

# HP Business Service Management

For the Windows® and Linux operating systems

Software Version: 9.24

## Operations Manager i Monitoring Automation Installation Guide

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This product includes software developed by the Apache Software Foundation ([www.apache.org](http://www.apache.org)).

This product includes software developed by the JDOM Project ([www.jdom.org](http://www.jdom.org)).

This product includes software developed by the MX4J project (<http://mx4j.sourceforge.net>).

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# Chapter 1: Introduction

With traditional management tools, monitoring composite applications deployed in the cloud infrastructures that are typical for modern Hybrid IT environments is a complex, time-consuming and often error-prone task. Monitoring Automation enables you to simplify the configuration and deployment process for most monitoring solutions.

## Monitoring Automation Features

Monitoring Automation includes the following features:

### Aspects

Using aspects enables you to design monitoring solutions that are independent of the application being monitored, and to hide system details for users focused on application health.

### Parameters

Using parameters enables you to tune aspects and monitoring templates to the monitoring context.

### Automatic Assignments

Using automatic assignment rules allows you to design monitoring solutions that automatically adapt to topology changes.

### Configuration Reports

Using configuration reports facilitates auditing system compliance, and greatly reduces the risk of downtime.

## Monitoring Automation License Options

A license for Monitoring Automation is an add-on license to Business Services Management (BSM). There are two Monitoring Automation license options:

- **Operations Manager i Monitoring Automation for Servers**

Operations Manager i Monitoring Automation for Servers focuses on virtual and physical systems and server-centric applications.

- **Operations Manager i Monitoring Automation for Composite Applications**

Operations Manager i Monitoring Automation for Composite Applications enables you to automate monitoring a complex environment typical for dynamic data centers.

### **Instant-on License**

After installing Monitoring Automation for Servers, the extended features of Monitoring Automation for Composite Applications are available for 60 days, enabling you to try them out.

To keep using the extended features after the trial period expires, you must purchase a license for Monitoring Automation for Composite Applications. For more information, contact your HP Sales representative.

The components listed below are not included in the BSM or Monitoring Automation licenses, and must be purchased separately.

- HP Operations Agents.
- OMi Management Packs and Content Packs.
- SiteScope, required for agent-less monitoring.
- System Availability Management (SAM), required to set up SiteScope.

## **OMi Management Packs and Content Packs**

Optional management packs and their associated content packs provide customizable management templates, aspects and content.

Install the OMi Management and Content Packs for the systems you want to start monitoring immediately as described in "[OMi Management Packs and Content Packs](#)" on page 17.

## HP Operations Agent and SiteScope

This section describes the monitoring methods supported by HP BSM.

### Using an HP Operations Agent

The HP Operations Agent resides on a server and collects detailed performance data. The agent can be configured to support the following actions:

- Generate alerts.
- Execute an action autonomously if a metric breaches a threshold value.
- Use the collected metrics to adjust the monitoring thresholds.

The HP Operations Agent is available from the HP Operations Agent v11.12 media DVD.

### Using SiteScope

HP SiteScope collects performance data centrally from a number of servers across physical, virtual and cloud infrastructures, including HP Cloud Services, removing the need to have an agent on each system to be monitored.

For details about HP SiteScope, visit the following web site:

[http://www8.hp.com/us/en/software-solutions/software.html?compURI=1174244&jumpid=hpr\\_r1002\\_usen\\_link1#.UZ9QJZz4JrU](http://www8.hp.com/us/en/software-solutions/software.html?compURI=1174244&jumpid=hpr_r1002_usen_link1#.UZ9QJZz4JrU)

**Note:** Licenses for HP Operations Agents and HP SiteScope are not included in the Monitoring Automation license, and must be purchased separately.

## Related Documentation

For more information about Business Service Management and Operations Manager i, see the following documents:

- *Monitoring Automation Release Notes*
- *HP OMi Management Packs Installation Guide*
- *Infrastructure Content Pack User Guide*
- *Hadoop Content Pack User Guide*
- *Vertica Content Pack User Guide*
- *HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure Installation Guide*
- *Operations Manager i Concepts Guide*
- *BSM Release Notes*
- *BSM Installation Guide*
- *BSM Hardening Guide*
- *BSM Database Guide*
- *BSM Application Administration Guide*
- *BSM Platform Administration Guide*
- *BSM User Guide*
- *BSM Online Help*




# Chapter 2: Installing Monitoring Automation

This chapter describes how to install Monitoring Automation.

## Installation Prerequisites

The table below lists the hardware, software and licensing requirements for installing Monitoring Automation on the Business Service Management (BSM) platform.

Component	Requirements for Monitoring Automation 9.24
Hardware	No requirements over and above the hardware requirements for BSM. For detailed information about hardware requirements for BSM, see the <i>BSM Installation Guide</i> and the <i>BSM Hardening Guide</i> .
BSM Host	BSM must be installed and running correctly. Monitoring Automation has no requirements over and above the requirements for BSM. BSM can be installed on Windows® and Linux Operating Systems.
Licenses	The following licenses apply to Monitoring Automation version 9.24: <ul style="list-style-type: none"><li>• BSM version 9.24.</li></ul> A license for Monitoring Automation for Servers is included in the Event Management Foundation license. <ul style="list-style-type: none"><li>• <i>Optional:</i> Monitoring Automation for Composite Applications add-on license.</li><li>• <i>Optional:</i> Licenses for all OMi Management Packs and Content Packs you want to use.</li><li>• <i>Optional:</i> HP Operations Agents Licenses for all servers to be monitored by an agent.</li><li>• <i>Optional:</i> SiteScope license for agent-less monitoring. To configure SiteScope, you need a separate license for System Availability Management (SAM).</li></ul>

Component	Requirements for Monitoring Automation 9.24
RTSM	<p>RTSM Content Pack 11.09 or higher.</p> <p>To find out which version of the RTSM Content Pack is installed on your BSM system, select <b>Administration &gt; RTSM Administration &gt; Package Manager</b> and click  <b>Install Content Pack</b>. The Installed Content Pack dialog is shown.</p> <p>If the reported RTSM Content Pack version is lower than 11.09, use the RTSM Package Manager to deploy the CP11 Content Pack, which is packaged with BSM. For more information, see section <i>Importing Content Packs</i> in the <i>BSM Platform Administration Guide</i>.</p>
HP Operations Agent (if used)	Version 11.12 or higher.
HP SiteScope (if used)	<ul style="list-style-type: none"> <li>• Version 11.22 or higher.</li> <li>• SiteScope must <i>not</i> be hosted on the BSM server, but requires its own server.</li> </ul>
HP ArcSight Logger (if used)	Version 5.30 or higher.

## Installation Workflow

The diagram shows the Monitoring Automation installation workflow. To install the product, follow the flow chart and refer to the details in the referenced sections as you encounter them.

**Tip:** If you originally upgraded your BSM installation from version 9.22 or 9.23 to 9.24 and Monitoring Automation was also installed, Monitoring Automation has been automatically upgraded to version 9.24. No further installation steps are required.

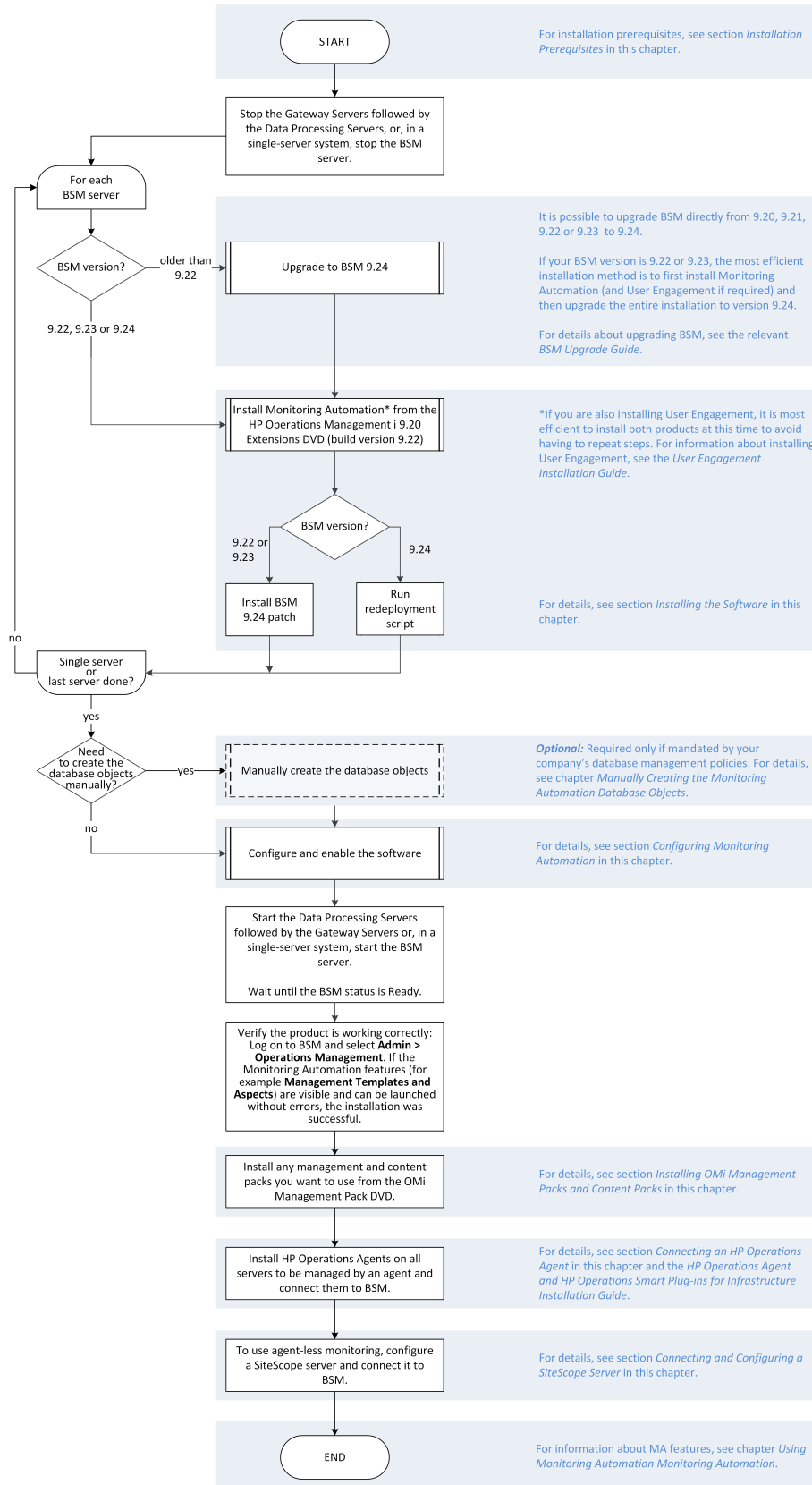
The remaining sections of this chapter provide the details for certain procedures, as indicated by the references to the right of the flow chart.

**Note:**

- When executing the steps in a certain section in isolation, make sure that all the preparatory steps as indicated by the flow chart have been performed.
- The flow chart suggests the most efficient way to install the product. Although it is recommended to follow the flow chart, other methods resulting in the same starting conditions for each procedure may be equally valid.
- You can install Monitoring Automation and User Engagement in parallel. References to User Engagement indicate the most efficient way to install both. Note that User Engagement is not a prerequisite for Monitoring Automation, and if you are only installing Monitoring Automation, you can safely ignore all references to User Engagement.
- It is possible to install Monitoring Automation in silent mode. For details, see ["Silent Mode" on page 24](#).

# Operations Manager i Monitoring Automation Installation Guide

## Chapter 2: Installing Monitoring Automation



## Installing the Software

**Note:**

Installing Monitoring Automation 9.24 is a two step process. First install version 9.20, then upgrade it to version 9.24.

The workflow depends on the version of BSM you are starting from. Pointers are given in the flow chart and in the instructions below. Summarizing:

- **Starting from BSM < 9.22:** Upgrade to 9.24, install Monitoring Automation 9.20, and run the redeployment script.
- **Starting from BSM 9.24:** Install Monitoring Automation 9.20, and run the redeployment script.
- **Starting from BSM 9.22 or 9.23:** Install Monitoring Automation 9.20, and upgrade BSM and Monitoring Automation together using the 9.24 patch install.

**Tip:** You can install the software in silent mode as described in the Appendix ["Silent Mode" on page 24](#)

To install the Monitoring Automation 9.20 software:

1. *Windows 2012 only:* Before starting the installation of Monitoring Automation 9.20 on a BSM server running the Windows 2012 operating system, complete the following prerequisite steps:
  - a. Locate the Monitoring Automation installation utility on the *OMi Extensions DVD* (included in the BSM media kit):  
  
`\MonitoringAutomation\Windows\HPOprMA_setup.exe`  
  
Right-click the `setup.exe` file and select **Properties**.
    - b. In the **Properties** dialog box, open the **Compatibility** tab and select the **Compatibility > Run this program in compatibility mode for** check box..
    - c. Choose **Windows 7** and click **OK**.
2. Run the Monitoring Automation installation utility from the *OMi Extensions DVD* (included in the BSM media kit) with the following command:

**Windows:** `\MonitoringAutomation\Windows\HPOprMA_setup.exe`

**Linux:** `/MonitoringAutomation/Linux/HPOprMA_setup.bin`

The installation wizard opens. Follow the instructions included in the installation wizard. When prompted, choose the server type as follows:

- In a single server environment, choose Gateway Server and Data Processing Server.
- In a distributed environment, choose Gateway Server or Data Processing Server, as appropriate.

Links to the installation log files and any warnings or errors are displayed in their own tabs on the final screen of the wizard. The log files report whether the installation was successful or not. The log files, which are available in both .txt and .html format, are named using the following pattern:

**Windows:** <TEMP>\HPOvInstaller\HPOprMA\_<version>\HPOprMA\_<version>\_<date>\_HPOvInstallerLog.[txt][html]

**Linux:** /tmp/HPOvInstaller/HPOprMA\_<version>/HPOprMA\_<version>\_<date>\_HPOvInstallerLog.[txt][html]

In these paths, <TEMP> is the value of the environment variable TEMP, <version> is the Monitoring Automation version, and <date> is the date the log file was created.

3. If you are also installing User Engagement it is most efficient to install it now to avoid having to repeat steps.
4. After installing the Monitoring Automation 9.20 software, update it to version 9.24:
  - If your BSM system is on version 9.22 or 9.23, execute the following steps:
    - i. Download the BSM 9.24 patch installation package.
    - ii. Install the patch.

For details, see the relevant *BSM Upgrade Guide*.

All installed components, including Monitoring Automation and User Engagement, have now been upgraded to version 9.24.

- If your BSM system is already on version 9.24, execute the following steps:
  - i. Open a command prompt on the BSM server.
  - ii. Issue the following command:

**Windows:**<BSM root directory>\installation\HPBsm924\bin\redeployMaSP.bat

**Linux:**<BSM root directory>/installation/HPBsm924/bin/redeployMaSP.sh

In these paths, <BSM root directory> is the BSM installation directory, default:

**Windows:** \HPBSM

**Linux:** /opt/HP/BSM

The 9.24 patch is redeployed to any Monitoring Automation and User Engagement components that were installed after the patch was installed.

The redeployment script log file is named as follows:

```
<BSM root directory>/installation/HPBsm924/log/HPBsm924-<time>.log
```

In this path, <BSM root directory> is the BSM installation directory, and <time> is a time stamp for the time the script was executed (for example: Thu\_10\_24\_02\_57.log if the script was executed on October 24 at 2:57).

The software is now installed on the server.

**Note:** (*Distributed systems only:*) As indicated in the flow chart, the software must be installed on each server.

Before you can use the software, you must configure and enable Monitoring Automation as described in "[Configuring Monitoring Automation](#)" below.

**Note:** (*Distributed systems only:*) You need to configure and enable the database at least once. Configuration must be done on the data processing server but does not require the software to be installed on all the servers first.

## Configuring Monitoring Automation

Before you can use the software, the Event Schema in your BSM database must have the required Monitoring Automation database objects and you must enable the software.

1. (*Optional*) If you want to create the database objects manually, you must do it now. For details, see "[Manually Creating the Monitoring Automation Database Objects](#)" on page 26.

**Note:** Creating the database objects manually is *optional*, and should only be attempted if your company's database policies mandate it, and after all database details to be provided have been obtained from the database administrator.

If you follow the steps below and accept the default settings as described, the database objects are created automatically by the configuration wizard in the Event Schema you connect to with the wizard.

2. Run the BSM **Setup and Database Configuration** utility:

**Windows:**<BSM root directory>\bin\config-server-wizard.bat

**Linux:**

. /opt/HP/BSM/scripts/topaz\_env.sh  
/opt/HP/BSM/bin/config-server-wizard.sh

3. Advance through the configuration pages by clicking **Next** until you arrive at the Event Schema page.
4. In the Event Database Settings dialog, select the option **Connect to an existing database or user schema**. Click **Next** to go to the Event Database Server Type dialog.
5. Select the appropriate database management server type and click **Next** to go to the database settings dialog.
6. Depending on the database to be used, do one of the following:
  - If the Monitoring Automation database objects have not yet been created and you want the configuration wizard to do it automatically, click **Next** to accept the default settings as specified.
  - If you created the Monitoring Automation database objects manually, provide the database settings for the database that contains them and click **Next**.
  - If you upgraded a previous version of Monitoring Automation and want to connect to the existing database, provide the settings for this database and click **Next**.
7. The configuration wizard configures the database, and the Event Summary dialog informs you if the configuration was successful.
8. Advance through the configuration pages by clicking **Next** until you arrive at the Server Deployment page. Make sure that the check box in the Monitoring Automation row is checked, the **Capacity Level** is ON, and the **Status** is valid.
9. Advance through the configuration pages by clicking **Next** until the **Finish** button is activated. Click **Finish** to exit the utility.
10. *If you plan to use OMI, Monitoring Automation and User Engagement simultaneously:* Increase the memory allocation (PermSize value in the mercuryAS\_vm\_params.ini parameter file) 30MB on all Data Processing Server host systems as follows:
  - a. Open the <BSM\_Installation\_Directory>/bin/mercuryAS\_vm\_params.ini parameter file for editing.

**Windows (default):**C:\HPBSM\bin\mercuryAS\_vm\_params.ini

**Linux:**/opt/HP/BSM/bin/mercuryAS\_vm\_params.ini

- b. Find the following entries:



```
-Xms728m -Xmx728m -XX:PermSize=230m -XX:MaxPermSize=230m
```

- c. Increase both the `-XX:PermSize` and the `-XX:MaxPermSize` values by 30MB. Change both the 230m values to 260m.
- d. To prevent overwriting the manual change of the memory allocation when the Configuration Wizard is next executed, add the marker `#dont_override` to the corresponding file on a new line after the changed setting. This prevents the whole file from being overwritten.

**Note:** In case you later change a significant configuration, remove the `#dont_override` setting before running the configuration wizard. After running the Configuration Wizard, correct the `PermSize` value again and add the `#dont_override` setting again to prevent unwanted overwriting.

11. The configuration is now complete. Start all BSM Gateway and Data Processing servers.

## OMi Management Packs and Content Packs

You may want to install optional OMi management packs and content packs, which provide the essential Monitoring Automation content enabling you to immediately start monitoring selected systems and applications.

This section describes where to source the software for management and content packs.

**Note:** Content Packs are not included in the BSM or Monitoring Automation licenses, and must be purchased separately.

- **Management Packs for HP Operations Manager i**

The management packs for Infrastructure, Hadoop, Vertica and Oracle Database are available from the HP OMi Management Packs DVD.

For details about obtaining and installing management packs, see the *HP OMi Management Packs Installation Guide*.

- **Content Packs for Infrastructure, Hadoop and Vertica**

For details about obtaining and installing the Infrastructure, Hadoop and Vertica Content Packs see the *BSM Platform Administration Guide*, section *Importing Content Packs*. Provided your HP Passport identifies you as a customer of Content Packs for BSM, you can download content packs from the following web site:

<https://hp1n.hp.com/group/content-packs-bsm>

- **Content Pack for Oracle Database**

The Content Pack for Oracle Database is included in the BSM media kit.

To install a Content Pack:

1. Place the content pack file (\*.zip or \*.xml) for the Content Pack to be installed in a location accessible from the BSM server.
2. Launch BSM. In BSM, select **Admin > Operations Management > Setup > Content Packs**. The Content Packs screen is shown.
3. Click **Import Content Pack Definitions and Content**. The Import Content Pack dialog is shown.
4. Click **Browse**, browse to the content pack file and click **Import**. The selected content pack is installed and added to the list of content packs in the Content Pack Definitions pane (left pane).

## Connecting an HP Operations Agent

**Note:** The HP Operations Agent software is not included in the BSM or Monitoring Automation licenses, and must be purchased separately.

For details about installing and verifying correct deployment of an HP Operations Agent, see the following sections in the *HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure Installation and Configuration Guide*:

- *Installing HP Operations Agent Using HP Server Automation or Installing HP Operations Agent using Microsoft System Center 2012 Configuration Manager.*
- *Installing the Agent in the Inactive Mode.* This section includes instructions for pre-installation in a virtual machine image.

**Tip:** To facilitate agent installation, you can consider deploying one of the following methods:

- Include the agent installation in your virtual machine cloning process.
- Include the agent software in your general software distribution process.
- Install the agent software remotely using a distribution tool such as SCP.

For details, refer to the HP Operations Agent documentation.

To monitor a system with an HP Operations Agent, you must connect the agent to the Monitoring Automation server:

1. Connect the agent to BSM:
  - a. On the system hosting the agent, navigate to the following location:

**Windows:** <OvInstallDir>\bin\win64\OpC\install

(Default: C:\Program Files\HP\HP BTO Software\bin\win64\OpC\install)




**Linux:** /opt/OV/bin/OpC/install/

- b. Open a command prompt, and issue the following command:

**Windows:** cscript opcactivate.vbs -srv <OMi\_Gateway\_Server>

**Linux:** . /opcactivate -srv <OMi\_Gateway\_Server>

2. Grant the required certificates:

- a. Go to the server hosting BSM and launch BSM.
- b. In BSM, select **Admin > Operations Management**. Activate the **Setup** tab and click the link **Certificate Requests**. A list of certificate requests is shown.
- c. Identify the new certificate request issued by the agent. New requests are prefixed with the  icon. Select the new request and click  **Grant**. The request is granted and prefixed with the  icon.

For details about granting certificate requests, see the Operations Manager online help.

**Tip:** You can grant certificates automatically using pre-configured IP ranges or a groovy script.

3. Check BBC communication in both directions:

- a. On the BSM server, open a command prompt and issue the following command:

```
bbcutil -ping https://<FQDN of the host>
```

Make sure the agent responds with the message: eService=OK.

- b. On the system hosting the agent, open a command prompt and issue the following command:

```
bbcutil -ping https://<OMi_Gateway_Server>
```

Make sure the BSM Server responds with the message: eService=OK.




The agent is now installed and connected, and can be deployed using Monitoring Automation.

## Connecting a SiteScope Server

Use the SiteScope user interface to verify that the SiteScope server has an HP Operations Agent installed on it. If necessary, install the agent.

**Note:** If you are using more than one SiteScope server and want to use advanced features for balancing between these servers (for example, based on license points or number of monitors), you have to additionally set up the SiteScope server in the System Availability Management (SAM) section of BSM. SAM is not included in the BSM or Monitoring Automation licenses, and must be purchased separately.

To monitor a system that is managed by SiteScope, connect SiteScope to the Monitoring Automation server:

1. Ensure that the HP Operations Agent is installed on the SiteScope system. For details, see the *HP SiteScope Deployment Guide*.
2. Connect the agent to BSM:
  - a. On the SiteScope system, launch SiteScope and select **Preferences > Integration Preferences**. The Integration Preferences pane is shown.
  - b. Click  **New Integration** and select HP Operations Manager Integration. The integration is activated, resulting in the HP Operations Agent sending a certificate request to BSM.
  - c. Grant the required certificates:
    - i. Go to the server hosting BSM and launch BSM.
    - ii. In BSM, select **Admin > Operations Management**. Activate the **Setup** tab and click the link **Certificate Requests**. A list of certificate requests is shown.
    - iii. Identify the new certificate request issued by the agent. New requests are prefixed with the  icon. Select the new request and click  **Grant**. The request is granted and prefixed with the  icon.

For details about granting certificate requests, see the Operations Manager online help.

**Tip:** You can grant certificates automatically using pre-configured IP ranges or a groovy script.

3. Update the HP SiteScope configuration component `sisconfig`, as follows:
  - a. On the BSM Monitoring Automation server, navigate to the following directory:  

```
<BSM root directory>/opr/subagents/sitescope
```
  - b. Open the following archive:  

```
sisinstall-<version>.zip
```

`<version>` is the version of the SiteScope Config component.

- c. Extract the following file from the archive and copy it to a temporary location on the SiteScope server:

```
oprsisconnector.jar
```

- d. On the HP SiteScope server, stop the `sisconfig` component with the following command:

```
ovc -stop sisconfig
```

- e. Replace the following file with the file you copied from the BSM server:

**Windows:** <OvInstallDir>\java\oprsisconnector.jar

**Linux:** /opt/OV/java/oprsisconnector.jar

The `sisconfig` component is now updated to the version to be used with Monitoring Automation.

- f. Restart the `sisconfig` component with the following command:

```
ovc -start sisconfig
```

4. Configure the agent with the SiteScope user credentials:

- a. On the SiteScope system, issue the following command:

**Windows:** <OvInstallDir>\lbin\sisconfig\sisSetCredentials.bat

**UNIX or Linux:** /opt/OV/lbin/sisconfig/sisSetCredentials.sh

The credentials tool is started.

- b. When prompted, enter the following credentials:

SiteScope login: User name for SiteScope.

SiteScope password: Corresponding password.

SiteScope port: SiteScope server port (default: 8080).

- c. Display and verify the configured credentials with the following command:

```
ovconfget opr.sisconfig
```

5. Set the `MANAGER_ID` on the SiteScope system to the BSM Core ID:

- a. Obtain the value of the BSM Core ID on the BSM Gateway Server with the following command:

```
ovcoreid -ovrg server
```

- b. Set the correct `MANAGER_ID` on the SiteScope system with the following command:

```
ovconfchg -ns sec.core.auth -set MANAGER_ID <core ID>
```

where `<core ID>` is the BSM Core ID from the previous step.


- c. Restart the agent processes on the SiteScope server with the following command:

```
ovc -restart
```

- d. Verify that the `MANAGER_ID` is correctly configured with the following command:

```
ovconfget sec.core.auth
```

6. Launch BSM and set up the SiteScope system as a connected server in Operations Management:

- a. Select **Admin > Operations Management > Setup > Connected Servers**. The Connected Servers screen is shown.
- b. Click  **New Item**. The Create New Server Connection wizard is shown.
- c. Complete the wizard with the details of the SiteScope server. Click **Finish** to add a new node to the list of monitored nodes.
- d. To verify the node was created correctly, select **Admin > Operations Management > Setup > Monitored Nodes**. The Monitored Nodes screen is shown. Make sure that the list of monitored nodes contains a CI of CI type Node for the SiteScope system.

If the node is missing, add it manually.

7. Configure any required policy templates in SiteScope and import them into BSM. For details about importing policy templates, see *Importing HP SiteScope Templates* in the *Monitoring* section of the *BSM Help*.

**Note:**

- You cannot create SiteScope policy templates in BSM.
- After the import, you can edit only the general properties of SiteScope policy templates. The data part is read-only.

SiteScope is now connected to BSM.

## Chapter 3: Using Monitoring Automation

This section lists all access points for Monitoring Automation functionality in BSM, and provides a brief description of the intended use of each feature. For detailed information, see the *Monitoring Automation User Guide* and the online help.

### **Admin > Operations Management > Monitoring > Management Templates and Aspects**

User interface for creating, editing and managing management templates and aspects.

### **Admin > Operations Management > Monitoring > Policy Templates**

User interface for creating, editing and managing policy templates. Policy templates are the foundation building blocks for management templates and aspects.

### **Admin > Operations Management > Monitoring > Assignments and Tuning**

User interface for assigning management templates, aspects and policy templates, and tuning existing assignments.

### **Admin > Operations Management > Monitoring > Automatic Assignment Rules**

User interface for creating automatic assignment rules for management templates and aspects.

### **Admin > Operations Management > Monitoring > Deployment Jobs**

User interface for viewing and managing the deployment jobs triggered by assignments.

### **Admin > Platform > Setup and Maintenance > Infrastructure Settings, Application Monitoring Automation**

User interface for managing infrastructure settings for Monitoring Automation.

### **Admin > Operations Management > Setup > Monitored Nodes**

User interface for organizing and managing monitored nodes. Nodes are devices in your IT infrastructure that are monitored by an HPOM Agent or SiteScope.

## Chapter 4: Silent Mode

The following tasks can be executed in silent mode:

1. Installing the software.
2. Configuring the software.

Each of these tasks is detailed in the sections below.

For additional details about silent installation and configuration, see *Appendix 4: Installing BSM Silently* in the *BSM 9.23 Installation Guide*.

### Installing Monitoring Automation in Silent Mode

To install Monitoring Automation in silent mode:

1. Run the installer with the option `-i silent`:

**Windows:** `\MonitoringAutomation\Windows\HPOprMA_setup.exe -i silent`

**Linux:** `/MonitoringAutomation/Linux/HPOprMA_setup.bin -i silent`

2. Upgrade Monitoring Automation to version 9.24:

- a. If your BSM system is on version 9.22 or 9.23, upgrade to version 9.24 as described in the relevant upgrade guide.
- b. If your BSM is already on version 9.24, call the redeployment script as described in ["Installing the Software" on page 13](#):

**Windows:** `<BSM root directory>\installation\HPBsm924\bin\redeployMaSP.bat`

**Linux:** `<BSM root directory>/installation/HPBsm924/bin/redeployMaSP.sh`

### Configuring Monitoring Automation in Silent Mode

To prepare a response file for configuring Monitoring Automation in silent mode:

1. Locate the response file.

After a new installation, use the following file:

`<BSM root directory>/Temp/emptyRspFile.xml`



To use the current configuration settings on a previously configured installation, use the most recent response file in the set of files named as follows:

```
<BSM root directory>/Temp/rsp<timestamp>.xml
```

<timestamp> represents the file creation time (for example: rsp201309091556.xml for a file created on September 9th 2013 at 3:56 PM).

2. Rename the response file and open it in a text editor.
3. Include Monitoring Automation in the BSM deployment section, as follows:
  - a. Find the <deployment> section.
  - b. Add a new property to activate Monitoring Automation by inserting the following line:

```
<property key="Monitoring Automation" value="ON"/>
```

The following example shows a sample <deployment> section after the property, shown in bold type, was inserted:

```
<deployment>  
  <!--Configure your HP Business Service Management server deployment-->  
  <property key="OMiCore" value="ON"/>  
  ...  
  <property key="Monitoring Automation" value="ON"/>  
  ...  
  <property key="OMI" value="Small"/>  
</deployment>
```

4. Save and close the file.

After preparing the response file, configure Monitoring Automation in silent mode with the following commands:

**Windows:**

```
<BSM root directory>\bin\silentConfigureBSM <response file path>.xml  
configserver
```

**Linux:**

```
cd /opt/HP/BSM/bin  
. /silentConfigureBSM.sh <response file path>.xml configserver
```

# Chapter 5: Manually Creating the Monitoring Automation Database Objects

To manually create the database objects required for Monitoring Automation in the Event database:

1. Make sure that the Monitoring Automation software is installed but not yet configured.
2. Gather the following information:

*<BSM root directory>*: Directory where BSM is installed.

*<dbType>*: SQL for SQL Server databases, and Oracle for Oracle databases.

*<SID>*: (*Oracle only*) The SID of the database.

*<hostname>*: Name of the database host system.

*<eventDbName>*: Name of the event database configured for OMi.

*<username>*: User name for a database user permitted to execute database scripts on the BSM database.

*<password>*: Password for the specified database user.

*<port>*: Database port number.

*<scriptFile>*: File name for generated script, including file path.

3. Run the script generator utility with the following commands:

### Windows:

```
<BSM root directory>\opr\bin\opr-schema-script-generator.bat -d <dbType> [-sid <SID>] -maOnly -hn <hostname> -dbn <eventDbName> -u <username> -pw <password> -p <port> -o <scriptFile>
```

### Linux:

```
cd <BSM root directory>/opr/bin  
./opr-schema-script-generator.sh -d <dbType> [-sid <SID>] -maOnly -hn <hostname> -dbn <eventDbName> -u <username> -pw <password> -p <port> -o <scriptFile>
```

**Note:** For Oracle databases, [-sid <SID>] *must be specified*, for SQL server database, [-sid <SID>] *must be omitted*.

4. Run the generated script on the database server to create the Monitoring Automation database objects.

**Note:** To run the script successfully you must have database administrator privileges for the Event Database.

For more information about manually creating BSM databases and database objects, see the *HP Business Service Management Database Guide*, and, where appropriate, refer to the section for your database management system:

**Creating Databases:** *Creating Databases in the BSM Database Guide.*

**Creating Database Objects:** *Creating the Objects in the BSM Database Guide.*

**Microsoft SQL Server:** *Manually Creating the HP Business Service Management Microsoft SQL Server Databases*

**Oracle Database:** *Creating BSM Schemas Manually*

## opr-schema-script-generator Manager Command-Line Interface

This section describes the options and parameters available in the **opr-schema-script-generator** command-line interface.

```
opr-schema-script-generator -d <Oracle | SQL> [-c <ranges> | -maOnly -hn <host name> -dbn <Event database name> -u <user name> -pw <password> [-s <sid>] -p <port number>] -o <outputFile>
```

The following table gives more information about the arguments recognized by the **opr-schema-script-generator** command:

Option	Description
-c, --customer <{RANGE}[ , {RANGE}, ... ]>	(SAAS environments only) A {RANGE} is either an INTEGER or a range between two INTEGERS in the form "INTEGER '-' INTEGER" whereas INTEGER must be greater than 1
-d, --databaseType <{Oracle   SQL}>	Selects the database type for which the SQL script is generated. Possible values are: Oracle or SQL
-dbn, --databaseName <Event database name>	Name of the Event database
-h, --help	Print help
-hn, --hostName <host name>	Name of the database host system

Option	Description
<code>-maO, --maOnly</code>	Adds only the Monitoring Automation tables to the generated SQL script
<code>-o, --outputFile &lt;file name&gt;</code>	Name and path of the file to store the SQL script
<code>-p, --port &lt;port number&gt;</code>	Database port
<code>-pw, --password &lt;password&gt;</code>	Password of the database user account
<code>-s, --sid &lt;sid&gt;</code>	<i>(Oracle Database only)</i> SID of the Oracle database
<code>-u, --user &lt;user name&gt;</code>	User name of the database

# Chapter 6: Uninstalling Monitoring Automation

To uninstall Monitoring Automation:

1. Stop the Gateway Servers followed by the Data Processing Servers or, in a single-server system, stop the BSM server. Wait until all BSM services have stopped.
2. Uninstall the software:

## Windows:

- a. *Windows 2012 only:* Locate the Monitoring Automation uninstallation utility:

```
C:\Program Files\HP\HP BTO Software\Uninstall\HPOprMA\setup.exe
```

Right-click the `setup.exe` file and select **Properties**.

In the **Properties** dialog box, open the **Compatibility** tab and select the **Compatibility > Run this program in compatibility mode for** check box..

Choose **Windows 7** and click **OK**.

- b. Select **Start > Control Panel > Programs > Uninstall a Program**.
- c. Right-click **HP Monitoring Automation** and select **Uninstall/Change**. Follow the instructions provided by the uninstallation wizard.

## Linux:

- a. Launch the uninstallation wizard with the following command:

```
/opt/OV/Uninstall/HPOprMA/setup.bin
```

- b. Follow the instructions in the uninstallation wizard.

3. Repeat the uninstallation step on all other BSM servers.
4. *Optional:* Uninstalling the software does not remove the Monitoring Automation database objects from the Event Schema. If they are no longer needed, delete them manually.
5. Start the Data Processing Servers followed by the Gateway Servers, or, in a single-server system, start the BSM server.

Monitoring Automation is now removed from all BSM servers.

## We appreciate your feedback!

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Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to [docfeedback@hp.com](mailto:docfeedback@hp.com).