



OMi Management Pack for SAP

Software Version: 1.00

Operations Manager i for Linux and Windows® operating systems

Installation Guide

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Chapter 1: Introduction

The OMi Management Pack for SAP (OMi MP for SAP) works with Operations Manager i (OMi) and enables you to monitor primary and advanced components of your SAP environment and the underlying infrastructure. The OMi MP for SAP includes the following components for monitoring performance and availability of SAP systems in your environment:

- SAP Management Templates
- SAP Aspects
- SAP ABAP Monitoring Templates
- Parameters
- Run-time Service Model (RTSM) Views
- Event Type Indicators (ETIs)
- Health Indicators (HIs)
- Configuration Item (CI) and Configuration Item Types (CITs)
- Topology Based Event Correlation Rules (TBEC Rules)
- Tools

Note: For more information about the components, see the *OMi Management Pack for SAP Online Help or User Guide*.

Abbreviations Used in this Manual

Abbreviations	Expansion
OMi	Operations Manager i
RTSM	Run-time Service Model
OMi MP	OMi Management Pack
OMi MP for SAP	OMi Management Pack for SAP

Related Documentation

For more information about OMi MP for SAP, see the following documents:

- OMi MP for SAP - *Release Notes*
- OMi MP for SAP - *User Guide*

Licensing

The OMi MP licenses are available in a pack of 25 license units. Each license can be used per OS instance, irrespective of the application type. For example, the license pack can contain 5 licenses of OMi MP for Microsoft Skype for Business Server, 10 licenses of OMi MP for Oracle Database with any other combination of supported applications.

There are three types of licenses:

- Evaluation: A license with a fixed trial period of up to 60 days. This type of license is available only until a Time Based or Permanent license is purchased. Once purchased, the trial period immediately terminates.
- Term: A license that has a time-based expiration date.
- Perpetual: A license that does not expire.

To procure the license for the Entitlement Order Number (EON), go to <http://enterpriselicense.hpe.com> and log on using your HPE Passport credentials to redeem the license.

For information about applying the license, see "[Applying the License](#)".

Chapter 2: Installing OMi MP for SAP

This section provides information about installing OMi MP for SAP on BSM 9.2x or OMi 10.x (Linux or Windows) servers.

Installation Media

The following section provides information about the installation media for OMi MP for SAP. The OMi MP for SAP is available in the OMi MP for SAP DVD (MPDVD) and also through electronic media (e-media). The MPDVD and e-media are available for English and Non-English locale environments. You can use the appropriate installation media based on your locale requirements. The MPDVD and e-media are available for English locale environments.

Product	Marketplace links
OMi MP for SAP	Unified Marketplace

The OMi MP for SAP DVD and e-media contains the software and the product documentation. In a distributed environment, it must be installed on all BSM or OMi Data Processing Servers (DPS) and BSM or OMi Gateway Servers (GWS).

The following table provides information about the documentation available in the MPDVD and the e-media:

Document	Location	Purpose
Online Help	<p>Available in the BSM 9.2x console Help menu.</p> <p>From the BSM console, go to Help > BSM Help > Application Administration > Operations Management > OMi Management Pack for SAP</p> <p>Available in the OMi 10.x console ? menu.</p> <p>From the OMi console, go to ? > General Help > Administration Guide > Management Packs > OMi Management Pack for SAP.</p>	<p>To provide information about the following:</p> <ul style="list-style-type: none"> Using SAP Microsoft Active Directory Management Templates Using SAP Aspects and Policy Templates
Installation Guide	<MPDVD>\DOCUMENTATION\en	<ul style="list-style-type: none"> Using Indicators - HIs, ETIs, and TBEC Rules
User Guide	<MPDVD>\DOCUMENTATION\en	

Document	Location	Purpose
Release Notes	<MPDVD>\DOCUMENTATION\en	To provide information about the following: <ul style="list-style-type: none"> • Salient Features • Installation Notes

Installation Prerequisites

The following section lists the hardware and software prerequisites for installing OMi MP for SAP on BSM 9.2x (Linux and Windows) or OMi 10.x (Linux and Windows) Servers.

Software Requirements

The following components must be installed and configured on the BSM 9.2x and OMi 10.x Servers before you install the OMi MP for SAP.

Component	Version
BSM	9.23 or higher*
Operations Manager i	9.23 or higher*
Monitoring Automation	9.23 or higher*
OMi MP for Infrastructure	1.10

* See the Support Matrix for latest versions supported.

Note: For large scale environments, it is recommended to use BSM 9.24 or higher.

Managed Node

Component	Version
Operations Agent	11.12 or higher*
Java	1.6 or higher

* See the Support Matrix for latest versions supported.

Note: You must use 64 bit JRE with 64 bit Operations Agent and 32 bit JRE with 32 bit Operations Agent.

Installation Checklist

Before you install OMi MP for SAP ensure that the installation tasks described in the following table are completed in the specified order:

If you have already installed OMi 10.x, skip to [Task 6](#).

Serial	Task	Reference
1	Check the Installation Prerequisites for BSM 9.2x	See the chapter <i>General Prerequisites</i> in the <i>BSM Installation Guide</i> .
2	Install BSM version 9.23 or higher	See the <i>BSM Installation Guide</i> .
3	Install Monitoring Automation version 9.23 or higher	See the chapters <i>Installation Prerequisites</i> and <i>Installing and Configuring Monitoring Automation on BSM servers</i> in the <i>Monitoring Automation for Operations Manager i Installation Guide</i> .
4	Verify the Monitoring Automation installation	See the chapters <i>Verifying the Monitoring Automation Installation</i> and <i>Using Monitoring Automation</i> in the <i>Monitoring Automation for Operations Manager i Installation Guide</i> .
5	Install Additional Software Update for Monitoring Automation 9.23 Note: If you are installing OMi MP for SAP on BSM 9.23, you must install additional software update for Monitoring Automation 9.23.	See the section " Installing Additional Software Update for Monitoring Automation 9.23 ".
6	Clean up OMi MP for Infrastructure version 1.00	If OMi MP for Infrastructure version 1.00 is already installed, see <i>Removing OMi MP for Infrastructure version 1.00</i> in the <i>OMi Management Pack for Infrastructure 1.10 Installation Guide</i> .
7	Install OMi MP for Infrastructure 1.10	See the chapter <i>Installing OMi MP for Infrastructure 1.10</i> in the <i>OMi Management Pack for Infrastructure 1.10 Installation Guide</i> .

Serial	Task	Reference
8	Install OMi MP for SAP 1.00	See the section Installing OMi MP for SAP version 1.00 on BSM or OMi .
9	Applying the License	See the section " Applying the License ".
10	Setting Default Display Label for SAP CITs	You must add name as part of the default display label for SAP ABAP Application Server and SAP J2EE Application Server CI.

Managed Node

Task	Reference
Install Operations Agent 11.12	See the chapter <i>Installing Operations Agent 11.12</i> in the <i>Operations Agent and Operations Smart Plug-ins for Infrastructure Installation Guide</i> .

Installing Additional Software Update for Monitoring Automation 9.23

Note: You must install additional software update for Monitoring Automation 9.23 only for BSM 9.23.

Before installing OMi MP for SAP, you must install an additional software update for Monitoring Automation 9.23. If you are using Monitoring Automation 9.24 or a later version, you do not need to install this additional software update. The additional software update for Monitoring Automation 9.23 (HPOprMA_update.zip) is available in the e-media or MPDVD, under the folder HPOprMA_update.

For more information about installing the update software, see "[Installing Monitoring Automation 9.23 Software Update](#)".

Setting Default Display Label for SAP CITs

You must add name as part of the default display label for SAP ABAP Application Server and SAP J2EE Application Server CI.

To access CI Types pane:

On BSM 9.2x, click **Admin > RTSM Administration > CI Type Manager**.

On OMi 10.x, click **Administration > RTSM Administration > CI Type Manager**.

To set Default Display Label for SAP ABAP Application Server, follow these steps:

1. In the CI Types pane, select **CI Types** from drop down menu.
Click **Managed Object > ConfigurationItem > InfrastructureElement > RunningSoftware > ApplicationServer > SapApplicationServer**.
2. Select the type of SAP Application Server.
For ABAP: SAP ABAP Application Server
For J2EE: SAP J2EE Application Server
3. From the right pane, select **Default Label** tab. The CI Type Label Definition Format pane opens.
4. Add name in the CI Type Label Definition Format pane.

Installing OMi MP for Infrastructure version 1.10

For information about installing OMi MP for Infrastructure version 1.10, see the chapter *Installing OMi MP for Infrastructure version 1.10 on BSM or OMi* in the *OMi Management Pack for Infrastructure Installation Guide*.

Installing OMi Management Pack for SAP version 1.00 on BSM or OMi

You can use the e-media or MPDVD to install the OMi MP for SAP on BSM or OMi Server (Linux or Windows). The following section provides information about installing the OMi MP for SAP on the BSM 9.2x or OMi 10.x Server.

Note: In a BSM 9.2x or OMi 10.x distributed environment, OMi MP for SAP must be installed on all BSM or OMi Servers - (BSM or OMi) DPS and (BSM or OMi) GWS.

For BSM 9.2x, you must make sure that Monitoring Automation is running before proceeding with the installation. To check the status, log on to BSM console and navigate to **Admin > Setup and Maintenance > Server Deployment** and then check if Monitoring Automation is enabled.

On a Linux BSM 9.2x or OMi 10.x Server

To install the OMi MP for SAP on a Linux BSM 9.2x or OMi 10.x Server, follow these steps:

1. Log on as a root user.
2. Set the umask by typing the command `umask 022`.
3. Create a directory to mount the DVD or e-media by typing the command `mkdir /<mount_point>`.

For example: `mkdir /dvdrom`

4. Insert the DVD into the disk drive or you can copy the e-media installation package and mount using the following commands:

For DVD: `mount /dev/<dvdrom_drive_name> /<mount_point>`

For e-media: `mount -o loop <e-media> /<mount_point>`

5. Change the directory to `/<mount_point>`.
6. Run the following command:

`<PATH>/mpinstall.sh -i`

Based on the locale, you can see the following table and run the command accordingly:

E-media	MP locale same as BSM locale	MP locale different from BSM locale
English e-media	<code>./mpinstall.sh -i</code>	<code>./mpinstall.sh -i</code>
Non-English e-media	<code>./mpinstall.sh -i</code>	<code>./mpinstall.sh -i -locale <mplocale></code>

For example, to install OMi MP for SAP in the Simplified Chinese locale with BSM in a non Simplified Chinese locale, specify the following command:

`./mpinstall.sh -i -locale zh_CN`

Note: You can use the following command options:

`./mpinstall.sh -i [-locale <MP Locale>] [-h|help]`

`-i`: Install Management Pack.

`-locale`: Locale specific Management Pack to install.

-h| -help: Shows the help message.

You can specify the <mplocale> as follows:

- zh_CN: Simplified Chinese locale
- ja: Japanese locale

7. To accept the End User License Agreement (EULA), type **Yes** or **Y** and to decline the license agreement, type **No** or **N**.

Note: If you decline the EULA, the OMi MP for SAP will not be installed.

After the installation is completed, a message appears stating that the installation of OMi Management Pack for SAP is completed.

On a Windows BSM 9.2x or OMi 10.x Server

To install the OMi MP for SAP on a Windows BSM 9.2x or OMi 10.x Server, follow these steps:

1. Insert the DVD into the disk drive or you can copy the ZIP file to the BSM or OMi Server and extract it.
2. Open the command prompt, change the directory to <DVD- ROM> or to folder that has the installer script and run the following command:

```
cscript mpinstall.vbs -i
```

Based on the locale, you can see the following table and run the command accordingly:

E-media	MP locale same as BSM locale	MP locale different from BSM locale
English e-media	cscript mpinstall.vbs -i	cscript mpinstall.vbs -i
Non-English e-media	cscript /nologo mpinstall.vbs -i	cscript /nologo mpinstall.vbs -i -locale <mplocale>

For example, to install OMi MP for SAP in Simplified Chinese locale with BSM in a non Simplified Chinese locale, specify the following command:

```
cscript /nologo mpinstall.vbs -i -locale zh_CN
```

Note: You can use the following command options:

```
cscript /nologo mpinstall.vbs -i [-locale <MP Locale>] [-h|help]
```

-i: Install Management Pack.

-locale : Locale specific Management Pack to install.

-h|-help: Shows the help message.

You can specify the <mplocale> as follows:

- zh_CN: Simplified Chinese locale
- ja: Japanese locale

3. To accept the End User License Agreement (EULA), type **Yes** or **Y** and to decline the license agreement, type **No** or **N**.

After the installation is completed, a message appears stating that the installation of OMi Management Pack for SAP is completed.

Applying the License

This section provides information about updating and activating the license.

Note: For more information about procuring the license, see the "Licensing" section.


To update your deployment with a new license and to activate the license, follow these steps:

1. Navigate to the License Management pane:

On BSM 9.2x, click **Admin > Platform > Setup and Maintenance > License Management**.

On OMi 10.x, click **Administration > Setup and Maintenance > License Management**.

The License Management provides details about the name, license type, days left to expiry of license, expiration date, capacity, and capacity details.

2. Click  to open the Add License dialog box where you can search for the relevant .dat file.

Note: You can download .dat file from <http://enterpriselicence.hpe.com>.

Verifying the OMi MP for SAP Installation

This section provides information about verifying the installation of OMi MP for SAP on BSM 9.2x or OMi 10.x (Linux and Windows) servers.

You can perform any one of the following checks to verify the OMi MP for SAP installation:

- Check the log files for any errors on GWS (BSM 9.2x or OMi 10.x), DPS (BSM 9.2x or OMi 10.x), and typical servers (BSM 9.2x or OMi 10.x) at the following locations:

For Linux:

`/opt/HP/BSM/log/mpinstall.log`

For Windows:

`%TOPAZ_HOME%\log\mpinstall.log`

Note: The OMi logs are available on both (BSM 9.2x or OMi 10.x) GWS and (BSM 9.2x or OMi 10.x) DPS at the following location:

On BSM < or = 9.25

Linux: `/opt/HP/BSM/log/EJBContainer/opr-configserver.log`

Windows: `%TOPAZ_HOME%\log\EJBContainer\opr-configserver.log`

On BSM > or = 9.26 and OMi 10.x

Linux: `/opt/HP/BSM/log/jboss/opr-webapp.log`

Windows: `%TOPAZ_HOME%\log\jboss\opr-webapp.log`

- Check the following location BSM 9.2x or on the OMi 10.x console:
 - On BSM 9.2x, click **Admin > Operations Management > Setup > Content Packs**.
The **OMi Management Pack for SAP** must appear in the Content Pack Definitions pane.
 - On OMi 10.x, click **Administration > Setup and Maintenance > Content Packs**.
The **OMi Management Pack for SAP** must appear in the Content Pack Definitions pane.

- To list the OMi MPs installed on the BSM 9.2x or OMi 10.x server, run the following command on BSM 9.2x or OMi 10.x GWS:

For Linux:

```
/opt/HP/BSM/bin/ContentManager.sh -l -username <username> -password <pwd>
```

For Windows:

```
%TOPAZ_HOME%\bin\ContentManager.bat -l -username <username> -password <pwd>
```

Note: The ContentManager.bat or ContentManager.sh command lists the Content Pack name and version.

Chapter 3: Getting Started


You want to monitor a business critical SAP environment comprising ABAP and Java Application Server instances.

Your SAP environment can have either ABAP, Java or both Application Server instances. You want to check the availability and performance of either ABAP, Java or both Application Servers and also monitor the basic functionality of your SAP Environment.

Task 1: Adding Nodes to BSM 9.2x or OMi 10.x Console

Note: If the Node already exists in RTSM, you can skip this step and proceed to Task 2.

Before you begin monitoring, follow these steps to add the nodes.

1. Open the Monitored Nodes pane from Administration:
On BSM 9.2x, click **Admin > Operations Management > Setup > Monitored Nodes**.
On OMi 10.x, click **Administration > Setup and Maintenance > Monitored Nodes**.
2. In the Node Views pane, click **Predefined Node Filter > Monitored Nodes** and then click  and then select **Computer > Windows** or **Unix**. The Create New Monitored Nodes dialog box appears.
3. Specify the Primary DNS Name, IP address, Operating System, and Processor Architecture of the node and click **OK**.


Task 2: Enabling the Enrichment Rules

You must enable the following enrichment rules to populate the SAP CI's display label with additional information about container or the hostname:

- SoftwareElementDisplayLabelForNewHost
- SoftwareElementDisplayLabelForExistingHost

- SoftwareElementDisplayLabelPopulator

To enable the Enrichment rules, follow these steps:

1. Open the Enrichment manager pane:
On BSM 9.2x, click **Admin > RTSM Administration > Modeling > Enrichment manager**.
On OMi 10.x, click **Administration > RTSM Administration > Modeling > Enrichment manager**.
2. In the Enrichment Rules pane, select **SoftwareElementDisplayLabelForNewHost** from the list.
3. Right-click and select **Properties**. The Enrichment Rule Properties window appears.
4. Click **Next**.
5. Select **Rule is Active**.
6. Click **Finish**.
7. In the Enrichment Rules pane, click  to save the changes.
8. Select **SoftwareElementDisplayLabelForExistingHost** and repeat steps 3 to 7.
9. Select **SoftwareElementDisplayLabelPopulator** and repeat steps 3 to 7.

Task 3: Deploying the SAP Discovery Aspect


To discover the SAP CI on the added SAP managed nodes, you must deploy the SAP Discovery Aspect. OMi MP for SAP has two separate Discovery Aspects for ABAP and J2EE Application Server. You can deploy the Discovery Aspect depending on the type of CI you want to discover.


Deploying SAP J2EE Discovery Aspect

To discover the J2EE Applications Servers in your SAP Landscape, follow these steps:


1. Open the Management Templates & Aspects pane:
On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**
On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**
2. In the Configuration Folders pane:

Configuration Folders > ERP Management > SAP NetWeaver Application Server > JAVA Aspects

3. In the JAVA Aspects folder, select the **SAP J2EE Discovery** Aspect, and then click  to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, select the SAP managed node to which you want to deploy the SAP J2EE Discovery Aspect.
5. Click **Next** to go to the **Required Parameters** tab.

Note: By default, parameters defined as expert parameters are not shown. To show expert parameters, click  **Show Expert Parameters**.

6. Click **Next**.
7. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, click **Next**.


Note: By default, parameters defined as expert parameters are not shown. To show expert parameters, click  **Show Expert Parameters**.


8. *(Optional)*. If you do not want to enable the assignment immediately, follow the step:
On BSM 9.2x, clear the **Enable Assigned Objects** check box.
On OMi 10.x, clear the **Enable Assignment(s)** check box.
You can then enable the assignment later using the Assignments & Tuning pane.
9. Click **Finish**.

Deploying SAP ABAP Discovery Aspect

To discover the SAP ABAP Applications Servers in your SAP Landscape, follow these steps:

1. Open the Management Templates & Aspects pane:
On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:
Configuration Folders > ERP Management > SAP NetWeaver Application Server > ABAP Aspects

3. In the ABAP Aspects folder, select the **SAP ABAP Discovery** Aspect, and then click  to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, click the SAP managed node to which you want to deploy the SAP ABAP Discovery Aspect.
5. Click **Next** to go to **Required Parameters** tab.
6. Click **Next** and in the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, click **Next**.


Note: By default, parameters defined as expert parameters are not shown. To show expert parameters, click  **Show Expert Parameters**.


7. (Optional). If you do not want to enable the assignment immediately, follow the step:
On BSM 9.2x, clear the **Enable Assigned Objects** check box.
On OMi 10.x, clear the **Enable Assignment(s)** check box.
You can then enable the assignment later using the Assignments & Tuning pane.
8. Click **Finish**.

Deploying SAP ABAP Remote Configuration Aspect

If you want to monitor SAP ABAP Application Servers on nodes which do not have Operations Agent (OA) installed, you can deploy SAP ABAP Remote Configuration Aspect.

To deploy SAP ABAP Remote Configuration Aspect, follow these steps:



1. Open the Management Templates & Aspects pane:
On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:
Configuration Folders > ERP Management > SAP NetWeaver Application Server > ABAP Aspects
3. In the ABAP Aspects folder, select the **SAP ABAP Remote Configuration** Aspect, and then click  to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, click the SAP managed node you want to use as the monitoring host (where the Agent is installed) and then click **Next**. The Required Parameters tab opens.

5. In the **Required Parameters** tab, you must specify the details about the remote SAP Central Instance node that you want to monitor using OMi MP for SAP.
 - a. Select the **SAP ABAP Application Server Instance with HostName and SID** parameter in the list, and then click . The Edit Parameter: SAP ABAP Application Server Instance number with HostName and SID dialog box opens.
 - b. Specify the **SAP ABAP Application Server Central Instance** along with Host Name and SID of Remote SAP ABAP Application Server as shown in the following example:


Example:

```
testnode.hpe.com_T01_00
```

Here `testnode.hpe.com` is the fully qualified SAP Remote Host Name, `T01` is the SID for SAP Remote Host and `00` is the SAP Instance number.

- c. Click **OK**.
 - d. Select the **SAP ABAP Application Server Client** parameter in the list, and then click . The Edit Parameter: SAP ABAP Application Server Client opens.
 - e. Click **Value**, specify the client number of remote SAP ABAP Application Server, and then click **OK**.
6. Click **Next** to go to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.
7. To change the default values of the parameters, you can select the parameter and then click  **Edit**. The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

For example, you can change the default username and password for the Remote SAP ABAP Application Server from the Edit Instance Parameter dialog box. You can also add multiple Remote Hosts that you want to monitor from the Edit Instance Parameter dialog box.

8. To add SAP Remote nodes from within the Edit Instance Parameter dialog box, follow these steps:
 - a. From the Instance Values pane, click  **Edit**. The Edit Parameter dialog box opens.
 - b. Specify the SAP ABAP Application Server Instance along with Host Name and SID of Remote SAP ABAP Application Server as shown in the following example:

Example:

```
testnode.hpe.com_T01_00
```

Here `testnode.hpe.com` is the fully qualified SAP Remote Host Name, `T01` is the SID for SAP Remote Host and `00` is the SAP Instance number.

OMi MP for SAP enables you to provide the Remote SAP ABAP Application Server credentials in the following combinations:

- i. Remote Host Name (fully qualified) Single SAP SID and Multiple ABAP Application Server Instance.

Example:

`testnode.hpe.com_T01_00`

`testnode.hpe.com_T01_01`

`testnode.hpe.com_T01_03`

- ii. Remote Host Name (fully qualified) Multiple SAP SID and ABAP Application Server Instance.

Example:

`testnode.hpe.com_T01_00`

`testnode.hpe.com_T02_00`

`testnode.hpe.com_T03_00`


- iii. Multiple Remote Host Name (fully qualified) with SAP SID and ABAP Application Server Instance.

Example:

`testnode.hpe.com_T01_00`

`testnode01.hpe.com_T01_00`

`testnode02.hpe.com_T01.3_00`

Note: In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can override the default values of any parameter. You can specify a value for each parameter at the Management Template level. By default, parameters defined as expert parameters are not shown. To show expert parameters, click  **Show Expert Parameters**.

9. Click **Next**.

10. *(Optional)*. In the **Configure Options** tab, if you do not want to enable the assignment immediately, follow the step:

On BSM 9.2x, clear the **Enable Assigned Objects** check box.

On OMi 10.x, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

11. Click **Finish**.

After deploying the SAP Discovery Aspect, you must verify if the SAP CIs are populated in the BSM Console. To view discovered CIs:

1. Open the Event Perspective pane:

On BSM 9.2x, click **Applications > Operations Management > Event Perspective**.

On OMi 10.x, click **Workspaces > Operations Console > Event Perspective**.

2. Select **SAP_Deployment** view.

The SAP CIs are populated in the Browse Views pane.

3. Select **SAP_ABAP_Deployment** and **SAP_J2EE_Deployment** view to visualize the respective SAP Application Server CIs.

Task 4: Configuring SAP Node for ABAP Application Server Monitoring

You must complete the following tasks to enable OMi MP for SAP for monitoring SAP ABAP Application Server:

1. **Apply OMi MP for SAP Transport**

You must copy the OMi MP for SAP transport files from instrumentation folder to the SAP transport directories on each SAP NetWeaver central instance and apply them.

2. **Configure SAP User for OMi**

You must set up an SAP User for OMi so that OMi MP for SAP can log on to SAP whenever OMi MP for SAP applications, monitors, or actions need access to SAP.

3. **Copy lib files to Instrumentation folder**

You must copy the SAP RFC library files to the instrumentation folder on the SAP managed node.

4. **For Solaris managed node, configure LD_LIBRARY_PATH to 32-bit libgcc_s.so path**



You must configure **LD_LIBRARY_PATH** to 32-bit `libgcc_s.so` path if you are monitoring a Solaris managed node.

For more information, see [Enable and Customize SAP ABAP Application Server Monitoring](#).


Task 5: Deploying SAP ABAP Configuration Aspect

Note: You must deploy **SAP ABAP Configuration** Aspect before deploying SAP ABAP Management Templates.

To deploy SAP ABAP Configuration Aspect on SAP ABAP Application Server, follow these steps:

1. Open the Management Templates & Aspects pane:
On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.
 2. In the Configuration Folders pane:
Configuration Folders > ERP Management > SAP NetWeaver Application Server > SAP ABAP Aspects
 3. In the ABAP Aspects folder, select the **SAP ABAP Configuration** Aspect, and then click  to open the Assign and Deploy Wizard.
 4. In the **Configuration Item** tab, click the SAP ABAP Application Server Central Instance you want to deploy the SAP Aspects. For more information about SAP ABAP Aspects that supports SAP Central Instance and Application Server, see *OMi MP for SAP ABAP Monitoring Template Configuration Files table in Deployment Scenarios*.
- Note:** You must not select the SAP ABAP Application Server configured as part of SAP ABAP Remote Configuration Aspect. For more information "[Deploying SAP ABAP Remote Configuration Aspect](#)".
5. Click **Next**. The Required Parameters tab opens.
 6. Select **SAP ABAP Application Server Client** parameter and click  **Edit**. The Edit Parameter: SAP ABAP Application Server Client opens.
 7. Click **Value**, specify the value, and then click **OK**.
 8. Click **Next** to go to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

You can edit the default values for parameters in the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

Note: To change the default values of Mandatory Parameter for SAP ABAP Application Server, you can select the parameter and then click  **Edit**. The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

9. Click **Next**.
10. *(Optional)*. In the **Configure Options** tab, if you do not want to enable the assignment immediately, follow the step:
 - On BSM 9.2x, clear the **Enable Assigned Objects** check box.
 - On OMi 10.x, clear the **Enable Assignment(s)** check box.You can then enable the assignment later using the Assignments & Tuning pane.
11. Click **Finish**.

Data Collection

Frequency (polling interval) at which each Aspect must be monitored is predefined with a default value in a specific frequency parameter. Frequency parameter is an expert parameter that is defined for each of the metrics regardless of whether they are for generating events or not.

Following are the four predefined frequency parameters:

Parameter	Frequency
Very High	5 mins
High	15 mins
Medium	1 hour
Low	24 hours

After Management Templates and Aspects are deployed, the collector is triggered based on the predefined frequency parameter in a specific Aspect. You can modify the default value of the parameter at following two levels:

- During deployment of the Management Template or Aspects using the Management Templates & Aspects pane.
- After deployment using the Assignments & Tuning pane.

For more information about how to modify the parameter values, see section *Tuning Parameters in the OMi MP for SAP User Guide*.

Task 6: Identifying and Deploying an SAP Management Template

Note: You **must** deploy the SAP Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM, and so on. For more information, see "[Task 3: Deploying the SAP Discovery Aspect](#)".

OMi MP for SAP contains two separate sets of Management Templates and Aspects for monitoring the ABAP and J2EE Application Servers in your SAP Landscape. The OMi MP for SAP also contains a set of SAP ABAP Monitoring Templates which you can configure to run at regular intervals to collect information regarding various functionality of ABAP Application Servers in your SAP Environment. For more information about *ABAP Monitoring Templates*, see *OMi MP for SAP Online Help*.

Deploying an SAP Management Template

You must identify the SAP Management Template suitable for your SAP environment before deployment by following these recommendations:

- For monitoring the basic functionality of SAP ABAP Application Server that comprises any of these components - health, dump status, batch job health, transport, user health, processes and dispatcher, work processes, security and RFC destinations, you can deploy **Essential SAP ABAP Management Template**.
- For in-depth and detailed monitoring of SAP ABAP Application Server environments, you can deploy **Extensive SAP ABAP Management Template**.
- For monitoring the basic functionality of SAP J2EE Application Server that comprises any of these components - SAP J2EE requests, system and application thread pool, memory and transaction status, you can deploy **Essential SAP J2EE Management Template**.
- For in-depth and detailed monitoring of SAP J2EE Application Server environments, you can deploy **Extensive SAP J2EE Management Template**.

To deploy OMi MP for SAP Management Templates, follow these steps:

1. Open the Management Templates & Aspects pane:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.

On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.


2. In the Configuration Folders pane:

For ABAP Application Server:




Configuration Folders > ERP Management > SAP NetWeaver Application Server > ABAP Management Templates

For J2EE Application Server:


Configuration Folders > ERP Management > SAP NetWeaver Application Server > JAVA Management Templates


3. In the **SAP Management Templates** folder, click the Management Template that you want to deploy, and then click . The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, click the SAP system or SID to which you want to assign the Management Template, and then click **Next**. You can select multiple items by holding down the **Ctrl** or **Shift** key while selecting them. Click **Next** to accept the CIs and go to **Required Parameters**.
5. In the **Required Parameters** tab, you must specify the mandatory parameters.

For J2EE:

- a. Select the **Java Installation Directory** parameter in the list, and then click the . The Edit Parameter: Java Installation Directory dialog box opens.
- b. Click **Value**, specify the value, and then click **OK**.
- c. Select the **SAP J2EE Application Server Instance User Name** parameter in the list, and then click the . The Edit Parameter: SAP J2EE Application Server Instance User Name dialog box opens.
- d. Click **Value**, specify the value, and then click **OK**.
- e. Select the **SAP J2EE Application Server Instance Password** parameter in the list, and then click the . The Edit Parameter: SAP J2EE Application Server Instance Password dialog box opens.
- f. Click **Value**, specify the value, and then click **OK**.

Note: There are no parameters that require editing for ABAP.

6. Click **Next** to go to **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x. To change the default values of the parameters, you can select the parameter and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

Note: In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can override the default values of a parameter. You can specify a value for each parameter at the Management Template level. By default, parameters defined as expert parameters are not shown. To show expert parameters, click  **Show Expert Parameters**.

7. Click **Next**.
8. (Optional). In the **Configure Options** tab, if you do not want to enable the assignment immediately, follow the step:

On BSM 9.2x, clear the **Enable Assigned Objects** check box.

On OMi 10.x, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

9. Click **Finish**.

Note: The username given during the deployment of a Management Template should have required privileges for OMi MP for SAP to collect data. You can create separate user for ABAP and J2EE Application Servers. You can also create a single SAP user with necessary privileges to collect data from ABAP and J2EE Application Servers.

Note: Data logging is disabled by default for SAP ABAP Application Server. You must run the SAP ABAP Application Server - Start Performance Agent tool to enable SAP ABAP data logging.





Task 7: Deploying SAP Aspects


Note: You **must** deploy the SAP Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM, and so on. For more information, see "[Task 3: Deploying the SAP Discovery Aspect](#)".

Note: You must deploy the **SAP ABAP Configuration** Aspect before deploying other SAP ABAP Aspects.

Deploying SAP ABAP Configuration Aspect on SAP Managed Nodes


To deploy SAP ABAP Configuration Aspect on SAP managed nodes, follow these steps:

1. Open the Management Templates & Aspects pane:
On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:
Configuration Folders > ERP Management > SAP NetWeaver Application Server > ABAP Aspects
3. In the SAP ABAP Aspects folder, select the **SAP ABAP Configuration** Aspect, and then click  **Assign and Deploy Item** to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, click the appropriate SAP managed node to which you want to deploy the SAP ABAP Configuration Aspect. Click **Next** to accept the CIs and go to **Required Parameters**.
5. In the **Required Parameters** tab, you must specify the mandatory parameters.
 - a. Select the **SAP ABAP Application Server Instance Name** parameter and click . The Edit Parameter dialog box opens.
 - b. In the Edit Instance Parameter pane, select the **SAP ABAP Application Server Instance Name** parameter and click . The Edit Parameter dialog box opens.
 - c. Click **Value**, specify the value in the following format:
`ShortHostName_SAPSID_SAPInstNum_ABAP`
Example:
`TestNode_W09_00_ABAP`
 - d. Click **OK**.
 - e. Select the **SAP ABAP Application Server Client** parameter in the list, and then click . The Edit Parameter: SAP ABAP Application Server Client dialog box opens.
 - f. Click **Value**, specify the SAP ABAP server client number, and then click **OK**.
Example:
`001`

- g. Select the **SAP ABAP Application Server Instance Number** parameter and click . The Edit Parameter dialog box opens.
- h. Click **Value**, specify the SAP ABAP server instance number, and then click **OK**.


Example:


00

- i. Select the **SAP ABAP Host Name** parameter and click . The Edit Parameter dialog box opens.
- j. Click **Value**, specify the SAP managed node name (fully qualified) within parenthesis.

Example:

(TestNode.hpe.com)

- k. Click **OK**.
6. Click **Next** to go to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x. To change the default values of the parameters, you can select the parameter and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

Note: To change the default values of Mandatory Parameter for SAP ABAP Application Server, you can select the parameter and then click  **Edit**. The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

7. Click **Finish**.

Deploying OMi MP for SAP Aspects

To deploy OMi MP for SAP Aspects on SAP managed nodes, follow these steps:

1. Open the Management Templates & Aspects pane:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.

On OMi 10.x, click **Administration > Monitoring > Management Templates & Aspects**.


2. In the Configuration Folders pane:

For ABAP Application Server:




Configuration Folders > ERP Management > SAP NetWeaver Application Server > ABAP Aspects

For J2EE Application Server:


Configuration Folders > ERP Management > SAP NetWeaver Application Server > JAVA Aspects

3. In the specific SAP Aspects folder, select the SAP Aspect you want to deploy, and then click  **Assign and Deploy Item** to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, click the appropriate SAP managed node to which you want to deploy the SAP Aspect. You can select multiple items by holding down the **Ctrl** or **Shift** key while selecting them. Click **Next** to accept the CIs and go to **Required Parameters**.
5. In the **Required Parameters** tab, you must specify the mandatory parameters.


For J2EE:

- a. Select the **Java Installation Directory** parameter in the list, and then click . The Edit Parameter: Java Installation Directory dialog box opens.
- b. Click **Value**, specify the value, and then click **OK**.
- c. Select the **SAP J2EE Application Server Instance User Name** parameter in the list, and then click . The Edit Parameter: SAP J2EE Application Server Instance User Name dialog box opens.
- d. Click **Value**, specify the value, and then click **OK**.
- e. Select the **SAP J2EE Application Server Instance Password** parameter in the list, and then click . The Edit Parameter: SAP J2EE Application Server Instance Password dialog box opens.
- f. Click **Value**, specify the value, and then click **OK**.


Note: There are no parameters that require editing for ABAP.

6. Click **Next** to go to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x. To change the default values of the parameters, you can select the parameter and then click  **Edit**. The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

For J2EE:

To change the default values of SAP J2EE Application Server Instance Name parameter, you can select the parameter and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

For ABAP:

To change the default values of Mandatory Parameter for SAP ABAP Application Server, you can select the parameter and then click . The Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.

7. Click **Next**.
8. *(Optional)*. In the **Configure Options** tab, if you do not want to enable the assignment immediately, follow the step:

On BSM 9.2x, clear the **Enable Assigned Objects** check box.

On OMi 10.x, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

9. Click **Finish**.

Task 8: Configuring SAP ABAP Monitoring Templates

The OMi MP for SAP contains SAP ABAP Monitoring Templates which enables you to monitor specific functionality of SAP ABAP Application Server. A set of SAP ABAP Monitoring Templates provided with OMi MP for SAP contains out of the box configuration which enables deployment without any manual configuration. OMi MP for SAP enables you to configure SAP ABAP Monitoring Template for monitoring functionality specific to your SAP environment.

The SAP ABAP Monitoring Templates with out-of-the-box configuration are listed in the following table:

SAP ABAP Monitoring Template	Description
SAPABAP_CCMSIntegrationMon	SAP ABAP Monitoring Template for monitoring the output of SAP CCMS monitoring infrastructure.
SAPABAP_DispMon	SAP ABAP Monitoring Template for monitoring the size, content and status of various queues for different types of SAP work processes.
SAPABAP_DumpMon	SAP ABAP Monitoring Template for monitoring the runtime errors that occur on the SAP ABAP system.
SAPABAP_LckChkMon	SAP ABAP Monitoring Template for monitoring the Enqueue process which manages the SAP ABAP logical locks for different SAP transactions and SAP reports.

SAPABAP_Perfmon	SAP ABAP Monitoring Template for collecting the SAP Performance metrics from different OMi MP for SAP Performance monitors.
SAPABAP_SplMon	SAP ABAP Monitoring Template for monitoring the number of SAP ABAP Spooler entries, error generating spool requests, erroneous spooler entries in the print requests.
SAPABAP_StatusMon	SAP ABAP Monitoring Template for monitoring the SAP ABAP Application Server Availability Status.
SAPABAP_TraceMon	SAP ABAP Monitoring Template for monitoring all the SAP Trace and Log files for "ERROR".
SAPABAP_TransMon	SAP ABAP Monitoring Template for monitoring the successfully imported/exported SAP ABAP transports, failed imports/exports, availability of confirmed/unconfirmed repairs and connections/tptests to the configured systems.
SAPABAP_UpdProcMon	SAP ABAP Monitoring Template for monitoring the different conditions of SAP ABAP update processes like inactive Status and errors.
SAPABAP_WPMon	SAP ABAP Monitoring Template for monitoring the running work processes, waiting work process, checking the various status of work process like Debug/Private/No Restart.

For more information about configuring SAP ABAP Monitoring Templates, see ["Configuring and Deploying SAP ABAP Monitoring Templates"](#).

Chapter 4: Enable and Customize SAP ABAP Application Server Monitoring

This section provides information about enabling and customizing SAP ABAP Application Server Monitoring.

You must perform a set of tasks to enable OMi MP for SAP to monitor ABAP Application Servers in your SAP Landscape. The tasks in this phase require knowledge of SAP transactions and specific monitoring requirements. You will be working with the OMi GUI as well as on the SAP system application servers. You will need to log in to BSM or OMi as an operator and to the SAP clients as a user with sufficient authority to perform the SAP tasks included in this phase.

Applying the SAP Transport

In this step, you copy the transport files that are delivered with the OMi MP for SAP in the instrumentation folder to the SAP transport directories on each SAP central instance. The transport that you import in this step contains SAP roles and authorization profiles, which are required to complete the configuration of the SAP user later in this section.

The OMi MP for SAP transports contains objects with the SAP namespace `"/HPOV/"`. As a result of this naming convention, administrators now must use the OMi MP for SAP's name-space transports if they want to use the OMi MP for SAP to monitor SAP Systems.

The OMi MP for SAP includes the following transport file:

- **R3Trans.car**

The R3Trans.car transport contains all the ABAP monitors that the OMi MP for SAP uses along with the default configuration settings. You must uncar and import the R3Trans.car transport to the SAP Central Instance. In case you are using only the SAP's central monitoring system (CEN) Functionality , uncar and import the R3Trans.car transport into the into the SAP's central monitoring system (CEN) which monitors all the satellite systems connected to it.

Note: The following procedure requires the CAR/SAPCAR command, which you can find on the SAP Kernel CD.

To copy the OMi MP for SAP transport files to the managed nodes, follow these steps:

1. Log on as an SAP administrator (<SID>adm) on the OMi MP for SAPmanaged node, use the CAR (or SAPCAR) command to unpack the transport files to /usr/sap/trans. Enter:

```
CAR -xvf R3Trans.car
```

The OMi MP for SAP transport package contains a number of different transport files, for example: the main OMi MP for SAP transport, test programs, user-roles. Some transports are mandatory, some are optional. The transport you need to import depends on the version of SAP running in the system you want to monitor with the OMi MP for SAP. For more information about the OMi MP for SAP transports, their contents, and whether they are mandatory, see the transport read-me file available at the following location on the SAP managed node:

UNIX:

```
/var/opt/OV/bin/instrumentation
```

Windows:

```
%OvAgentDir%/bin\instrumentation
```

2. You can import the OMi MP for SAP transport either by using command line or SAP GUI.

To import OMi MP for SAP transport using command prompt, import the OMi MP for SAP-related transport to your SAP application servers. Enter the following commands as SAP administrator (<SID> adm) on the managed node:

```
cd /usr/sap/trans/bin
```

```
tp addtobuffer <transport_file_name> <SID>
```

```
tp import <transport_file_name> <SID> client=<client_number>
```

In this instance, the <SID> is the SAP System ID on the OMi MP for SAP managed node and <transport_file_name> is the name of the transport file, which corresponds to the version of SAP NetWeaver running on the OMi MP for SAP managed node. For example:

```
tp addtobuffer SPIK900132 CIA
```

The transport file name, SPIK900132, and the SAP System ID, CIA, are used here only to illustrate the correct syntax for the tp command. For more information about transport numbers and SAP NetWeaver versions, see the transport read-me file available in Instrumentation folder of SAP managed node.

The TPPARAM file contains the configuration parameters, which the tp command uses. The configuration parameters include such things as the SAPSID, the database hostname, and the database configuration paths. Note that, from SAP 4.6 onwards, the name and format of the TPPARAM file has been changed as follows:

```
pf=/usr/sap/trans/bin/TP_DOMAIN_<SID>.PFL
```

If you encounter errors when using the `tp addtobuffer` command, you can clean the `tp` buffer using the following command:

```
tp cleanbuffer <SID>
```

Alternatively, you can import transport files using the SAP GUI. To import transport files using the SAP GUI, follow these steps:

- a. Log on to all SAP Systems where you want to apply the OMi MP for SAP transport file.

Note: Transports must be applied to each SAP system running Central Instance.

- b. In the SAP GUI, enter the following transaction ID to display the SAP Transport Management System (SMTS) logon page: `STMS`
- c. In the SAP Transport Management System logon page, click the Transport icon (or press the F5 function key).
- d. Select the SID of the SAP System into which you want to import the OMi MP for SAP transport.
- e. In the **File** menu, click **Extras > Other requests > Add**.
- f. In the Transport-Request-to-Import queue, enter the following:

```
<Transport_file_name>
```

A *Readme* file lists the OMi MP for SAP transport file names. You can find the *Readme* file on the SAP managed node in the following location:

UNIX:

```
/var/opt/OV/bin/instrumentation
```

Windows:

```
%OvAgentDir%/bin\instrumentation
```

Note: You must import the OMi MP for SAP user role into the client where you created the SAP user "ITouser". For more information, see [Configuring SAP User for OMi](#). The default client for the OMi MP for SAP user-role transport is 099.

- g. Select the **Check** [✓] icon or use the **Enter** key to add transaction requests.
- h. Highlight the desired transport.

Note: If you do not select any transport, SAP assumes you want to select all transports in the list.

- i. Select **Request > Import**. The Import Request dialog box opens.
 - j. Enter the target client number (000 is the default client number).
 - k. Check items in the **Option** tab that are appropriate for your system.
 - l. Click the **Check [✓]** icon or press **Enter**.
3. Repeat this procedure for each SAP System you want to manage with OMi MP for SAP.

Configuring SAP User for OMi

For every SAP SID where you want to allow the automated log on of OMi Operators:

1. Log on to SAP.
2. Call the following transaction: `/nsu01`
3. Create a new user named ITOUSER using the parameters specified in the following table:

Note: Since user-role transports are client dependent, the SAP user ITOUSER must be created in the same SAP client as the import client of the OMi MP for SAP user-role transport. Otherwise it is not possible to assign user role `"/hpov/ sapspi_monitoring"` (Validate/Update) to the new ITOUSER.

User Type	<p>DIALOG</p> <p>If you do not set the User type to DIALOG and do not <i>define</i> a corresponding password, the SAP GUI will not work and many of the operator-initiated actions and applications within OMi will be unavailable. However, performance and event monitoring do work with the CPIC/SYSTEM user.</p>
Initial Password	<p>Any SAP-allowed value <i>except</i> HPSAP_30</p> <p>The password HPSAP_30 is associated with =default value which is the password entered for the SAP system as part of parameter during Management Template deployment.</p> <p>If you intend to use the =default value, you cannot enter HPSAP_30 now. You must first log on to SAP with ITOUSER as username. You can use HPSAP_30 as password when SAP prompts you to set ITOUSER's password after completing the setup.</p>

User Roles	<p>SAP User Roles need to be defined from SAP version 4.6C onwards. Use transaction <code>/nsu01</code>. Note that ITOUSER requires authorizations to be able to execute OMi MP for SAP ABAP functions. Select the following user role:</p> <ul style="list-style-type: none"> ○ <code>/HPOV/SAPSPI_MONITORING_TCODE</code> This user role enables the use of certain SAP transactions and does not place any restrictions on the OMi MP for SAP functionality. ○ <code>/HPOV/SAPSPI_MONITORING_NO_TCD</code> This user role does not contain any SAP transaction authorizations (NO_TCD) and restricts the OMi MP for SAP functionality by preventing the SAP user from starting OMi MP for SAP applications or operator-initiated actions. The SAP user can, however, still logon to SAP. ○ <code>/HPOV/SAPSPI_SECURITY_MON</code> If you plan to use the <code>SAPABAP_SecMon</code> Monitoring Template to monitor SAP System security, you must also assign to ITOUSER (or the user under which <code>SAPABAP_SecMon</code> Monitoring Template runs) the authorizations defined in <code>/HPOV/SAPSPI_SECURITY_MON</code>, the OMi MP for SAP-security user role.
-------------------	--

4. Activate the profile and assign it to the SAP user ITOUSER, which you have already created.

When assigning OMi MP for SAP roles, it is important to verify that all required authorization objects are active and the user comparison completed successfully. SAP uses the color green to indicate that user-authorization objects are active or that user comparisons completed successfully. The color red indicates that you need to activate user-authorization objects or complete a user comparison. Transaction `SU01` displays details of SAP user roles.

5. Log on to SAP as user ITOUSER.
6. SAP NetWeaver prompts you to change the password initially specified for ITOUSER. If you have not specified your own SAP user logins and intend to make use of the `=default` value enter the following, new password: `HPSAP_30` in the parameter during deployment of OMi MP for SAP Management Template.

Configuring User Roles for SAP J2EE Application Server Monitoring

If you want to use any user role other than `j2ee_admin` for SAP J2EE application server monitoring, follow these steps:

Note: The following steps must be executed on a SAP dual stack system.

1. Create a user on SAP ABAP stack using `SU01` transaction. Do not assign any roles for the created user on ABAP stack.

2. Logon to SAP Netweaver Administrator of the SAP system using j2ee_admin user.
3. Assign the SAP_JAVA_NWADMIN_CENTRAL_READONLY to the user created on the ABAP stack.

Copying lib Files to Instrumentation Folder

To download and copy RFC Library files to Instrumentation folder, follow these steps:

1. Download the SAP RFC SDK 6.40 from the SAP Download Distribution Center website, depending on the operating system of the OMi MP for SAPmanaged node.
2. Extract the contents of the RFC SDK and copy the library files to the following location on the OMi MP for SAPmanaged node:

Windows:

- %OvAgentDir%/bin\instrumentation

UNIX:

- /var/opt/OV/bin/instrumentation

Note: You must download the RFC SDK version 6.40 regardless of SAP version deployed in your environment.

SAP Libraries

Node Platform	Library File
Windows 32-bit	librfc32.dll
Windows X64	librfc32.dll
Linux	librfccm.so
Linux	librfccm.so
Linux	librfccm.so
Solaris	librfccm.so
HP-UX IA-64 64-bit	librfccm.so
HP-UX PA-RISC	librfccm.sl
Aix ^a	librfccm.so

a. For all supported flavors of AIX, use the AIX 64-bit RFC SDK (6.40).

Configuring libgcc_s.so at LD_LIBRARY_PATH

To configure the `libgcc_s.so` at `LD_LIBRARY_PATH` on Solaris managed node, follow these steps:

1. Find **libgcc_s.so** on Solaris managed node using the following command:

```
find / -name libgcc_s.so
```

2. Search 32-bit `libgcc_s.so` using the following command:

```
file <libgcc_s.so along with path>
```

3. If 32-bit `libgcc_s.so` is not installed on the node, install **GCC Runtime libraries** package.
4. Configure `LD_LIBRARY_PATH` to 32-bit `libgcc_s.so` path.

Configuring and Deploying SAP ABAP Monitoring Templates

The OMi MP for SAP contains a set of SAP ABAP Monitoring Templates which you configure to run at regular intervals to collect information regarding various aspects of ABAP Application Servers in your SAP Environment. The OMi MP for SAP enables you to extensively customize the SAP ABAP Monitoring Templates to suit your monitoring requirements. Each SAP ABAP Monitoring Template enables you to monitor a set of functionality of the ABAP Application Server and has a set of Alert Types that can be configured to monitor a specific functionality. OMi MP for SAP contains a number of SAP ABAP Monitoring Templates having out-of-the-box configuration which can be deployed without manual configuration. The SAP ABAP Monitoring Templates that do not have default configuration requires manual configuration before deployment.

SAP ABAP Monitoring Templates with out-of-the-box configuration are listed in the following table:

SAP ABAP Monitoring Template	Description
SAPABAP_CCMSIntegrationMon	Monitors the output of SAP CCMS monitoring infrastructure.
SAPABAP_DispatchMon	Monitors the size, content, and status of various queues for different types of SAP work processes.
SAPABAP_DumpMon	Monitors the runtime errors that occur on the SAP ABAP system.

SAPABAP_LckChkMon	Monitors the Enqueue process which manages the SAP ABAP logical locks for different SAP transactions and SAP reports.
SAPABAP_Perfmon	Collects the SAP Performance metrics from different SAP OMi MP for SAP Performance monitors.
SAPABAP_SplMon	Monitors the number of SAP ABAP Spooler entries, error generating spool requests, and erroneous spooler entries in the print requests.
SAPABAP_StatusMon	Monitors the SAP ABAP Application Server availability status.
SAPABAP_TraceMon	Monitors all the SAP Trace and Log files for "ERROR".
SAPABAP_TransMon	Monitors the successfully imported or exported SAP ABAP transports, failed imports or exports, availability of confirmed or unconfirmed repairs and connections or tptests to the configured systems.
SAPABAP_UpdProcMon	Monitors the different conditions of SAP ABAP Update processes such as inactive status and errors.
SAPABAP_WPMon	Monitors the running work processes, waiting work process, checking the various status of work processes such as Debug, Private or No Restart.

For more information about *Configuring SAP ABAP Monitoring Template*, see *OMi MP for SAP Online Help*.

Appendix A: Installing Monitoring Automation 9.23 Software Update

This section provides detailed information about installing the software update in a distributed BSM environment.

If you do not have a distributed BSM environment, you can skip to the section "[Installing Additional Software Update in a Typical BSM Environment](#)".

Installing Additional Software Update in a Distributed BSM Environment

In a distributed BSM environment, the BSM DPS and BSM GWS are available on different systems. The additional software update needs to be installed on both the BSM DPS and BSM GWS.

Installing Additional Software Update on BSM DPS

To install the additional software update on BSM DPS running in a distributed BSM environment, follow these steps:

1. Run the following commands to check the version of the current `opr-config-content-server.war` file:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
/opt/HP/BSM/opr/support/what.sh ./opr-config-content-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-content-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM DPS:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-content-server.war` file, which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-content-server.war` file must be backed up to a different folder.

4. Extract the `HP0prMA_update.zip` to a temporary folder and copy `opr-config-content-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi -noGW
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi -noGW
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

Installing Additional Software Update on BSM GWS

To install the additional software update on BSM GWS running in a distributed BSM environment, follow these steps:

1. Run the following commands to check the version of the current `opr-config-server.war` file:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
/opt/HP/BSM/opr/support/what.sh ./opr-config-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM GWS:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-server.war` file which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-server.war` file must be backed up to a different folder.

4. Extract the `HPOprMA_update.zip` to a temporary folder and copy `opr-config-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

Installing Additional Software Update in a Typical BSM Environment

In a typical BSM environment, the BSM DPS and BSM GWS are available in the same system. To install the additional software update in a typical BSM environment, perform the following steps:

1. Run the following commands to check the version of the current `opr-config-server.war`:

On Linux:

```
cd /opt/HP/BSM/opr/webapps  
  
/opt/HP/BSM/opr/support/what.sh ./opr-config-server.war
```

On Windows:

Go to the drive where BSM is installed:

```
cd /d %TOPAZ_HOME%\opr\webapps  
  
cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-server.war
```

Note: If the version number is lower than 09.23.174, then proceed to the next step. If the version number is 09.23.174 or higher, then the current BSM installation already contains the required software update and you do not need to perform the remaining steps in this section.

2. Run the following command to stop the BSM services running on BSM Server:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm stop
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStop.bat
```

3. Take a backup of the existing `opr-config-server.war` file which exists in the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

The `opr-config-server.war` file must be backed up to a different folder.

4. Extract the `HP0prMA_update.zip` to a temporary folder and copy `opr-config-server.war` to the following folder:

On Linux:

```
/opt/HPBSM/opr/webapps
```

On Windows:

```
%TOPAZ_HOME%\opr\webapps
```

5. Run the following command to deploy the new WAR file from the extracted ZIP file:

On Linux:

```
/opt/HP/BSM/opr/bin/oprcfg-configuration.sh -setup omi
```

On Windows:

```
cscript %TOPAZ_HOME%\opr\bin\oprcfg-configuration.vbs -setup omi
```

6. Run the following command to start the BSM services:

On Linux:

```
/opt/HP/BSM/scripts/run_hpbsm start
```

On Windows:

```
%TOPAZ_HOME%\bin\SupervisorStart.bat
```

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