OMi Management Pack for Microsoft Exchange Server

Software Version: 1.00

Operations Manager i for Linux and Windows® operating systems

Installation Guide

Hewlett Packard Enterprise

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Chapter 1: Introduction

The OMi Management Pack for Microsoft Exchange Server (OMi MP for Microsoft Exchange Server) works with Operations Manager i (OMi) and enables you to monitor Microsoft Exchange Server 2010 and 2013 environments and its underlying infrastructure using the Business Service Management (BSM).

Microsoft Exchange Server is a messaging server that is used across the world for exchanging mails, scheduling tasks, and collaboration.

The OMi MP for Microsoft Exchange Server includes the following components for monitoring the health and status of the Microsoft Exchange Servers:

- Management Templates and Aspects
- Parameters
- Run-time Service Model (RTSM) Views
- Enrichment Rules
- Event Type Indicators (ETIs)
- Health Indicators (HIs)
- Topology Based Event Correlation (TBEC) Rules
- Graph Templates
- Operations Orchestration (OO) Flows
- Tools

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

Abbreviations Used in this Manual

Abbreviations	Expansion
OMi	Operations Manager i
RTSM	Run-time Service Model

Abbreviations	Expansion
OMi MP	OMi Management Pack
OMi MP for Microsoft Exchange Server	OMi Management Pack for Microsoft Exchange Server

Related Documentation

For more information about OMi MP for Microsoft Exchange Server, see the following documents:

- OMi MP for Microsoft Exchange Server - *Release Notes*

- OMi MP for Microsoft Exchange Server - *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 Microsoft Exchange Server

This section provides information about installing OMi MP for Microsoft Exchange Server 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 Microsoft Exchange Server. The OMi MP for Microsoft Exchange Server is available in the OMi MP for Microsoft Exchange Server 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.

Product	Marketplace links
OMi MP for Microsoft Exchange Server	Unified Marketplace

The OMi MP for Microsoft Exchange Server 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	Available in the BSM console **Help** menu. From the BSM console, go to **Help > BSM Help > Application Administration > Operations Management > OMi Management Pack for Microsoft Exchange Server** Available in the OMi console ? menu. From the OMi console, go to ? **> General Help > Administration Guide > Management Packs > OMi Management Pack for Microsoft Exchange Server**.	To provide information about the following: • Using Management Templates • Using Aspects and Policy Templates • Using Indicators - HIs, ETIs, and Topology Based Event Correlation (TBEC) Rules

Document	Location	Purpose
Installation Guide	\<MPDVD>\DOCUMENTATION\en	
User Guide	\<MPDVD>\DOCUMENTATION\en	
Release Notes	\<MPDVD>\DOCUMENTATION\en	To provide information about the following: • Salient Features • Installation Notes

Installation Prerequisites

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

Software Requirements

Before installing OMi MP for Microsoft Exchange Server version 1.00, the following components must be installed and configured on the BSM 9.2x or OMi 10.x Servers.

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
OMi MP for Microsoft Active Directory (Optional)	1.00

Note: To monitor Microsoft Exchange Servers, Microsoft Active Directory, and the underlying infrastructure elements as a composite application, you must install OMi MP for Microsoft Active Directory in addition to OMi MP for Microsoft Exchange Server and OMi MP for Infrastructure.

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*

> **Note:** * For more information about Support Matrix, see
> https://softwaresupport.hpe.com/km/KM323488.

User Privileges

To monitor Microsoft Exchange Servers, provide user credentials with the following privileges:

- View-Only Organization Management
- Server Management
- Records Management
- Local Administrator of Exchange Server

For an Exchange Edge Server, provide user credential with following privilege:

- Local Administrator of Exchange Edge Server

Installation Checklist

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	See the chapter *General Prerequisites* in the *BSM Installation Guide*.
2	Install BSM version 9.23 or higher	See the chapter *Install BSM 9.20 and the chapter Install the latest BSM 9.2x Minor Minor Release* and Patch in the *BSM Installation Guide*.
3	Install Monitoring Automation version 9.23 or higher	See the chapter *Installing Monitoring Automation* in the *Operations Manager i Monitoring Automation Installation Guide*.

Serial	Task	Reference
4	Verify the Monitoring Automation installation	See the chapter *Verifying the Monitoring Automation Installation* and *Using Monitoring Automation* in the *Monitoring Automation for Operations Manager i Installation Guide*.
5	Install Additional Software Update for Monitoring Automation 9.23 **Note:** If you are installing OMi MP for Microsoft Exchange Server 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 *Migrating from OMi MP for Infrastructure version 1.00 to version 1.10* in the *OMi Management Pack for Infrastructure 1.10 Installation Guide*.
7	Install OMi MP for Infrastructure 1.10	See the chapter *Installing OMi MP for Infrastructure* 1.10 in the *OMi Management Pack for Infrastructure 1.10 Installation Guide*.
8	Install OMi MP for Microsoft Active Directory 1.00 (Optional)	See the chapter *Installing OMi MP for Microsoft Active Directory version 1.00 on BSM* in the *OMi Management Pack for Microsoft Active Directory 1.10 Installation Guide*.
9	Install OMi MP for Microsoft Exchange Server 1.00	See the section "Installing OMi Management Pack for Microsoft Exchange Server version 1.00 on BSM or OMi".
10	Apply the license	See the section "Applying the License".

Managed Node

Task	Reference
Install Operations Agent 11.12 or higher	See the chapter *Installing the Operations agent 11.12* in the *Operations Agent and Operations Smart Plug-ins for Infrastructure Installation Guide*.

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 Microsoft Exchange Server, 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"*.

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 MP for Microsoft Active Directory version 1.00

For information about installing OMi MP for Microsoft Active Directory version 1.00, see the chapter *Installing OMi MP for Microsoft Active Directory version 1.00 on BSM* in the *OMi Management Pack for Microsoft Active Directory Installation Guide*.

Installing OMi Management Pack for Microsoft Exchange Server version 1.00 on BSM or OMi

You can use the e-media or MPDVD to install the OMi MP for Microsoft Exchange Server on BSM or OMi Server (Linux or Windows). The following section provides information about installing the OMi MP for Microsoft Exchange Server 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 Microsoft Exchange Server 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 Microsoft Exchange Server 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	`./mpinstall.sh -i`	`./mpinstall.sh -i`
Non-English e-media	`./mpinstall.sh -i`	`./mpinstall.sh -i -locale <mplocale>`

For example, to install OMi MP for Microsoft Exchange Server 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 Microsoft Exchange Server will not be installed.

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

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

To install the OMi MP for Microsoft Exchange Server 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 Microsoft Exchange Server 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 Microsoft Exchange Server is completed.

Installing Operations Orchestration (OO) Flows

The OMi MP for Microsoft Exchange Server is packaged with OO flows that enables IT process automation and run book automation. For more information about OO flows, see the *Operations Orchestration* documentation. The following section provides information about installing OO flows on OO Studio (version 9.0x) for OMi MP for Microsoft Exchange Server.

> **Note:** The OO flows shipped by OMi MP for Microsoft Exchange Server can only be used in deployment scenarios where the application is monitored by Smart Plug-ins managed by an Operations Manager (OM) server. In such a case, the OO flows included in OMi MP for Microsoft Exchange Server can be installed on an OO server and launched through the OMi-OO integration. For more information about the OMi-OO integration, see the *BSM - Operations Orchestrations Integration Guide*.

Uploading OO Flows

To upload OO Flows from OMi MP for Microsoft Exchange Server, follow these steps:

1. In BSM 9.2x or OMi 10.x, go to the directory:

   On Linux:

   ```
   /opt/HP/BSM/conf/opr/oo
   ```

   On Windows:

   ```
   %TOPAZ_HOME%\conf\opr\oo
   ```

2. Copy **HPOprOOEXC90.jar** to a temporary location on a system where OO Studio (version 9.0x) is installed.

   To install and upload the OO Flows, run the command:

   ```
   java -jar -Xmx1024m "<temp>/HPOprOOEXC90" -centralPassword <centralpassword>
   ```

   > **Note:** For more information about installing content, see the section *Installing the content* in

the *Operations Orchestration Software Development Kit Guide*.

Using OO Studio, you can access the OO flows from the following location:

../Library/Operations Management/..

3. Complete the mapping of OO flows to CIs and map the OO flow input variables to CI attributes using:

   On BSM 9.2x, click **Admin > Integration > Operations Orchestration.**

   On OMi 10.x, click **Administration > Operations Console > Run Books Mapping**.

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://enterpriselicense.hpe.com.

Verifying the OMi MP for Microsoft Exchange Server Installation

This section provides information about verifying the installation of OMi MP for Microsoft Exchange Server 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 Microsoft Exchange Server 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 forMicrosoft Exchange Server** must appear in the Content Pack Definitions pane.

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

    The **OMi Management Pack for Microsoft Exchange Server** 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

The following section provides step-by-step information about deploying the components of OMi MP for Microsoft Exchange Server for monitoring Microsoft Exchange Server instances.

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

> **Note:** If the Microsoft Exchange Servers that you want to monitor is already being monitored by Smart Plug-in for Microsoft Exchange Server (SPI for Microsoft Exchange Server) then remove the SPI artifacts and datasources from the node hosting the Microsoft Exchange Servers before proceeding further.

> **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 to the BSM 9.2x or OMi 10.x console:

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 Filters > Monitored Nodes** and then click ✳ and then click **Computer > Windows**. The Create New Monitored Nodes dialog box appears.

3. Specify the Primary DNS Name, Operating System, Processor Architecture, and a description of the node and click **OK**.

   The newly created node is saved as a Configuration Item (CI) instance in the Run-time Service Model (RTSM).

> **Note:** You must activate the node with Operations Agent to OMi server and grant certificate.

Task 2: Enabling the Enrichment Rule

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

- SoftwareElementDisplayLabelForNewHost

- SoftwareElementDisplayLabelForExistingHost

- SoftwareElementDisplayLabelPopulator

To enable the Enrichment Rule, 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. The Enrichment Rule Properties window appears.

3. Right-click and select **Properties**.

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 Exchange Discovery Aspect

The Exchange Discovery Aspect enables you to discover Microsoft Exchange Server instances in the environment.

The Exchange Discovery Aspect deployment discovers the Configuration Item (CIs) of the following CI types (CITs):

- Exchange Organization

- Windows CIs

- Microsoft Exchange Server and the following Exchange Server Roles:

  ○ Exchange Client Access Server

  ○ Exchange Mail Server

  ○ Exchange Unified Messaging Server

  ○ Exchange Edge Server

  ○ Exchange Hub Server
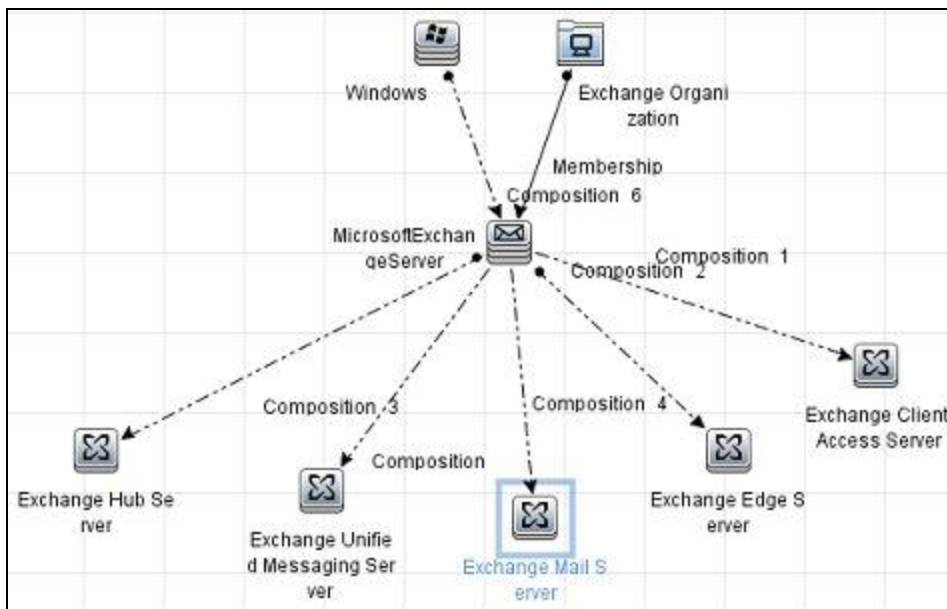
To discover CIs on the added managed nodes, you can deploy the Exchange Discovery Aspect. To deploy the Exchange Discovery Aspect, follow these steps:

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, click **Configuration Folders > Microsoft Application Management > Microsoft Exchange Server > Aspects**.

3. In the Management Templates & Aspects pane, select the **Exchange Discovery** Aspect and click **Assign and Deploy Item**. The Assign and Deploy Wizard opens.

4. In the **Configuration Item** tab, click the Windows node CI to which you want to deploy the Exchange Discovery Aspect, and then click **Next**.

5. Click **Finish**.

Task 4: Verifying Discovery

After you deploy the Exchange Discovery Aspect, you can verify if the CIs are populated in the View Explorer:

1. Open the Event Perspective pane:

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

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

2. In the View Explorer, select the **Exchange_Org_View** from the drop-down list.

You can see the CIs associated with the **Exchange_Org_View** as shown in the following figure:
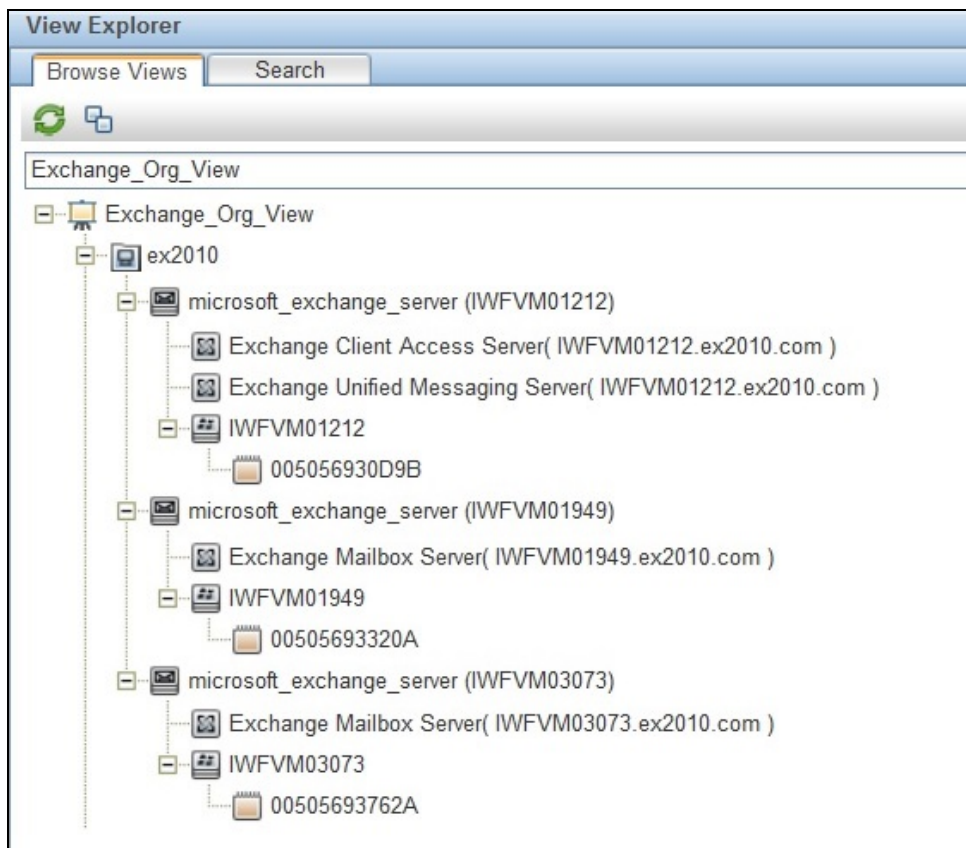
Task 5: Deploying the Microsoft Exchange Server Management Templates or Aspects

This section provides information about collection process, deploying management template and aspects. For more information about deploying Microsoft Exchange Server Management Templates, go to "Task 5a: Identifying and Deploying Microsoft Exchange Server Management Template". For more information about deploying Microsoft Exchange Server Aspects, go to "Task 5b: Deploying Microsoft Exchange Server Aspects".

Management Pack Data Collection Process

The 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:

Scheduler Frequency	Default value
Very High	5 mins
High	15 mins
Medium	1 hour
Low	24 hours

After Management Templates and Aspects are deployed, collector is triggered based on the parameter value 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 the section *Editing Parameters* in the *OMi Management Pack for Microsoft Exchange Server 1.00 User Guide*.

Task 5a: Identifying and Deploying Microsoft Exchange Server Management Templates

Before deploying the Microsoft Exchange Server Management Template, you must deploy the Exchange Discovery Aspect. For more information, see Task 3: Deploying the Exchange Discovery Aspect.

Before deploying the Exchange Server Management Templates, you can identify the Exchange Server Management Template suitable for your environment by following these recommendations:

- If you want to monitor the primary areas of Microsoft Exchange Server such as server availability, service availability, mail flow latency, replication status, MAPI connectivity and transport queues you can deploy the **Essential Microsoft Exchange Server Management Template**.

- If you want to monitor the primary and advanced areas such as SPAM statistics, Blocked Data statistics, Public Folder, Recipient filtering statistics, IMAP4, and POP3 Connects, you can deploy the **Extensive Microsoft Exchange Server Management Template**.

- If you want to monitor your entire Microsoft Exchange Deployment comprising Microsoft Exchange Servers, Microsoft Active Directory, and the underlying infrastructure, you can deploy the **Microsoft Exchange Solution Management Template**.

To deploy the Microsoft Exchange Server 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:

   Configuration Folders > Microsoft Application Management > Microsoft Exchange Server > Management Templates

3. In the Management Templates & Aspects pane, 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 Exchange Organization CI 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.

5. Click **Next** to go to the **Required Parameters** tab.

6. In the **Required Parameters** tab, do the following steps:

   a. Select the **User Name** parameter in the list and click 🖉. The Edit Parameter: USERNAME dialog box opens.

   b. Click **Value**, specify the user name, and then click **OK**.

   c. Select **Password** and click 🖉. The Edit Parameter: PASSWORD dialog box opens.

   d. Enter the password for the user name and then click **OK**.

   > **Note:** You must specify the user name in the `Domain name\\Username` format. For more information about user credentials, see the section *User Privileges* in the *OMi MP for Microsoft Exchange Server Installation Guide*.

   e. Click **Next**.

7. In 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**: 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 displayed. To display expert parameters, click 🎓 **Show Expert Parameters**.

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

9. *(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.

10. Click **Finish**.

(Optional). **Perform the following steps only for Microsoft Exchange Edge Server**
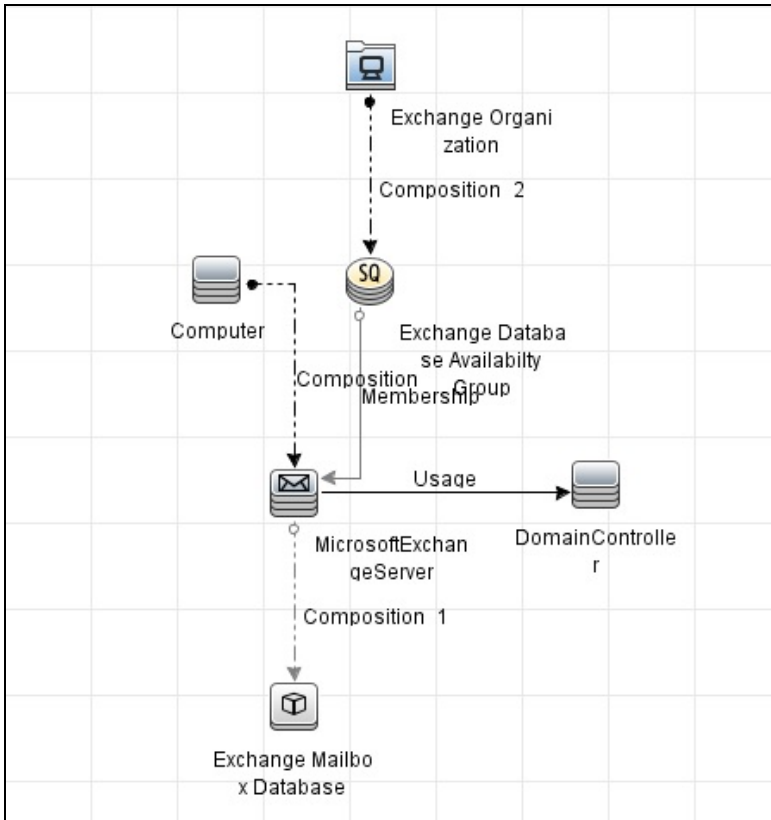
1. Open the Assignments & Tuning pane:

   On BSM 9.2x, click **Admin > Operations Management > Monitoring > Assignments & Tuning**.

   On OMi 10.x, click **Administration > Monitoring > Assignments & Tuning**.

2. In the **Browse Views** tab, select the **Exchange_Org_View**.

3. Expand the view, and select the node which hosts the Microsoft Exchange Edge Server.

4. In the Assignments pane, select the **Exchange Discovery and Config** Aspect. This shows the parameters and values in the Assignment Details pane.

5. Edit the user name and password to provide the user credential as mentioned in the section *User Privileges*.

   These new user credentials will be used by the Management Template for the Microsoft Exchange Edge Server.

Task 5b: Deploying Microsoft Exchange Server Aspects

Before deploying the Microsoft Exchange Server Aspects, you must deploy the Exchange Discovery and Config Aspect to discover the additional CIs of the following CITs:

- Exchange Mailbox Databases
- Domain Controllers
- Exchange Database Availability Group

Note: The Exchange Discovery and Config Aspect requires user credentials as input. For information about user credentials, see the section *User Privileges* in the *OMi MP for Microsoft Exchange Server Installation Guide*.

To deploy the Microsoft Exchange Server Aspects, 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 > Microsoft Application Management > Microsoft Exchange Server > Aspects

3. In the Management Templates & Aspects pane, select an Aspect and then click 🕸 to open the Assign and Deploy wizard.

4. In the **Configuration Item** tab, click the CI to which you want to deploy the Aspect.

    > **Note:**If you want to deploy Aspects to node CIs, select **Also show CIs of type Node** check box.

5. Click **Next**.

6. In **Required Parameter** tab, click **Next**.

7. In 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**.

8. Click **Next**.

9. *(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, click the **Enable Assignment(s)** check box.

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

10. Click **Finish**.

The selected Aspect is deployed on the selected CI.

Task 6: Verifying Discovery for Extended Topology

After you deploy the Exchange Server Management Templates or Exchange Discovery and Config Aspect, you can verify if the CIs are populated in the View Explorer.

To view the CIs in the View Explorer, follow these steps:

1. Open the Event Perspective pane:

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

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

2. In the View Explorer, select **Exchange_Org_View** from the drop-down list. You can see the extended topology comprising CIs associated with the **Exchange_Org_View** as shown in the following figure:
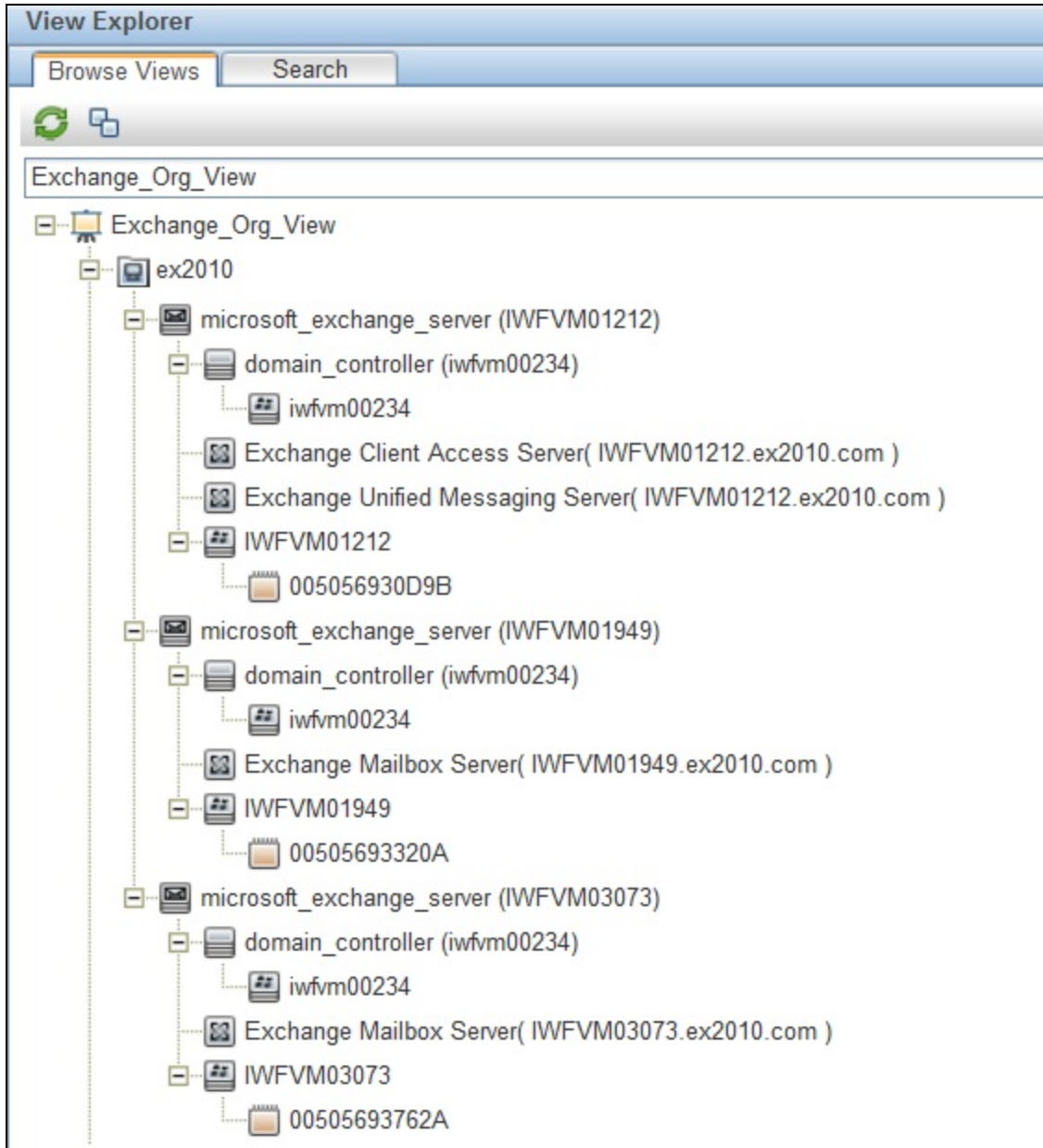
Checking Topology Synchronization Settings

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

To check the topology synchronization settings, follow these steps:

1. Open the Infrastructure Settings pane from the Administration:

    On BSM 9.2, 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 the **Applications > Operations Management**.

3. In the **Operations Management - HPOM Topology Synchronization Settings**, the packages for Topology Sync contains the packages that are used for topology synchronization. The package **default;nodegroups;operations-agent** exist by default. Ensure that the **HPOprAds;HPOprExc** packages also are present.

4. If the package is not available, add the toposync package by following these steps:

    a. In the Packages for Topology Sync, click .

    b. In Value, add the **HPOprAds;HPOprExc** and click **Save**.

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 `HPOprMA_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 `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

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