

HP OMi Management Pack for Infrastructure

Software Version: 1.12

HP Operations Manager i for Linux and Windows® operating systems

Installation Guide

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Chapter 1: Introduction

The HP OMi Management Pack for Infrastructure (OMi MP for Infrastructure) works with HP Operations Manager i (OMi) and enables you to monitor the various systems operating in a data center environment. It includes Indicators - Health Indicators (HIs), Event Type Indicators (ETIs) and Correlation Rules (TBEC) that analyze and categorize the events occurring in the systems and report the health status of the systems. It also includes Management Templates for monitoring the availability, health, and performance of individual systems, clusters, and virtual nodes.

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

Abbreviations Used in this Manual

| Convention | Description |
|---------------------------|---|
| BSM | Business Service Management |
| OMi | HP Operations Manager i |
| RTSM | Run-time Service Model |
| BSM DPS | BSM Data Processing Server |
| BSM GWS | BSM Gateway Server |
| OMi MP | OMi Management Pack |
| OMi MP for Infrastructure | HP OMi Management Pack for Infrastructure |

Related Documentation

For more information about BSM and Monitoring Automation, see documentation for the Business Service Management.

For more information about OMi, see documentation for the *Operations Manager i*.

For more information about OMi MP for Infrastructure 1.12, see the following documents:

- OMi MP for Infrastructure 1.12 - *Release Notes*
- OMi MP for Infrastructure 1.12 - *User Guide*

Licensing

No separate license is required for OMi MP for Infrastructure. For information about licensing options for Monitoring Automation, see the section *Monitoring Automation License Options* in the *Monitoring Automation Installation Guide*.

Chapter 2: Installing OMi MP for Infrastructure

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

Installation Package



The following section provides information about the installation package for OMi MP for Infrastructure 1.12.

Note: You must install OMi MP for Infrastructure 1.10 before installing OMi MP for Infrastructure 1.12.

The OMi MP for Infrastructure 1.10 is available in the OMi MP for Infrastructure 1.10 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. In a distributed environment, it must be installed on all BSM 9.2x or OMi 10.x Data Processing Servers (DPS) and BSM 9.2x or OMi 10.x Gateway Servers (GWS).

The OMi MP for Infrastructure 1.12 is available at <http://www.hp.com/go/livenetwork>. The package is available for English and Non-English locale environments. You can use the appropriate installation media based on your locale requirements.

The OMi MP for Infrastructure 1.12 contains the OMi MP for Infrastructure features, software and the product documentation. In a distributed environment, it must be installed on all BSM Data Processing Servers (BSM DPS) and BSM Gateway Servers (BSM GWS). The following table provides information about the documentation available for OMi MP for Infrastructure 1.12:

| 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 Infrastructure.</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 Infrastructure.</p> | <p>To provide information about the following:</p> <ul style="list-style-type: none"> • Using Management Templates • Using Aspects and Policy Templates • Using Indicators - Health Indicators, Event Type Indicators, and Correlation Rules |
| User Guide | http://www.hp.com/go/livenetwork https://softwaresupport.hp.com | |
| Installation Guide | http://www.hp.com/go/livenetwork https://softwaresupport.hp.com | <p>To provide information about the following:</p> <ul style="list-style-type: none"> • Salient Features • Installation Notes |
| Release Notes | http://www.hp.com/go/livenetwork https://softwaresupport.hp.com | |

Installation Prerequisites

The following section lists the hardware and software prerequisites for installing OMi MP for Infrastructure on BSM 9.2x 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 Infrastructure 1.12:

Server

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

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

Managed Node

| Component | Version |
|---------------------|------------------|
| HP Operations Agent | 11.12 or higher* |

* See the Support Matrix for latest versions supported.

SiteScope Server:

| Component | Version |
|-----------|------------------|
| SiteScope | 11.22 or higher* |

Installation Checklist

Ensure that the installation tasks described in the following table are completed in the specified order to enable you to monitor OMi MP for Infrastructure:

If you have already installed OMi 10.x, skip to [Task 5](#).

| Serial | Task | Reference |
|--------|---|--|
| 1 | Check the Installation Prerequisites for BSM | See the chapter <i>General Prerequisites</i> in the <i>BSM Installation Guide</i> . |
| 2 | 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 HP Operations Manager i Installation Guide</i> . |
| 3 | 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 HP Operations Manager i Installation Guide</i> . |
| 4 | Install Additional Software Update for Monitoring Automation 9.23 <div> Note: If you are installing OMi MP for Infrastructure on BSM 9.23, you must install additional software update for Monitoring Automation 9.23. </div> | See the section Installing Additional Software Update for Monitoring Automation 9.23 . |

| Serial | Task | Reference |
|--------|---|---|
| 5 | Clean up OMi MP for Infrastructure version 1.00 | If OMi MP for Infrastructure version 1.00 is already installed, see section "Removing OMi MP for Infrastructure version 1.00" |
| 6 | Install OMi MP for Infrastructure 1.10 | See the section Installing OMi MP for Infrastructure version 1.10 on BSM or OMi . |
| 7 | Install OMi MP for Infrastructure 1.12 | See the section Installing OMi MP for Infrastructure version 1.12 on BSM or OMi . |

Managed Node

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

User Privileges

The user must have the local Infrastructure Administrator privileges assigned for the Infrastructure Admin Server.

If you are using LDAP directory, you must create a user account similar to the user account of LDAP in the local Infrastructure instance and grant Administrator privileges to the user.

Installing Additional BSM DPS Update on BSM 9.23

Before installing OMi MP for Infrastructure, you must install the following additional BSM DPS update on the BSM DPS only. This update is available in the MPDVD.

Note: This additional BSM DPS update is not required for BSM Typical servers.

Note: This update is required only for BSM 9.23 and not for higher versions.

To install the update, follow these steps:

BSM DPS on Linux:

1. To check the version of `opr-config-content-server.war` file, run the following commands:

```
cd /opt/HP/BSM/opr/webapps

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

If the version is 09.23.171, then proceed to the next step else you can skip and go to [Installing Additional Software Update for Monitoring Automation 9.23](#).

2. To apply the new `.war` file `opr-config-content-server.war`, follow these steps:
 - a. Stop the **BSM DPS**.
 - b. Backup the existing file `opr-config-content-server.war` using the following command:

```
mv ./opr-config-content-server.war ./orig_opr-config-content-server.war
```

- c. Mount the MPDVD and copy `opr-config-content-server.zip` from <MPDVD>/MA_DPS.war/ and place it under `/opt/HP/BSM/Temp`
- d. Extract the `.zip` file `opr-config-content-server.zip` under `/opt/HP/BSM/Temp`
- e. Move the extracted `opr-config-content-server.war` file to `/opt/HP/BSM/opr/webapps`
- f. Run the following command:

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

- g. Start **BSM**.

BSM DPS on Windows:

1. To check the version, run the following commands:

```
cd %TOPAZ_HOME%\opr\webapps

cscript %TOPAZ_HOME%\opr\support\what.vbs opr-config-content-server.war
```

If it shows the version as 09.23.171, then proceed to next step else you can skip the step and go to [Installing Additional Software Update for Monitoring Automation 9.23](#).

2. To apply the new `.war` file `opr-config-content-server.war`, follow these steps:
 - a. Stop the **BSM DPS**.
 - b. Backup the existing file `opr-config-content-server.war`:

```
move opr-config-content-server.war orig_opr-config-content-server.war
```

- c. Mount or extract MPDVD and copy the `opr-config-content-server.zip` from

- <MPDVD>\MA_DPS.war\ and place it under %TOPAZ_HOME%\Temp
- d. Extract the zip file opr-config-content-server.zip under %TOPAZ_HOME%\Temp
 - e. Move extracted opr-config-content-server.war file from %TOPAZ_HOME%\Temp to %TOPAZ_HOME%\opr\webapps
- ```
cd %TOPAZ_HOME%\Temp\

move opr-config-content-server.war %TOPAZ_HOME%\opr\webapps
```
- f. Run the following commands:
- ```
cd %TOPAZ_HOME%\opr\bin

cscript /nologo oprcfg-configuration.vbs -setup omi -noGW
```
- g. Start **BSM**.

Removing OMi MP for Infrastructure version 1.00

Before installing OMi MP for Infrastructure version 1.10, OMi MP for Infrastructure version 1.00 must be removed. The following section provides information about removing OMi MP for Infrastructure version 1.00.

Note: Before uninstalling OMi MP for Infrastructure, ensure that you remove the Infrastructure Aspect references from other applications Management Packs. You can either remove the respective application's Management Pack or edit and remove the Infrastructure Aspects by editing the appropriate Management Templates which will create a newer version.

Before removing the OMi MP for Infrastructure version 1.00, you can ensure that the following prerequisites are met:

- BSM version 9.23 is installed and configured in your environment.
- Clean up the version 1.00 by following these steps:
 - a. You must ensure that the OMi MP for Infrastructure components - Management Templates, Aspects and Policy Templates are not assigned to any Configuration Items (CIs). To check and remove assignment of Aspects, go to **Admin > Operations Management > Monitoring > Assignments & Tuning**.
 - b. Clean up the customized versions and newly created versions of the Infrastructure Management Templates and Aspects. To check the Management Templates and Aspects, go to **Admin > Operations Management > Monitoring > Management Templates & Aspects**.

To clean up OMi MP for Infrastructure version 1.00, follow these steps on BSM GWS and DPS:

1. Mount the OMi MP for Infrastructure 1.10 DVD.
2. Go to <DVD folder>\cleanMP1.0.
3. Run the following script to clean up the OMi MP for Infrastructure components:

Linux: `cleanMP.sh Infra <BSMUsername> <BSMPassword>`

Windows: `cleanMP.bat Infra <BSMUsername> <BSMPassword>`

After removing OMi MP for Infrastructure version 1.00, you must install OMi MP for Infrastructure version 1.10.

Installing OMi Management Pack for Infrastructure version 1.10 on BSM or OMi

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

If OMi MP for Infrastructure 1.10 is already installed, you can skip to section [Installing OMi MP for Infrastructure version 1.12 on BSM or OMi](#).

Note: If you plan to install OMi MP for Infrastructure 1.10 on BSM 9.25, install the BSM 9.25 patch for OMi Management Pack.

Note: In a BSM 9.2x or OMi 10.x distributed environment, OMi MP for Infrastructure 1.10 must be installed on all BSM or OMi Servers - BSM or OMi DPS and BSM or OMi GWS. For BSM 9.2x, you must ensure 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 Infrastructure 1.10 on a Linux BSM 9.2x or OMi 10.x Server, follow these steps:

1. Log on as 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 Infrastructure 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
- `de`: German locale
- `fr`: French locale
- `es`: Spanish locale

- ko: Korean locale
- ru: Russian 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 Infrastructure will not be installed.

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

To install the OMi MP for Infrastructure 1.10 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 e-media installation package file to the BSM or OMi Server and extract it.
2. Open the command prompt, change the directory to <DVD-ROM> or to the folder that has the installer script and run the following command:

```
cscript /nologo 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 /nologo mpinstall.vbs -i | cscript /nologo 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 Infrastructure 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
- de: German locale
- fr: French locale
- es: Spanish locale
- ko: Korean locale
- ru: Russian 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, the following message appears: HP OMi Management Pack Installation Finished.

Installing OMi MP for Infrastructure version 1.12 on BSM or OMi

This section provides information about installing OMi MP for Infrastructure 1.12 on BSM 9.2x or OMi 10.x (Linux or Windows) servers.

Note: For BSM 9.2x, ensure that Monitoring Automation is enabled before proceeding with the installation. To check the status, log on to BSM console and navigate through **Admin > Platform > Setup and Maintenance > Server Deployment**, and check if Monitoring Automation is enabled.

Downloading the OMi MP for Infrastructure 1.12

To download the OMi MP for Infrastructure 1.12, follow these steps:

1. Download the installation package from:

<https://hpln.hp.com/contentoffering/omi-management-pack-infrastructure>.

For BSM 9.2x, download the BSM_MP_for_Infrastructure_Update_01.12.004.zip.

For OMi 10.x, download the `OMi_MP_for_Infrastructure_Update_01.12.004.zip`.

2. Extract the installation package to a temporary location.

Installing OMi MP for Infrastructure 1.12 using Command Line

For Linux:

1. Log on as root user.
2. Set the umask by typing the command `umask 022`.
3. Change the directory to extract the file to the Temp folder:
4. To install the package, run the following command:

```
<PATH>/mpinstall.sh -i
```

For example, to install OMi MP for Infrastructure in Korean locale with BSM in Japanese locale, specify the following command:

```
<PATH>/mpinstall.sh -i -locale ko
```

Note: You can use the following command options:

```
<PATH>/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:

- `de`: German locale
- `zh_CN`: Simplified Chinese locale
- `fr`: French locale
- `es`: Spanish locale
- `ko`: Korean locale
- `ru`: Russian locale
- `ja`: Japanese locale

5. 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, the following message appears: HP OMi Management Pack Installation Finished.

For Windows:

1. Change the directory to extract the file to the Temp folder:
2. Open the command prompt, change the directory to the Temp directory, and run the following command:

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

For example, to install OMi MP for Infrastructure in Korean locale with BSM in Japanese locale, specify the following command:

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

3. 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 Management Pack will not be installed.

After the installation is completed, the following message appears: HP OMi Management Pack Installation Finished.

Verifying the OMi MP for Infrastructure 1.12 Installation

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

You can perform any of the following checks to verify the OMi MP for Infrastructure 1.12 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:

Linux: /opt/HP/BSM/log/mpinstall.log

Windows: %TOPAZ_HOME%\log\mpinstall.log

- Check the following location on BSM 9.2x or OMi 10.x console:

On BSM 9.2x, click **Admin > Operations Management > Setup > Content Packs**.

On OMi 10.x, click **Administration > Setup and Maintenance > Content Packs**.

The OMi MP for Infrastructure for 1.10 and 1.12 must appear in the Content Packs Definitions pane.

- To check the OMi MPs installed on the BSM, run the following command on BSM GWS:

Linux: /opt/HP/BSM/bin/ContentManager.sh -username <BSMusername> -password <BSMpwd>-l

Windows: %TOPAZ_HOME%\bin\ContentManager.bat -username <BSMusername> -password <BSMpwd>-l

The above command lists all the MPs installed on the BSM. Ensure the command also gives the following output:

OMi_Management_Pack_For_Infrastructure_Update_1_12 (1.12)

The version number of OMi MP for Infrastructure is 1.12, whereas the version number of Management Templates and Aspects is 1.100 and Policy Templates is 1.1000.

Chapter 3: Getting Started

The following section provides step-by-step instructions on how to get started using OMi Management Pack for Infrastructure:

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


Note: If the Node already exists in Run-time Service Model (RTSM), you can skip this step and proceed to [Task 2](#).

Before you begin monitoring, you need to add the nodes:

1. Open the Monitored Nodes pane:

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 Filters > Monitored Nodes** and then click . Then click **Computer > <select the OS Type>**. 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**.

The newly created node is saved as a CI instance in RTSM.

Note: The node with HP Operations Agent needs to be connected to the HP OMi server and certificate needs to be granted.

Task 2: Deploying the Infrastructure Discovery Aspect

The OMi MP for Infrastructure has three Discovery Aspects and they are: System Infrastructure Discovery, Virtual Infrastructure Discovery, and Cluster Infrastructure Discovery. Depending on the type of node, you can deploy one or a combination of these Aspects.

| Type of Node | Aspects to be Deployed |
|---------------------------|--|
| Standalone Node (Windows) | Deploy the System Infrastructure Discovery Aspect. |


| Type of Node | Aspects to be Deployed |
|-----------------------------------|--|
| Standalone Node (Linux) | Deploy the System Infrastructure Discovery Aspect. |
| Cluster Node | Deploy the System Infrastructure Discovery Aspect first and then deploy the Cluster Infrastructure Discovery Aspect. |
| ESX Host (Virtual Appliance (VA)) | Deploy the Virtual Infrastructure Discovery Aspect. |

To discover the CIs on the added managed nodes, you must deploy the Infrastructure Discovery Aspect.


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, click **Configuration Folders > Infrastructure Management**.
3. In the Management Templates & Aspects pane, right-click the respective Infrastructure Discovery Aspect, and then click  **Assign and Deploy Item**. The Assign and Deploy Wizard opens.
4. In the **Configuration Item** tab, click the CI to which you want to deploy the Discovery Aspect and then click **Next**.
5. In the **Required Parameters** tab, click **Next**.
6. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can change the default values of the parameters. Click **Next**.

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 Aspect level. By default, parameters defined as expert parameters are not displayed.

To display expert parameters, click  **Show Expert Parameters**.

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

Note:

- After the Infrastructure Discovery Aspect is deployed, a message stating the Assignment and deployment jobs created appears. To check the status of the deployment jobs:

On BSM 9.2x, click **Admin > Operations Management > Monitoring > Deployment Jobs**.

On OMi 10.x, click **Administration > Monitoring > Deployment Jobs**.

- For monitoring VMware vSphere virtualization, IBM Power, and Oracle Solaris zones environment, see [Monitoring using OMi MP for Infrastructure](#).

Task 3: Verifying the Discovery

After you deploy the Infrastructure Discovery Aspect, you must verify if the CIs are populated in the Browse Views.

To view the CIs populated in the Browse Views, follow these steps:

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. In the **Browse Views** tab, select the **HACluster_Infrastructure**, **Sol_Zones_Infrastructure**, **Virtual_Infrastructure** or **Systems_Infrastructure** view.

The CIs are populated in **Browse Views**.

Note: For more information about the Views, see section *Run-time Service Model (RTSM) Views* in the *OMi Management Pack for Infrastructure Online Help or User Guide*.

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 |

| Parameter | Frequency |
|-----------|-----------|
| 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 the following 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 Infrastructure User Guide*.

Task 4: Deploying the Infrastructure Management Templates or Infrastructure Aspects

Note: If you are using the **Monitoring Automation (9.2x) for Composite Applications** license, you can either deploy the Infrastructure Management Templates or Infrastructure Aspects to the CIs. For more information about deploying the Infrastructure Management Templates, see [Task 4a: Identifying and Deploying Infrastructure Management Templates](#).

If you are using the **Monitoring Automation for Servers** license, you can deploy the Infrastructure Aspects. For more information about deploying the Infrastructure Aspects, see [Task 4b: Deploying Infrastructure Aspects](#).

Task 4a: Identifying and Deploying Infrastructure Management Templates


You must deploy the Infrastructure Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM and so on. For more information on deploying the Infrastructure Discovery Aspect, see [Task 2: Deploying the Infrastructure Discovery Aspect](#).

To deploy the Infrastructure Management Templates to the CIs, 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, click **Configuration Folders > Infrastructure Management > Infrastructure Management Templates**.
3. In the Management Templates & Aspects pane, click the Management Template that you want to deploy, and then click  **Assign and Deploy Item**. The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, click the CI to which you want to assign the Management Template, and then click **Next**.
5. In the **Required Parameters** tab, all mandatory parameters are listed in the Management Template that do not have a value.
6. Click **Next** to go to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

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 Aspect level. By default, parameters defined as expert parameters are not displayed.

To display expert parameters, click  **Show Expert Parameters**.

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

Note: For detailed information about monitoring the Infrastructure resources using OMi MP for Infrastructure, see the *OMi Management Pack for Infrastructure Online Help or the User Guide*.

Task 4b: Deploying Infrastructure Aspects


You **must** deploy the Infrastructure Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM, and so on. For more information on deploying the Discovery Aspect, see [Task 2: Deploying the Infrastructure Discovery Aspect](#).


Note: If you are using the **Monitoring Automation for Composite Applications** license and have assigned the Infrastructure Management Templates to the CI, you can skip this task.

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, click **Configuration Folders > Infrastructure Management**.
3. In the Management Templates & Aspects pane, select the Aspect you want to deploy, and then click  **Assign and Deploy Item**. The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, select the CI to which you want to assign the Aspect and then click **Next**.
5. In the **Required Parameters** tab.

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**.

6. In the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, you can change the default values of the parameters.
7. Click **Next**.
8. *(Optional)*. If you do not want to enable the assignment immediately, clear the **Enable Assigned Objects** check box on BSM 9.2x or **Enable Assignment(s)** check box on OMi 10.x. You can then enable the assignment later using the Assignments & Tuning pane.
9. Click **Finish**.

Task 5: Updating the Management Templates and Aspects to a Newer Version

You can update the existing deployed Management Templates and Aspects to the latest version. The following are two scenarios when you need to update the Management Templates or Aspects:


Use Case 1: You have already deployed Infrastructure Aspects and/or Management Templates to the managed nodes before installing OMi MP for Infrastructure 1.12. We recommend you to use the latest version of Aspects or Management Templates on those nodes.

To update to the latest version, select the Management Templates or Aspects on the managed nodes. Perform the following steps for each Management Template and Aspect assignment on each of the managed nodes:


For BSM 9.2x:

1. Open the Management Templates & Aspects pane and click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
2. Select 1.100 Infrastructure Aspects and/or Management Templates that has been deployed to nodes.
3. Edit the parameters and redeploy to each of the Node CIs.

For OMi 10.x:


1. Open the Assignments & Tuning pane and click **Administration > Monitoring > Assignments & Tuning**.
2. In the Browse Views pane, select the **Infrastructure_Common** view and select each Node CI where version update is required.
3. Click  **Show Assignments That Require an Update**.

All the Management Templates and Aspects that requires an update are listed.

4. Select each of the Management Templates and Aspects and click  **Update Assigned Item**.

The Update Assigned Item dialog box appears.

5. In the **Update Options** tab, follow these steps:
 - Select the latest version from the **Update to Version** drop down list.
 - If you select **Use parameter values from existing assignments**, only the new mandatory parameters that do not have a default value are listed.
 - If you select **Use default parameter values from version selected above**, all mandatory parameters from the selected Management Template or Aspect version that do not have a default value are displayed. These parameters must be edited before proceeding to the next step of the wizard.
6. Click **Next** to go to **Required Parameters**.

To change a parameter, double-click or select the parameter from the list and click  **Edit**.

The Edit Parameter dialog opens. If there are no mandatory parameters that require editing for this assignment, you are automatically taken to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

7. Click **Next** to go to **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x, or click **Finish** to save the changes and close the wizard.
8. Click **Finish** to save the changes and close the wizard. The assigned item is updated to the specified Management Template or Aspect version.

Use Case 2: You are using a Management Pack that internally uses the OMi MP for Infrastructure Aspects and you need to update the Infrastructure Aspects to the latest version. For example, OMi MP for Oracle Database, OMi MP for Oracle WebLogic, OMi MP for Microsoft Exchange Server, OMi MP for SAP, and so on use Infrastructure Aspects to monitor Infrastructure performance such as Resource Bottleneck Diagnosis, System Fault Analysis and so on.

To update all items in a Management Template on BSM 9.2x and OMi 10.x Servers, do the following:

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. Select each Management Template that contains the Infrastructure Aspects.

3. Click  **Update to Latest**.

The Update to Latest Wizard appears.

4. In the **Options** tab, click **Next**.
5. In the **Preview** tab, a preview of the update is shown as an expanded tree view of the Aspect, where items that will be updated are labeled "*(old version > new version)*", and items that will not be updated are labeled "*(current version)*".
6. Click **Finish** to apply the update as shown in the preview.

To update the Management Templates to latest on the managed nodes:

For BSM 9.2x:

1. Click **Admin > Operations Management > Monitoring > Management Templates & Aspects**.
2. Select each of the application Management Templates of latest version which includes updated Infrastructure Aspects.
3. Edit the parameters and redeploy to each of the CIs.

For OMi 10.x:

1. Click **Administration > Monitoring > Assignments & Tuning**.
2. In the Browse Views pane, select the specific application view and select each CI where version update is required.
3. Click

**Show Assignments That Require an Update.**

All the Management Templates and Aspects that requires an update are listed.

4. Select each Management Templates and click **Update Assigned Item.**

The Update Assigned Item dialog box appears.

5. In the **Update Options** tab, follow these steps:
 - Select the latest version from the **Update to Version** drop down list.
 - If you select **Use parameter values from existing assignments**, only the new mandatory parameters that do not have a default value are listed.
 - If you select **Use default parameter values from version selected above**, all mandatory parameters from the selected management template or aspect version that do not have a default value are displayed. These parameters must be edited before proceeding to the next step of the wizard.
6. Click **Next** to go to **Required Parameters**.

To change a parameter, double-click or select the parameter from the list and click **Edit**.

The Edit Parameter dialog opens. If there are no mandatory parameters that require editing for this assignment, you are automatically taken to the **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x.

7. Click **Next** to go to **All Parameters** tab on BSM 9.2x or **Parameter Summary** tab on OMi 10.x or **Finish** to save the changes and close the wizard.
8. Click **Finish** to save the changes and close the wizard. The assigned item is updated to the specified management template or aspect version.

Checking the Topology Synchronization Settings


Note: It is recommended to check the Topology Synchronization settings if a Node or a CI is monitored by HP Operations Manager.

If you use the Smart Plug-in for Infrastructure with HP Operations Manager (HPOM), perform the following steps to forward topology data from the HPOM Server to the BSM or OMi Server. For more information about *Topology Synchronization*, see the *HP Operations Manager i Administration Guide*.

1. Open the Infrastructure Settings pane from Administration:

On BSM 9.2x, click **Admin > Platform > Setup and Maintenance > Infrastructure Settings**.

On OMi 10.x, click **Administration > Setup and Maintenance > Infrastructure Settings**.

2. In the Infrastructure Settings pane, select **Applications > Operations Management**.
3. To verify if the topology synchronization package, **HPOprSys;HPOprClu;HPOprVir** to be synced is added, click **Operations Management - HPOM Topology Synchronization Settings**.
4. If the package is not added, in **Packages for Topology Sync**, click  **Edit**.
5. In **Value**, add **HPOprSys;HPOprClu;HPOprVir** and click **Save**.

Chapter 4: Monitoring Infrastructure Environments

Monitoring VMware vSphere virtualization environment using HP Operations Agent Virtual Appliance

The following checklist summarizes the tasks you must complete before you start monitoring using OMi MP for Infrastructure:

| Complete (Y/N) | Tasks |
|----------------|--|
| | Make sure you have set up the HP Operations Agent virtual appliance for monitoring VMware vSphere. |
| | <p>Verify if HP Operations Agent is collecting LOGICIAL class of data using the following commands:</p> <ul style="list-style-type: none">• <code>/opt/OV/bin/ovcodautl -obj</code>• <code>/opt/OV/bin/ovcodautl -dumpds SCOPE grep BYLS</code> <p>You will get the value of BYLS_* metric as the output.</p> |
| | <ul style="list-style-type: none">• Make sure HP Operations Agent virtual appliance node is added to the BSM console.• See the section Connecting an HP Operations Agent to a BSM Server in the <i>Monitoring Automation for HP Operations Manager i Installation Guide</i>. |
| | <p>Verify if OMi MP for Infrastructure is installed on both Gateway and DPS.</p> <p>See Installation Media for more details.</p> |
| | Deploy Virtual Infrastructure Discovery Aspect on HP Operations Agent virtual appliance node. Make sure that all the CIs and relations are synced to the RTSM before you start the configuration tasks. |
| | <p>Make sure hp_operations_agent CI which belongs to HP Operations Agent virtual appliance node should have the special attribute Proxy_role updated with value VA.</p> <p>This is important in identifying virtual appliance node among all other node CIs.</p> |
| | <ul style="list-style-type: none">• Verify if VA_Infrastructure view is populated with CIs and relations.• Is_Data_Collector relation is created between hp_operations_agent CI and VM or ESX servers/vCenter which is used for deployment of aspects on VMs and ESX server. |

Monitoring IBM Power Virtualization Environment

The following checklist summarizes the tasks you must complete before you start monitoring IBM Power virtualization environment using OMi MP for Infrastructure:

| Complete (Y/N) | Tasks |
|----------------|---|
| | Make sure you have identified a monitoring LPAR within a frame. |
| | <p>Verify if the monitoring LPAR is collecting LOGICAL class of data using the following commands:</p> <ul style="list-style-type: none"> • <code>/usr/lpp/OV/bin/ovcodutil -obj</code> • <code>/usr/lpp/bin/ovcodutil -dumpds SCOPE grep BYLS</code> <p>You will get the value of BYLS_* metric as the output.</p> <p>If you want to monitor AIX frame where all the monitored LPARs reside, see the section <i>Configuring Data Collection for Frames</i> in the <i>HP Operations Agent User Guide</i>.</p> <p>Verify if the Frame data is getting collected using the following command:</p> <pre>/usr/lpp/OV/bin/ovcodutil -dumpds SCOPE grep FRAME</pre> |
| | Make sure the monitoring LPAR is added to the BSM console. |
| | <p>Make sure the following pre-requisite is added:</p> <ol style="list-style-type: none"> 1. Click Admin > RTSM Administration > CI Type Manager > CI Types > System Type Manager. <p>The System Type Manager dialog box appears.</p> <ol style="list-style-type: none"> 2. Double-click product_name_enum and click Apply. <p>The Update List Definition appears.</p> <ol style="list-style-type: none"> 3. Add ibm_power_hypervisor to the list and click OK. |
| | <ul style="list-style-type: none"> • Verify if OMi MP for Infrastructure is installed on both Gateway and DPS. • See Installation Media for more details. |
| | Deploy Virtual Infrastructure Discovery Aspect on the monitoring LPAR. Make sure that all the CIs and relations are synced to the RTSM before you start the configuration tasks. |

| | |
|--|---|
| | <ul style="list-style-type: none"> • Verify if IBMHMC_Deployment view is populated with CIs and relations. • Is_Data_Collector relation is created between monitoring LPAR to IBM HMC, LPAR, and IBM Frame. |
|--|---|

Monitoring Oracle Solaris Zones Environment

The following checklist summarizes the tasks you must complete before you start monitoring Oracle Solaris zones using OMi MP for Infrastructure:

| Complete (Y/N) | Tasks |
|----------------|---|
| | <p>Verify if Oracle Solaris global zone is collecting LOGICAL class of data using the following commands:</p> <ul style="list-style-type: none"> • <code>/opt/OV/bin/ovcodautl -obj</code> • <code>/opt/OV/bin/ovcodautl -dumpds SCOPE grep BYLS</code> <p>You will get the value of BYLS_* metric as the output.</p> |
| | <p>Make sure Oracle Solaris global zone is added to the BSM console. For information on Adding Nodes to the BSM console see Task 1: Adding Nodes to the BSM 9.2x or OMi 10.x Console.</p> |
| | <ul style="list-style-type: none"> • Verify if OMi MP for Infrastructure is installed on both Gateway and DPS. • See Installation Media for more details. |
| | <p>Deploy Virtual Infrastructure Discovery Aspect on HP Operations Agent virtual appliance node. Make sure that all the CIs and relations are synced to the RTSM before you start the configuration tasks.</p> |
| | <p>Verify if Sol_Zones_Infrastructure view is populated with CIs and relations.</p> |

Appendix A: Installing Additional Software Update for Monitoring Automation 9.23

Before installing OMi MP for Infrastructure, 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 MPDVD, under the folder HPOprMA_update.

Installing Additional Software Update in a Distributed BSM Environment

This section provides detailed information about installing the 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.

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

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-contentserver.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 HPOprMA_update.zip to a temporary folder and copy opr-config-contentserver.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 software update:

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 software update:

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 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 software update:

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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Feedback on Installation Guide (OMi Management Pack for Infrastructure 1.12)

Just add your feedback to the email and click send.

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We appreciate your feedback!