>
Launching user has local admin privileges	Configuration
Valid METAFSPI license	Configuration
MFCOM service is running	Requirements
Farm admin account configured	Configuration
DSI2DDF is installed	Configuration
MetaFrame server version	Requirements

**Figure 1: Check Requirements/Configuration Application Output OK**



**Figure 2: Check Requirements/Configuration Application Output Failed**



For additional information on the *METAFSPI Support* application group, refer to the section *METAFSPI Support Applications* listed in *Chapter 4: Reference Information* of this manual.

## Uninstalling SPI for Citrix MetaFrame

To completely uninstall SPI for Citrix MetaFrame, you must first remove all SPI for Citrix MetaFrame templates from the managed nodes and then from the HP OpenView Operations management server. Although the uninstall process is mostly automatic, some manual steps, as listed in the following sections, are required.

---

### Uninstalling SPI for Citrix MetaFrame from the Managed Nodes

1. Start the HP OpenView Operations Console and log in as HP OpenView Administrator (`opc_adm`).
2. Select the SPI for Citrix MetaFrame managed nodes in the *Node Bank* window from which you wish to remove SPI for Citrix MetaFrame.
3. Select **Actions** followed by selecting **Agents** then **Assign Templates...**. From the *Define Configuration* window, remove the METAFSPI templates and templates group. When the templates have been removed, press [OK].
4. From the *Node Bank* window, select **Actions** followed by selecting **Agents** then **Install/Update SW & Config...**. In the *Install/Update Software and Configuration* window, select the following checkbox: **Templates**.
5. Press [OK] to begin the distribution.
6. From the *Application Bank* window, double-click on **SPI for Citrix MetaFrame**. Then, from the window displayed, double-click on **METAFSPI Uninstall** application group. To perform the uninstall process, run the application **Remove Instrumentation from Managed Node**.
7. The SPI for Citrix MetaFrame templates and software are now removed from the selected managed node(s).



---

## Uninstalling SPI for Citrix MetaFrame from the Management Server

To uninstall SPI for Citrix MetaFrame from an HP OpenView Operations management server, perform the following steps:

1. Login to the HP OpenView Operations management server as the user `root`.
2. Perform all the steps described in the section, *Uninstalling SPI for Citrix MetaFrame from the Managed Nodes*. Perform the steps on all managed nodes on which SPI for Citrix MetaFrame has been installed.
3. Manually remove the following items:
  - **metafspi** and **metafspi\_int** from the *Message Group Bank* window
  - **METAFSPI** from the *Node Group Bank* window
  - **METAFSPI Operator** from the *User Profile Bank* window
  - **SPI for Citrix MetaFrame** from the *Application Bank* window
  - **SPI for Citrix MetaFrame Template Group** and its templates from the *Message Source Template* window
4. Perform additional platform-specific steps:
  - On HP-UX:
    1. From the command line, run: `swremove METAFSPI-All`
    2. From the command line, run `swlist` and check whether the `METAFSPI` entries are removed from the list.
    3. 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
```

- On Sun Solaris:
  1. Insert the SPI for Citrix MetaFrame Installation CD into the CD-ROM drive.
  2. The CD-ROM is automatically mounted on the Sun Solaris system, with mount point in /cdrom directory.
  3. From the root directory on the Installation CD, copy the files HSLSPIeula\_sun and METAFSPI\_Sun.tar.gz.eula to the /tmp directory on the system.
  4. If needed, set the executable permission using the `chmod` command to the file HSLSPIeula\_sun.
  5. From the /tmp directory, run from the command line:

```
HSLSPIeula_sun METAFSPI_Sun.tar.gz.eula
```

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

6. Decompress the installation package:
  - a. First, decompress the `gz` file:

```
gzip -d METAFSPI_Sun.tar.gz
```
  - b. Then, extract the files from the archive:

```
tar xvf METAFSPI_Sun.tar
```
7. To remove the product, run:

```
/tmp/remove -r
```

## Uninstalling from a Reporter System

To uninstall SPI for Citrix MetaFrame on a system that contains the HP OpenView Reporter product, follow the steps below.

1. Login to your Windows machine where the HP OpenView Reporter is installed as the user administrator.
2. Open Control Panel and double-click **Add/Remove Programs**. Select **SPI for Citrix MetaFrame – Reporter** and press [ Change/Remove ] to uninstall the SPI for Citrix MetaFrame Reports.



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3

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SPI for Citrix MetaFrame Usage

## Distribute Applications

SPI for Citrix MetaFrame implements many HP OpenView Operations for UNIX applications. To start a selected application on a selected node, follow the steps below.

1. Select the target node in the HP OpenView Operations *Node Bank* window.
2. From the menu, select **Actions** followed by selecting **Agents** then **Install/Update SW & Config....** The *Install/Update Software and Configuration* window appears.
3. Select the following checkboxes: **Actions**, **Monitors**, and **Commands** then press [OK].

---

## Distribute Templates

Templates instruct HP OpenView Operations engines how to solve system management issues, for example, “Monitor CPU Utilization”. Additionally, when a specific system event occurs, templates can generate HP OpenView Operations messages. These messages then trigger automatic or operator-initiated actions.

Follow the steps in this section to distribute templates to nodes. Note that the Administrator should also customize the thresholds within the templates.

1. Select the target node in the HP OpenView Operations *Node Bank* window.
2. From the menu, select **Actions** followed by selecting **Agents** then **Install/Update SW & Config...**. The *Install/Update Software and Configuration* window appears.
3. Select the following checkbox: **Templates** then press [OK].

---

### **N O T E :**

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**SPI for Citrix MetaFrame templates are logically grouped together under the SPI for Citrix MetaFrame template group. For example, you can distribute templates in the Quick Start group to get started quickly with the SPI. For additional information on templates grouped by common usage, refer to the section, *Template Grouping within SPI for Citrix MetaFrame*, which is in *Chapter 4: Reference Information*, of this manual.**

---

# SPI for Citrix MetaFrame Integration with HP OpenView Reporter

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## Integration Requirements

SPI for Citrix MetaFrame integration with HP OpenView Reporter requires that the following actions have occurred prior to the installation of reports on a system:

- The HP OpenView Reporter is installed on the same system as the HP OpenView Management server or it is installed as a standalone system, and the Reporter Service is running.
- An HP OpenView Operations Agent 7.x is installed on the Managed Nodes for which you want to generate reports.

---

### **I M P O R T A N T   N O T E :**

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**Data Source Integration To Dynamic Data Feed (DSI2DDF) component, version A.01.30, should be installed on the management server if you want to use the reporting functionality.**



---

## Assigning Templates and Collecting Performance Data

To produce reports, templates must be assigned. All templates related to collecting performance data are grouped together under the following template group: **SPI for Citrix MetaFrame...METAFSPI-Reporter**. Once templates are successfully installed on the agent, the Embedded Performance Agent (CODA agent) begins to collect performance data for sessions, services processes, and published applications at regular intervals. For all Citrix MetaFrame systems where CODA agents are collecting data, HP OpenView Reporter can be used to generate reports.

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## How HP OpenView Reporter Creates Reports

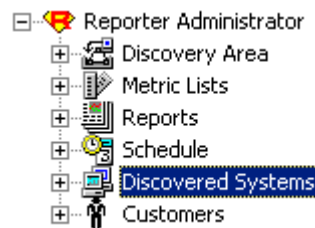
Reporter follows the steps below when producing reports:

- Perform System Discovery
- Gather Performance Data
- Generate Reports

Each of these steps is described in detail in the following sections.

### Perform System Discovery

HP OpenView Reporter creates Web-based reports from data derived from the targeted systems that it "discovers". During a system discovery, Reporter looks for systems that are specified in the **Discovery Area**, and which have an Embedded Performance Agent (CODA agent) or HP OpenView Performance Agent for Windows NT/2000 (formerly known as MeasureWare Agent or MWA) agent installed on them. It then adds those systems to the **Discovered Systems** group as indicated below:



Discovered systems are placed in groups for easier access and reporting. Systems can be assigned to groups as they are discovered as specified in the Automatic Grouping facility. By default, systems are automatically assigned to groups based on the name of their operating system. However, you can also manually assign systems to groups.

A system can belong to any number of different groups. You can also create your own groups and assign systems to them manually using the “drag and drop” action.

Note that the following group is created for SPI for Citrix MetaFrame purposes:

- SPI for Citrix MetaFrame

There is also an auto-grouping defined for this group, based on the following criteria:

- Data Source = ^METAFSPIUX.\*

The above indicates that each discovered system which contains a Data Source that begins with the word METAFSPIUX, for example, METAFSPIUX\_SVCS and METAFSPIUX\_SESX both match this rule, is automatically added to the SPI for Citrix MetaFrame discovered systems group in Reporter.

---

**I M P O R T A N T   N O T E :**

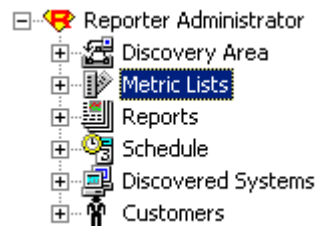
---

**The auto-grouping feature only works with newly discovered systems. If your systems have already been discovered by Reporter prior to the installation of the Reporter part of SPI for Citrix MetaFrame, they may not have been added to the SPI for Citrix MetaFrame Reporter group; it may even occur that the group itself has not been created.**

- If you find that a SPI for Citrix MetaFrame group was not created automatically, create one by yourself (take special care about the case used for the letters, it must be SPI for Citrix MetaFrame).
- If you find that a specific MetaFrame system has not been put under the SPI for Citrix MetaFrame group, you can add it to the group manually.

## Gather Performance Data

Once Reporter has run through its discovery, it gathers performance data from each discovered system and places it in a local database. Additionally, Reporter gathers data only for those metrics that it knows about. These metrics are specified under **Metric Lists**, as indicated below:



Metric lists control what information is gathered from a system into the Reporter's database. A metric list groups metrics from a single metric class supplied by the performance agent for UNIX or Windows. The metric list can also select the degree of summarization (points every 5 minutes, hour, day, and so on) and how much data to gather and retain in the database. The shorter the interval, the more records collected. The default summarization level is one hour. Metric lists are tightly connected to Data Source and Objects within that Data Source on each system.

The following metric list is created for SPI for Citrix MetaFrame reports on MetaFrame services:

- METAFSPI\_SVC

METAFSPI\_SVC metric lists contains the following four metrics:

- hinstancename
- PAGEFILEBYTES
- PCTPROCESSORTIME
- WORKINGSET

Points in metric lists are summarized hourly, and retained for seven days.

The following metric lists are created for SPI for Citrix MetaFrame reports on MetaFrame sessions:

- METAFSPIUX\_SESS
- METAFSPIUX\_SICA
- METAFSPIUX\_SESX
- METAFSPIUX\_SESM

The METAFSPIUX\_SESS metric list contains the following metrics:

- hinstancename
- WORKINGSET
- TOTALTIMEOUTS
- TOTALFRAMES
- TOTALERRORS
- PRIVATEBYTES
- PCTPROCESSORTIME
- PAGEFILEBYTES

The METAFSPIUX\_SICA metric list contains the following metrics:

- hinstancename
- LATENCYSESSIONAVERA
- LATENCYLASTRECORDED

The METAFSPIUX\_SESX metric list contains the following metrics:

- SESSIONNAME
- SESSIONID
- DOMAINNAME
- USERNAME
- STATE
- LOGONTIME
- LASTINPUTTIME
- APPDN
- ADDR\_FAMILY
- ISDESKTOPSESS
- ISMODEMSESS
- CPUTIME
- WORKINGSETSIZE
- PAGEFILESIZE

The METAFSPIUX\_SESM metric list contains the following metrics:

- SUMMKEY
- NUMALLSESS
- NUMACTSESS
- NUMDISCSESS
- NUMAPPINST
- NUMIPSESS
- NUMIPXSESS
- NUMNETBIOSSESS
- NUMMODEMSESS
- NUMDESKTOPSESS

- NUMPROCS

Points in metric lists are summarized with a 5-minute interval and retained for 42 days.

Also, the following metric list is created for all SPI for Citrix MetaFrame reports:

- METAFSPIUX\_FARM

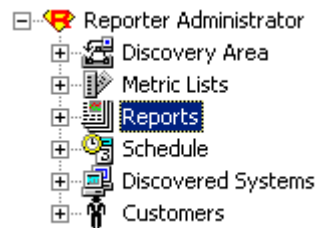
It contains the following metrics:

- FARMNAME
- ZONENAME

Points in the metric list are summarized hourly and retained for three days.

## Generate Reports

Reporter generates HTML reports based on the data available in the local Reporter database. Additionally, Reporter creates the HTML reports from the set of reports that it knows about; reports which are located in the **Reports** group as indicated below:



Available reports are listed in families under the Reports icon. You can expand the Reports hierarchy in the Reporter window then click on a report family to display in the right pane, the reports it contains. You can also delete the report when it is in the right pane. Click on an individual report to display its definition details. Additionally, you can edit the report definition details in the right pane including the Date Range and Shift Name.

The following report family is created for SPI for Citrix MetaFrame purposes:

- SPI for Citrix MetaFrame



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## Reports Implemented in SPI for Citrix MetaFrame

Several report categories and related individual reports exist under the **SPI for Citrix MetaFrame** report family as specified in the tables that follow.

---

### **N O T E :**

**All SPI for Citrix MetaFrame reports require that the METAFSPI-ServerConfigLogging scheduled template correctly logs its data. This template logs server configuration information once per hour – by default this occurs 17 minutes past the hour. You must ensure that at least at 12:17 PM, the MetaFrame server is operational; otherwise, it will not be included in reports on the following day.**

<i>Category</i>	<i>Report</i>
MetaFrame Sessions	<p><b>Session Logon/Logoff Activity (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_LOGON_LOGOFF_FARM.rpt</p> <p><i>Description:</i> This report presents the number of logons / logoffs per hour on each Citrix MetaFrame farm over time. Using this report it is possible to receive insight into user logon / logoff behavior and to identify periods of peak logon / logoff activity.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers in a farm that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
MetaFrame Sessions	<p><b>Session Logon/Logoff Activity (Farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_LOGON_LOGOFF_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report presents session logon/logoff activity on MetaFrame farms in last 28 days. A session is defined as a unique combination of session ID and session logon time. Using this report it is possible to receive insight into the trends of session logon/logoff activity on each farm.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers in a farm that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
MetaFrame Sessions	<p><b>Session Logon/Logoff Activity (server/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_LOGON_LOGOFF_SERVER.rpt</p> <p><i>Description:</i> This report presents the number of logons / logoffs per hour on each Citrix MetaFrame server over time. Using this report it is possible to receive insight into user logon / logoff behavior and to identify periods of peak logon / logoff activity.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
MetaFrame Sessions	<p><b>Session Logon/Logoff Activity (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_LOGON_LOGOFF_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report presents session logon/logoff activity for MetaFrame servers within farms for the last 28 days. A session is defined as a unique combination of session ID and session logon time. Using this report it is possible to receive insight into the trends of session logon/logoff activity on each individual server.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
MetaFrame Sessions	<p><b>Session Activity in MetaFrame Farms (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_STATE_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report presents daily average session activity in MetaFrame farms. Sessions are categorized according to their state into three groups: active, disconnected, and all other (connected, connecting, shadowing, idle, listening, resetting, down, init, stale). Each group is graphed with a different color. Using this report it is possible to identify trends in farm session activity and to perform inter-farm session activity comparison.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
MetaFrame Sessions	<p data-bbox="618 312 1312 344"><b>Session Activity in MetaFrame Farms (farm/yesterday)</b></p> <p data-bbox="618 380 1133 407"><i>Filename:</i> g_METAFSPIUX_SESS_STATE_FARM.rpt</p> <p data-bbox="618 436 1333 600"><i>Description:</i> This report presents session activity in each Citrix MetaFrame farm over time. Sessions are categorized according to their state into three groups: active, disconnected, and all other. Each group is graphed with its own color. Using this report it is possible to identify farms with high session activity and to perform inter-farm session activity comparison.</p> <p data-bbox="618 638 1281 716"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 751 980 800">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
MetaFrame Sessions	<p data-bbox="618 833 1300 898"><b>Session Activity on MetaFrame Servers (server/last 28 days)</b></p> <p data-bbox="618 930 1248 957"><i>Filename:</i> g_METAFSPIUX_SESS_STATE_28DAYS_SERVER.rpt</p> <p data-bbox="618 989 1328 1182"><i>Description:</i> This report presents daily average session activity on MetaFrame servers within farms. Sessions are categorized according to their state into three groups: active, disconnected, and all other (connected, connecting, shadowing, idle, listening, resetting, down, init, stale). Each group is graphed with a different color. Using this report it is possible to identify trends in server session activity and to perform cross-server session activity comparison.</p> <p data-bbox="618 1220 1281 1297"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 1335 980 1383">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
MetaFrame Sessions	<p><b>Session Activity on MetaFrame Servers (server/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_SESS_STATE_SERVER.rpt</p> <p><i>Description:</i> This report presents session activity on each Citrix MetaFrame server over time. Sessions are categorized according to their state into three groups: active, disconnected, and all other. Each group is graphed with its own color. Using this report it is possible to identify servers within each farm with high session activity and to perform inter-server session activity comparison.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
MetaFrame Published Applications	<p><b>Number of Users of Published Applications (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_APP_NR_USERS_DAY_FARM.rpt</p> <p><i>Description:</i> This report presents the number of users of each published application per hour for MetaFrame farms. Using this report it is possible to monitor license utilization (if required by nature of application) or to receive insight into how much a specific published application is being used.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
<p>MetaFrame Published Applications</p>	<p><b>Number of Users of Published Applications (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_APP_NR_USERS_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report presents the number of users of each published application per day for MetaFrame farms for the last 28 days. The values depicted on the chart represent the number of unique (not concurrent) users that used a specific published application on that day. Using this report it is possible to receive insight into how much a specific published application is being used.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
<p>MetaFrame Published Applications</p>	<p><b>Number of Users of Published Applications (server/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_APP_NR_USERS_DAY_SERVER.rpt</p> <p><i>Description:</i> This report presents the number of users of each published application per hour for MetaFrame servers within farms. Using this report it is possible to receive insight into how much a specific published application is being used on each server.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
<p>MetaFrame Published Applications</p>	<p><b>Number of Users of Published Applications (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_APP_NR_USERS_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report presents the number of users of each published application per day for MetaFrame servers within farms for the last 28 days. The values depicted on the chart represent the number of unique (not concurrent) users that used a specific published application on that day. Using this report it is possible to receive insight into how much a specific published application is being used.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
<p>MetaFrame Accounting</p>	<p><b>Application Accounting Information (farm/last month)</b></p> <p><i>Filename:</i> g_METAFSPIUX_ACCOUNTING_APP_MONTH_FARM.rpt</p> <p><i>Description:</i> This report presents various accounting information for each published application used across all servers and all users in MetaFrame farms. 'Total number of logged application instances' field represents the number of running application instances that were detected in the reporting interval. 'Total use time' field represents the total duration application instances were running. 'Total CPU time spent' field represents the total CPU time application instances spent while running. 'Total memory use' field represents the total physical memory spent in time while application instances were running. This report provides accounting data that can be further used for billing of published application use.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
<p>MetaFrame Accounting</p>	<p><b>User Accounting Information (farm/last month)</b></p> <p><i>Filename:</i> g_METAFSPIUX_ACCOUNTING_USER_MONTH_FARM.rpt</p> <p><i>Description:</i> This report presents various accounting information for each user across all servers in MetaFrame farms. 'Total number of logged application instances' field represents the number of running application instances detected in the reporting interval. 'Total use time' field represents the total duration this users' application instances were running. 'Total CPU time spent' field represents the total CPU time application instances spent while running. 'Total memory use' field represents the total physical memory spent in time while application instances were running. This report provides accounting data that can be further used for billing of users based on their actual use of MetaFrame farm.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
<p>Threshold Assistant</p>	<p><b>Threshold Assistant for Session State Monitoring (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_STATE_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report provides statistical information that helps adjust thresholds in session state monitoring templates for individual MetaFrame farms. For each corresponding monitoring template the report produces the average and minimum/maximum values for PRIME and ALL shifts across all servers in a farm (PRIME shift needs to be defined in HP OpenView Reporter). Using this report it is possible to determine farm-wide threshold levels for session state monitoring templates, adjust them to the actual environment, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>



<i>Category</i>	<i>Report</i>
Threshold Assistant	<p><b>Threshold Assistant for Session State Monitoring (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_STATE_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report provides statistical information that helps adjust thresholds in session state monitoring templates for individual MetaFrame servers. For each corresponding monitoring template the report produces the average and minimum/maximum values for PRIME and ALL shifts for each server in a farm (PRIME shift needs to be defined in HP OpenView Reporter).</p> <p>Using this report it is possible to determine server-specific threshold levels for session state monitoring templates, adjust them to the actual environment, and greatly reduce the number of false alarms that need administrative attention.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Threshold Assistant	<p data-bbox="618 312 1252 380"><b>Threshold Assistant for Session CPU and Memory Monitoring (farm/last 28 days)</b></p> <p data-bbox="618 411 1325 436"><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_CPUMEM_28DAYS_FARM.rpt</p> <p data-bbox="618 468 1341 741"><i>Description:</i> This report provides statistical information that helps adjust thresholds in session CPU and Memory monitoring templates for individual MetaFrame farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts across all servers in a farm (PRIME shift needs to be defined in HP OpenView Reporter). Using this report it is possible to determine farm-wide threshold levels for session CPU and Memory monitoring templates, adjust them to the actual environment, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p data-bbox="618 772 1284 856"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 888 980 930">METAFSPI-ServerConfigLogging METAFSPI-SessionsLogging</p>

<b>Category</b>	<b>Report</b>
Threshold Assistant	<p data-bbox="618 312 1252 380"><b>Threshold Assistant for Session CPU and Memory Monitoring (server/last 28 days)</b></p> <p data-bbox="618 411 1247 459"><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_CPUMEM_28DAYS_SERVER.rpt</p> <p data-bbox="618 489 1333 764"><i>Description:</i> This report provides statistical information that helps adjust thresholds in session CPU and Memory monitoring templates for individual MetaFrame servers within farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts for individual farm servers (PRIME shift needs to be defined in HP OpenView Reporter). Using this report it is possible to determine server-specific threshold levels for session CPU and Memory monitoring templates, fine-tune them for individual servers or groups of servers, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p data-bbox="618 793 1284 879"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 909 980 951">METAFSPI-ServerConfigLogging METAFSPI-SessionsLogging</p>

<b>Category</b>	<b>Report</b>
Threshold Assistant	<p data-bbox="618 312 1235 380"><b>Threshold Assistant for Session Network Latency Monitoring (farm/last 28 days)</b></p> <p data-bbox="618 409 1325 436"><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_NETLAT_28DAYS_FARM.rpt</p> <p data-bbox="618 466 1341 711"><i>Description:</i> This report provides statistical information that helps adjust thresholds in session network latency monitoring templates for individual MetaFrame farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts across all servers in a farm (PRIME shift needs to be defined in HP OpenView Reporter). Using this report it is possible to determine farm-wide threshold levels for session network latency monitoring templates, adjust them to the actual environment, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p data-bbox="618 741 1281 827"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 856 980 900">METAFSPI-ServerConfigLogging METAFSPI-SessionsICALogging</p>

<i>Category</i>	<i>Report</i>
Threshold Assistant	<p><b>Threshold Assistant for Session Network Latency Monitoring (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_NETLAT_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report provides statistical information that helps adjust thresholds in session network latency monitoring templates for individual MetaFrame servers within farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts for individual farm servers (PRIME shift needs to be defined in HP OpenView Reporter).</p> <p>Using this report it is possible to determine server-specific threshold levels for session network latency monitoring templates, fine-tune them for individual servers or groups of servers, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsLogging</p>

<b>Category</b>	<b>Report</b>
Threshold Assistant	<p data-bbox="618 312 1224 380"><b>Threshold Assistant for Session Network Traffic Monitoring (farm/last 28 days)</b></p> <p data-bbox="618 411 1325 436"><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_NETTRA_28DAYS_FARM.rpt</p> <p data-bbox="618 468 1341 684"><i>Description:</i> This report provides statistical information that helps adjust thresholds in session network traffic monitoring templates for individual MetaFrame farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts across all servers in a farm (PRIME shift needs to be defined in HP OpenView Reporter). This report does not take into account Console and Idle sessions, since they are often incorrectly reporting very large values.</p> <p data-bbox="618 716 1341 825">Using this report it is possible to determine farm-wide threshold levels for session network traffic monitoring templates, adjust them to the actual environment, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p data-bbox="618 856 1281 938"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 970 980 1014">METAFSPI-ServerConfigLogging METAFSPI-SessionsLogging</p>

<b>Category</b>	<b>Report</b>
Threshold Assistant	<p><b>Threshold Assistant for Session Network Traffic Monitoring (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_THRASS_SESS_NETTRA_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report provides statistical information that helps adjust thresholds in session network traffic monitoring templates for individual MetaFrame servers within farms. For each corresponding monitoring template, the report produces the average and minimum/maximum values for PRIME and ALL shifts for individual farm servers (PRIME shift needs to be defined in HP OV Reporter). This report does not take into account Console and Idle sessions, since they are often incorrectly reporting very large values for session network traffic metrics. Using this report it is possible to determine server-specific threshold levels for session network traffic monitoring templates, fine-tune them for individual servers or groups of servers, and greatly reduce or even eliminate false alarms that need administrative attention.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsLogging</p>
MetaFrame Users	<p><b>Number of Logged-in Users on Farm Level (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_NR_USERS_DAY_FARM.rpt</p> <p><i>Description:</i> This report presents the number of logged-in users per hour for MetaFrame farms. Using this report it is possible to monitor user activity and to identify periods of high user activity.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
MetaFrame Users	<p data-bbox="618 312 1330 380"><b>Number of Logged-in Users on Farm Level (farm/last 28 days)</b></p> <p data-bbox="618 411 1198 436"><i>Filename:</i> g_METAFSPIUX_NR_USERS_28DAYS_FARM.rpt</p> <p data-bbox="618 470 1317 611"><i>Description:</i> This report presents number of logged-in users for MetaFrame farms. For every time-stamp graph depicts number of users that had at least one session opened on any MetaFrame server in a farm. Using this report it is possible to precisely monitor user activity over longer period of time and identify periods of high user activity.</p> <p data-bbox="618 640 1284 720"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 753 980 800">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
MetaFrame Users	<p data-bbox="618 833 1174 900"><b>Number of Logged-in Users on Server Level (server/yesterday)</b></p> <p data-bbox="618 932 1187 957"><i>Filename:</i> g_METAFSPIUX_NR_USERS_DAY_SERVER.rpt</p> <p data-bbox="618 991 1321 1100"><i>Description:</i> This report presents the number of logged-in users per hour for MetaFrame servers within farms. Using this report it is possible to monitor user activity on an individual server level, identify servers with high user load, and possibly to optimize load balancing algorithms.</p> <p data-bbox="618 1129 1284 1209"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 1243 980 1289">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>



<b>Category</b>	<b>Report</b>
MetaFrame Users	<p><b>Number of Logged-in Users on Server Level (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_NR_USERS_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report presents number of logged-in users to MetaFrame servers within farms. For every time-stamp graph depicts number of users that had at least one session opened on a MetaFrame server. Using this report it is possible to precisely monitor user activity on an individual server level over a longer period, identify trends in user activity, and possibly optimize load balancing algorithms.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>
Top Applications	<p><b>Top 10 published applications by CPU use (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_CPU_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their CPU use in MetaFrame farms. Published applications are listed table-wise in descending order from largest CPU consumer down. The right side of the table presents total CPU time consumed by specific published application in minutes and also in % of CPU time all published applications spent while running on MetaFrame servers. CPU time consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in a farm in terms of CPU load. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p><b>Top 10 published applications by CPU use (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_CPU_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their CPU use on MetaFrame servers within farms. Published applications are listed table-wise in descending order from the largest CPU consumer down. The right side of the table presents total CPU time consumed by a specific published application in minutes and also in % of CPU time all published applications spent while running on the MetaFrame server. CPU time consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in each individual MetaFrame server in terms of CPU load. This allows for focusing of planning and administrative actions on published applications that need it the most.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging          METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p><b>Top 10 published applications by CPU use (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_CPU_DAY_FARM.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their CPU use in MetaFrame farms. Published applications are listed table-wise in descending order from the largest CPU consumer down. The right side of the table presents total CPU time consumed by specific published application in minutes and also in % of CPU time all published applications spent while running on MetaFrame servers. CPU time consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in a farm in terms of CPU load. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging  METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p data-bbox="618 312 1149 380"><b>Top 10 published applications by CPU use (server/yesterday)</b></p> <p data-bbox="618 411 1224 436"><i>Filename:</i> g_METAFSPIUX_TOP_APP_CPU_DAY_SERVER.rpt</p> <p data-bbox="618 470 1334 800"><i>Description:</i> This report presents the top 10 published applications by their CPU use on MetaFrame servers within farms. Published applications are listed table-wise in descending order from the largest CPU consumer down. The right side of the table presents total CPU time consumed by specific published application in minutes and also in % of CPU time all published applications spent while running on a MetaFrame server. CPU time consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in each individual MetaFrame server in terms of CPU load. This allows for the focusing of planning and administrative actions on published applications that need it most.</p> <p data-bbox="618 835 1281 915"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 945 979 989">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<i>Category</i>	<i>Report</i>
Top Applications	<p><b>Top 10 published applications by memory use (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_MEM_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their memory use in time within MetaFrame farms. Published applications are listed table-wise in descending order from largest memory consumer down. The right side of the table presents total memory consumed by each published application in megabyte hours and also in % of memory in time all published applications used while running on MetaFrame servers. Memory consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in a farm in terms of memory load in time. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging          METAFSPI-SessionsExLogging</p>

<i>Category</i>	<i>Report</i>
Top Applications	<p><b>Top 10 published applications by memory use (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_MEM_DAY_FARM.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their memory use in time within MetaFrame farms. Published applications are listed table-wise in descending order from the largest memory consumer down. The right side of the table presents total memory consumed by each published application in megabyte hours and also in % of memory in time all published applications used while running on MetaFrame servers. Memory consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in a farm in terms of memory load in time. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging          METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p><b>Top 10 published applications by memory use (server/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_MEM_28DAYS_SERVER.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their memory use in time within MetaFrame farms. Published applications are listed table-wise in descending order from largest memory consumer down. The right side of the table presents total memory consumed by each published application in megabyte hours and also in % of memory in time all published applications used while running on MetaFrame servers. Memory consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in each individual MetaFrame server in terms of memory load in time. This allows for the focusing of planning and administrative actions on published applications that need it most.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging  METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p><b>Top 10 published applications by memory use (server/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_APP_MEM_DAY_SERVER.rpt</p> <p><i>Description:</i> This report presents the top 10 published applications by their memory use in time within MetaFrame farms. Published applications are listed table-wise in descending order from largest memory consumer down. The right side of the table presents total memory consumed by each published application in megabyte hours and also in % of memory in time all published applications used while running on MetaFrame servers. Memory consumed by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the heaviest published applications in each individual MetaFrame server in terms of memory load in time. This allows for the focusing of planning and administrative actions on published applications that need it most.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging          METAFSPI-SessionsExLogging</p>



<b>Category</b>	<b>Report</b>
Top Applications	<p data-bbox="618 312 1295 380"><b>Top 10 published applications by number of launched instances (farm/last 28 days)</b></p> <p data-bbox="618 411 1287 436"><i>Filename:</i> g_METAFSPIUX_TOP_APP_NUMINST_28DAYS_FARM.rpt</p> <p data-bbox="618 470 1325 779"><i>Description:</i> This report presents the top 10 published applications by their number of launched instances within MetaFrame farms. Published applications are listed table-wise in descending order from application with largest number of launched instances down. The right side of the table also presents the number of launched instances in % of all launched application instances on a farm's servers. Number of launched instances by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the most "popular" published applications in a farm. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p data-bbox="618 808 1282 890"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 917 979 963">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p data-bbox="618 312 1295 380"><b>Top 10 published applications by number of launched instances (farm/yesterday)</b></p> <p data-bbox="618 409 1247 436"><i>Filename:</i> g_METAFSPIUX_TOP_APP_NUMINST_DAY_FARM.rpt</p> <p data-bbox="618 470 1333 779"><i>Description:</i> This report presents the top 10 published applications by their number of launched instances within MetaFrame farms. Published applications are listed table-wise in descending order from the application with largest number of launched instances down. The right side of the table also presents the number of launched instances in % of all launched application instances on a farm's servers. Number of launched instances by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the most "popular" published applications in a farm. Correlating this information to the list of servers these applications are published on can help in the planning of future administrative actions.</p> <p data-bbox="618 808 1284 890"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 917 980 961">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p data-bbox="618 312 1295 380"><b>Top 10 published applications by number of launched instances (server/last 28 days)</b></p> <p data-bbox="618 409 1312 436"><i>Filename:</i> g_METAFSPIUX_TOP_APP_NUMINST_28DAYS_SERVER.rpt</p> <p data-bbox="618 470 1336 804"><i>Description:</i> This report presents the top 10 published applications by their number of launched instances on MetaFrame servers within farms. Published applications are listed table-wise in descending order from the application with largest number of launched instances down. The right side of the table also presents the number of launched instances in % of all launched application instances on a farm's servers. Number of launched instances by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the most "popular" published applications on each individual MetaFrame server in a farm. This allows for the focusing of planning and administrative actions on published applications that need it most.</p> <p data-bbox="618 835 1281 917"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 945 979 991">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Applications	<p data-bbox="618 312 1295 380"><b>Top 10 published applications by number of launched instances (server/yesterday)</b></p> <p data-bbox="618 411 1276 436"><i>Filename:</i> g_METAFSPIUX_TOP_APP_NUMINST_DAY_SERVER.rpt</p> <p data-bbox="618 470 1341 804"><i>Description:</i> This report presents the top 10 published applications by their number of launched instances on MetaFrame servers within farms. Published applications are listed table-wise in descending order from the application with the largest number of launched instances down. The right side of the table also presents the number of launched instances in % of all launched application instances on a farm's servers. Number of launched instances by all non-top 10 published applications is summarized under the 11th published application instance named "Other". This report is useful for determining the most "popular" published applications on each individual MetaFrame server in a farm. This allows for the focusing of planning and administrative actions on published applications that need it most.</p> <p data-bbox="618 835 1284 915"><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p data-bbox="618 947 980 993">METAFSPI-ServerConfigLogging METAFSPI-SessionsExLogging</p>

<b>Category</b>	<b>Report</b>
Top Servers	<p><b>Top 10 servers with highest average session latency (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SESSAVGLAT_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report shows the top 10 servers with the highest average ICA session latency for each MetaFrame farm. The first part of the report focuses on determining the top 10 servers and calculating their average ICA session latency, while the second part of the report shows in detail how average ICA session latency was changing over time on each farm's server. This report is useful for determining and focusing administrative attention on servers where users may be experiencing bad response times.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsICALogging</p>
Top Servers	<p><b>Top 10 servers with highest average session latency (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SESSAVGLAT_DAY_FARM.rpt</p> <p><i>Description:</i> This report shows the top 10 servers with the highest average ICA session latency for each MetaFrame farm. The first part of the report focuses on determining the top 10 servers and calculating their average ICA session latency, while the second part of the report shows in detail how average ICA session latency was changing over time on each farm's server. This report is useful for determining and focusing administrative attention on servers where users may be experiencing bad response times.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have the following templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServerConfigLogging METAFSPI-SessionsICALogging</p>

<b>Category</b>	<b>Report</b>
Top Servers	<p><b>Top 10 Servers with Largest MetaFrame Services CPU use (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSCPU_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report consist of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the CPU time and a lower part that displays for each of the top ten systems listed, a chart of CPU consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging            METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>
Top Servers	<p><b>Top 10 Servers with Largest MetaFrame Services CPU use (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSCPU_DAY_FARM.rpt</p> <p><i>Description:</i> This report consist of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the CPU time and a lower part that displays for each of the top ten systems listed, a chart of CPU consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging            METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>

<b>Category</b>	<b>Report</b>
Top Servers	<p><b>Top 10 Servers with Highest MetaFrame Services Memory use (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSMEM_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report consists of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the Memory, that is, physical memory and a lower part that displays for each of the top ten systems listed, a chart of Memory consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging  METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>
Top Servers	<p><b>Top 10 Servers with Highest MetaFrame Services Memory use (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSMEM_DAY_FARM.rpt</p> <p><i>Description:</i> This report consists of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the Memory, that is, physical memory and a lower part that displays for each of the top ten systems listed, a chart of Memory consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging  METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>

<b>Category</b>	<b>Report</b>
Top Servers	<p><b>Top 10 Servers with Highest MetaFrame Services Swap use (farm/last 28 days)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSSWAP_28DAYS_FARM.rpt</p> <p><i>Description:</i> This report consists of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the Swap, that is, virtual memory and a lower part that displays for each of the top ten systems listed, a chart of Swap consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging  METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>
Top Servers	<p><b>Top 10 Servers with Highest MetaFrame Services Swap use (farm/yesterday)</b></p> <p><i>Filename:</i> g_METAFSPIUX_TOP_SRV_SVCSSWAP_DAY_FARM.rpt</p> <p><i>Description:</i> This report consists of two parts: an upper part that depicts the top ten systems where MetaFrame services on average consumed most of the Swap, that is, virtual memory and a lower part that displays for each of the top ten systems listed, a chart of Swap consumption with hourly accuracy.</p> <p><b>IMPORTANT NOTE:</b> This report takes into account only those MetaFrame servers that have at least the following two templates assigned to the nodes (for at least 2 days):</p> <p>METAFSPI-ServicesLogging  METAFSPI-ServerConfigLogging</p> <p>All other METAFSPI-Reporter templates are highly recommended</p>



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## Service Navigator Support

HP OpenView Service Navigator is a component of the HP OpenView Operations Java-based operator GUI. This component enables you to manage your IT (information technology) environment while focusing on the IT services that you provide.

SPI for Citrix MetaFrame contains support for Service Navigator; it automatically generates a MetaFrame service map of the Citrix MetaFrame enterprise configuration.

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### **N O T E :**

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**For additional information on the HP OpenView Services, refer to the *HP OpenView Operations Navigator – Concepts and configuration guide*.**

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## Autodiscovery

SPI for Citrix MetaFrame offers autodiscovery of MetaFrame farms, zones, servers, and published applications, as well as the dependencies between them in a farm. SPI for Citrix MetaFrame also monitors any MetaFrame configuration changes, and allows you to update your service map once a day (this can be configured) if changes occurred.

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### **N O T E :**

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**You can also generate a service map whenever you desire by using a “Force Service Model Update” application. For details, see the *Forcing Autodiscovery* chapter later in the document.**

Before performing an autodiscovery, the following three issues should first be addressed:

1. SPI for Citrix MetaFrame must be configured correctly on at least one MetaFrame managed node that is part of a MetaFrame farm (the **Check Requirements/Configuration** application should report no errors on that node).
2. The template, `METAFSPI-ChkServiceModel`, should be provided with the OVO/U administrator account name and password to get access to message annotations. This is achieved by performing the following:
  1. Open the *Message Source Templates* window.
  2. Navigate to the **SPI for Citrix MetaFrame...METAFSPI Discovery** template group.
  3. Select the `METAFSPI-ChkServiceModel` monitor template.
  4. Select [ *Conditions* ]. You should see a window with three conditions listed.
  5. Select the first condition and press [ *Modify...* ].
  6. In the **Command** edit box of the operator-initiated action, modify the last three parameters that represent the account name and password of the OVO/U administrator you want to use to perform the Citrix MetaFrame service map update and the operator name to which you want to assign a service map. Operator parameter is optional. If operator parameter is not given `opc_op` operator will be used by default. For example, if you have configured the `opc_adm` account with the password `OpC_pwd` in your OVO/U installation and `metafspi_op` is operator, then you should modify the **Command** edit box as follows:

```
/opt/OV/metafspi/METAFSPI-updsvcmodel.sh  
<$MSG_ID> <$MSG_OBJECT> opc_adm OpC_pwd  
metafspi_op
```

Note that only the last two (if the operator is not set) or three parameters (written in *italic*) should be changed and that the account used in the command line must be an OVO/U administrator.

7. To confirm the changes, press [ *OK* ].

8. Repeat steps 4 - 7 listed above to modify the second condition of the METAFSPI-ChkServiceModel monitor template. Do not modify the third condition .
9. Press [Close] to close the window.
10. Close the *Message Source Templates* window.
3. The template, METAFSPI-ChkServiceModel, should be distributed to MetaFrame managed node mentioned in step 1.

---

**N O T E :**

---

**Refer to the section, *The METAFSPI-ChkServiceModel Templates Defined*, later in this chapter for detailed information on the METAFSPI-ChkServiceModel template.**

Once these conditions are met, the MetaFrame service map autodiscovery will automatically occur within the next 24 hours (this value is configurable – the time value listed here is the default).

When either a MetaFrame service map change is detected or a service map is generated for the first time, the message indicating that will appear in the **Message Browser**. You must then perform the following steps in the OVO/Unix Java GUI:

1. Perform an operator initiated action on the message.
2. Perform the **File...Reload Configuration** action to receive the correct status information and services layout.

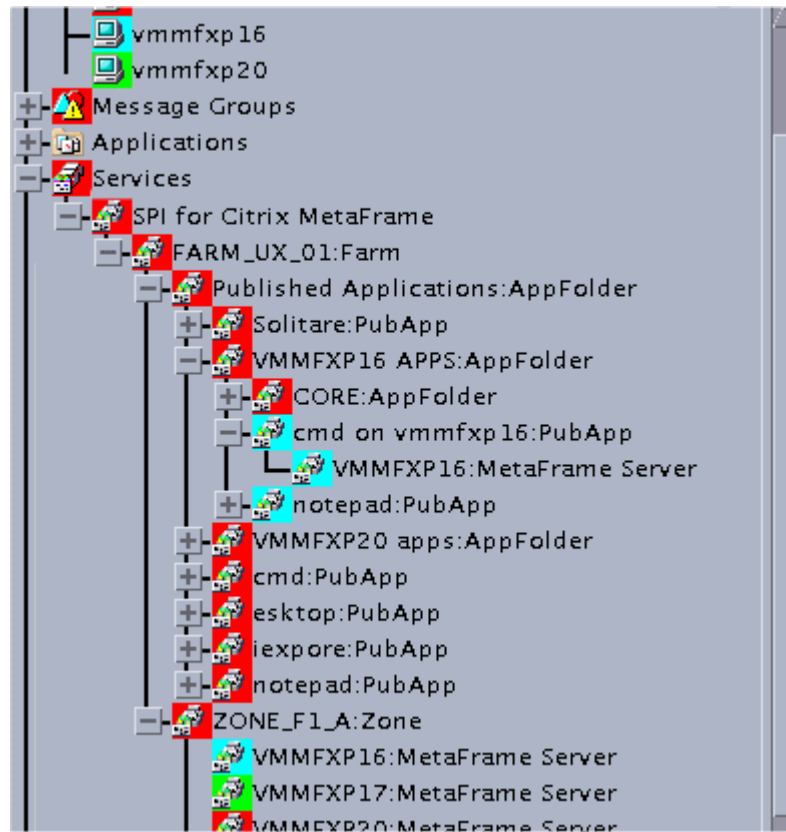
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**I M P O R T A N T N O T E :**

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**For a service map to correctly propagate the message status, you need to have DNS reverse lookup zones correctly configured at least for your MetaFrame servers. Check with your DNS administrator on the status of DNS reverse lookups in your environment.**

After an operator initiated action is performed, the service model is uploaded into the Service Navigator, where you will see an output similar to the one below:



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**N O T E :**

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**FARM\_UX\_01** would be replaced by your Farm Name;  
**ZONE\_F1\_A** would be replaced by your Zone Name; and  
**VMMFXP16**, **VMMFXP17**, and **VMMFXP20** would be replaced by your  
Server Names

## Forcing Autodiscovery

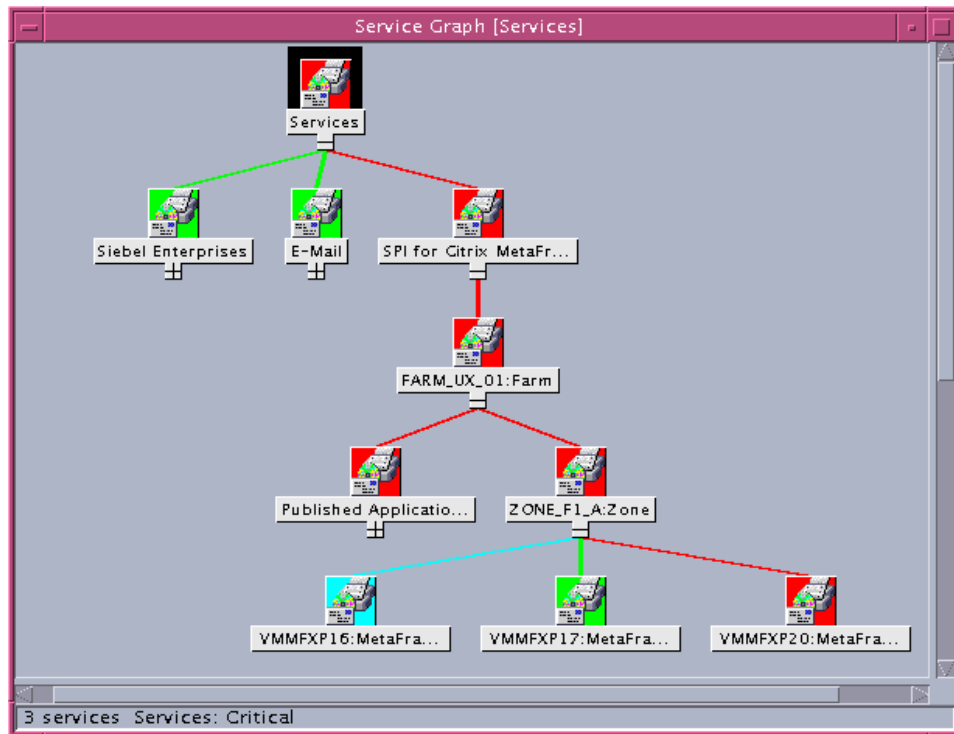
There is an alternative way of generating the MetaFrame service map for a farm, where you do not need to wait for the template to be executed (once every 24 hours by default). Instead, you can generate service map immediately by performing the following steps:

1. Distribute the template `META_FSPI-ChkServiceModel2` to a MetaFrame managed node that is part of a farm for which you want the service map generated.
2. Execute the application `MetaFrame Discovery...Force Service Model Update` against the node.

Shortly, a message will appear in the **Message Browser** saying that generation of a service map has been requested. You have to perform an Operator Initiated action on it, which will upload the service model into the Service Navigator component of the OVO/Unix Java GUI.

## Sample Service Navigator Map

Listed below is a sample MetaFrame service map.



## **The METAFSPI-ChkServiceModel Template Defined**

The `METAFSPI-ChkServiceModel` template is the center of the service model discovery functionality. It should be assigned to all MetaFrame Servers from which you want to retrieve service model information. This template periodically executes the script. If the return values are either 1 or 2, the following occurs:

- If the return value is 1, then an OpC message is generated stating that the service model changed
- If the return value is 2, then an OpC message is generated stating that there is no service model available yet

Besides generating a message, an automatic action is performed (the template executes `metafspiutil -dumpmodelxml`) and the output of the action is appended to the message in a form of an annotation. The instruction of the OpC message indicates that to upload the MetaFrame service model you must run the operator-initiated action of the OpC message, which calls the `METAFSPI-updsvcmodel.sh` batch script and the service model is uploaded to the Service Navigator.





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4

**Reference Information**

## Helpful Facts

This section contains reference information, which can assist you when working with the SPI for Citrix MetaFrame product.

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### SPI for Citrix MetaFrame Components

On the HP OpenView Operations management server, SPI for Citrix MetaFrame installs the following default components:

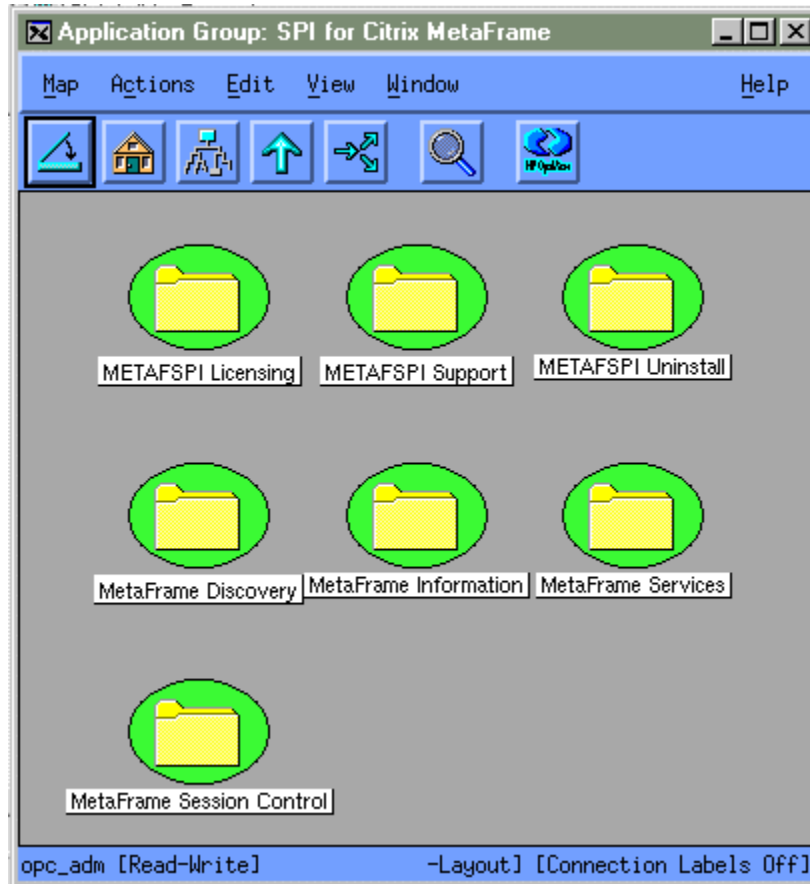
- Applications and application groups
- Templates and template groups

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## Applications and Application Groups

SPI for Citrix MetaFrame adds the top-level application group, **SPI for Citrix MetaFrame**, to HP OpenView Operations as indicated in the graphic below

### Applications



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## Application Groups Available

Within the **SPI for Citrix MetaFrame** top-level application group, the following application groups are available:

- MetaFrame Session Control
- MetaFrame Discovery
- MetaFrame Information
- MetaFrame Services
- METAFSPI Licensing
- METAFSPI Support
- METAFSPI Uninstall

Each of these application groups is described in detail in the sections that follow.

## Additional Applications Available

A farm administrator account configuration application is also available. This application is accessible with the executable file: `METAFSPIconfig`. For information on using this application, refer to the section *Application for Farm Administrator Account*, which follows later in this chapter.

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## MetaFrame Session Control Application Group

This application group contains applications for controlling Citrix MetaFrame sessions. It includes the following applications sub-groups:

- Disconnect
- Logoff
- Logon Control
- Send Message

Each of these applications sub-groups, and the applications contained within them, is described in the sections that follow.

### Disconnect Application Group

The `Disconnect` application group contains the following applications for disconnecting MetaFrame sessions:

- `Disconnect Server Session by Name`
- `Disconnect Farm Sessions by Username`
- `Disconnect All Sessions in Farm`
- `Disconnect All Sessions in Zone`
- `Disconnect All Sessions on Server`

The applications differ in scope and must always be executed on a MetaFrame server with SPI for Citrix MetaFrame instrumentation installed. Applications will, after completion, display list of sessions that they affected. Each application is described in detail below.

#### **Disconnect Server Session by Name**

The operator must specify the name of the MetaFrame session that the operator wants to disconnect on a MetaFrame server.

**Disconnect Farm Sessions by Username**

The operator must specify the username of the user whose sessions the operator wants to disconnect. This process works farm wide (i.e., all sessions belonging to the specified user will be disconnected).

**Disconnect All Sessions in Farm**

The operator must run this application on a server in a desired farm where the operator wants to disconnect sessions. The process works farm wide (i.e., all sessions in a farm will be disconnected).

**Disconnect All Sessions in Zone**

The operator must run this application on a server in a desired zone where the operator wants to disconnect sessions. The process works zone wide (i.e., all sessions in a zone to which the server belongs to will be disconnected).

**Disconnect All Sessions on Server**

The operator must run this application on a server where the operator wants to disconnect sessions. The process works server wide (i.e., all sessions on the server will be disconnected).

## Logoff Application Group

The Logoff application group consists of the following applications for logging-off MetaFrame sessions:

- Logoff Server Session by Name
- Logoff Farm Sessions by Username
- Logoff All Sessions in Farm
- Logoff All Sessions in Zone
- Logoff All Sessions on Server

The applications differ in scope and must always be executed on a MetaFrame server with SPI for Citrix MetaFrame instrumentation installed. Applications will, after completion, display list of sessions that they affected. Each application is described in detail below.

### **Logoff Server Session by Name**

The operator must specify the name of the MetaFrame session that the operator wants to logoff on a MetaFrame server.

### **Logoff Farm Sessions by Username**

The operator must specify the username of the user whose sessions the operator wants to logoff. This process works farm wide (i.e., all sessions belonging to the specified user will be logged-off).

### **Logoff All Sessions in Farm**

The operator must run this application on a server in a desired farm where the operator wants to logoff sessions. The process works farm wide (i.e., all sessions in a farm will be logged-off).

### **Logoff All Sessions in Zone**

The operator must run this application on a server in a desired zone where the operator wants to logoff sessions. The process works zone wide (i.e., all sessions in a zone will be logged-off).

### **Logoff All Sessions on Server**

The operator must run this application on a server where the operator wants to logoff sessions. The process works server wide (i.e., all sessions on the server will be logged-off).

## **Logon Control Application Group**

The Logon Control application group consists of the following applications for enabling/disabling logons to MetaFrame servers:

- Disable Logons to Farm
- Disable Logons to Zone
- Enable Logons to Farm
- Enable Logons to Zone
- Status of Logons to Farm
- Status of Logons to Zone

The applications must always be executed on a MetaFrame server with SPI for Citrix MetaFrame instrumentation installed. Each application is described in detail below.

### **Disable Logons to Farm**

The operator must run the application on the MetaFrame server in the desired farm. The application disables logons to all servers in the farm where the server, on which the application was executed, is located.

### **Disable Logons to Zone**

The operator must run the application on the MetaFrame server in the desired zone. The application disables logons to all servers in the zone within the farm where the server, on which the application was executed, is located.



**Enable Logons to Farm**

The operator must run the application on the MetaFrame server in the desired farm. The application enables logons to all servers in the farm where the server, on which the application was executed, is located.

**Enable Logons to Zone**

The operator must run the application on the MetaFrame server in the desired zone. The application enables logons to all servers in the zone within the farm where the server, on which the application was executed, is located.

**Status of Logons to Farm**

The operator must run the application on the MetaFrame server in the desired farm. The application displays whether logons are enabled/disabled for each server within the farm where the server, on which the application was executed, is located.

**Status of Logons to Zone**

The operator must run the application on the MetaFrame server in the desired zone. The application displays whether logons are enabled/disabled for each server within the zone where the server, on which the application was executed, is located.

## Send Message Application Group

The Send Message application group consists of the following applications for sending MetaFrame messages:

- Send Message to Farm Sessions
- Send Message to Server Sessions
- Send Message to Session
- Send Message to Zone Sessions
- Send Message to User Sessions

The applications differ in to whom the message is sent. Additionally, the applications must always be executed on a MetaFrame server with SPI for Citrix MetaFrame instrumentation installed. Applications will, after completion, display list of sessions that they affected. Each application is described in detail below.

### **Send Message to Farm Sessions**

The operator must only specify the message enclosed in a backslash-double quote pair, for example:

```
\ "This is a message\"
```

and select the desired MetaFrame server. A message is sent to all sessions in the MetaFrame farm to which the server belongs.

### **Send Message to Server Sessions**

The operator must only specify the message enclosed in a backslash-double quote pair, for example:

```
\ "This is a message\"
```

and select the desired MetaFrame server. A message is sent to all sessions on the MetaFrame server.

**Send Message to Session**

The operator must specify the name of the session to which the message is to be sent and the message must be enclosed in a backslash-double quote pair, for example:

```
\ "This is a message\"
```

A message is sent to the session with the specified session name in a farm.

**Send Message to Zone Sessions**

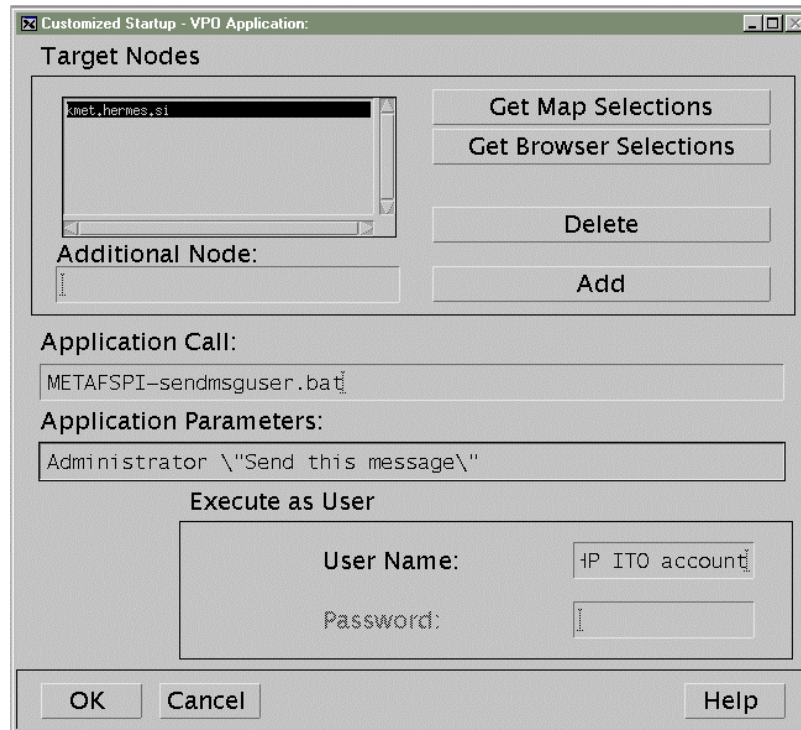
The operator must only specify the message enclosed in a backslash-double quote pair, for example:

```
\ "This is a message\"
```

and select a MetaFrame server in the desired zone. A message is sent to all sessions in the MetaFrame zone to which the server belongs.

### Send Message to User Sessions

Here, the operator must specify the username of the user to whom the message is to be sent along with the message enclosed in a backslash-double quote pair as indicated in the graphic below. A message is sent to all sessions that belong to a specified username.



---

## MetaFrame Discovery Application Group

This application group contains one application: *Force Service Model Update*. This application is responsible for forcing the generation of the OpC message, which contains MetaFrame service model information.

---

### **N O T E :**

**For this application to operate correctly, a node on which the application is executed needs to have the METAFSPI-ChkServiceModel2 application distributed to it.**

---

## MetaFrame Information Application Group

This application group was developed to retrieve and to display/return various MetaFrame-specific information. It includes the following applications:

- Display Application Information
- Display License Information
- Display MetaFrame Server Information
- Display Number of Servers in Farm
- Display Number of Servers in Zone
- Display Server Mode
- Display Session Information
- Display Session Information Grouped by User
- Display Zone Information

Each of these applications is described in the sections that follow.

## Display Application Information

*Application Name:* Display Application Information

*Executable:* METAFSPI-switch.bat displapps

*Actual call:* metafspiutil -applications

Actual call represents the call that is being performed in the batch file.

*Description:* Display all published applications on the MetaFrame server

## Display License Information

*Application Name:* Display License Information

*Executable:* METAFSPI-switch.bat displlic

*Actual call:* metafspiutil -licenses

Actual call represents the call that is being performed in the batch file.

*Description:* Display license information on the MetaFrame server and farm

## Display MetaFrame Server Information

*Application Name:* Display MetaFrame Server Information

*Executable:* METAFSPI-switch.bat displsrv

*Actual call:* metafspiutil -servers

Actual call represents the call that is being performed in the batch file.

*Description:* Display detailed information about MetaFrame servers in a farm

## Display Number of Servers in Farm

*Application Name:* Display Number of Servers in Farm

*Executable:* METAFSPI-switch.bat displsrv

*Actual call:* metafspiutil -farmsrvcount

Actual call represents the call that is being performed in the batch file.

*Description:* Display number of servers in a farm

## Display Number of Servers in Zone

*Application Name:* Display Number of Servers in Zone

*Executable:* METAFSPI-switch.bat displzonesrvcnt

*Actual call:* metafspiutil -zonesrvcount

Actual call represents the call that is being performed in the batch file.

*Description:* Display number of servers in a zone

## Display Server Mode

*Application Name:* Display Server Mode

*Executable:* METAFSPI-switch.bat displmode

*Actual call:* METAFSPIUtil.exe -mode

*Description:* Displays whether the farm operates in direct or indirect mode with Data Store.

## Display Session Information

*Application Name:* Display Session Information

*Executable:* METAFSPI-switch.bat displsessions

*Actual call:* metafspiutil -sessions

Actual call represents the call that is being performed in the batch file.

*Description:* Display all sessions on the MetaFrame server

## Display Session Information Grouped by User

*Application Name:* Display Session Information By User

*Executable:* METAFSPI-switch.bat displsessbyusr

*Actual call:* metafspiutil -sessionsbyuser

Actual call represents the call that is being performed in the batch file.

*Description:* Display all sessions on the MetaFrame server, sorted by username

## Display Zone Information

*Application Name:* Display Zone Information

*Executable:* METAFSPI-switch.bat displzones

*Actual call:* metafspiutil -zones

Actual call represents the call that is being performed in the batch file.

*Description:* Display all zones and their corresponding Data Collectors in a MetaFrame farm



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## MetaFrame Services Applications Group

This application group contains tools that relate to MetaFrame services. It includes the following tools:

- Start/Stop/Status ADF Installer Service
- Start/Stop/Status Citrix WMI Service
- Start/Stop/Status Citrix XTE Server Service
- Start/Stop/Status Client Network Service
- Start/Stop/Status Encryption Service
- Start/Stop/Status IMA Service
- Start/Stop/Status MetaFrame COM Server Service
- Start/Stop/Status Resource Manager Mail Service
- Start/Stop/Status SSL Server Relay Service
- Start/Stop/Status Terminal Services Service

Each of these applications is described in the sections that follow.

### **Start/Stop/Status ADF Installer Service**

*Application Name:* Start ADF Installer Service

*Executable:* net start "ADF Installer Service"

*Application Name:* Stop ADF Installer Service

*Executable:* net stop "ADF Installer Service"

*Application Name:* Status ADF Installer Service

*Executable:* opcntmserv.exe /status "ADF Installer"

### **Start/Stop/Status Citrix WMI Service**

*Application Name:* Start Citrix WMI Service  
*Executable:* net start CitrixWMIService

*Application Name:* Stop Citrix WMI Service  
*Executable:* net stop CitrixWMIService

*Application Name:* Status Citrix WMI Service  
*Executable:* opcntmserv.exe /status CitrixWMIService

### **Start/Stop/Status Citrix XTE Server Service**

*Application Name:* Start Citrix XTE Server Service  
*Executable:* net start CitrixXTEServer

*Application Name:* Stop Citrix XTE Server Service  
*Executable:* net stop CitrixXTEServer

*Application Name:* Status Citrix XTE Server Service  
*Executable:* opcntmserv.exe /status CitrixXTEServer

NOTE: Citrix XTE Server service is only available on Presentation Server 3.0.

### **Start/Stop/Status Client Network Service**

*Application Name:* Start Client Network Service  
*Executable:* net start CdmService

*Application Name:* Stop Client Network Service  
*Executable:* net stop CdmService

*Application Name:* Status Client Network Service  
*Executable:* opcntmserv.exe /status CdmService

## **Start/Stop/Status Encryption Service**

*Application Name:* Start Encryption Service

*Executable:* net start "Encryption Service"

*Application Name:* Stop Encryption Service

*Executable:* net stop "Encryption Service"

*Application Name:* Status Encryption Service

*Executable:* opcntmserv.exe /status "Encryption Service"

## **Start/Stop/Status IMA Service**

*Application Name:* Start IMA Service

*Executable:* net start IMAService

*Application Name:* Stop IMA Service

*Executable:* METAFSPI-stopIMAWMIservice.bat

*Application Name:* Status IMA Service

*Executable:* opcntmserv.exe /status IMAService

## **Start/Stop/Status MetaFrame COM Server Service**

*Application Name:* Start MetaFrame COM Server Service

*Executable:* net start MFCom

*Application Name:* Stop MetaFrame COM Server Service

*Executable:* net stop MFCom

*Application Name:* Status MetaFrame COM Server Service

*Executable:* opcntmserv.exe /status MFCom

### **Start/Stop/Status Resource Manager Mail Service**

*Application Name:* Start Resource Manager Mail Service

*Executable:* net start ResourceManagerMail

*Application Name:* Stop Resource Manager Mail Service

*Executable:* net stop ResourceManagerMail

*Application Name:* Status Resource Manager Mail Service

*Executable:* opcntmserv.exe /status ResourceManagerMail

### **Start/Stop/Status SSL Server Relay Service**

*Application Name:* Start SSL Server Relay Service

*Executable:* net start "Citrix SSL Relay"

*Application Name:* Stop SSL Server Relay Service

*Executable:* net stop "Citrix SSL Relay"

*Application Name:* Status SSL Server Relay Service

*Executable:* opcntmserv.exe /status "Citrix SSL Relay"

### **Start/Stop/Status Terminal Services Service**

*Application Name:* Start Terminal Services Service

*Executable:* net start TermService

*Application Name:* Stop Terminal Services Service

*Executable:* net stop TermService

*Application Name:* Status Terminal Services Service

*Executable:* opcntmserv.exe /status TermService

---

## METAFSPI Licensing Application Group

This application group contains applications for licensing your SPI for Citrix MetaFrame product. Within this group, the following applications are available:

1. Clear License Request File on Mgmt Server
2. Generate License Request for Node
3. Merge License Activation Codes on Mgmt Server  
List License Activation Codes

Each of these applications is described in the sections that follow.

### 1. Clear License Request File on Mgmt Server

This application clears the METAFSPI license request file (`/opt/OV/metafspi/metafspi_license_requests.dat`) on the management server. It executes on the management server only and does not need to be executed on any of the managed nodes. It is usually the first step when requesting METAFSPI licenses, hence number 1 in front of the application name.

### 2. Generate License Request for Node

This application generates the METAFSPI license request information for the managed node. The application is usually executed on many nodes at once to quicken license request generation. Note that license request information for all nodes is collected on the management server in a single license request file (`/opt/OV/metafspi/metafspi_license_requests.dat`). It is usually the second application executed when requesting METAFSPI licenses, hence number 2 in front of the application name.

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**N O T E :**

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**For this application to work correctly, a node on which this application is executed needs to have distributed all templates from the METAFSPI Licensing template group.**

### **3. Merge License Activation Codes on Mgmt Server**

This application merges newly obtained METAFSPI license activation codes to existing license activations. Once this occurs, license activation codes are ready to be distributed to the Citrix MetaFrame managed nodes. It is usually the third application executed when requesting METAFSPI licenses, hence number 3 in front of the application name.

### **List License Activation Codes**

This application lists and counts METAFSPI license activation codes on the management server.

For additional information on SPI for Citrix licensing, refer to the section *SPI for Citrix MetaFrame Licensing Overview* listed in *Chapter 2: Installing SPI for Citrix MetaFrame* of this manual.

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## METAFSPI Support Application Group

This application group contains applications that provide you with assistance when troubleshooting your SPI for Citrix MetaFrame product as well as to help you verify your SPI for Citrix MetaFrame requirements and configuration settings. Both applications in this group create files under the following directory on the node where the application is executed:

```
%OvAgentDir%\metafspi
```

Within the **METAFSPI Support** application group, the following applications are available:

- Check Requirements/Configuration
- Collect Support Information

Each of these applications is described in the sections that follow.

### Check Requirements/Configuration

This application checks whether the MetaFrame server matches METAFSPI requirements and whether SPI for Citrix MetaFrame is correctly configured. This application should be executed on each node prior to using full SPI for Citrix MetaFrame features. For additional information on this application's usage, refer to the section *Verifying Requirements and Configuration* listed in *Chapter 2: Installing SPI for Citrix MetaFrame* of this manual.

## **Collect Support Information**

This application is primarily created as a support application to collect various support information about the MetaFrame server and to copy it into the support directory.

If a Support Engineer tells you to run this application, after executing the application on one or more nodes, you should copy the files from the following directory and its sub-directories:

`%OvAgentDir%\metafspi`

for further analysis.



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## METAFSPI Uninstall Application Group

Applications in this group help you with uninstalling SPI for Citrix MetaFrame from managed nodes. At the moment, there is only one application in this group:

- Remove instrumentation from Managed Node

This application is described in the section that follows.

### **Remove Instrumentation from Managed Node**

This application deletes all of the SPI for Citrix MetaFrame-related files from the managed node. You must run this application during the uninstall process after unassigning all METAFSPI templates from the managed nodes and before uninstalling SPI for Citrix MetaFrame from the management server.

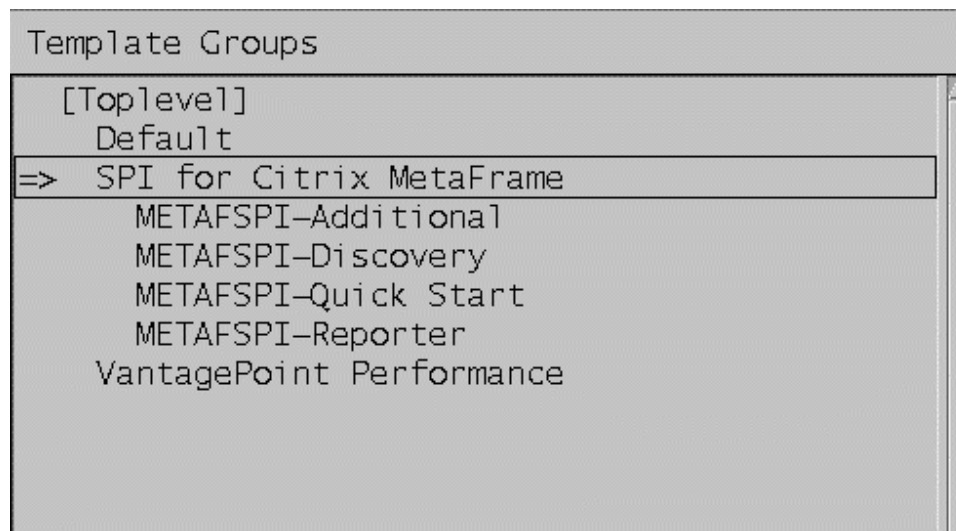
To use the application, execute it and select node(s) from which you want to remove the METAFSPI-related files. Once this action is performed, all SPI for Citrix MetaFrame files and METAFSPI-specific directories are removed.

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## Templates and Template Groups

SPI for Citrix MetaFrame installs the top-level template group `SPI for Citrix MetaFrame`. This group contains template groups for monitoring your Citrix MetaFrame environment. Refer to the *Figure 3* for detailed information on template group hierarchy.

**Figure 3: View of the Template Group “SPI for Citrix MetaFrame” in HP OpenView Operations for Unix, version 7.10**



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## Types of Templates

The following templates have been established in SPI for Citrix MetaFrame:

- Templates for monitoring MetaFrame Server Services
- Templates for monitoring MetaFrame Sessions
- Templates for MetaFrame NT EventLog Entries
- Templates for Logging Extended Performance Data of MetaFrame Services and Sessions

Descriptions of these template types are included in the sections that follow.

### **Templates for MetaFrame Server Services**

MetaFrame servers consist of several Windows Services. Failure in the system could cause a service not to start or could terminate it. This could lead to inoperability of the MetaFrame server. Because of this, such events need to be reported. SPI for Citrix MetaFrame monitors MetaFrame Windows Services, includes instruction text on the service purpose and the impact of its failure, and provides actions to remedy the situation.

### Action Matrix for MetaFrame Services Templates

All messages contain operator-initiated actions and instruction text describing the impact of the failure. The table that follows indicates the actions that specific messages will have and the text displayed with each message.

Service Name	Operator -initiated Action	Automatic Action	Message Text
Client Network	X		Client Network service on node <i>nodename</i> is not running.
Encryption	X		Encryption service on node <i>nodename</i> is not running.
Independent Management Architecture (IMA)	X		Independent Management Architecture service on node <i>nodename</i> is not running.
MetaFrame COM Server	X		MetaFrame COM Server service on node <i>nodename</i> is not running.
ADF Installer Service	X		ADF Installer Service service on node <i>nodename</i> is not running.
Resource Manager Mail	X		Resource Manager Mail service is not running.
Terminal Services	X		Terminal Services service on node <i>nodename</i> is not running.
SSL Server Relay Service		X	SSL Server Relay Service service on node <i>nodename</i> is not running.
Citrix WMI Service	X		Citrix WMI Service service on node <i>nodename</i> is not running.
Citrix XTE Server service	X		Citrix XTE Server Service service on node <i>nodename</i> is not running.

### Templates for MetaFrame Sessions

These templates monitor state and `perfmon` data, that is, % Processor Time, Private Bytes, and so on of MetaFrame sessions on a MetaFrame server.

## Templates for Logging Extended Performance Data of MetaFrame Services and Sessions

A template is created for all MetaFrame service processes for logging their “% Processor Time”, “Working Set”, and “Page File Bytes” metrics. Additionally, for logging server farm membership and session data, two additional templates are implemented.

Note that the last two columns of each template listed on the tables that follow specify the following:

- The name of the CODA Data Source
- The name of the Object within the Data Source used by this template
- The names of the metrics within that object

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### **N O T E :**

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**At present, SPI for Citrix MetaFrame logs performance information only to the embedded performance agent (CODA). OpenView Performance Agent (MeasureWare agent) is not supported.**

Reference Information

Template Name	CODA Data Source/ Object	CODA Metrics
METAFSPI-ServerConfigLogging	METAFSPIUX_FARM/ METAFSPIUX_FARM	FARMNAME ZONENAME
METAFSPI-ServicesLogging	METAFSPIUX_SVCS/ METAFSPIUX_SVCS	HINSTANCENAME PCTPROCESSORTIME PAGEFILEBYTES WORKINGSET
METAFSPI-SessionsLogging	METAFSPIUX_SESS/ METAFSPIUX_SESS	HINSTANCENAME WORKINGSET TOTALTIMEOUTS TOTALFRAMES TOTALERRORS PRIVATEBYTES PCTPROCESSORTIME PAGEFILEBYTES
METAFSPI-SessionsICALogging	METAFSPIUX_SICA/ METAFSPIUX_SICA	HINSTANCENAME LATENCYSESSIONAVERA LATENCYLASTRECORDED
METAFSPI-SessionsExLogging	METAFSPIUX_SESX/ METAFSPIUX_SESX  METAFSPIUX_SESM/ METAFSPIUX_SESM	SESSIONID SESSIONNAME DOMAINNAME USERNAME LOGONTIME LASTINPUTTIME STATE APPDN ADDRFAMILY ISDESKTOPSESS ISMODEMSESS CPUTIME WORKINGSETSIZE PAGEFILESIZE  SUMMKEY NUMALLSESS NUMACTSESS NUMDISCSESS NUMAPPINST NUMIPSESS NUMIPXSESS NUMNETBIOSSESS NUMMODEMSESS NUMDESKTOPSESS NUMPROCS

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## Template Groups within SPI for Citrix MetaFrame

When you use SPI for Citrix MetaFrame, templates are grouped by common usage. This structure helps you to quickly find the templates that you need to assign. Common usage template groups include the following:

- METAFSPI-Quick Start
- METAFSPI-Additional
- METAFSPI-Discovery
- METAFSPI-Reporter

Each of these groups, along with templates that they contain, is described in the sections that follow.

### **METAFSPI-Quick Start**

This group contains templates that can be assigned to every MetaFrame server. You should always assign this whole group to get started quickly with the SPI. Templates within this group are further organized, as follows, into these sub-groups:

- METAFSPI-Services
- METAFSPI-Sessions
- METAFSPI-Zones
- METAFSPI-Licensing

## METAFSPI-Services

This group contains the following templates:

- METAFSPI-ChkIMASvc
- METAFSPI-ChkMFComSvc
- METAFSPI-ChkTermServiceSvc
- METAFSPI-ChkClientNetworkSvc
- METAFSPI-ChkEncryptionSvc
- METAFSPI-FwdAllSystemWarnError
- METAFSPI-FwdAllApplicationWarnError
- METAFSPI-ChkIMASvcAdvanced

Each of these templates is described in the sections that follow.

### **METAFSPI-ChkIMASvc**

*Template Name:* METAFSPI-ChkIMASvc

*Service:* IMASvc (Independent Management Architecture service)

*Process:* imasrv.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, then a message is generated with an Operator-initiated action to start the service.



**METAFSPI-ChkMFCComSvc**

*Template Name:* METAFSPI-ChkMFCComSvc

*Service:* MFCCom

*Process:* mfcom.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, then a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkTermServiceSvc**

*Template Name:* METAFSPI-ChkTermServiceSvc

*Service:* TermService

*Process:* termsrv.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, then a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkClientNetworkSvc**

*Template Name:* METAFSPI-ChkClientNetworkSvc

*Service:* CdmService

*Process:* cmdsvc.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, then a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkEncryptionSvc**

*Template Name:* METAFSPI-ChkEncryptionSvc

*Service:* Encryption Service

*Process:* encsvc.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, then a message is generated with an Operator-initiated action to start the service.

**METAFSPI-FwdAllSystemWarnError**

*Template Name:* METAFSPI-FwdAllSystemWarnError

*Description:* This NT event log monitoring template forwards all Warning and Error System event log messages belonging to Citrix MetaFrame components from the managed node to the management server.

**METAFSPI-FwdAllApplicationWarnError**

*Template Name:* METAFSPI-FwdAllApplicationWarnError

*Description:* This NT event log monitoring template forwards all Warning and Error Application event log messages belonging to Citrix MetaFrame components from the managed node to the management server.

**METAFSPI-ChkIMASvcAdvanced**

*Template Name:* METAFSPI-ChkIMASvcAdvanced

*Service:* IMAService (Independent Management Architecture service)

*Process:* imasrv.exe

*Description:* Occasionally, IMA service, although still running, stops responding to client requests, such as XML service. This monitoring template periodically tries to enumerate published applications from the IMA service and if it does not receive a response within 50 seconds, sends a message to the management server indicating that most probably the IMA service has stopped responding.

## METAFSPI-Sessions

This template group contains the following templates:

- METAFSPI-ChkSessionsActive
- METAFSPI-ChkSessionsDisconnected
- METAFSPI-ChkSessionsAll
- METAFSPI-ChkSessionPrivateBytes
- METAFSPI-ChkProcessesNum
- METAFSPI-ChkICASessionLatencyAverage
- METAFSPI-ChkSessionTotalErrors
- METAFSPI-ChkSessionPageFileBytes
- METAFSPI-ChkSessionTotalTimeouts
- METAFSPI-ChkSessionWorkingSet
- METAFSPI-ChkSessionTotalFrames
- METAFSPI-ChkSessionProcessorTime
- METAFSPI-ChkICASessionLatencyLast

Each of these templates is described in the sections that follow.

### **METAFSPI-ChkSessionsActive**

*Description:* Check number of active sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsActive active`

*Default threshold:* 100 –major (\*), 70 – warning (\*)

\* There are two threshold rules defined: one for major (100) of active sessions and one for warning (70).

### **METAFSPI-ChkSessionsDisconnected**

*Description:* Check number of disconnected sessions and send opcmgs if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsDisconnected disconnected

*Default threshold:* 50 – major (\*), 30 – warning (\*)

\* There are two threshold rules defined: one for major number (50) of disconnected sessions and one for warning (30).

### **METAFSPI-ChkSessionsAll**

*Description:* Checks the number of sessions in all possible states on a MetaFrame server.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsAll all

*Default threshold:* 120 – major (\*), 90 – warning (\*)

\* There are two threshold rules defined: one for major number (120) of sessions and one for warning (90).

### **METAFSPI-ChkSessionPrivateBytes**

*Description:* Check private bytes size for all sessions and send opcmgs if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold for Console session:*

768.000.000 – major (\*), 640.000.000 – warning (\*)

*Default threshold for all other sessions:*

384.000.000 – major (\*), 256.000.000 – warning (\*)

\* There are two threshold rules defined: one for major amount of private bytes consumed and one for warning.

### **METAFSPI-ChkProcessesNum**

*Description:* Check number of processes across all sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntprocs METAFSPI-ChkProcessesNum

*Default threshold:* 500 – major (\*), 300 – warning (\*)

\* There are two threshold rules defined: one for major number (500) of processes and one for warning (300).

### **METAFSPI-ChkICASessionLatencyAverage**

*Description:* Check average latency of all sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold:* 700 – major (\*), 400 – warning (\*) milliseconds

\* There are two threshold rules defined: one for major (700) average latency and one for warning (400).

### **METAFSPI-ChkSessionTotalErrors**

*Description:* Check number of total errors for all sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold:* 10 – major (\*), 3 – warning (\*)

\* There are two threshold rules defined: one for major (10) number of network errors and one for warning (3).

### **METAFSPI-ChkSessionPageFileBytes**

*Description:* Check page file size usage for all sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold for Console session:*

768.000.000 – major (\*), 640.000.000 – warning (\*)

*Default threshold for all other sessions:*

384.000.000 – major (\*), 256.000.000 – warning (\*)

\* There are two threshold rules defined: one for major amount of page file bytes consumed and one for warning.

### **METAFSPI-ChkSessionTotalTimeouts**

*Description:* Check number of total timeouts for all sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring.

*Default threshold:* 10 – major (\*), 3 – warning (\*)

\* There are two threshold rules defined: one for major (10) number of network

timeouts and one for warning (3).

#### **METAFSPI-ChkSessionWorkingSet**

*Description:* Check working set size for all sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold for Console session:*

512.000.000 – major (\*), 384.000.000 – warning (\*)

*Default threshold for all other sessions:*

256.000.000 – major (\*), 128.000.000 – warning (\*)

\* There are two threshold rules defined: one for major amount of working set size consumed and one for warning.

#### **METAFSPI-ChkSessionTotalFrames**

*Description:* Check number of total frames for all sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold:* 512 – major (\*), 256 – warning (\*)

\* There are two threshold rules defined: one for major (512) total number of frames and one for warning (256).

#### **METAFSPI-ChkSessionProcessorTime**

*Description:* Check % of processor time used by all sessions and send opcmmsg if threshold is exceeded.



*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold for Console session:*

95 – major (\*), 75 – warning (\*)

*Default threshold for all other sessions:*

90 – major (\*), 70 – warning (\*)

\* There are two threshold rules defined: one for major % processor time and one for warning.

### **METAFSPI-ChkICASessionLatencyLast**

*Description:* Check latest recorded latency of all sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* Through HP OpenView Operations NT performance counter monitoring

*Default threshold:* 1000 – major (\*), 700 – warning (\*) milliseconds

\* There are two threshold rules defined: one for major (1000) latency and one for warning (700).

## **METAFSPI-Zones**

This template group contains the following template:

- **METAFSPI-ChkDCChanges**

### **METAFSPI-ChkDCChanges**

*Description:* Detects data collector change in a MetaFrame zone.

*Monitoring tool:* METAFSPI-switch.bat chkdc METAFSPI-ChkDCChanges

*Default threshold:* If the threshold reaches 0, which indicates a data collector change in a zone, a message is sent to the message browser indicating the old and new zone data collector.

## **METAFSPI-Licensing**

This template group contains the following template:

- **METAFSPI-LicOpCMsg**

### **METAFSPI-LicOpCMsg**

*Description:* Filters METAFSPI opcmmsg licensing-related messages and provides additional instruction text about possible errors.

## **METAFSPI-Additional**

This group contains templates for those MetaFrame components that are optional to use. Templates within this group are as organized into the following sub-groups:

- METAFSPI-*Services Add*
- METAFRAME-*Sessions Add*

### **METAFSPI-*Services Add***

This template group contains the following templates:

- METAFSPI-*ChkSSLServerRelaySvc*
- METAFSPI-*ChkResourceManagerMailSvc*
- METAFSPI-*ChkADFInstallerSvc*
- METAFSPI-*ChkCitrixWMISvc*
- METAFSPI-*ChkCitrixXTEServerSvc*
- METAFSPI-*FwdAllSystemInformation*
- METAFSPI-*FwdAllApplicationInformation*

Each of these templates is described in the sections that follow.

### **METAFSPI-*ChkSSLServerRelaySvc***

*Template Name:* METAFSPI-*ChkSSLServerRelaySvc*

*Service:* Citrix SSL Relay

*Process:* sslserverrelay.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkResourceManagerMailSvc**

*Template Name:* METAFSPI-ChkResourceManagerMailSvc

*Service:* ResourceManagerMail

*Process:* mailservice.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkADFInstallerSvc**

*Template Name:* METAFSPI-ChkADFInstallerSvc

*Service:* ADF Installer Service

*Process:* agentsvc.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations for Windows Agent)

*Return value:* If returned value is not 0, a message is generated with an Operator-initiated action to start the service.

**METAFSPI-ChkCitrixXTEServerSvc**

*Template Name:* METAFSPI-ChkCitrixXTEServerSvc

*Service:* Citrix XTE Server Service

*Process:* XTE.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations Agent)

*Return value:* If returned value is not 0, a message is generated with an operator-initiated action to start the service.

**METAFSPI-ChkCitrixWMISvc**

*Template Name:* METAFSPI-ChkCitrixWMISvc

*Service:* Citrix WMI Service

*Process:* ctxwmisvc.exe

*Monitoring tool:* opcntservice\_chk.bat  
(provided with HP OpenView Operations Agent)

*Return value:* If returned value is not 0, a message is generated with an operator-initiated action to start the service.

**METAFSPI-FwdAllSystemInformation**

*Template Name:* METAFSPI-FwdAllSystemInformation

*Description:* This event log monitoring template forwards all Informational System NT event log messages belonging to Citrix MetaFrame components from the managed node to the management server.

**METAFSPI-FwdAllApplicationInformation**

*Template Name:* METAFSPI-FwdAllApplicationInformation

*Description:* This event log monitoring template forwards all Informational Application NT event log messages belonging to Citrix MetaFrame components from the managed node to the management server.

## **METAFSPI-Sessions Add**

This template group contains the following templates:

- METAFSPI-LogOffSessions
- METAFSPI-ChkSessionsListening
- METAFSPI-ChkSessionsDown
- METAFSPI-ChkSessionsShadowing
- METAFSPI-ChkSessionsStale
- METAFSPI-ChkSessionsResetting
- METAFSPI-ChkSessionsIdle
- METAFSPI-ChkSessionsInit
- METAFSPI-ChkSessionsConnected
- METAFSPI-DisconnectSessions
- METAFSPI-ChkSessionsConnecting

Each of these templates is described on the following pages.

### **METAFSPI-LogOffSessions**

*Description:* This is a scheduled template that logs off all sessions that have been disconnected longer than the log off threshold time.

*Executable:* METAFSPI-switch.bat logoffsessions 180

*Default scheduling:* 15 minutes

*Default log off threshold time:* 3 hours

### **METAFSPI-ChkSessionsListening**

*Description:* Check number of listening sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsListening listening

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of listening sessions and one for warning (8).

### **METAFSPI-ChkSessionsDown**

*Description:* Check number of down sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsDown down

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of down sessions and one for warning (8).

### **METAFSPI-ChkSessionsShadowing**

*Description:* Check number of shadowing sessions and send opcmmsg if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsShadowing shadowing

*Default threshold:* 15 – major (\*), 8 – warning (\*)



\* There are two threshold rules defined: one for major number (15) of shadowing sessions and one for warning (8).

#### **METAFSPI-ChkSessionsStale**

*Description:* Check number of stale sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsStale stale`

*Default threshold:* 15 – major (\*), 8 – warning (\*)

There are two threshold rules defined: one for major number (15) of stale sessions and one for warning (8).

#### **METAFSPI-ChkSessionsResetting**

*Description:* Check number of resetting sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsResetting resetting`

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of sessions and one for warning (8).

#### **METAFSPI-ChkSessionsIdle**

*Description:* Check number of idle sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsIdle idle`

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of idle sessions and one for warning (8).

#### **METAFSPI-ChkSessionsInit**

*Description:* Check number of init sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsInit init`

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of sessions in init state and one for warning (8).

#### **METAFSPI-ChkSessionsConnected**

*Description:* Check number of connected sessions and send `opcmsg` if threshold is exceeded.

*Monitoring tool:* `METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsConnected connected`

*Default threshold:* 15 – major (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of connected sessions and one for warning (8).

#### **METAFSPI-DisconnectSessions**

*Description:* This is a scheduled template that disconnects all sessions that have last input time longer than specified default disconnect threshold time.

*Executable:* METAFSPI-switch.bat disconnsessions 60

*Default scheduling:* 15 minutes

*Default disconnect threshold time:* 1 hour

### **METAFSPI-ChkSessionsConnecting**

*Description:* Check number of connecting sessions and send opcmsg if threshold is exceeded.

*Monitoring tool:* METAFSPI-switch.bat cntsess METAFSPI-ChkSessionsConnecting connecting

*Default threshold:* 15 – critical (\*), 8 – warning (\*)

\* There are two threshold rules defined: one for major number (15) of connecting sessions and one for warning (8).

## **METAFSPI-Discovery**

This template contains the following templates that help you to continuously update your Citrix MetaFrame service map.

- METAFSPI-ChkServiceModel
- METAFSPI-ChkServiceModel2

Each of these templates is described in the sections that follow.

### **METAFSPI-ChkServiceModel**

This template periodically checks the MetaFrame model and updates the service map via an Operator-initiated command, if necessary.

### **METAFSPI-ChkServiceModel2**

This template retrieves an external signal to trigger the MetaFrame service map discovery. External signal is sent when the *Force Service Model Update* application is executed.

## **METAFSPI-Reporter**

This template group contains templates that are responsible for logging performance data for the reports that HP Reporter generates. For a list of these templates, refer to the section *Templates for Logging Extended Performance Data of MetaFrame Services and Sessions*, which is listed earlier in this chapter.

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## Monitoring End-user Experience

SPI for Citrix MetaFrame monitors end-user experience by monitoring two performance counters that MetaFrame is exposing: *Average ICA Session Latency* and *Last ICA Session Latency*. These two counters are provided on a per-session basis on every MetaFrame server; thus, you receive a good overall view what the end-user experience is.

ICA Session Latency is, quoting Citrix, "...a measure of the round trip time of a keyboard or mouse event from client to server and back. It is the amount of time that elapses between the user clicking their mouse in an ICA session, and the result of that mouse click being seen on the client."

By monitoring Average ICA Session Latency, you can detect the degradation of end-user experience over longer periods of time, and perhaps limit the number of users on a server or add another server to the farm before the end-users start to complain about "slow" system response.

By monitoring Last ICA Session Latency of each session on a server, you can identify short-term degradations of end-user experience and correlate them to other events on the server/in a farm for better understanding of the impact that these events have on the overall farm performance in terms of end-user experience.



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**—** Troubleshooting

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## Troubleshooting Assistance

This section provides information relating to errors. It describes the possible errors that can occur during SPI for Citrix MetaFrame usage, and how to resolve any problems if encountered.