

HP Network Node Manager i Software Smart Plug-in for IP Multicast

for the HP-UX, Linux, Solaris, and Windows® operating systems

Software Version: 9.00

Installation Guide

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The title page of this document contains the following identifying information:

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1 Introducing the iSPI for IP Multicast

The HP Network Node Manager i Software Smart Plug-in for IP Multicast (NNMi iSPI for IP Multicast) extends the capability of NNMi to monitor and manage the network. The iSPI for IP Multicast presents additional views to indicate the status of the discovered Multicast devices and display the overall health of the Multicast network.

The iSPI for IP Multicast, in conjunction with NNMi, performs the following tasks:

- Discovering the Multicast-enabled nodes.
- Displaying the Multicast nodes and PIM interfaces in the IP Multicast views.
- Monitoring the status of every discovered component of the Multicast network.
- Monitoring the IP Multicast views from the Global Network Manager's inventory.
- Monitoring the network by using the topology map views.
- Troubleshooting the network by viewing the IP Multicast reports

After you install (and configure) the iSPI for IP Multicast on the NNMi management station, you can monitor and troubleshoot the problems in your in your network with the additional views provided by the iSPI for IP Multicast.

IP Multicast Workspace

The iSPI for IP Multicast uses NNMi console to introduce the IP Multicast-related views to monitor your network. The IP Multicast views provide the list of the discovered multicast objects. Monitor the health of the multicast objects by using the IP Multicast workspace.

The iSPI for IP Multicast monitors the health of Multicast-enabled nodes, PIM interfaces, PIM neighbors, and Multicast Flows (S, G). The dynamic views extend the properties of NNMi to perform the fault management for the traffic using the multicast services.

You can use the NNMi user-level access for the IP Multicast workspace. The iSPI for IP Multicast uses the operator and administrator level security access for various tasks. With the operator-level privileges, you can perform the fault management tasks by monitoring the state, status, and incidents of all the Multicast objects. With the administrator-level privileges, you can complete all the configuration tasks from the IP Multicast Configuration workspace.

2 Before you Begin

Before you start installing the iSPI for IP Multicast, you must plan the installation based on your deployment requirements. You must identify the ideal deployment scenario among the supported configuration. Make sure that all the prerequisites are met before you begin the installation process.

You can see the following documents before you start the installation process:

- *HP Network Node Manager 9.00 Installation Guide for Windows or HP Network Node Manager 9.00 Installation Guide for UNIX*
- *HP Network Node Manager 9.00 Deployment Guide*
- *HP Network Node Manager 9.00 Release Notes*
- *HP Network Node Manager 9.00 Support Matrix*

Before you begin, make sure that NNMi is installed in the environment and is running. You can install the product on the NNMi management station. In addition, you can install the iSPI for IP Multicast in High-Availability (HA) cluster environments that are supported by NNMi. For more information, see *iSPI for IP Multicast Deployment Guide*.

Before you begin the iSPI for IP Multicast installation, follow these steps:

- 1 Install NNMi. Make sure that NNMi is installed in the environment and running.
- 2 Install the available NNMi patches.
- 3 Start the iSPI for IP Multicast installation process.

Installation Process on the NNMi Management Server

Before installing the iSPI for IP Multicast on the NNMi management server, you must note down all the configuration-related details of the NNMi installation. These details are required while you install the iSPI for IP Multicast.



Before installing the iSPI for IP Multicast, make sure to create the Web service client with System/ Admin privileges for iSPI for IP Multicast.

NNM Port Details

Note down the following values of the NNMi installation:

- Port numbers (HTTP and HTTPS) of NNMi.
- Port number of JNDI on the management station.

To verify the port details, open the `nms-local.properties` file from the `%NnmDataDir%\conf\nnm\props` or `$NnmDataDir/conf/nnm/props/` directory on the management server, and then note down the following values:

- `jboss.http.port` for the HTTP port number. The default value is 80.
- `jboss.https.port` for the HTTPS port number. The default value is 443.
- `jboss.jnp.port` for the JNDI port number. The default value is 1099.

For more information about the ports used by NNMi, see *NNMi Deployment Reference*.

Database Details

You can choose an external Oracle database instead of the embedded database to store NNMi data. The external Oracle database can reside either on the NNMi management station, or on a remote server. You must note down the following details of the NNMi database.

- **Type:** The default embedded database or Oracle database.
- **Port:** The port used by the Oracle database.
- **Hostname:** The fully-qualified domain name of the Oracle server.
- **Oracle Database Name:** Name of the Oracle database instance.
- **Username:** The Oracle username created to access NNMi data.

- **Password:** Password for the above mentioned user. Create the Oracle password to be used at time of iSPI for IP Multicast installation.



Before installing the iSPI for IP Multicast, make sure to note down the database details.

Preinstallation Tasks

Before you start installing the iSPI for IP Multicast, complete the following tasks:

Task 1: Create a New User with the Web Service Client Role

Create a user from the NNMi console with the Web Service Client role. This user will be used during the installation of the iSPI for IP Multicast. Do not use the NNMi system account while installing the iSPI for IP Multicast.

Task 2: *Only for Oracle.* Create a New Oracle Instance

Skip this task if you choose to use the embedded database. You must create a new Oracle instance before installing the iSPI for IP Multicast. While installing and configuring the iSPI for IP Multicast, do not use the same Oracle instance that was configured with NNMi.

Preparing for Installation

Before installing the iSPI for IP Multicast, make sure that your NNMi management station meets all the hardware and software requirements.

See the *HP Network Node Manager i Software Smart Plug-in for IP Multicast Support Matrix* and *HP Network Node Manager i Software Smart Plug-in for IP Multicast Release Notes* documents for complete information about the hardware and software requirements and dependencies.

Table 1 Preinstallation Checklist for Hardware and Software Requirements

Requirement	Reference Document	Complete(Yes/No)
Disk space	Support Matrix	Yes
Operating system	Support Matrix	Yes
Database	Support Matrix	Yes

3 Installing the iSPI for IP Multicast

You can install the iSPI for IP Multicast on both types of management server—Windows and UNIX. You can use the installation wizard. The installation wizard guides you through the installation process.

Installing on a Windows Management Server

To install the iSPI for IP Multicast on a Windows management server, follow these steps:

- 1 Log on to the management server with Administrator privileges.
- 2 Insert the iSPI for IP Multicast installation media into the CD-ROM drive. The CD-ROM must start automatically. If the installation does not start, double-click the `setup.bat` file. The installation wizard opens.

If the Application requirement check warnings dialog box opens, click and review each warning and take appropriate actions.

- 3 In the **Introduction** screen, check the iSPI for IP Multicast information and then click **Next**.
- 4 On the **License Agreement** page, check the iSPI for IP Multicast license terms. If you agree with the terms of the license agreement, select I accept...; then click **Next**. The **Product Customization Feature Selection** screen appears.
- 5 From the **Choose the database type** page, select any *one* of the options:



Make sure to select the same database type (embedded or Oracle) that you have selected while installing NNMi.

- Select **HP Software Embedded Database**, and click **Next**. The **Install Checks** screen appears. Go to [step 10](#) on page 16.

- Select **Oracle**, and click **Next**.
- 6 *Skip the steps from 6 to 9 if you choose to use the embedded database. If you select an Oracle database, from the **Choose Database Initialization Preferences** page, choose any one of the following:*



Select the same database type (Primary Server or Secondary Server) as NNMi.

- **Primary Server Installation** - Select this option for installing the iSPI for IP Multicast.
 - **Secondary Server Installation** - Select this option for installing the iSPI for IP Multicast in an Application Failover or High Availability (HA) environment.
- 7 From **Enter your database server information** page, specify the following information that you have used while creating a new Oracle instance for the iSPI for IP Multicast:
- **Host** - The fully- qualified domain name of the Oracle server. Type the server name.
 - **Port** -The default Oracle port number (1521) appears in the dialog box.
 - **Instance** - Type the name of the Oracle database instance.
- 8 Type the following information that you have used while creating a new Oracle instance for the iSPI for IP Multicast:
- **Username** - Type the Oracle username created to access IP Multicast data.
 - **Password** - Type the password for the mentioned user.
- 9 After completing the Oracle database configuration, click **OK**. The **Install Checks** screen appears. If the configuration process reports an error, check the credentials. To type the database instance information again, click the **Previous** button.
- 10 From the **Install Checks** screen, the wizard checks for the available disk space. The Product Requirements screen shows the required disk space and available disk space on the machine. Check the indicated values.
- 11 Click **Next**. The **Pre-Install Summary** screen appears.
- 12 Review the options, and click **Install**. The installation process begins.

13 Specify the following details in the **Multicast SPI Configuration** dialog box:



The NNMi configuration parameters should be same as you have entered while installing NNMi. Type the same configuration details while installing iSPI.

Make sure to select the same database type (embedded or Oracle) that you have selected while installing NNMi.

- Information required by MulticastSPI to communicate to NNMi



The configured NNMi values appear in the dialog box.

- **NNMi FQDN/IP Address:** The fully-qualified domain name (FQDN) of the NNMi management station. The hostname can be fully qualified domain name, partial hostname, or IP Address. Check the NNMi name from **Help->System Information-> Server**.
- **NNMi HTTP Port:** The default value is 80 or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.http.port` value from the `%NnmDataDir\conf\nnm\props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **NNMi HTTPS Port:** The default value is 443 or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.https.port` value from the `%NnmDataDir\conf\nnm\props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **NNMi Java Naming and Directory Interface (JNDI) Port:** Port number used by the jboss application server for internal communication. The default value (1099) or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.jnp.port` value from the `%NnmDataDir\conf\nnm\props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **Web Service Client Username:** Type the Web Service Client username.
- **Web Service Client Password:** Type the Web Service Client password.

- **Retype Password:** Retype the password to confirm the password.
- **isSecure:** Select the option to enable HTTPS. By default, NNMi uses HTTP. This option specifies the mode of transmission such as secured or unsecured.
- For iSPI for IP Multicast Configuration Parameters, type the following:



The various cases for the (Fully Qualified Domain Name (FQDN) configuration parameters are listed below:

- The NNMi and iSPI for IP Multicast must use the same FQDN. If the NNMi server uses more than one domain name, installation process chooses one and iSPI for IP Multicast installation must also select the same domain name. To find the official FQDN of the NNMi server, use any one of following:
 - Run the **nnmofficialfqdn.ovpl** command.
 - From the NNMi console, click **Help > About Network Node Manager i Software**.
- At the time of NNMi installation, if you are using the partial domain name as <people> or the IP Address as <xx.xx.xx.xx> and not the fully qualified domain name, iSPI for IP Multicast also contains the same partial domain name or the IP Address. In this case, the Single Sign-on is disabled.
- **IP Multicast FQDN** - The FQDN of the NNMi management station.
- **IP Multicast HTTP Port Number** - The unsecured port number. The default value is 8084. Type the port number if you are not using the default value.
- **IP Multicast HTTPS Port Number** - The secured port number. The default value is 14443. Type the port number if you are not using the default value.
- **JNDI Port** - The default port number is 14099. This port number is used by the jboss application server for internal communication.



Always select the same mode of transmission for NNMi and iSPI for IP Multicast.

- **isSecure** - Select the option to enable HTTPS. By default, the iSPI for IP Multicast uses HTTP. This option specifies the mode of transmission such as secured or unsecured.

- 14 Click **OK** to proceed with the installation process.
- 15 When the installation process is complete, click **Done**. You can start the IP Multicast processes. For more information about processes, see [Starting and Stopping the NNMi and iSPI for IP Multicast Processes](#) on page 23.

You can check the necessary information about the installation from Summary and Details tab. If the installation process fails to complete, you can Rollback the Installation process and start again.

Installing on a UNIX Management Server

To install the iSPI for IP Multicast on a UNIX management server, follow these steps:

- 1 Log on to the management server with root privileges.
- 2 Insert the iSPI for IP Multicast installation media into the CD-ROM drive. The CD-ROM must start automatically. If the installation does not start, double-click the `setup.bat` file. The installation wizard opens.

If the Application requirement check warnings dialog box opens, click and review each warning and take appropriate actions.
- 3 In the **Introduction** screen, check the iSPI for IP Multicast information and then click **Next**.
- 4 On the **License Agreement** page, check the iSPI for IP Multicast license terms. If you agree with the terms of the license agreement, select I accept...; then click **Next**. The **Product Customization Feature Selection** screen appears.
- 5 From the **Choose the database type** page, select any *one* of the options:



Make sure to select the same database type (embedded or Oracle) that you have selected while installing NNMi.

- Select **HP Software Embedded Database**, and click **Next**. The **Install Checks** screen appears. Go to [step 10](#) on page 20.
- Select **Oracle**, and click **Next**.

- 6 *Skip the steps from 6 to 9 if you choose to use the embedded database. If you select an Oracle database, from the **Choose Database Initialization Preferences** page, choose any one of the following:*



Select the same database type (Primary Server or Secondary Server) as NNMi.

- **Primary Server Installation** - Select this option for installing the iSPI for IP Multicast.
 - **Secondary Server Installation** - Select this option for installing the iSPI for IP Multicast in an Application Failover or High Availability (HA) environment.
- 7 From **Enter your database server information** page, specify the following information that you have used while creating a new Oracle instance for the iSPI for IP Multicast:
 - **Host** - The fully- qualified domain name of the Oracle server. Type the server name.
 - **Port** -The default Oracle port number (1521) appears in the dialog box.
 - **Instance** - Type the name of the Oracle database instance.
 - 8 Type the following information that you have used while creating a new Oracle instance for the iSPI for IP Multicast:
 - **Username** - Type the Oracle username created to access IP Multicast data.
 - **Password** - Type the password for the mentioned user.
 - 9 After completing the Oracle database configuration, click **OK**. The **Install Checks screen** appears. If the configuration process reports an error, check the credentials. To type the database instance information again, click the **Previous** button.
 - 10 From the Install Checks screen, the wizard checks for the available disk space. The Product Requirements screen shows the required disk space and available disk space on the machine. Check the indicated values.
 - 11 Click **Next**. The Pre-Install Summary screen appears.
 - 12 Review the options, and click **Install**. The installation process begins.

13 Specify the following details in the Multicast SPI Configuration dialog box:



The NNMi configuration parameters should be same as you have entered while installing NNMi. Type the same configuration details while installing iSPI.

Make sure to select the same database type (embedded or Oracle) that you have selected while installing NNMi.

- Information required by MulticastSPI to communicate to NNMi



The values configured with NNMi appear in the dialog box.

- **NNMi FQDN/IP Address:** The fully-qualified domain name (FQDN) of the NNMi management station. The hostname can be fully qualified domain name, partial hostname, or IP Address. Check the NNMi name from **Help->System Information-> Server**.
- **NNMi HTTP Port:** The default value is 80 or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.http.port` value from the `$NnmDataDir/conf/nnm/props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **NNMi HTTPS Port:** The default value is 443 or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.https.port` value from the `$NnmDataDir/conf/nnm/props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **NNMi Java Naming and Directory Interface (JNDI) Port:** Port number used by the jboss application server for internal communication. The default value (1099) or the non-default NNMi port number appears. To verify or modify the port number after installing the iSPI for IP Multicast, open the `nms-local.properties` file and check the `jboss.jnp.port` value from the `$NnmDataDir/conf/nnm/props` directory. To update the NNMi port number, see [Updating the NNMi Port Number](#) on page 27.
- **Web Service Client Username:** Type the Web Service Client username.
- **Web Service Client Password:** Type the Web Service Client password.

- **Retype Password:** Retype the password to confirm the password.
- **isSecure:** Select the option to enable HTTPS. By default, NNMi uses HTTP. This option specifies the mode of transmission such as secured or unsecured.
- For iSPI for IP Multicast Configuration Parameters, type the following:



The various cases for the (Fully Qualified Domain Name (FQDN) configuration parameters are listed below:

- The NNMi and iSPI for IP Multicast must use the same FQDN. If the NNMi server uses more than one domain name, installation process chooses one and iSPI for IP Multicast installation must also select the same domain name. To find the official FQDN of the NNMi server, use any one of following:
 - Run the `nnmofficialfqdn.ovpl` command.
 - From the NNMi console, click **Help > About Network Node Manager i Software**.
- At the time of NNMi installation, if you are using the partial domain name as <people> or the IP Address as <xx.xx.xx.xx> and not the fully qualified domain name, iSPI also contains the same partial domain name or the IP Address. In this case, the Single Sign-on is disabled.
- **IP Multicast FQDN** - The FQDN of the NNMi management station.
- **IP Multicast HTTP Port Number** - The unsecured port number. The default value is 8084. Type the port number if you are not using the default value.
- **IP Multicast HTTPS Port Number** - The secured port number. The default value is 14443. Type the port number if you are not using the default value.
- **JNDI Port** - The default port number is 14099. This port number is used by the jboss application server for internal communication.



Always select the same mode of transmission for NNMi and iSPI for IP Multicast.

- **isSecure** - Select the option to enable HTTPS. By default, the iSPI for IP Multicast uses HTTP. This option specifies the mode of transmission such as secured or unsecured.

- 14 Click **OK** to proceed with the installation process.
- 15 When the installation process is complete, click **Done**. You can start the IP Multicast processes. For more information about processes, see [Starting and Stopping the NNMi and iSPI for IP Multicast Processes](#) on page 23.

You can check the necessary information about the installation from Summary and Details tab. If the installation process fails to complete, you can Rollback the Installation process and start again.

Starting and Stopping the NNMi and iSPI for IP Multicast Processes

After the installation process is complete, you have to check if NNMi is running and then start and stop the Multicast processes manually by the following set of commands:

- Check the status of the NNMi process using the following command:

```
ovstatus -c
```

If the NNMi process is not running, start the NNMi process by the following command:

```
ovstart -c ovjboss
```

- Start the Multicast process by the following command:

```
ovstart -c mcastjboss
```

- Stop the Multicast process by the following command:

```
ovstop -c mcastjboss
```

Verifying the NNMi and iSPI for IP Multicast Processes

Check if the NNMi and IP Multicast processes are running by using the following command: **ovstatus -c**.

Removing the iSPI for IP Multicast

Before you start the removal process, make sure that the Multicast process is stopped but the NNMi process (ovjboss) is running. If the Multicast process is running, removal process exits with an error message. .



Always uninstall the iSPI for IP Multicast and then uninstall NNMi.

To uninstall the iSPI for IP Multicast from a management station, follow these steps:

- 1 Log on to the management station.
- 2 Run the following command:

On Windows:

```
%NnmInstallDir%\uninstall\HPOvMCastiSPI\setup.exe
```

On UNIX:

```
$NnmInstallDir\uninstall\HPOvMCastiSPI\setup.exe
```

A wizard opens.

- 3 Follow the instructions on the wizard and complete the procedure to remove the product.
- 4 When the process is complete, click **Done**.

License-related Information

The iSPI for IP Multicast includes a temporary Instant-On license key that is valid for 60 days after you install the iSPI for IP Multicast. You should obtain and install a permanent license key as soon as possible.

The three types of the iSPI for IP Multicast licenses are:

- Instant-on - The Instant-on license is an evaluation license. The valid period of this license is sixty days.

- Points Based - The Points-based license is the actual points consumed by the iSPI for IP Multicast. The points appear in the iSPI for IP Multicast system information.
- Migration - The migration licenses are valid only for the user updating from previous versions (7x.x) of the IP Multicast SPI.

Obtaining and Installing a Permanent License

To install a permanent license, follow these steps:

- 1 Note the following details:
 - HP product number and order number (available on the Entitlement Certificate)
 - IP address of the NNM management station
 - Your company or organization information
- 2 Install the iSPI for IP Multicast by using any *one* of the methods:
 - At the command prompt from the NNMi management server, use the following:
 - Windows: `%NnmInstallDir%\bin\nnmlicense.ovpl <MCSPi> -f <license_file>`
 - UNIX: `opt/OV/bin/nmlicense.ovpl <MCSPi> -f <license_file>`

For more information, see `nnmlicense.ovpl` reference page.
 - From the Autopass user interface, use the following:
 - Windows:
 - `%NnmInstallDir%\bin\nnmlicense.ovpl MCSPi -gui`
 - `%NnmInstallDir%\bin\nnmlicense.ovpl MCSPi -g`
 - UNIX:
 - `opt/OV/bin/nmlicense.ovpl MCSPi -gui`
 - `opt/OV/bin/nmlicense.ovpl MCSPi -g`

After you install your license from Autopass user interface, close the license window. The license points appear in the iSPI for IP Multicast system information only after you close the window.

- 3 Follow the instructions to install the license key.

Checking the License Type

To find the iSPI for IP Multicast license information, use any *one* of the following:

- 1 In the NNMi console, click **Help > About Network Node Manager i Software**.
- 2 In the About Network Node Manager window, click **Licensing Information**.

OR

- 1 In the NNMi console, click **Help > System Information**.
- 2 From the System Information box, click **View Licensing Information**.

Checking the IP Multicast Object-related Point Usage

- 1 In the NNMi console, click **Help > NNMi iSPI Help ->iSPI for IP Multicast System Information**.
- 2 In the iSPI for IP Multicast window, click the **License Report** tab and the **Topology Statistics** tab. The License report tab shows the total points used for the IP Multicast topology object. The Topology Statistics tab shows the total number of Multicast objects monitored by the iSPI for IP Multicast.

Extend the IP Multicast Licenses

To extend the licensed capacity, purchase and install an additional iSPI for IP Multicast license. Contact your HP Sales Representative or your Authorized Hewlett-Packard Reseller for information about the iSPI for IP Multicast licensing structure and to learn how to add license tiers for enterprise installations.

To obtain additional license keys, go to the HP License Key Delivery Service:

<https://webware.hp.com/welcome.asp>

Accessing the Log Files

The iSPI for IP Multicast stores all the installation-related information into the following directory:

- For Windows: \Temp\
- For Unix: /tmp/

List of IP Multicast log files

The log files are as follows:

- HPOvMCastiSPI_9.00.000_HPOvInstaller.txt
- preInstall_multicast.log
- Pre_Remove_multicast.log
- postInstall_multicast.log
- postRemove_multicast.log

Updating the NNMi Port Number

At the time of iSPI for IP Multicast installation, type the same NNMi port numbers that you have specified while installing NNMi. If you want to update the NNMi port number while doing the iSPI for IP Multicast installation, follow these steps:

- 1 On the management server, open the `nms-multicast.ports.properties` file from the `%NnmdataDir%\shared\multicast\conf` or `$NnmdataDir/ shared/ multicast/conf` directory (depending on the type of the management server) with a text editor.
- 2 Update the `Djboss.nnm.port` value.
- 3 On the management server, open the `nms-local.properties` file from the `%NnmdataDir%\conf\nnm\props` or `$NnmdataDir/ conf/ nnm/props` directory (depending on the type of the management server) with a text editor.

- 4 Update the `com.hp.ov.nms.spi.multicast.Nnm.port` value in the `nms-local.properties` file.

Updating the iSPI for IP Multicast HTTP and HTTPS Port Numbers

After installing NNMi and iSPI for IP Multicast, if you want to modify the iSPI for IP Multicast HTTPS or HTTP port numbers without installing the NNMi and iSPI for IP Multicast again, follow these steps:


- 1 Stop the processes of NNMi and iSPI for IP Multicast with the following commands:
 - **`ovstop -c`**
 - **`ovstop -c mcastjboss`**
- 2 Open the `nms-mcast.ports.properties` file from the `%NnmDataDir\shared\multicast\conf` or `$NnmDataDir/shared/multicast/conf` directory and update the following values:
 - *Djboss.http.port* value for the HTTP port
 - *Djboss.https.port* value for the HTTPS port
- 3 Restart the NNMi and iSPI for IP Multicast with the following commands:
 - **`ovstart -c`**
 - **`ovstart -c mcastjboss`**

Updating the Security Mode (HTTP to HTTPS)

After installing NNMi and iSPI for IP Multicast, you can modify the security mode from HTTPS to HTTP *or* HTTP to HTTPS without installing NNMi and iSPI for IP Multicast again. To update the mode, follow these steps:

- 1 On the management server, open the `nmm.extended.properties` file from the `%NnmdataDir%\shared\multicast\conf` or `$NnmdataDir/shared/multicast/conf` directory (depending on the type of the management server) with a text editor.
- 2 Update the values to true or false from the following:
 - `com.hp.ov.nms.spi.multicast.spi.isSecure=false`
 - `com.hp.ov.nms.spi.multicast.Nnm.isSecure=false`

If the value is false, the mode of transmission is HTTPS.

 Always select the same mode of transmission for NNMi and iSPI for IP Multicast.

Updating the NNMi System Password


If you modify the NNMi system account credentials after installing the iSPI for IP Multicast, follow these steps to synchronize the change with the iSPI for IP Multicast setup.

- 1 Log on to the NNMi management server.
- 2 Run the following command to copy the NNMi password:

```
encryptmulticastpasswd.ovpl -c multicast
```

where:

`c` - NNMi jboss to iSPI for IP Multicast jboss communication multicast (case insensitive)

 Only users with root permission can run this script.

- 3 Restart the iSPI for IP Multicast with the following commands:

- `ovstop -c mcastjboss`
- `ovstart -c mcastjboss`

Updating the iSPI for IP Multicast (Web Service Client Password)

The iSPI for IP Multicast is configured with Web Service Client Username and Password to communicate with NNMi in the installation process. The user must be added in NNMi with the role of Web Service Client user to use the script to update the password.



Avoid System role for NNMi - iSPI for IP Multicast communication.



Only users with root permission can run this command.

If you want to update the iSPI for IP Multicast password, follow these steps:

- 1 Log on to the NNMi management server.
- 2 Run the following command:

```
encryptmulticastpasswd.ovpl -e <multicast> <password>
```

The **encryptmulticastpasswd.ovpl** command helps you update the iSPI for IP Multicast password.

- 3 Restart the iSPI for IP Multicast with the following commands:
 - `ovstop -c mcastjboss`
 - `ovstart -c mcastjboss`

4 Getting Started with the iSPI for IP Multicast

After you complete the installation of the iSPI for IP Multicast in your NNMi environment, you can start monitoring your network with NNMi and iSPI for IP Multicast. After installing the iSPI for IP Multicast, you can start the discovery process to view the IP Multicast-enabled nodes and Multicast objects from the IP Multicast workspace.

Accessing the iSPI for IP Multicast

You can monitor the network by using the NNMi and iSPI for IP Multicast. To start the iSPI for IP Multicast after the initiation of the first discovery polling cycle, follow these steps:

- 1 Launch the NNMi console.
- 2 Log on to the NNMi console with any one of the following user roles:
 - Administrator
 - Operator level 1
 - Operator level 2
 - Guest
- 3 In the Workspace pane, click **IP Multicast**. The IP Multicast workspace shows the IP Multicast Inventory. You can access the Multicast forms and map views from the IP Multicast workspace.

Accessing the Online Help

The iSPI for IP Multicast Help provides the iSPI for IP Multicast related information. The detailed information in the iSPI for IP Multicast help is organized into the following sections:

- Help for Operators
- Help for Administrators

To access the iSPI for IP Multicast help, click **Help** -> **Help for NNM iSPIs** -> **Help for iSPI for IP Multicast**. The iSPI for IP Multicast help appears in the NNMi console only if the iSPI for IP Multicast installation is successful.

The IP Multicast Online Help provides you the comprehensive information about the IP Multicast Inventory, IP Multicast forms, Incidents, and map views.

Accessing the IP Multicast Configuration Workspace

You can perform the following configuration tasks after installing the iSPI for IP Multicast.

- Configure the Polling Frequencies
- Configure the Router Targets
- Configure the VPWS VPN
- Configure the Regional Manager

Accessing the IP Multicast Reports

The iSPI for IP Multicast uses the basic capabilities of the HP NNMi iSPI Performance for Metrics (iSPI Performance for Metrics) and Network Performance Server (NPS) to present the IP Multicast reports. Install the iSPI Performance for Metrics and Network Performance Server (NPS) from DVD and then install the iSPI for IP Multicast to view the IP Multicast reports.

The iSPI for IP Multicast introduces the following extension packs:

- IP_Multicast_Interface
- IP_Multicast_Flow

The extension packs use data collected by the iSPI for IP Multicast. Make sure that NPS and iSPI Performance for Metrics is up and running.

To view the IP Multicast reports, from the NNMi console, click **Actions-> Report-Reporting Menu**. The iSPI Performance for Metrics console appears with the reports.

For more information, see *Help for iSPI for IP Multicast Reports and Help for NNMi iSPI Performance for Metrics*.

A Troubleshooting the iSPI for IP Multicast

This chapter lists the trouble scenarios that you may encounter while installing the iSPI for IP Multicast and tips to resolve these issues.

Installing the iSPI for IP Multicast

- *Problem:* The iSPI for IP Multicast installation process stops abruptly.

Solution: The installation process is not able to create and copy the folders. Check the error messages and the available disk space. In addition, check if you have necessary permissions on the management server.

- *Problem:* The iSPI for IP Multicast process appears in the `Failed` state and you are not able to restart the process again.

Solution: Stop and start `ovsppmd` (all the processes) again. Check `ovstatus -c` to verify if the state of the process is changed from `FAILED` state to `RUNNING` state.

This is a time consuming process but this is the only workaround available to start the processes.

- *Problem:* The extension packs introduced by the iSPI for IP Multicast fail to start if you install NPS and iSPI Performance for Metrics after installing NNMi and iSPI for IP Multicast.

Solution: Always install NPS and iSPI Performance for Metrics and then install the iSPI for IP Multicast. If you have installed NNMi and iSPI for IP Multicast before installing NPS and iSPI Performance for Metrics, remove the `<Extension Pack>.processed` copy from the following location:

On UNIX - `<$NNMDataDir>/shared/perfSpi/datafiles/extension/final` folder.

On Windows

-<%NNMDataDir%>\shared\perfSpi\datafiles\extension\final folder.

After removing the file, the extension packs are installed automatically.

- *Problem:* The iSPI for IP Multicast jboss stops automatically after the start up or after running for some time. You cannot access the IP Multicast inventory and URL actions. The following log message appears in the console:

```
[org.jboss.system.server.Server] Shutting down the server, blockingShutdown: false
```

```
[org.jboss.system.server.Server] Server exit(0) called
```

```
[org.jboss.system.server.Server] Runtime shutdown hook called, forceHalt: true
```

Solution: Stop and start the iSPI for IP Multicast jboss. Run the following commands:

- Stop the process: **ovstop -c mcastjboss**
- Start the process: **ovstart -c mcastjboss**

Uninstalling the iSPI for IP Multicast

- *Problem:* The removal process starts but does not complete.

Solution: Stop the iSPI for IP Multicast process and then start removing the iSPI for IP Multicast. You can use the commands to stop the iSPI for IP Multicast processes: **ovstop -c mcastjboss**. Check the status again and start the uninstallation process.

- *Problem:* After removing the iSPI for IP Multicast, the memory of the system is still low.

Solution: Check if the javaprocess is running with the iSPI for IP Multicast name. Stop and delete these processes manually. These processes increase the memory size.

- *Problem:* After removing the iSPI for IP Multicast, the status of mcastjboss appears as Failed.

Solution: Run the following commands:

- Stop the process: **ovstop -c**
- Start the process: **ovstart -c**

If you check NNMi status again, mcastjboss does not appear in the status.

- *Problem:* After you uninstall the iSPI for IP Multicast, the extension packs introduced by the iSPI for IP Multicast are not removed. If the iSPI Performance for Metrics is running, the extension packs introduced by the iSPI for IP Multicast, still appear. You must remove the extension packs manually before you start installing the iSPI for IP Multicast again.

Solution: To remove the extension packs completely, follow these steps:

- a Remove the extension packs using the `uninstallExtensionPack.ovpl` command:
 - Windows - `%PerfSPIInstallDir%/NNMPerformanceSPI/bin/uninstallExtensionPack.ovpl -p`
 - UNIX - `$PerfSPIInstallDir/NNMPerformanceSPI/bin/uninstallExtensionPack.ovpl -p`

For example, use the command to uninstall the IP Multicast extension pack, **`uninstallExtensionPack.ovpl -p IP_Multicast_Interface`**.

For more information, see *NNMi iSPI Performance for Metrics, 9.0 Installation Guide*.

- b Manually delete all the extension packs introduced by the iSPI for IP Multicast from the following location:
 - For UNIX - `$NnmDataDir/shared/perfSpi/datafiles/extension/final`.
 - For Windows 2008/ Windows 2003 - `%NnmDataDir%\shared/perfSpi\datafiles\extension/final`.
- c Stop and Start the processes of NNMi iSPI Performance for Metrics.
- *Problem:* For the non-windows platforms, the mcastjboss does not start after increasing the heap size to 4GB and above. The message appears as Could not reserve enough space for object heap.

Solution: From the `/var/opt/OV/shared/multicast/conf/nms-multicast.jvm.properties` file, remove the comment from the **`-d64`** flag. The `Xmx` value is set to 4GB or above.

Additional Troubleshooting Information

The following information helps you to troubleshoot the problem you may encounter after installing the iSPI for IP Multicast.

Linux Platform-related Troubleshooting Guidelines

- *Problem:* For the large scale Linux systems, when the iSPI for IP Multicast and NNMi open the lot processes and files and the file count reaches to a maximum value, the iSPI for IP Multicast stops working and is in an unusable state.

Solution: Increase the number of open files per process by updating the default max open files value. To increase the value, follow these steps:

- a Update the `limits.conf` file from the `/etc/security/limits.conf` file. Change the value to **2048** from the following:

Increase the default max open files for NNMi

```
soft nofile 2048
```

```
hard nofile 2048
```

- b Save the updated values.
- c Log out from the system and log on again. This file limit change is only applicable to the new shells.
- d Restart NNMi from the following commands:

```
— ovstop -c
```

```
— ovstart -c
```

This restart of NNMi is required only if you have already installed NNMi.



Perform these tasks before you start installing NNMi as the installer inherits the new file limits.

- *Problem:* The iSPI for IP Multicast does not discover IPv6-enabled multicast nodes for the Linux platform. The `run.sh` file contains the following lines:

```
# Force IPv4 on Linux systems since IPv6 doesn't work
correctly with jdk5 and lower
if [ "$linux" = "true" ]; then
    JAVA_OPTS="$JAVA_OPTS -Djava.net.preferIPv4Stack=true"
fi
```

Solution: Update the `run.sh` file to enable the discovery of the IPv6-enabled multicast nodes. To update the `run.sh` file, follow these steps:

- a Stop the IP Multicast processes by using the command: **ovstop -c mcastjboss**.
- b From the `/opt/OV/nonOV/multicast/jboss/bin/` location, open the `run.sh` file.
- c Update the following line and change the value of `Djava.net.preferIPv4Stack=true` to `Djava.net.preferIPv4Stack=false`.

The updated lines appear as:

```
# Force IPv4 on Linux systems since IPv6 doesn't work
correctly with jdk5 and lower
if [ "$linux" = "true" ]; then
    JAVA_OPTS="$JAVA_OPTS -Djava.net.preferIPv4Stack=false"
fi
```

- d Restart the IP Multicast processes by using the command: **ovstart -c mcastjboss**.

Post Installation Troubleshooting Guidelines

- *Problem:* After successfully installing the iSPI for IP Multicast, the URL actions are not appearing.

Solution: To use the iSPI for IP Multicast URL actions, follow these steps:

- a Log out of the NNMi console and log on again.
- b Restart the NNMi jboss by using the following commands:
 - **ovstop -c**
 - **ovstart -c**

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