

HP Network Node Manager iSPI Performance for Traffic Software

for the Windows® and Linux operating system

Software Version: 9.00

Installation Guide

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1 Introduction

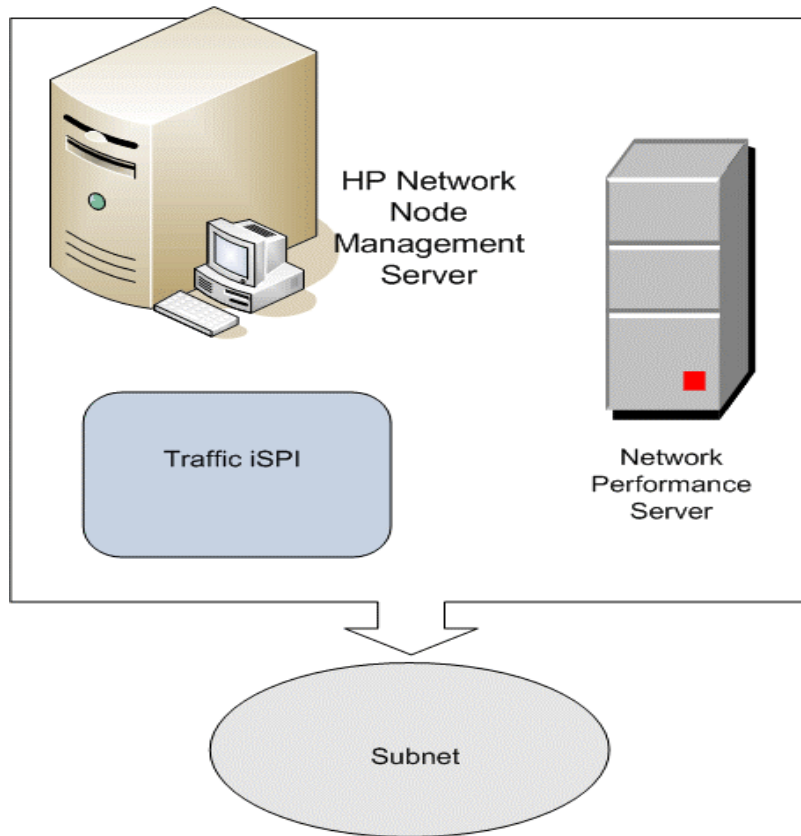
The HP Network Node Manager (NNMi) iSPI Performance for Traffic Software extends the capability of NNMi to monitor the performance of the network. The HP NNM iSPI Performance for Traffic (NNM iSPI for Traffic) facilitates enrichment of the obtained data from the IP flow records that are exported by the routers.

The iSPI Performance for Traffic performs the following tasks:

- Aggregates the IP flow records.
- Enriches the IP flow records by providing the ability to add or update the available fields in the flow records.
- Correlates the obtained IP flow records with NNMi for context based analysis.
- Generates performance reports by exporting data to the Network Performance Server (NPS).
- Generates maps to view the traffic flow information on your network.

After you install the product on the NNMi management server, you can monitor and obtain finer resolution of traffic flow in a specified network. NNMi presents the framework to monitor the state of the computing environment and network in your organization. NNM iSPI Performance for Traffic analyzes the collected data and generates performance reports.

Figure 1 Integration of NNMi with iSPI Performance for Traffic



IP flow- An Overview

IP flow data represents the information exported by a router in a network. The flow data is obtained by using induced technology such as Netflow and Sflow mechanisms. The iSPI Performance for Traffic uses these induced mechanism and obtains the IP flow records.

The primary data format supported by the iSPI Performance for Traffic with NNMi includes the following types:

- Netflow (versions: v5, v9)
- Sflow (versions: v5)

The iSPI Performance for Traffic extracts the data from the IP flow attributes present in the flow records. The IP flow data includes attributes that represent the traffic flowing through the interfaces of the router. The primary attributes includes source and destination IP addresses, IP protocol, port details and various network conversation details.

Gathering information of the IP flow in a network is essential to perform network data analysis. The iSPI Performance for Traffic integrates with Network Performance Server to provide the traffic analysis reports that can be used for operational network management as well as traffic trend visualization.

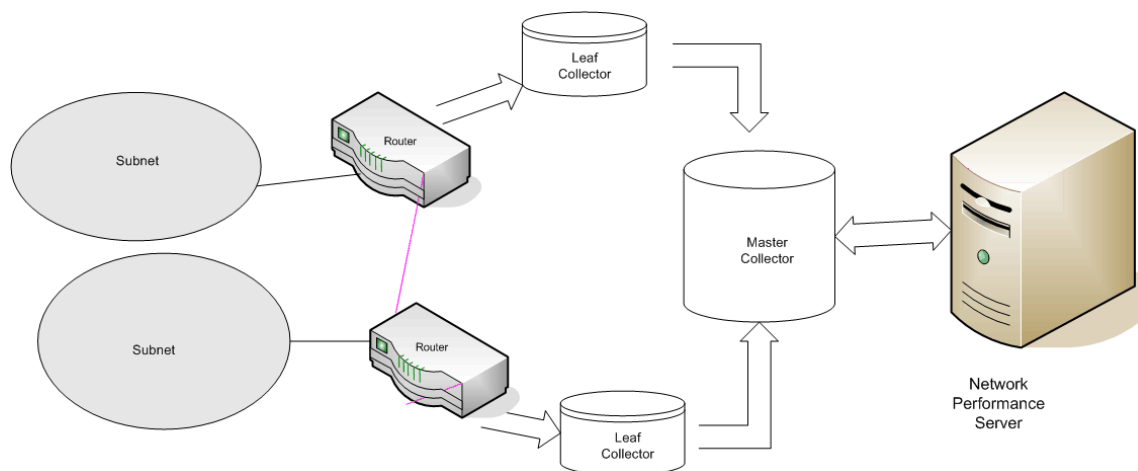
iSPI Performance for Traffic Overview

The iSPI Performance for Traffic product is a combination of two levels of packet collection and processing architecture as follows:

- iSPI Performance for Traffic Master Collector
- iSPI Performance for Traffic Leaf Collector

The following figure displays the product architecture of iSPI Performance for Traffic.

Figure 2 Product architecture of iSPI Performance for Traffic



In a network, the routers export the IP flow records to the iSPI Performance for Traffic Leaf Collector. The parsing process is done by the iSPI Performance for Traffic Leaf Collectors present in the network. The iSPI Performance for Traffic Leaf collector summarizes the packet flow and delivers the processed data to the Master Collector. The iSPI Performance for Traffic Master Collector shares system resources with the Network Performance Server. The Network Performance Server aggregates the reports provided by the iSPI Performance for Traffic Master Collector and generates the performance reports of the IP flow.

iSPI Performance for Traffic Master Collector

The iSPI Performance for Traffic Master Collector adds contextual fields to the IP flow records to provide clarity to the obtained data. It provides enrichment of the data fields present in the flow records. This data can also be customized on the basis of your requirements. It performs lookup with NNMi to provide enrichment of topology fields and also delivers metric and topology files to the reporting server.

iSPI Performance for Traffic Leaf Collector

The iSPI for Traffic Leaf Collector is responsible for listening to IP flow packets exported from router and parsing them into flow records. It also aggregates them during the configured flush period and then sends them to the master collector. The iSPI Performance for Traffic Leaf

Collector provides a filtering option and optionally performs DNS lookup for source and destination IP addresses. It also performs application mapping which is based on user configured rules.

-  The iSPI Performance for Traffic Master Collector can be connected to multiple iSPI Performance for Traffic Leaf Collectors but a Leaf Collector is connected to only one Master Collector.

2 Before You Begin

Before installing NNM iSPI Performance for Traffic 9.00, you must:

- Plan the installation based on your deployment requirements and make sure that all the pre-requisites are met. For more information, see *HHP Network Node Manager i Software Smart Plug-in Performance for Traffic Deployment Reference*.
- Apply the latest patch for NNMi 9.0. To download the latest patch go to:
<http://support.openview.hp.com/selfsolve/patches>
- See the following documents before you start the installation:
 - *HP Network Node Manager i Software 9.00 Installation Guide*
 - *HP Network Node Manager i Software 9.00 Deployment Reference*
 - *HP Network Node Manager i Software 9.00 Release Notes*
 - *HP Network Node Manager i Software 9.00 System and Device Support Matrix*
 - *HP Network Node Manager i Software Smart Plug-in Performance for Metrics / Network Performance Server 9.00 Installation Guide*

Prerequisites

Install the following products prior to installing the NNM iSPI Performance for Traffic:

HP Network Node Manager i Software 9.00

Ensure that NNMi 9.0 is installed on a system in your deployment environment. To install and configure NNMi 9.00 on a system, see the *HP Network Node Manager i Software 9.00 Installation Guide*.

Network Performance Server

Ensure that Network Performance Server is installed on a system in your deployment environment. For more information, see the *HP Network Node Manager Network Performance Server 9.0 Installation Guide*.

After installing the pre-requisites software applications in your deployment, you can proceed with the following order for installation of the iSPI Performance for Traffic components.

System Requirements

Before installing the NNM iSPI Performance for Traffic 9.00, verify that your computer meets the hardware and software requirements, and that the prerequisite software has been set up properly.

Make sure that NNMi management server meets the minimum hardware and software requirements, mentioned in the following table.

Table 1 Pre installation Checklist for Hardware and Software Requirement

Hardware and Software Requirements	Minimum Requirement	Complete?(Yes/No)
Disk space	10 GB	
RAM	8 GB	
CPU	4 core	
Operating System	<ul style="list-style-type: none"> • Windows <ul style="list-style-type: none"> — Windows Server 2003 x64 with Service Pack 2 — Windows Server 2003 x64 R2 with Service Pack 2 — Windows Server 2008 x64 Datacenter Edition with Service Pack 2 — Windows Server 2008 R2 x64 Datacenter Edition — Windows Server 2008 x64 Enterprise Edition with Service Pack 2 — Windows Server 2008 R2 x64 Enterprise Edition • Linux <ul style="list-style-type: none"> — RedHat Enterprise Server AS 5.2 (or newer minor version. — RedHat Enterprise Server ES 5.2 (or newer minor version. 	
Browser	Microsoft Internet Explorer 8.0, Mozilla Firefox 3.6	

Pre Installation Tasks

You must perform the following set of tasks related to the NNMi installation in your deployment, before proceeding with installation of iSPI Performance for Traffic components.

Gather Information about NNMi

You must note down all the following details of the NNMi installation, as these details are required during the installation of iSPI Performance for Traffic.

Port details

Note down the following port numbers of the NNMi installation:

- HTTP port number of NNMi
- Java Naming and Directory Interface (JNDI) port configured with NNMi

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

- `jboss.http.port` property for the HTTP port number
- `jboss.jnp.port` property for the JNDI port number

NNMi system User Password

You must note down the password for `system` user account of NNMi, and you must provide the same password when prompted during the installation of NNMi extension for iSPI Performance for Traffic.

Create NNMi User

You must create a user from the NNMi console with the Web Service Client Role. This username and password must be provided, when prompted during the installation of iSPI Performance for Traffic Master Collector component.



If a user already exists with Web Service Client privilege, you can reuse that user name and password during installation of iSPI Performance for Traffic Master Collector component.

For more information on how to create an NNMi user, see *HP Network Node Manager i Software 9.0 Installation Guide*.

Order for Installation of iSPI Performance for Traffic Components

The iSPI Performance for Traffic contains the following components for installation:

- NNMi Extension for iSPI Performance for Traffic
- iSPI Performance for Traffic Master Collector (Master Collector)
- iSPI Performance for Traffic Leaf Collector (Leaf Collector)

You must perform the installation for iSPI Performance for Traffic in the following order:

- 1 Install NNMi Extension for Traffic software on a NNMi 9.0 system. For more information, see [NNMi Extension for iSPI Performance for Traffic](#).
- 2 Install iSPI Performance for Traffic Master Collector. For more information, see [Installing iSPI Performance for Traffic Master Collector](#)
- 3 Install iSPI Performance for Traffic Leaf Collector. For more information, see [Installing iSPI Performance for Traffic Leaf Collector](#)

3 Preparing your System

Preparing your System for the Master or Leaf Collector Installation

If you are installing iSPI Performance for Traffic Master Collector or Leaf Collector on a system that does not have NNMi installed, you must perform the following tasks:

- Install Microsoft Visual C++ Redistributable Package
- Set up Windows Local Security Policy
- Start Secondary Logon Service

Installing Microsoft Visual C++ Redistributable Package

You must install **vc redistrib_x64.exe** software manually. This software is present in the root directory of the iSPI Performance for Traffic.

To install the Microsoft Visual C ++ Redistributable Package, follow these steps:

- 1 Double-click **vc redistrib_x64.exe**.
- 2 Double-click **vc redistrib_x64.exe**.
- 3 The Installation Wizard opens. Follow the instructions of the Wizard to complete the installation.

4 NNMi Extension for iSPI Performance for Traffic

The NNMi extension for iSPI Performance for Traffic facilitates the configuration of iSPI Performance for Traffic by launching iSPI Performance for Traffic Configuration form from NNMi Configuration Workspace. It also provides launch points for traffic maps and licensing information.

Installing in the NNMi Application Failover Environment

In the NNMi Application failover environment, make sure you install NNMi Extension for iSPI Performance for Traffic on both Primary and Secondary NNMi systems.

Ensure that the iSPI for Performance for Traffic licenses are installed on both the systems



NNMi Extension for iSPI is always installed on the system where *HP Network Node Manager i Software 9.00* is installed

Installing the NNMi Extension for iSPI Performance for Traffic

To install NNMi Extension for iSPI Performance for Traffic, follow these steps:

- 1 Log on to the Windows Management Server with administrative privileges.
- 2 Insert the iSPI Performance for Traffic DVD.
 - If you are installing on a Windows management system, go to `Traffic_NNM_Extension/WinNT` folder inside the DVD and double-click the `setup.bat` file.
 - If you are installing on a Linux management system, go to `Traffic_NNM_Extension/Linux` folder inside the DVD and double-click the `setup` file.
 - If you are installing on a HP-UX management system, go to `Traffic_NNM_Extension/HPUX` folder inside the DVD and double-click the `setup.bin` file.
 - If you are installing on a Solaris management system, go to `Traffic_NNM_Extension/SunOS` folder inside the DVD and double-click the `setup.bin` file.
- 3 The installation Wizard screen opens.
Click **Next**, as appropriate during the installation process.
- 4 The Application Requirements Warning screen opens. The Installer checks and lists the non-compatible applications pre-installed in the system.
- 5 Click **Continue**. The Welcome screen opens.
- 6 In the License Agreement screen, select the **I accept** option.
- 7 The Feature selection screen opens. All the listed features are selected by default.

- 8 The Installer checks for the minimum disk space during installation.
- 9 After the check is complete, click **Next**. The Pre-installation summary screen opens.
- 10 Review the options, and click **Install**. The Configuration dialog box opens.
- 11 You must specify the information required by the Installer.

In the dialog box, specify the values:

- NNMi Password: specify the password for `system` user of NNMi.
- Retype Password: retype the password for confirmation.
- NNMi FQDN: specify the fully-qualified domain name of the NNMi management server. You can find out the fully-qualified domain name of the NNMi server in the *Management Server* section of the *About HP Node Manager i-suite* window. Launch the *About HP Network Node Manager* window by clicking **Help> About HP Network Node Manager i-suite** from the NNMi console.
- NNMi JNDI Port: specify the Java Naming and Directory Interface (JNDI) port configured with NNMi. (Default: 1099). To verify the NNMi JNDI port number, open the `nm.ports.properties` file from the `%NnmDataDir%\shared\nnm\conf` directory, and then see the value specified for `jboss.jnp.port`.
- Traffic Master FQDN: specify the fully qualified domain name of the system where you install the iSPI Performance for Traffic Master Collector.

- 12 Click **OK**.

The Install Complete Screen opens.

- 13 Click **Done**.



You must restart NNMi jboss process after installing the NNMi extension for iSPI Performance for Traffic. Ensure that no traffic processes are running while performing this operation.

You can restart NNMi's jboss process by running the following commands:

- `ovstop -c ovjboss`
- `ovstart -c ovjboss`

Uninstalling the NNMi Extension for iSPI Performance of Traffic

To remove the NNMi Extension for iSPI Performance for Traffic, follow these steps:

- 1 In the root directory, go to `%TrafficInstallDir%\Uninstall\HPOvTENM` folder.
- 2 Click `Setup.exe`. The Application Maintenance screen opens. Select Un-install option.
- 3 Click **Next**. The Pre-uninstall summary screen opens.
- 4 Click **Un-install**. The Maintenance Selection window opens.
- 5 The Configuration dialog box opens. You must specify the following information:
 - NNMi User Password: Specify the password for `system` user of NNMi.
 - Retype Password: retype the password for confirmation.

- NNMI FQDN: specify the fully-qualified domain name of the NNMI management server. You can find out the fully-qualified domain name of the NNMI server in the *Management Server* section of the *About HP Node Manager i-suite window*. Launch the *About HP Network Node Manager* window by clicking **Help> About HP Network Node Manager i-suite Software** from the NNMI console.
 - NNMI JNDI Port: specify the Java Naming and Directory Interface (JNDI) port configured with NNMI. (Default: 1099). To verify the NNMI JNDI port number, open the `nnm.ports.properties` file from the `%NnmDataDir%\shared\nnm\conf` directory, and then see the value specified for `jboss.jnp.port`.
- 6 The un-installation screen opens, and the un-installation process starts.
 - 7 Click **Done**, when the un-installation is complete.

5 Installing iSPI Performance for Traffic Master Collector

The iSPI Performance for Traffic Master Collector adds contextual fields to the IP flow records to provide clarity to the obtained data. The iSPI Performance for Traffic Master Collector can be installed in either one of the following scenarios:

- Installing Master Collector on a system with NNMi installed
- Installing Master Collector on a system without NNMi installed

► There can be only one instance of a Master Collector in a deployment of iSPI Performance for Traffic.

Installing Master Collector On a System with NNMi

Skip this if you are planning to install the Master Collector on a system different from the NNMi system. The following section applies to installations on all the supported platforms. Platform specific information is provided in the same section.

Run the following script prior to installing the iSPI Performance for Traffic Master Collector:

Run `nnmenableperfspi.ovpl` on NNMi system

If iSPI Performance for Metrics and NNMi are not installed on the same system, you must ensure that the `%NNMInstalldir%\bin\nnmenableperfspi.ovpl` command is run on the NNMi system.

For more information on `nnmenableperfspi.ovpl` command, see *HP NNM Network Performance Server Installation Guide*.

► If you have set up NNMi application failover environment, you must run `%NNMInstalldir%\bin\nnmenableperfspi.ovpl` command on both primary and secondary NNMi systems.

Installation

To install NNM iSPI Performance for Traffic Master Collector on a NNMi installed system, follow these steps:

- 1 Log on to the required Management Server with administrative privileges.
- 2 Insert the iSPI Performance for Traffic installation DVD.
- 3 In the `Traffic_Master` root directory:
 - If you are installing on a Windows management system, go to `Traffic_Master` folder inside the DVD and double-click the `setup.bat` file

- If you are installing on a Linux management system, go to Traffic_Master folder inside the DVD and double-click the `setup` file.

The Welcome screen opens.

- 4 Click **Next** as appropriate during the installation process in the installation wizard screen
- 5 In the License Agreement screen, select the **I accept** option.

- 6 The Application Requirements Warning screen opens. The Installer checks and lists the non-compatible applications pre-installed in the system.

The Feature selection screen opens. All the listed features are selected by default.

The Installer checks for the minimum disk space during installation.

- 7 After the check is complete, click **Next**. The Pre-installation summary screen opens.

- 8 Review the options, and click **Install**. The Database Selection dialog box opens.



You can select **Force repair...** if the previous installation process was not successful. All the packages are re-installed again.

- 9 Select the required options from the Database selection dialog box. Possible values are:

- **Yes:** To use an embedded database.
- **No:** To use the Oracle database



Applicable for Oracle only.

You must note down the following details of the NNMi database:

- **Type:** The default embedded database or Oracle.
- **Port:** Only for Oracle. The port used by the Oracle database.
- **Hostname:** Only for Oracle. This is applicable when you use an Oracle database residing on a remote server. Note down the fully-qualified domain name of the database server.
- **Database name:** Only for Oracle. Name of the Oracle database instance.
- **User name:** Only for Oracle. The Oracle user name created to access NNMi data.
- **Password:** Only for Oracle. Password of the above user.

With the iSPI for Traffic Master Collector, you must use a unique Oracle instance, and not the Oracle instance configured with NNMi. Before you create a unique Oracle instance for the iSPI, refer to the Database Installation section in the HP Network Node Manager i-series Software Installation Guide for additional details. If you are using a unique Oracle instance, note down the aforementioned details for this instance as well.

Skip this step if you choose to use the embedded database. In the ORACLE DB Configuration for iSPI for Traffic dialog box, follow these steps:

- 1 Specify the following details:

- Database server name: The fully-qualified domain name of the Oracle server.
- Database port: The Oracle port number
- Database name: Name of the Oracle instance that you want to use with the iSPI for IP Telephony.
- Username: User name to access the Oracle database instance.
- Password: Password for the above user.

- 2 Click **OK**.

- 10 You must specify the information related to the NNMi Server in your deployment.

The values of the following fields gets inherited from the configuration details of NNMi:

- NNMi FQDN
 - NNMi HTTP Port
 - NNMi HTTPS Port
 - NNMi JNDI Port
 - NNMi User name
 - NNMi User Password
 - Retype Password
 - Perf SPI data path: This should refer to the local directory <NNMDataDir>/shared/perfSpi/datafiles
 - Master collector User Password: Type the password for the master collector.
 - Re-type the password for confirmation
- 11 Select the **Is Secure?** check-box, if NNMi is configured using a secure port.
 - 12 Select the **NNMi failover Configured?** check-box, if NNMi failover is configured in your deployment and specify the details of the secondary NNMi Server.
 - 13 Specify the information of iSPI Performance for Traffic Master Collector:
Traffic FQDN: specify the fully qualified domain name of the system in which you are installing iSPI Performance for Traffic Master Collector.
 - 14 Type the password, and re-type the password for confirmation. Click **OK**. The Post-installation screen opens.
 - 15 Click **OK**. The Install Complete Screen opens.
 - 16 Click **Done**.

Post Installation Task

If you are installing Master Collector with Network Performance Server in the same system, you must stop any running instance of Network Performance Server, before starting the Master Collector. After starting the Master Collector, you can initiate the Network Performance Server.



You can refer to Network Performance Server documentation to know how to stop and start the processes.

Starting iSPI Performance of Traffic Master Collector

Ensure that NNMi processes are started before starting the Master Collector.

To start the Master Collector:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstart.ovpl
```

This command initiates the Master Collector.

Verifying iSPI Performance of Traffic Master Collector Installation

To verify the Master Collector installation, follow this step:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstatus.ovpl
```

Ensure the Master Collector is in running status.

Stopping iSPI Performance of Traffic Master Collector

To stop the Master Collector:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstop.ovpl
```

This command stops the Master Collector.



If the Master Collector is installed on a system where NNMi is installed, ensure that the master collector is stopped before doing an ovstop -c.

Installing Master Collector On a System without NNMi

Skip this step if you are planning to install the Master Collector on the NNMi system.

Perform the following prior to installing the iSPI Performance for Traffic Master Collector

Share for iSPI Performance data directory

If you are installing iSPI Performance for Traffic Master Collector on a system that does not have NNMi installed, you must ensure that the <NNMDataDir>/shared/perfSpi/datafiles folder is available as a network share location. The section below details the steps to ensure this.

Windows Deployment

iSPI Performance for Metrics is installed on a system where NNMi is not installed

Use the following command to enable the network share. Typically this will be done for the iSPI Performance for Metrics installation itself.

Run the %NNMInstallDir%/bin/nnmenableperfspi.ovpl command. You have to enter details about the iSPI Performance for Metrics system as well as a username/password which will be used to access the share. Please ensure that the user with the same username/password is present on the system where the Master collector is being installed. The share will be visible and writeable on the master collector system as \\<NNMi host name>\PerfSpi

iSPI Performance for Metrics is installed on a system where NNMi is installed

If NNMi and iSPI Performance for Metrics are installed on the same system and the iSPI Performance for Traffic Master collector is installed on a different system, you must manually set up a share named PerfSpi for the following directory on the NNMi system:

```
%NnmDataDir%\shared\perfSpi\datafiles
```

Use Windows sharing procedure to network share this directory and provide the name of the share as PerfSpi. The share must be given write permission for a user of the Administrator group. Please ensure that the user with the same username/password is present on the machine where the Master collector is being installed. The share should be visible and writeable on the master collector system as \\<NNMi host name>\PerfSpi.

Linux Deployment

iSPI for Performance Metrics and iSPI for Performance Traffic are installed on the same system, but NNMi is installed on a different system

Use the following command to enable the network share. Typically this will be done for the iSPI for Performance Metrics installation itself.

Run the %NNMInstallDir%\bin\nnmenableperfspi.ovpl command. You have to enter details about the iSPI for Performance Metrics machine as well as a username/password which will be used to access the share. The share should be visible and writeable on the master collector system as a network shared

iSPI for Performance Metrics and iSPI for Performance Traffic are not installed on the same system, and NNMi is installed on a different system

Use Linux sharing procedure to export the directory on the NNMi system as a network share. This is typically done by adding an entry in the /etc/exports file as follows:

```
/$NNMDataDir/shared/perfSpi/datafiles <your IP address> (rw, sync) and then  
doing an export fs -a. For more information, see Linux sharing documentation.
```

The share should be visible and writeable on the master collector system as a network shared drive.

- ▶ If you have set up NNMi application failover environment on both primary and secondary NNMi systems or you are installing the Master collector to work with an NNMi system in HA environment, you must set up a Windows shared folder named PerfSPI in the following directory location:

```
%NnmDataDir%\shared\perfSPI\datafiles
```

Verify Access to iSPI Performance shared data directory

Ensure that the shared PerfSpi directory is available as a network share on the system where iSPI for Traffic Master collector is installed. Verify that the user performing the install has write access to that shared directory.


- ▶ You can run the %NNMInstallDir%\bin\nnmdisableperfspi.ovpl command on NNMi system, only when you want to remove both Network Performance Server as well as iSPI Performance for Traffic from the deployment.
- ▶ You must not run un-installer software for Network Performance Server on NNMi system if iSPI Performance for Traffic is still installed on the system in your deployment environment.

Installation

To install NNM iSPI Performance for Traffic Master Collector on a NNMi installed system, follow these steps:

- 1 Log on to the required Management Server with administrative privileges.
- 2 Insert the iSPI Performance for Traffic installation DVD.
- 3 In the Traffic_Master root directory:
 - If you are installing on a Windows management system, go to Traffic_Master folder inside the DVD and double-click the setup.bat file
 - If you are installing on a Linux management system, go to Traffic_Master folder inside the DVD and double-click the setup file.

The Welcome screen opens.

- 4 Click **Next**, as appropriate during the installation process in the installation wizard screen.
 - 5 In the License Agreement screen, select the **I accept** option.
 - 6 The Application Requirements Warning screen opens. The Installer checks and lists the non-compatible applications pre-installed in the system.
 - 7 The Feature selection screen opens. All the listed features are selected by default. The Installer checks for the minimum disk space during installation.
 - 8 After the check is complete, click **Next**. The Pre-installation summary screen opens.
 - 9 Review the options, and click **Install**. The Database Selection dialog box opens.
-  You can select **Force repair...**, if the previous installation process was not successful. All the packages are re-installed again.
- 10 Select the required options from the Database selection dialog box. Possible values are:
 - **Yes:** To use an embedded database.

- **No:** To use the Oracle database.



Applicable for Oracle only.

You must note down the following details of the NNMi database:

- **Type:** The default embedded database or Oracle.
- **Port:** Only for Oracle. The port used by the Oracle database.
- **Hostname:** Only for Oracle. This is applicable when you use an Oracle database residing on a remote server. Note down the fully-qualified domain name of the database server.
- **Database name:** Only for Oracle. Name of the Oracle database instance.
- **User name:** Only for Oracle. The Oracle user name created to access NNMi data.
- **Password:** Only for Oracle. Password of the above user.

With the iSPI for Traffic Master Collector, you must use a unique Oracle instance, and not the Oracle instance configured with NNMi. Before you create a unique Oracle instance for the iSPI, refer to the Database Installation section in the HP Network Node Manager i-series Software Installation Guide for additional details. If you are using a unique Oracle instance, note down the aforementioned details for this instance as well.

Skip this step if you choose to use the embedded database. In the ORACLE DB Configuration for iSPI for Traffic dialog box, follow these steps:

- 1 Specify the following details:
 - Database server name: The fully-qualified domain name of the Oracle server.
 - Database port: The Oracle port number
 - Database name: Name of the Oracle instance that you want to use with the iSPI for IP Telephony.
 - Username: User name to access the Oracle database instance.
 - Password: Password for the above user.

- 2 Click **OK**.

- 11 You must specify the information related to the NNMi Server in your deployment.

In the dialog box, specify the values configured with NNMi:

- **NNMi FQDN:** Type the fully-qualified domain name of the NNMi management server. You can find out the fully-qualified domain name of the NNMi server in the Management Server section of the About HP Node Manager i-suite window. Launch the About HP Network Node Manager window by clicking Help> About HP Network Node Manager i-suite Software from the NNMi console.
- **NNMi HTTP Port:** Type the port configured with NNMi, (default:80). To verify the NNMi HTTP port number, open the `nnm.ports.properties` file from the `%NnmDataDir%/shared\nnm\conf` directory, and then specify the values for `jboss.http.port`.
- **NNMi HTTPS Port:** Type the port configured with NNMi,
- **NNMi JNDI Port:** Type the Java Naming and Directory Interface (JNDI) port configured with NNMi. (Default: 1099). To verify the NNMi JNDI port number, open the `nnm.ports.properties` file from the `%NnmDataDir%\shared\nnm\conf` directory, and then see the value specified for `jboss.jnp.port`.
- **NNMi User name:** Type the NNMi Web service Client username.
- **NNMi User Password:** Type the password for the above user.
- **Retype Password:** Retype the password.

- Perf SPI data path: Type the path of the network share drive that has been configured on the NNMi system for the <NNMDataDir>/shared/perfSpi/datafiles folder
 - Type the password for the master collector.
 - Re-type the password, for confirmation.
- 12 Select the **Is Secure?** check-box, if NNMi is configured using a secure port. If this is set to run in secure mode the following step needs to be performed:
 - 13 Only if Is Secure is set to true: Create a directory%OvDataDir%/shared/nnm/certificates. Copy the keystore files from the NNMi machine that are located in %OvDataDir%/shared/nnm/certificates to the %OvDataDir%/shared/nnm/certificates location in the master collector machine.
 - 14 Select the **NNMi failover Configured?** check-box, if NNMi failover is configured in your deployment and specify the details of the secondary NNMi Server.
 - 15 Specify the information of iSPI Performance for Traffic Master Collector:
 - 16 Traffic FQDN: specify the fully qualified domain name of the system in which you are installing iSPI Performance for Traffic Master Collector.
 - 17 Type the password, and re-type the password again for confirmation. Click OK. The Post-installation screen opens.
 - 18 Click **OK**. The Install Complete Screen opens.
 - 19 Click **Done**.

Post Installation Task

On Windows Management Server

When Traffic Master is installed on a system where NNMi is not installed, the user must mandatorily run the script nmstrafficmastersetuser.ovpl. Master startup fails if the script is not run.

The script performs the following:

- 1 Create a user (if required)
- 2 Set password to never expire
- 3 Add user to the Administrators group
- 4 Add user name to the local policy ServiceLogonRight

Following mandatory options must be:

- Username: An existing user or the new user on whose logon the NNM iSPI Performance for Traffic Master is started
- Password: Password of the existing user or new user.



Ensure that the name and password of the user matches exactly with those given while doing the network share for the PerfSpi folder on the NNMi system.

If you are installing Master Collector with Network Performance Server in the same system, you must stop any running instance of Network Performance Server, before starting the Master Collector. After starting the Master Collector, you can initiate the Network Performance ServerFor more information on how to start and stop network Performance Server, refer the Network Performance Server documentation.

Starting iSPI Performance of Traffic Master Collector

Ensure that NNMi processes are started before starting the Master Collector.

To start the Master Collector:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstart.ovpl
```

This command initiates the Master Collector.

Verifying iSPI Performance of Traffic Master Collector Installation

To verify the Master Collector installation, follow this step:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstatus.ovpl
```

Ensure the Master Collector is in running status.

Stopping iSPI Performance of Traffic Master Collector

To stop the Master Collector:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstop.ovpl
```

This command stops the Master Collector.



If the Master Collector is installed on a system where NNMi is installed, ensure that the master collector is stopped before doing an ovstop -c.

Removing the Master Collector

To remove the Master Collector, follow these steps:

- 1 In the root directory, go to %TrafficInstallDir%\Uninstall\HPOvTRMiSPI folder.
- 2 Click the following file to open the Application Maintenance screen. Select **Un-install** option.
 - If you are uninstalling on a Windows management system, go to Traffic_Master folder inside the DVD and double-click the `setup.bat` file
 - If you are uninstalling on a Linux management system, go to Traffic_Master folder inside the DVD and double-click the `setup` file.
- 3 Click **Next**. The Pre-uninstall summary screen opens.
- 4 Click **Un-install**. The Maintenance Selection window opens.
- 5 Select **Un-install** option.

The Un-installation screen opens, and the un-installation process initiates.
- 6 After completing the un-installation, click **Done**.

Removing the Traffic Report extension pack from Network Performance Server

The iSPI Performance for Traffic Report extension pack must be manually uninstalled when the master collector is uninstalled.

To manually uninstall the iSPI Performance for Traffic Report Extension Pack:

- 1 Log on to the system where Network Performance Server is running.
- 2 Go to the directory `%InstallDir%/NNMPerformanceSPI/bin`
- 3 Ensure that all processes are running by using the command `statusALL.ovpl`
- 4 Uninstall the iSPI Performance for Traffic Report extension pack by running the following command:

```
uninstallExtensionPack.ovpl -p Interface_Traffic
```


6 Installing iSPI Performance for Traffic Leaf Collector

The iSPI Performance for Traffic Configuration Form allows you to configure multiple Leaf Collector instances that are deployed on the NNMi network. The Leaf Collector reduces the network traffic by summarizing the IP flow records at smaller time resolution. The required IP flow attributes can be selected to aggregate the IP flow records.

The different deployment scenarios for NNMi iSPI Performance for Traffic Leaf Collector installation are:

- System with NNMi installed
- System without NNMi installed
- System with only iSPI Performance for Traffic Master collector installed
- System without NNMi or iSPI Performance for Traffic Master collector installed
- System with NNMi and iSPI Performance for Traffic Master collector installed



There can be multiple instances of Leaf Collectors in a deployment of iSPI Performance for Traffic. In this case all the instances must be installed on systems different from the system where iSPI Performance for Traffic Master collector is installed.

If you have installations of iSPI Performance for Traffic Leaf collectors on multiple systems then you should not install iSPI Performance for Traffic Leaf collector on the same system as iSPI Performance for Traffic Master collector.

If the iSPI Performance for Traffic Leaf Collector is installed on the same system as the iSPI Performance for Traffic Master collector, then only this instance can be used for operation.

Installation

To install iSPI Performance for Traffic Leaf Collector, follow these steps:

- 1 Log on to the Windows Management Server with administrative privileges.
- 2 Insert the iSPI Performance for Traffic installation DVD.
- 3 Perform the following:
 - If you are installing on a Windows management system, go to `Traffic_Leaf` folder inside the DVD and double-click the `setup.bat` file
 - If you are installing on a Linux management system, go to `Traffic_Leaf` folder inside the DVD and double-click the `setup` file.

The Welcome screen opens.

- 4 Click **Next**, as appropriate during the installation process in the installation wizard screen.
- 5 In the License Agreement screen, select the **I accept** option.
- 6 The Application Requirements Warning screen opens. The Installer checks and lists the non-compatible applications pre-installed in the system.

- 7 The Feature selection screen opens. All the listed features are selected by default.
- 8 The Installer checks for the minimum disk space during installation.
- 9 After the check is complete, click **Next**. The Pre-installation summary screen opens.
- 10 Review the options, and click **Install**. You can select **Force repair...** option, if there is failure in previous installation process.
- 11 The database selection dialog box appears.
- 12 Select the required options from the Database selection dialog box. Possible values are:
 - **Yes:** To use an embedded database.
 - **No:** To use the Oracle database



Applicable for Oracle only.

You must note down the following details of the NNMi database:

- **Type:** The default embedded database or Oracle.
- **Port:** Only for Oracle. The port used by the Oracle database.
- **Hostname:** Only for Oracle. This is applicable when you use an Oracle database residing on a remote server. Note down the fully-qualified domain name of the database server.
- **Database name:** Only for Oracle. Name of the Oracle database instance.
- **User name:** Only for Oracle. The Oracle user name created to access NNMi data.
- **Password:** Only for Oracle. Password of the above user.

With the iSPI for Traffic Master Collector, you must use a unique Oracle instance, and not the Oracle instance configured with NNMi. Before you create a unique Oracle instance for the iSPI, refer to the Database Installation section in the HP Network Node Manager i-series Software Installation Guide for additional details. If you are using a unique Oracle instance, note down the aforementioned details for this instance as well.

Skip this step if you choose to use the embedded database. In the ORACLE DB Configuration for iSPI for Traffic dialog box, follow these steps:

- Specify the following details:
 - **Database server name:** The fully-qualified domain name of the Oracle server.
 - **Database port:** The Oracle port number
 - **Database name:** Name of the Oracle instance that you want to use with the iSPI for IP Telephony.
 - **Username:** User name to access the Oracle database instance.
 - **Password:** Password for the above user.
- Click **OK**.

- 13 Type the Traffic Leaf Fully Qualified Domain name. .



- If you are installing iSPI Performance for Traffic Leaf Collector on a NNMi installed system:
 - The Inform dialog box opens with a prompt message to check whether the nmsdbmng service is up and running.
 - To check whether nmsdbmng is running, type the following command in the command prompt:

```
%NnmInstallDir%\bin\ovstatus -c nmsdbmng
```

- 14 Type the password for the iSPI Performance for Traffic Leaf collector `system` user, and re-type the password again for confirmation. Click **OK**. The Post-installation screen opens.



You must provide the password of the 'system' user for iSPI Performance for Traffic Leaf installation. Note down this password as the same password must be entered while configuring a Leaf Container in order to add a Leaf Collector for this system.

- 15 Type the unique integer ID (2-255) for the Leaf Collector being installed.
- 16 Click **OK**. The Install Complete Screen opens.
- 17 Click **Done**.

Starting the iSPI Performance for Traffic Leaf Collector

To start the iSPI Performance for Traffic Leaf Collector, follow this step:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-Leaf\bin\nmstrafficleafstart.ovpl
```

This command initiates the iSPI Performance for Traffic Leaf Collector.

Start iSPI Performance of Traffic Leaf Collector

To start the iSPI Performance of Traffic Leaf Collector, type the following command in the command prompt:

```
%TrafficInstallDir%\nonOV\traffic-Leaf\bin\nmstrafficleafstart.ovpl
```

Verifying the Leaf Collector Installation

To verify the Leaf Collector installation, follow this step:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-Leaf\bin\nmstrafficleafstatus.ovpl
```

Ensure the Leaf Collector is in running status.

Stopping iSPI Performance of Traffic Leaf Collector

To stop the Leaf Collector:

In the command prompt, type the following command:

```
%TrafficInstallDir%\nonOV\traffic-leaf\bin\nmstrafficmasterstop.ovpl
```

This command stops the Leaf Collector.



If the Leaf Collector is installed on a system where NNMi is installed, ensure that the leaf collector is stopped before doing an `ovstop -c`.

Removing the iSPI Performance for Traffic Leaf Collector

To remove the Leaf Collector, follow these steps:

- 1 In the root directory, go to %TrafficInstallDir%\Uninstall\HPOvTRLiSPI folder.
- 2 Click `Setup.exe`. The Application Maintenance screen opens. Select Un-install option.
- 3 Click **Next**. The Pre-uninstall summary screen opens.
- 4 Click **Un-install**. The Maintenance Selection window opens.
- 5 Select **Un-install** option.
 - ▶ If iSPI Performance for Traffic is installed on a system that does not have NNMI pre-installed on it, the Command prompt opens automatically.
 - Type the postgres user password, that is used during the installation of iSPI Performance for Traffic Leaf Collector.
- 6 The Un-installation screen opens, and the un-installation process initiates.
- 7 After completing the un-installation, click **Done**.

7 Tuning Parameters

iSPI Performance for Traffic allows you to tune the following configurable parameters to make the software handle the scalability needs of your deployment.

`nms.traffic.master.maxflowrecord.inqueue`

If the incoming rate of flow records from the iSPI Performance for Traffic Leaf collector becomes high for a short time, the iSPI Performance for Traffic Master Collector may drop the flow records.

The `nms.traffic.master.maxflowrecord.inqueue` parameter controls the number of aggregated flow records the Master Collector can keep in the memory space.

You must increase the default value of the `nms.traffic.master.maxflowrecord.inqueue` parameter to increase the queue size of the iSPI Performance for Traffic Master Collector.

- ▶ You must increase the memory space capacity of the `nms.traffic.master.maxflowrecord.inqueue` parameter and the iSPI Performance for Traffic Master Collector, if the iSPI Performance for Traffic Master Collector fails to process the in-coming flow records.

File name: `nms-traffic-master.adress.properties`.

File location: `< %TrafficDataDir%\shared\traffic-master\conf >`

`flowrecord.pool.size`

The average of the number of flow records being exported to the iSPI Performance for Traffic Master Collector by the iSPI Performance for Traffic Leaf Collector, must be set to at least three times more in the configurable parameter.

This ensures that the iSPI Performance for Traffic Leaf Collector can process all the records correctly. You can use the `flowrecord.pool.size` parameter to set the value.

The `flowrecord.pool.size` parameter must be set to at least three times the maximum number of flow records that is exported to the Master Collector during the flush interval.

- ▶ You must increase the memory space capacity of the `flowrecord.pool.size` parameter and the iSPI Performance for Traffic Leaf Collector, if the iSPI Performance for Traffic Leaf Collector fails to export the in-coming flow records.

The `flowrecord.pool.size` parameter must be set to at least three times the maximum number of flow records that is exported to the Master Collector during the flush interval.

File name: `nms-traffic-leaf.adress.properties`.

File location: `< %TrafficDataDir%\shared\traffic-leaf\conf >`

datagram.pool.size

The `datagram.pool.size` parameter must be set to at least three times the maximum incoming IP flow packets per second to the leaf collector. The default value is 50,000 packets.

File name: `nms-traffic-leaf.adress.properties`.

File location: `< %TrafficDataDir%\shared\traffic-leaf\conf >`

- ▶ Adequate memory space must be available to accommodate the increase in configurable parameters.

8 Starting the iSPI Performance for Traffic Software

After you complete the installation of the iSPI Performance for Traffic software in your NNMi environment, you can start monitoring your network traffic with the combination of NNMi and Network Performance Server.

Configuration of routers or switches for exporting IP flow data

Each iSPI Performance for Traffic Leaf Collector must be configured to listen on a certain IP address and port to receive the IP flow packets. Make sure that the routers or switches that exports Netflow or Sflow data meets the following conditions:

- The routers or switches are seeded as nodes in the HP NNMi instance and are discovered correctly.
- The routers or switches are configured to export netflow or sflow packets to the IP address and port of configured iSPI Performance for Traffic Leaf Collectors.

You can also refer to the following link for more information about configuring export of flow data for Netflow :

http://www.cisco.com/en/US/docs/ios/12_1/switch/configuration/guide/xcdnfc.html

You can refer to vendor documentation for configuration of Sflow and Netflow on specific routers and switches.

Accessing the iSPI Performance for Traffic Software Configuration

To access the iSPI for Traffic Software Configuration UI application, follow these steps:

- 1 Launch the NNMi Console.
- 2 Log on to the NNMi Console with one of the following user roles:
 - Administrator
 - Operator Level 1
 - Operator Level 2
 - Guest
- 3 In the Configuration pane, click **Traffic iSPI Configuration**. The Traffic iSPI Configuration login window opens.
- 4 Type the username and the password, that was used during the Master Collector installation. The Traffic iSPI Configuration home page opens.

Accessing the iSPI Performance for Traffic Software Documents

To access the iSPI for Traffic Software documents, follow these steps:

- 1 Launch the NNMi Console.
- 2 Log onto the NNMi Console.
- 3 Click Help > NNM iSPI Documentation Library.

9 Installing NNM iSPI for Traffic in a High-Availability Cluster Environment

You can install NNMi in a high-availability (HA) environment to achieve redundancy in your monitoring setup. You can install the iSPI product in an HA environment where NNMi has been installed.

Prerequisites

Before you begin the installation for the HA environment, read the *Configuring HP NNM i-series Software in a High Availability Cluster* in the NNMi Deployment and Migration Guide to understand the NNMi HA configuration.

iSPI for Traffic 9.0 does not support High Availability itself, i.e. it is not configured to support failover in an HA cluster. However, it can exist in an environment where NNMi and NPS are installed in HA mode. The deployment configuration supported in this case are:

Configuration 1

NNMi on Server A in an HA environment; NPS, Master, Leafs on separate system(s) not in an HA environment

Configuration 2

NNMi on Server A in an HA environment; NPS on Server B in an HA environment; Master, Leafs on separate systems not in an HA environment

Configuration 3

NNMi and NPS on Server A in an HA environment; Master, Leafs on separate systems not in an HA environment

In all the three cases the iSPI for Traffic Master and Leaf Collectors have to be non-co-located with the HA systems. Please refer to the Master Collector Installation Guide for details on non-co-located installs. The Traffic Master Extension for NNMi needs to be installed on both the HA systems. iSPI for Traffic Licenses must be installed on both the HA systems. Traffic Master configuration, the Master collector needs to be configured to point to the HA NNMi system for both the NNMi instance (the virtual hostname should be provided) and also the network share drive where the perfSpi datafiles folder on the HA system is shared.

Installing in an Application Failover Environment

NNM iSPI Performance for Traffic 9.00 does not support High Availability itself, i.e. it is not configured to support failover in an application failover case. However, it can exist in an environment where NNMi and NPS are installed in HA mode. The deployment configuration supported in this case are:

NNMi in an app failover environment - installed as a primary and secondary instances on two separate systems. The iSPI for Traffic Master and Leaf collectors installed on separate non-co-located systems. Only one instance of a Master Collector will be running in this case. The Traffic Master Extension for NNMi needs to be installed on both the primary and secondary systems. iSPI for Traffic Licenses must be installed on both the systems.

Please refer to the Master Collector Installation Guide for details on non-co-located installs. Traffic Master configuration, the Master collector needs to be configured to point to the primary and secondary NNMi systems and also the network share drives where the perfSpi datafiles folder on the two NNMi systems. Please refer to the Master Collector Installation Guide for details on configuring secondary NNMi server.

10 Upgrade NNM iSPI Performance for Traffic 8.13 to 9.00

You can upgrade the NNM iSPI Performance for Traffic 8.13 to version 9.00 as per your requirement. Upgrade scenario is valid only on Windows platform with Postgres.

To upgrade NNM iSPI Performance for Traffic 8.13 to 9.00, perform the following:

- 1 Stop all leaf collectors. Keep a record of all the machines which had leaf collectors installed.
- 2 Go to machine which hosts the master collector.
- 3 Stop the master collector.
- 4 Check that postgres is still running.
- 5 Create a backup directory for example `C:\backup`.
- 6 Run the script `premigration.bat <OvInstallDir> <OvDataDir> <BackupDir>` For example, `premigration.bat "C:\Program Files(x86)\HP\HP BTO Software" C:\NNMData C:\backup`
- 7 Uninstall all iSPI for Traffic 8.13 leaf collectors.
- 8 Uninstall iSPI for Traffic 8.13 master collector.
- 9 Uninstall the iSPI for Traffic NNM Extension.
- 10 Upgrade NNMi from 8.13 to 9.00.
- 11 Upgrade NPS from 8.13 to 9.00.
- 12 Install the iSPI for Traffic NNM Extension 9.00 on the upgraded NNMi machine
- 13 Install iSPI for Traffic Leaf Collector 9.0 on all the machines which had leaf collector installed.
- 14 Go to machine which hosted the Master Collector in 8.13.
- 15 Install iSPI for Traffic Master collector version 9.00.
- 16 Ensure that `nmsdbmgr` service is running on the machine where iSPI for Traffic Master collector version 9.0 is installed.
- 17 Run the script `postmigration.bat <OvInstallDir> <OvDataDir> <BackupDir>`

11 Troubleshooting Installation

This chapter lists the trouble scenarios that you may encounter during installation of iSPI Performance for Traffic software and tips to resolve these issues.

Installing the iSPI Performance for Traffic

Problem Statement: An error occurs during iSPI Performance for Traffic Master Collector or Leaf Collector installation

Cause: A failure in any or all of the iSPI Performance for Traffic installer tasks can lead to the display of the error message. The iSPI Performance for Traffic installer performs the following tasks:

- Encryption of user password
- Creating a postgres User
- Changing the permissions of `%TrafficInstall%\nonOV\postgres\bin` and `%TrafficDataDir%\postgres` directories

Solution:

Make sure that you are running iSPI Performance for Traffic installer with administrative privileges. You must also ensure that the user account belongs to the group name Administrator.

Problem Statement: A warning message appears during the copying of `Interface_Traffic.tar.gz` file to the target directory during the iSPI Performance for Traffic Master Collector installation.

If you come across a warning message while installer copies the file from `%TrafficInstallDir%\conf\traffic-<master-leaf>\Interface_Traffic.tar.gz` to `%perfspidatapath%\extension\final\Interface_Traffic.tar.gz`, the copy operation fails.

Cause:

The target directory does not have adequate write access permissions for the user to copy the files.

Solution:

You must perform a manual copy of the `Interface_Traffic.tar.gz` file to the target directory.

Starting the iSPI Performance for Traffic

Problem Statement: Not able to start `nmsdbmgr` on Windows Management Server

Solution: This may happen occasionally if the traffic processes (master or leaf collector) were running when `ovstop -c` was issued. Go to Task Manager, search for `nmsdbmgr.exe` and manually end the process. Ensure that traffic processes are not running. Restart NNMI after this operation.

Problem Statement: The iSPI Performance for Traffic Leaf Collector does not start.

Cause can be any one of the following:

- Starting iSPI Performance for Traffic Leaf Collector with user account that does not belong to Administrator group.
- The iSPI Performance for Traffic Leaf Collector ports have already been used
- Running instances of Network Performance Server on the system

Solution:

- The default iSPI Performance for Traffic Leaf Collector ports are available in `%TRAFFIC_LEAF_CONF%\nms-traffic-leaf.ports.properties` file. You can check the file, and make sure the default ports are available.
- Check the `%TRAFFIC_LEAF_LOG%\jbossServer.log` to see if there was any problem in starting the iSPI Performance for Traffic Leaf Collector. You can also look for following message: `Bind Exception: Port is in use` in the log file to identify if the used port numbers are causing an issue.
- If NNMI is not installed on the same system where the iSPI Performance for Traffic Leaf Collector is installed, check if postgres is running.

On Windows systems, check the Windows Task Manager and make sure that 'postgres.exe' is running. If you do not find the running process of 'postgres.exe', you can start the iSPI Performance of Traffic Leaf Collector again.

On Linux systems you can run `'ps -aef | grep postgres'`. If no postgres install is running, follow the steps given.

- Shutdown traffic-leaf processes.
- Start postgres manually by running the command: `/etc/init.d/HPSwNnmiSPIPgSql start`
- Start traffic-leaf process
- If the Network Performance Server is installed on the same system where you have installed the iSPI Performance for Traffic Leaf Collector, stop any running instances of Network Performance Server. You can restart the Network Performance Server instances, after starting the iSPI Performance for Traffic Leaf Collector.

Problem Statement: The iSPI Performance for Traffic Master Collector does not start.

Cause can be any one of the following:

- Starting iSPI Performance for Traffic Master Collector with user account that does not belong to Administrator group.
- The iSPI Performance for Traffic Master Collector ports have already been used

- Running instances of Network Performance Server on the system

Solution:

- The default iSPI Performance for Traffic Master Collector ports are available in `%TRAFFIC_MASTER_CONF%\nms-traffic-master.ports.properties` file. You can check the file, and make sure if the default ports are available.
- Check the log files for the iSPI Performance for Traffic Master Collector `%TRAFFIC_MASTER_LOG%\jbossServer.log` to see if there was any problem in starting the iSPI Performance for Traffic Master Collector. You can also look for following message: `Bind Exception: Port is in use` in the log file to identify if the used port numbers are causing an issue.
- If NNMi is not installed on the same system where the iSPI Performance for Traffic Leaf Collector is installed, check if postgres is running.

On Windows systems, check the Windows Task Manager and make sure that 'postgres.exe' is running. If you do not find the running process of 'postgres.exe', you can start the iSPI Performance of Traffic Leaf Collector again.

On Linux systems you can run 'ps -aef | grep postgres'. If no postgres install is running, follow the steps given.

- Shutdown traffic-master process.
- Start postgres manually by running the command: `/etc/init.d/HPSwNnmiSPIPgSql start`
- Start traffic-master process:
- If the Network Performance Server is installed on the same system where you have installed the iSPI Performance for Traffic Master Collector, stop any running instances of Network Performance Server. You can restart the Network Performance Server instances, after starting the iSPI Performance for Traffic Master Collector.

Problem Statement: The iSPI Performance for Traffic Configuration UI application link does not launch.

Solution:

- Check the status of iSPI Performance for Traffic Master Collector by running the `%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstatus.ovpl` command and ensure that the status of the Master Collector is **RUNNING**.
- Check the URL used to launch the Configuration UI. This URL must point to the Fully qualified Domain name of the iSPI Performance for Traffic Master collector.
- Log on to the NNMi console again with new session in Microsoft Internet Explorer and launch the iSPI Performance for Traffic Configuration UI URL.
- Check the log files for the iSPI Performance for Traffic Master Collector in this location `%TRAFFIC_MASTER_LOG%` to see if there was any problem in starting the iSPI Performance for Traffic Master Collector. Refer to troubleshooting section for resolution of start problems for master collector.
- Problem: The iSPI Performance for Traffic Configuration UI application is not opening in the web browser.

Solution:

- Make sure that you are using Microsoft Internet Explorer 7.0,8.0 or Mozilla Firefox 3.6 version web browser.

- Maximize all the working windows.

Working with iSPI Performance for Traffic

Problem Statement: How do I verify the iSPI Performance for Traffic Leaf Collector is receiving flow records from the defined router or switch.

Solution:

- Make sure the iSPI Performance for Traffic Leaf Collector is up and running. You can run
`%TrafficInstallDir%\nonOV\traffic-leaf\bin\nmstrafficleafstatus.ovpl`
command and check the status of the iSPI Performance for Traffic Leaf Collector. It should display the status as RUNNING.
- If the status of the iSPI Performance for Traffic Leaf Collector does not display as RUNNING, make sure that correct values have been entered for iSPI Performance for Traffic Leaf Collector FQDN, IP Address, JNDI Port, HTTP Port and Password.
- If NNMI is installed on the same system where the iSPI Performance for Traffic Leaf Collector is installed, check whether `nmsdbmng` is running, by typing the following command in the command prompt: `%NnmInstallDir%\bin\ovstatus -c nmsdbmng` to verify the status.
- If NNMI is not installed on the same system where the iSPI Performance for Traffic Leaf Collector is installed, check the Windows Task Manager and make sure that 'postgres.exe' is running. If you do not find the running process of 'postgres.exe', you can start the iSPI Performance of Traffic Leaf Collector again.
- Check if the router or switch is exporting Netflow (Version 5 and 9) or Sflow (Version 5) with the port number that matches with the port number provided during the iSPI Performance for Traffic Leaf Configuration.
- Check whether the iSPI Performance for Traffic Leaf Collector is configured appropriately for Netflow or Sflow.
- Check the Flush Period configured for the leaf collector. This is configured in minutes. Check that it is of the range 3-5.
- Check for the Thread = <Collector-Name>JmsFlusher : Time Taken to Publish message in any of the `%TRAFFIC_LEAF_LOG%\traffic_spi_leaf_0.log.*` files. If this message appears, then the iSPI Performance for Traffic Leaf Collector is receiving flow records from the defined router or switch. This message appears after the configured flush time of your iSPI Performance for Traffic Leaf Collector.

Problem Statement: How do I verify if the iSPI Performance for Traffic Master Collector is receiving data from the iSPI Performance for Traffic Leaf Collector.

Solution:

You can perform any one of the following tasks to confirm that the iSPI Performance for Traffic Master Collector is receiving data from the iSPI Performance for Traffic Leaf Collector

- Make sure the iSPI Performance for Traffic Master Collector is up and running. You can run
`%TrafficInstallDir%\nonOV\traffic-master\bin\nmstrafficmasterstatus.ovpl` command and check the status of the iSPI Performance for Traffic Leaf Collector. It should display the status as RUNNING.
 - Make sure the `nmsdbmng` service is up and running:
 - If NNMi is installed on the same system check whether `nmsdbmng` is running, type the following command in the command prompt: `%NnmInstallDir%\bin\ovstart -c nmsdbmng`
 - If NNMi is not installed in the same system, check the Windows Task Manager and make sure the running process of 'postgres.exe' is present.
 - If you do not find the running process of 'postgres.exe', you can start the iSPI Performance of Traffic Master Collector again.
 - Open the Traffic Configuration form. Select a leaf collector that is exporting data to the Traffic Master Collector. Open the Leaf collector details Go to the Collector Statistics tab - this should list the list of records flushed to the master by this leaf collectors. Verify the time for the flushes from the leaf collector
 - Check for the Received traffic records from <Collector-Name> message in the `%TRAFFIC_MASTER_LOG%\traffic_spi_master_0.log.*` file. If this message appears, then the iSPI Performance for Traffic Master Collector is receiving flow records from the iSPI Performance for Traffic Leaf Collector.
 - After an hour, check whether the files of `Interface_Traffic_Data_*.gz` are created in the `%TRAFFIC_DATA%\NNMPerformanceSPI\Interface_Traffic\archives\metric`.
 - If the files are not created in the `%TRAFFIC_DATA%\NNMPerformanceSPI\Interface_Traffic\archives\metric` folder, make sure that you have write permission for this folder.
-
- The iSPI Performance for Traffic Master collector creates files every 10,000 records received by iSPI Performance for Traffic Leaf Collector. If the incoming flow record rate from the Leaf collector is low, it takes a long time to reach the limit and no data file will be created.
 - Tune the iSPI Performance for Traffic Master Collector Flush parameter to a more realistic value depending on the total incoming flow record rate.
 - Tune the iSPI Performance for Leaf Collector Flush rate - you can keep the Leaf Collector flush period to very low value if the flow data being exported by the router or switch is low.

Problem Statement: I do not remember the password I gave during the iSPI Performance for Traffic Leaf Collector or iSPI Performance for Traffic Master Collector installation. Can I retrieve it?

Solution:

- Run the `encrypttrafficpasswd.ovpl` script present in the "bin" directory of either iSPI Performance for Traffic Leaf Collector or iSPI Performance for Traffic Master Collector to retrieve the password.

Problem Statement: The system on which iSPI Performance for Traffic Leaf Collector is installed gets rebooted. Do I need to reconfigure the iSPI Performance for Traffic Leaf Collector to receive and process flow records.

Solution: You may need start the postgres and iSPI Performance for Traffic Leaf Collector after restarting the system. After this, the iSPI Performance for Traffic Master Collector detects and connects to the iSPI Performance for Traffic Leaf Collector. You verify from the Configuration form if the iSPI Performance for Traffic Leaf Collector status is displayed as RUNNING as well as the leaf collector statistics tab for the leaf collector. This implies that iSPI Performance for Traffic Leaf Collector is receiving and processing the flow records.

Problem Statement: I am not seeing an Traffic Map populated with data - blank window comes with the message 'No data in DB'

Solutions

- Verify that traffic data is being received on the master collector. See verification section for details.
- Change time controls to search for greater time ranges
- If you are entering values for nodes in the maps (e.g. source node/destination node) - try with IP addresses and Fully Qualified Domain names instead of node names.

Problem Statement: I am not seeing an Traffic Map populated with data - blank window comes with the message 'Unable to contact application server'

Solution: Restart the master collector (after verifying that postgres is running - see troubleshooting section above) and verify that it is running correctly.

Problem Statement: For the Traffic Path Map view I am not seeing any path or any traffic for the map

Solutions:

- If there is no path appearing, change the source and destination node entries to IP addresses/Fully Qualified Domain names and then retry the launch.
- Check NNM Path with the same entries as those given for the Traffic SPI Path View Map. Check if the path is coming correctly
- Check if there is a router in the path which has flow enabled.

Problem Statement: Bridge creation fails in iSPI Performance for Traffic when the Master Collector and the Leaf Container are Co-located

Cause:

This problem occurs only if the localhost Fully Qualified Domain Name (FQDN) specified for the Leaf Container is different from the localhost FQDN specified for Master Collector, where the Master Collector and the Leaf Container are co-located.

Solution:

- 1 Check the entries for FQDN in the following file that stores the FQDN for the Master Collector:

Windows

```
%TrafficDataDir%\shared\traffic-master\conf\nnm.extended.properties
```

UNIX

```
$TrafficDataDir/shared/traffic-master/conf/nnm.extended.properties
```

- 2 Check the entries for FQDN in the following file that stores the FQDN for the Leaf Container:

Windows

```
%TrafficDataDir%\shared\traffic-leaf\conf\nms-traffic-leaf.address.properties
```

UNIX

```
$TrafficDataDir/shared/traffic-leaf/conf/  
nms-traffic-leaf.address.properties
```

- 3 If the FQDN information are different in the two files, update the FQDN specified in the `nms-traffic-leaf.address.properties` file to match the FQDN specified in the `nnm.extended.properties` file.

For example, if the Master Collector FQDN is specified as `nnmsys1.x.y.com`, the Leaf Container FQDN also must be specified as `nnmsys1.x.y.com`.

This scenario is applicable only if the Master Collector and the Leaf Container are co-located.

Problem Statement: Bridge creation fails in iSPI Performance for Traffic when the Master Collector and the Leaf Container are Not Co-Located

Cause

This problem occurs if the Master Collector fails to resolve the hostname DNS for the Leaf Container, where the Leaf Container is not colocated with the Master Collector.

If the Master Collector cannot resolve the hostname DNS for the Leaf Container, the NNM iSPI Performance for Traffic creates the Leaf Container without displaying any error, but fails to create the bridge between the Master Collector and Leaf Container.

Solution

- 1 Check the hostname DNS for the Leaf Container in the following file on the Master Collector:

Windows

```
%TrafficDataDir%\log\traffic-master\jbossServer.log
```

UNIX

```
$TrafficDataDir/log/traffic-master/jbossServer.log
```

- 2 Ensure that the hostname DNS for the Leaf Container can be resolved.

Change of hostname or IP address of machine hosting Traffic SPI components

Problem Statement: Reconfiguration of hostname or IP address of machine where iSPI Performance for Traffic Leaf Collector is installed:

Solution:

- Remove the iSPI Performance of Traffic Leaf Collector configured using iSPI Performance for Traffic Configuration UI on iSPI Performance for Traffic Master Collector.
- Restart the iSPI Performance for Traffic Leaf Collector process on the system. Add the iSPI Performance of Traffic Leaf Collector again with the new node fully qualified domain name (FQDN) using the iSPI Performance for Traffic Configuration UI application.

Problem Statement: Reconfiguration of hostname or IP address of the system where iSPI Performance of Traffic Master Collector is installed

Solution:

Stop the iSPI Performance for Traffic Master Collector. Change the entries for fully qualified domain name (FQDN) in the file `nsm.extended.properties` and `nms-traffic-master.address.properties` in `%TrafficDataDir%\shared\traffic-master\conf` directory. Restart the iSPI Performance for Traffic Master Collector.

Reports

Problem Statement: I am not able to launch iSPI Performance for Traffic reports from the **Action** menu in the NNMi Console.

Solution:

- Make sure that `%NNM_BIN%\nnmenableperfspi.ovpl` is run on the system where NNMi is installed in your deployment environment.

Problem Statement: The iSPI Performance for Traffic interface report does not show any data

Solution:

- You can refer to the sections under [Working with iSPI Performance for Traffic](#) on page 48. And make sure the iSPI Performance for Traffic Leaf Collector and iSPI Performance for Traffic Master Collector are working correctly.
- You can also verify if the Network Performance Server processes are running.

If the iSPI Performance for Traffic Leaf Collector and iSPI Performance for Traffic Master Collector are working correctly and if the Network Performance Server processes are running, you can wait for an hour of data processing to complete and then get the reports with the data.

Problem Statement: The iSPI Performance for Traffic interface report shows data only for sometime.

Cause:

Either iSPI Performance for Traffic Leaf Collector or iSPI Performance for Traffic Master Collector is not processing the data.

Solution:

- You can also check whether the iSPI Performance for Traffic Leaf Collector is loaded with excess data.
- You can check the `%TRAFFIC_MASTER_LOG%\traffic_spi_master_0.log.*` file for any network failure between iSPI Performance for Traffic Leaf Collector and iSPI Performance for Traffic Master Collector. You must tune the configurable parameters of the iSPI Performance for Traffic for adequate size limit. You can see, [Chapter 7, Tuning Parameters](#) for any tuning parameters with inadequate size limit.

Problem Statement: When an iSPI Performance for Traffic report is filtered by using Application ID, a major portion of data appears under the `undefined` group.

Cause:

- All the network flow ports which are not mapped to any application mapping rules are categorised under the `undefined` group.

Problem Statement: The iSPI Performance for Traffic reports do not show data for one of the interfaces.

Solution:

- Check if the Flow export is turned ON.
- Check if the specified interface has been discovered by NNMI.

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