

HP Network Node Manager i-series Smart Plug-in for MPLS

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

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Deployment Guide

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1 Introducing the iSPI for MPLS

HP Network Node Manager i-series Smart Plug-in for Multi Protocol Label Switching (iSPI for MPLS) helps you extend the capability of HP Network Node Manager i-series (NNMi) to monitor the overall health of the network.

The guide contains the information to deploy the iSPI for MPLS in an NNMi environment. In addition, this guide provides the guidelines to migrate from MPLS VPN SPI, 7.53 to the iSPI for MPLS, 8.10.

You can plan the deployment of the iSPI for MPLS based on how NNMi is deployed in the environment. While planning the deployment, consider the following areas to achieve an optimum size and performance of the system:

- Number of MPLS objects
- Deployment of the iSPI for MPLS in a High Availability (HA) environment
- Deployment of the iSPI for MPLS in an Application Failover environment
- Deployment of the iSPI for MPLS along with other iSPIs (iSPI for IP Multicast and iSPI for IP Telephony)



Ensure to install the NNMi patches before installing the iSPI for MPLS in a non-English environment.

Preparing for Deployment

Before you start deploying the iSPI for MPLS, you must plan the installation based on your deployment requirements. You must identify the ideal deployment scenarios for the supported configuration and make sure that all the prerequisites are met before you begin the installation process.

Factors that impact the deployment of the iSPI for MPLS include the type of database configured with NNMi and the size of the network that you want to monitor. In addition, make sure to install the latest NNMi patches before installing the iSPI for MPLS.

To install and configure the iSPI for MPLS in a HA and App failover environment, see the HA and App failover section of *NNMi Deployment Guide*.

Read the following NNMi documents before you start installing and configuring the iSPI for MPLS:

- *HP Network Node Manager i-series Deployment Guide, 8.10*
- *HP Network Node Manager i-series Release Notes, 8.10*
- *HP Network Node Manager i-series Support Matrix, 8.10*

In addition, read the following iSPI for MPLS documents before you start deploying the iSPI for MPLS:

- *HP Network Node Manager Smart Plug-in for MPLS Installation Guide, 8.10*
- *HP Network Node Manager Smart Plug-in for MPLS Release Notes, 8.10*
- *HP Network Node Manager Smart Plug-in for MPLS Support Matrix, 8.10*

2 Deploy the iSPI for MPLS

Deploy the iSPI for MPLS only after installing NNMi on a system. To install and configure NNMi on a system, see the *NNMi Installation Guide*.

You can deploy the iSPI for MPLS for the following scenarios:

- Installing NNMi and iSPI for MPLS together on a system.
- Installing the iSPI for MPLS in an NNMi environment.

Deploying the iSPI for MPLS After Installing NNMi

To deploy the iSPI for MPLS on a management server immediately after installing NNMi, follow these steps:

- 1 Start the NNMi installation process. Do not disable HTTP communication after completing the NNMi installation process.



Make sure to use the same database type (embedded or Oracle) as NNMi when you are installing the iSPI for MPLS.

- 2 Install the iSPI for MPLS.
- 3 Start the NNMi and iSPI for MPLS processes. This starts the NNMi and iSPI for MPLS discovery process automatically.
- 4 Log on with administrative privileges to use the MPLS Configuration workspace. If you have the list of Route Targets(RTs) to be excluded in the network, you can add the RTs to be excluded from the MPLS Configuration workspace. These configurations help in discovering the VPNs separately and properly.



You can add the list of RTs to be excluded anytime after starting the iSPI for MPLS processes.

- 5 After installing the iSPI for MPLS, log on to the NNMi console, and then verify the availability of the MPLS workspace and MPLS views.

Deploying the iSPI for MPLS in an NNMi Environment

To deploy the iSPI for MPLS on a management server where NNMi is already UP and running, follow these steps:

- 1 Install the iSPI for MPLS on a management server where NNMi is already installed, running, and nodes are discovered.



Make sure to use the same database type (embedded or Oracle) as NNMi when you are installing the iSPI for MPLS.

- 2 Start the MPLS processes. If you have the list of RTs to be excluded in the network, you can add the RTs to be excluded from the MPLS Configuration workspace.
- 3 You can start the iSPI for MPLS discovery process to discover the MPLS objects from the discovered NNMi nodes in any *one* of the following ways:
 - Run the following script to discover the MPLS objects from the discovered NNMi nodes:

```
nmsmplsdisco.ovpl [ -all | -node <node_name>]
```
 - Select NNMi nodes from NNMi Inventory workspace and start the configuration poll. For more information, see *Help for NNMi, Launch the Actions: Configuration Poll Command*.
 - Wait for the next NNMi discovery cycle

Deploying Multiple iSPIs (iSPI for MPLS, iSPI for IP Multicast, and iSPI for IP Telephony) on a Management Server

You can deploy more than one add-on iSPIs (iSPI for MPLS, iSPI for IP Multicast, and iSPI for IP Telephony) on a management server. For more information, see the specific deployment guide.

You can deploy the iSPIs (iSPI for MPLS or iSPI for IP Multicast or iSPI for IP Telephony) in any order.

- ▶ Use the Oracle database, if you are deploying multiple iSPIs (iSPI for MPLS or iSPI for IP Multicast or iSPI for IP Telephony) on a management server.

Sizing and Performance of the Management Server for the iSPI for MPLS

For sizing information of the iSPI for MPLS, see the *iSPI for MPLS Support Matrix*.

If you are using an embedded database while installing the iSPI for MPLS, update the following files according to your requirement to achieve optimal performance of the product:

- ▶ Stop all the processes and make sure to take a backup of the below mentioned files.
 - Modify the value (default value= 60) specified as `<max-pool-size>60</max-pool-size` in the `mpls-postgres-ds.xml` from

```
/opt/OV/nonOV/mps/jboss/server/nms/deploy/  
mpls-postgres-ds.xml
```

For example: If you have to change the value 60 to 120, then change the `<max-pool-size>120</max-pool-size>`. To update the values according to the MPLS objects in your network, see the *Sizing Table*.



For the Scale description, see the *iSPI for MPLS Support Matrix*.

Table 1 Sizing Table

Scale	Value
Low	Default value(60)
Medium	Default value(60)
Large	Default value(60)+20

- Modify the value(default value=60) specified as `<max-pool-size>60</max-pool-size>` in the `nms-ds.xml` from
`/opt/OV/nonOV/jboss/nms/server/nms/deploy/nms-ds.xml`

To update the values according to the MPLS objects in your network, see the *Sizing Table*

Table 2 Sizing Table

Scale	Value
Low	Default value+20
Medium	Default value+40
Large	Default value+60

- Modify the value of `max_connections=100` from
`<DATA_DIR>/shared/nnm/databases/Postgres/postgresql.conf`

To update the values according to the MPLS objects in your network, see the *Sizing Table*

Table 3 Sizing Table

Scale	Value
Low	Default value+20
Medium	Default value+40
Large	Default value+100

After updating the above files, restart both the NNMi and iSPI for MPLS processes.

3 Migrate to the iSPI for MPLS, 8.10 from MPLS VPN SPI, 7.5x

Before you start migrating the MPLS VPN SPI from 7.5x to newer version, make sure that you migrate NNMi 7.5x version to 8.x series. For migrating NNMi from previous versions, see the *NNMi Deployment Guide*.

The MPLS VPN SPI, 7.53 is supported on UNIX 32 bit platform in contrast to the iSPI for MPLS which is supported on 64 bit Windows and UNIX platforms. For more information on supported database, hardware and software requirements, see the *iSPI for MPLS, Support Matrix, 8.10*.

There is no direct migration available for migrating the MPLS VPN SPI, 7.53 to the iSPI for MPLS, 8.10.

- ▶ After you migrate the community string configuration from NNM 7.5X installation to NNMi 8.10, make sure that community strings for MPLS nodes are also present in communication configuration of NNMi.

Configuring the iSPI for MPLS, 8.10 from 7.5x Version

While migrating from MPLS VPN SPI, 7.5x to the iSPI for MPLS, 8.x version, you can use the data specified in following configuration files:

- Migrate the data specified in the `MplsVpn.cfg` file of MPLS VPN SPI, 7.5x.

Install the iSPI for MPLS, 8.10. Make a note of the Route Targets (RTs) specified in `Ignore RT` section of MPLS VPN SPI, 7x version. Add these RTs in `Exclude RT` section of the MPLS Configuration workspace of the iSPI for MPLS, 8.10

- ▶ Start the VPN computation only after you add and save all the RTs to be excluded from the MPLS Configuration workspace

You can add the RTs in the following ways:

- Add one RT value to be excluded and then, click **Save**. This automatically starts the VPN computation.
- Add all the RT values to be excluded sequentially and then, click **Save**. This automatically starts the VPN computation. This is a preferred option as this option is a one time task for proper computation and grouping of all the VRF's which are already discovered in the network.
- Migrate the data specified in `MgmtVpn.cfg` file of MPLS VPN SPI, 7.53 to the iSPI for MPLS, 8.10



The iSPI for MPLS, 8.10 does not support Management VPNs feature.

To migrate the data specified in `MgmtVpn.cfg` file, follow the steps:

- a From the `MgmtVpn.cfg` file, select the RT values with `Active` settings across the `RT-PATTERN`.
 - b Add the selected RT values in the `MPLS Configuration` workspace.
This automatically starts the VPN computation after you add all the RTs and helps to get the consolidated group of traffic VPNs.
- Use the data specified in the `VpnNames.txt` file of MPLS VPN SPI, 7.x to the iSPI for MPLS, 8.10.

The MPLS VPN SPI, 7.x stores the VRF grouping relationships and VPN names in the `VpnNames.txt` file. You can rename the VPNs in the iSPI for MPLS, 8.10 according to the list in the `VpnNames.txt` file from MPLS views. For more information, see *Help for MPLS*.

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