HP Network Node Manager iSPI Performance for Traffic Software

for the Windows® operating system

Software Version: 8.13

Installation Guide

hp ®

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1 Introduction

The HP Network Node Manager iSPI Performance for Traffic software(iSPI Performance for Traffic) extends the capability of NNMi to monitor the performance of the network with respect to the data volume carried by it. The iSPI Performance for Traffic provides an integrated view of network traffic by enriching the data obtained from the IP flow records.

The iSPI Performance for Traffic, with NNMi, performs the following tasks:

- Aggregation of the IP flow records.

- Filtering of incoming IP flow records in order to reduce noise.

- Enrichment of the IP flow records by providing the ability to add or update the available fields in the flow records for example, DNS name resolution and application mapping.

- Correlation of obtained IP flow records with NNMi topology for context-based analysis.

- Generating performance reports by exporting data to the iSPI Performance for Metrics components.

The iSPI Performance for Traffic helps you monitor and obtain the traffic flow in a specified network. You can monitor and obtain the finer resolution of traffic flow in a specified network. While NNMi provides the framework to monitor the state of the computing environment and network in your organization, the iSPI Performance for Traffic analyzes the collected data and generates reports to analyze data carried by the network. The following figure displays the integration of NNMi with iSPI Performance for Traffic.

Figure 1   Integration of NNMi with iSPI Performance for Traffic
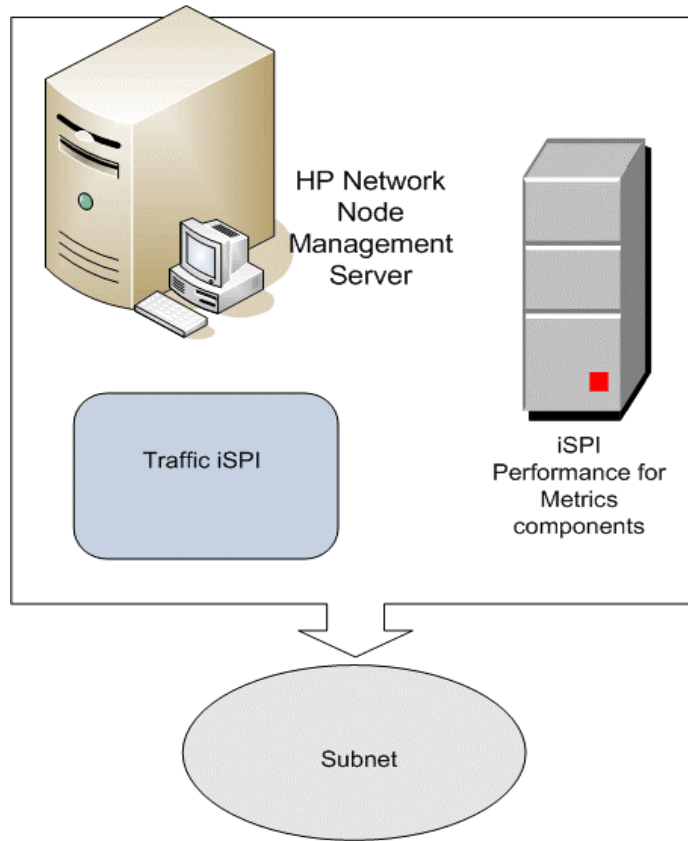
IP flow- An Overview

IP flow data represents the information exported by a router in a network. The IP flow data includes attributes that represent the traffic flowing through the interfaces of the router. The primary attributes are:

- Source IP address
- Destination IP address
- Source Port
- Destination Port
- Type of Service
- IP Protocol
- Number of bytes
- Time stamp
- Ingress or Egress interface of the router

The iSPI Performance for Traffic extracts the data from the IP flow attributes. The primary data format supported by the iSPI Performance for Traffic with NNMi includes the following types:

— Netflow (versions: v5, v9)

— Sflow (versions: v5)

Gathering information of the IP flow in a network is essential to perform network data analysis. The iSPI Performance for Traffic integrates with iSPI Performance for Metrics components(iSPI Performance and iSPI Performance for Metrics) 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
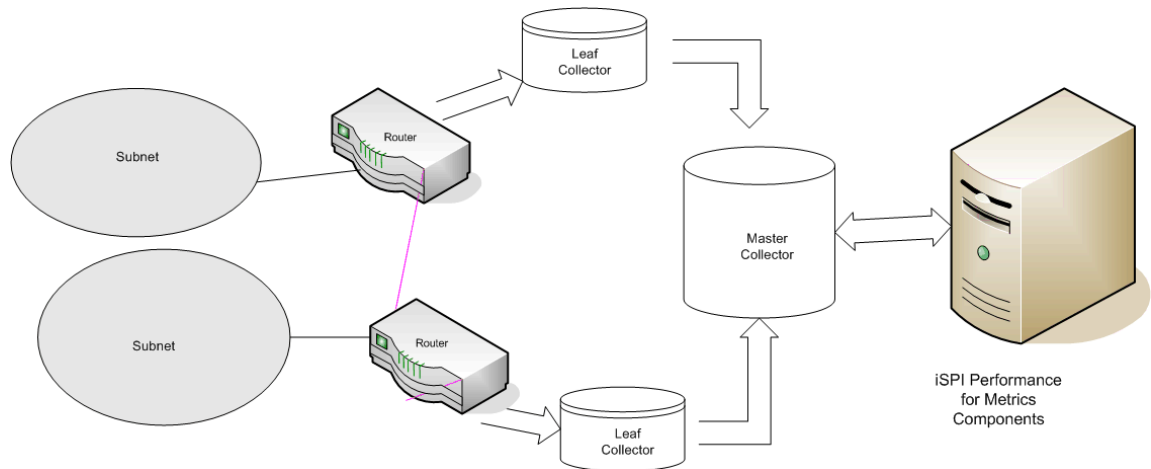
In a network, the routers export the IP flow records and the IP flow collection. The parsing process is done by the Leaf Collectors present in the network. The iSPI Performance for Traffic Leaf collector summarizes the packet flow and delivers the processed data to the Master Collector. The iSPI Performance for Traffic Master Collector shares system resources with the iSPI Performance for Metrics component. The iSPI Performance for Metrics component 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 Performance for Traffic Leaf Collector does not affect the network traffic during collection, as the summarization of the IP flow records is performed at smaller time resolution. 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.

- Multiple iSPI Performance for Traffic Master Collectors can be deployed in a network, but is connected to only one iSPI Performance for Metrics component.

2 System Requirements

Make sure that NNMi management server on Windows meets the 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	
Operating System	• Microsoft Windows Server 2003 x64 with Service Pack 2 • Microsoft Windows Server 2003 x64 R2 with Service Pack 2	
Browser	Microsoft Internet Explorer 7.0, Mozilla Firefox 3.0	

Additional Guidelines

Before installing iSPI Performance for Traffic, you must:

• Plan the installation based on your deployment requirements and make sure that all the pre-requisites are met. For more information, see *HP Network Node Manager i-suite for Traffic Smart Plug-in Deployment Guide.*

• Apply the latest patch for NNMi 8.13. To download the latest patch go to:

http://support.openview.hp.com/selfsolve/patches

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

— *HP Network Node Manager i-suite Software 8.13 Installation Guide for Windows.*

— *HP Network Node Manager i-suite Software 8.13 Deployment and Migration Guide.*

— *HP Network Node Manager i-suite Software 8.13 Release Notes.*

— *HP Network Node Manager i-suite Software 8.13 Support Matrix.*

— *HP Network Node Manager iSPI Performance for Metrics Software 8.13 Installation Guide.*

3 Overview of Installation

This chapter provides an overview of iSPI Performance for Traffic installation, and also provides a summary of the sequence of installation of prerequisite products and product components involved.

Prerequisites

The prerequisite products for iSPI Performance for Traffic installation are:

- NNMi 8.13
- iSPI Performance for Metrics

NNMi 8.13

Ensure that NNMi 8.13 is installed on a system in your deployment environment. To install and configure NNMi 8.13 on a system, see the *HP Network Node Manager Network Node Manager i-Suite Software 8.13 Installation Guide for Windows*.

iSPI Performance for Metrics

Ensure that iSPI Performance for Metrics is installed on a system in your deployment environment. For more information, see the *HP Network Node Manager iSPI Performance for Metrics Software 8.13 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.

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 8.13 system. For more information, see Chapter 6, Installing the NNMi Extension for iSPI Performance for Traffic.

2. Install iSPI Performance for Traffic Master Collector. For more information, see Chapter 7, 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 on page 27 .

4 Performing Pre-Installation Steps on NNMi Management Server

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-suite Software 8.13 Installation Guide for Windows*.

5 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 **vcredist_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 **vcredist_x64.exe.**

2 The Installation Wizard opens. Follow the instructions of the Wizard to complete the installation.

Setting up Local Security Policy

You must perform the Local Security Policy Setup prior to installation of iSPI Performance for Traffic Leaf Collector or Master Collector.

The iSPI Performance for Leaf Collector or master Collector installer creates a user named 'postgres' belonging to user group named 'Users' if the user is not created on the system.

- Make sure that user named 'postgres' is not in the list of users in 'Deny Log On Locally' policy, by performing the following step:

  Go to **Programs > Control Panel> Admin Tools> Local Security Policy > Local Policies > User Rights Assignment** and make sure that user named 'postgres' is not present in the 'Deny log on locally' policy.

- Make sure that user group named 'Users' is present in 'Allow Users to Logon locally' policy by performing the following steps:

  a Go to **Programs > Control Panel > Admin Tools > Local Security policy > Local policies** folder.

  b Open **User Rights Assignment** folder.

  c Open 'Allow Users to Logon locally' policy and check whether 'Users' group is present.

> If 'Users' group is not present in the 'Allow Users to Logon locally' policy, you must add the group manually. To add the 'Users' group, follow these steps:

1   In the 'Allow Users to Logon locally' policy, click **Add User or Group**.

2   Enter the object to be selected as 'Users'.

3   Click **Object Types** and select **Groups**.

4   Click **Apply** and **OK**.

Starting Secondary Logon Service

You must ensure that the Secondary Logon service is up and running. To enable Secondary Logon service, follow this step:

Go to **Programs> Control Panel > Admin Tools > Services > Secondary Logon**, and start the service.

6 Installing the 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 UI application from NNMi Configuration Workspace.

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.

Installation

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.

3 Go to the Traffic_NNM_Extension folder inside the DVD and double-click the **setup.bat** file.

    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. For more information, refer to Chapter 4, Performing Pre-Installation Steps on NNMi Management Server.

    — 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 nnm.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**.

> If you are installing the iSPI Performance for Traffic Master Collector on a system that does not have NNMi installed, you must restart NNMi jboss process after installing the NNMi extension for iSPI Performance for Traffic.

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

a   ovstop -c ovjboss

b   ovstart -c ovjboss

Removing 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. For more information, see Chapter 4, Performing Pre-Installation Steps on NNMi Management Server.

    —   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 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 initiates.

7   After completing the un-installation, click **Done**.

7 Installing iSPI Performance for Traffic Master Collector

This chapter describes iSPI Performance for Traffic Master Collector installation and also provides information about the pre-installation tasks to be performed.

The pre-installation tasks include:

- Run enableperfspi.ovpl script on NNMi system
- Share for iSPI Performance data directory
- Verify access to iSPI Performance for Metrics shared data directory

Pre-installation Task

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 iSPI Performance for Metrics 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.

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 `\\<NNMi System name>\PerfSpi` shared folder is set up on the NNMi system after running

`%nnminstalldir%\bin\nnmenableperfspi.ovpl` command.

If the shared folder is not set, you must manually set up a Windows shared folder named PerfSPI for the `datafiles` directory in the following location:

`%NnmDataDir%\shared\perfSPI\datafiles`

▶ If you have set up NNMi application failover environment on both primary and secondary NNMi systems., 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

If you are installing iSPI Performance for Traffic Master Collector on a system that does not have NNMi installed, all users in 'Administrators' group on the iSPI Performance for Traffic Master Collector system must have write access permission to access the `\\<NNMi System>\PerfSpi` shared directory.

If you are installing iSPI Performance for Traffic master Collector on a system that has NNMi installed, all users in 'Administrators' group on the iSPI Performance for Traffic Master Collector system must have write permission for `%NnmDataDir%\shared\perfSPI\datafiles` directory.

▶
- You can run the `%nnminstalldir%\bin\nnmdisableperfspi.ovpl` command on NNMi system, only when you want to remove both iSPI Performance for Metrics as well as iSPI Performance for Traffic from the deployment.

- You must not run un-installer software for iSPI Performance for Metrics on NNMi system if iSPI Performance for Traffic is still installed on the system in your deployment environment.

Master Collector Installation:

To install iSPI Performance for Traffic Master 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   In the Traffic_Master root directory, double-click the **setup.ba**t file. The Welcome screen opens.

    Click **Next**, as appropriate during the installation process in the installation wizard screen.

4   In the License Agreement screen, select the **I accept** option.

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

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

7   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**. You can select **Force repair...** option, if there is failure in previous installation process.

10 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: 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 HTTP Port: specify 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 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`.

    — NNMi User name: specify the NNMi Web service Client username. For more information, refer to Chapter 4, Performing Pre-Installation Steps on NNMi Management Server.

    — NNMi User Password: Password for the above user.

    — Retype Password: Retype the password.

    — Perf SPI data path: Specify the data path of the iSPI Performance for Metrics.

    For more information, see Share for iSPI Performance data directory on page 22 and Verify Access to iSPI Performance shared data directory on page 22.

11 Select the **NNMI failover Configured?** check-box, if NNMi failover is configured in your deployment and specify the details of the secondary NNMi Server.

12 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.

> • If you are installing iSPI Performance for Traffic Master Collector on a NNMi installed system:

> — The Inform dialog box opens with a prompt message to check whether the nmsdbmngr service is up and running.

> — To check whether nmsdbmngr is running, type the following command in the command prompt:

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

• If you are installing the iSPI Performance for Traffic Master Collector on a system that does not have NNMi installed or does not have iSPI Performance for Traffic Leaf Collector installed:

— The installer will create a user "postgres" and prompts you to enter the password to create a user by the name "postgres".

a   Type the postgres user password.

b   Type the password again for confirmation.

c   'Enter the Password for postgres' command prompt window launches automatically. Type the "postgres" user password and press **Enter**.

Note:

• When you are keying in the password in the command prompt the cursor stays at same location.

• If user "postgres" already exists, enter the existing "postgres" user password in the command prompt.

13   Click **OK**. The iSPI Performance for Traffic Password dialog box opens.

> You must provide the password of the 'system' user for iSPI Performance for Traffic Master installation.

14   Type the password, and re-type the password again 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 iSPI Performance for Metrics in the same system, you must stop any running instance of iSPI Performance for Metrics, before starting the Master Collector. After starting the Master Collector, you can initiate the iSPI Performance for Metrics.

> You can refer to iSPI Performance for Metrics documentation to know how to stop and start the processes

Starting the Master Collector

To start the Master Collector, follow this step:

In the command prompt, type the following command:

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

This command initiates the Master Collector.

➤ The iSPI Performance for Traffic Master Collector does not get restarted in the event of a system restart. You must perform a manual restart of the iSPI Performance for Traffic Master Collector.

Restarting the iSPI Performance for Traffic Master Collector

If you restart the system that has iSPI Performance of Traffic Master Collector installed on it, you must perform the following tasks to start the iSPI Performance of Traffic Leaf Collector:

- Start postgres
- Start iSPI Performance of Traffic Master Collector

Start postgres

To start the postgres account:

- If you have installed iSPI Performance of Traffic Master Collector on a system that has NNMi pre-installed, type ovstatus -c command in the command prompt. Check the status of the command and ensure that NNM processes are up and running.
- If you have installed iSPI Performance of Traffic Master Collector on a system that does not have NNMi pre-installed, type the following command in the command prompt to start the postgres:

  — `%TrafficInstallDir%\nonOV\traffic-master\bin\postgresService.ovpl start`

Start iSPI Performance of Traffic Master Collector

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

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

Verifying the 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.

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 **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 Master Collector.

6   The Un-installation screen opens, and the un-installation process initiates.

7   After completing the un-installation, click **Done**.

8 Installing iSPI Performance for Traffic Leaf Collector

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   In the Traffic_Leaf root directory, double-click the **setup.ba**t file. The Welcome screen opens.

    Click **Next**, as appropriate during the installation process in the installation wizard screen.

4   In the License Agreement screen, select the **I accept** option.

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

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

7   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**. You can select **Force repair...** option, if there is failure in previous installation process..

10 Type the Traffic Leaf Fully Qualified Domain name and click **OK**.

- 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 nmsdbmngr service is up and running.
  - — To check whether nmsdbmngr is running, type the following command in the command prompt:

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

- If you are installing the iSPI Performance for Traffic Leaf Collector on a system that does not have NNMi installed or does not have iSPI Performance for Traffic Master Collector installed:

— The installer will create a user "postgres" and prompts you to enter the password to create a user by the name "postgres".

a Type the postgres user password.

b Type the password again for confirmation.

c 'Enter the Password for postgres' command prompt window launches automatically. Type the "postgres" user password and press **Enter**.

Note:

- When you are keying in the password in the command prompt the cursor stays at same location.

- If user "postgres" already exists, enter the existing "postgres" user password in the command prompt.

11 Click **OK**. The iSPI Performance for Traffic Password dialog box opens.

12 Type the password, 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.

13 The iSPI Performance for Traffic ID dialog box opens. Type the unique integer ID (2-255) for the Leaf Collector being installed.

14 Click **OK**. The Install Complete Screen opens.

15 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.

► The iSPI Performance for Traffic Leaf Collector does not get restarted automatically in the event of a system restart. You must perform a manual restart of the iSPI Performance for Traffic Leaf Collector.

Restarting the iSPI Performance for Traffic Leaf Collector

If you restart the system that has iSPI Performance of Traffic Leaf Collector installed on it, you must perform the following tasks to start the iSPI Performance of Traffic Leaf Collector:

- Start postgres
- Start iSPI Performance of Traffic Leaf Collector

Start postgres

To start the postgres account:

- If you have installed iSPI Performance of Traffic Leaf Collector on a system that has NNMi pre-installed, type ovstatus -c command in the command prompt. Check the status of the command and ensure that NNM processes are up and running.

- If you have installed iSPI Performance of Traffic Leaf Collector on a system that does not have NNMi pre-installed, type the following commands in the command prompt to start the postgres:

  — `%TrafficInstallDir%\nonOV\traffic-leaf\bin\postgresService.ovpl  start`

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.

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**.

9 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 atleast 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 atleast 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 atleast 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.

10 Getting Started with 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 iSPI Performance for Metrics.

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.

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: 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: 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: 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 iSPI Performance for Metrics 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 the iSPI Performance for Metrics is installed on the same system where you have installed the iSPI Performance for Traffic Leaf Collector, stop any running instances of iSPI Performance for Metrics. You can restart the iSPI Performance for Metrics instances, after starting the iSPI Performance for Traffic Leaf Collector.

• Problem: 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 iSPI Performance for Metrics 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 forTraffic 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 the iSPI Performance for Metrics is installed on the same system where you have installed the iSPI Performance for Traffic Master Collector, stop any running instances of iSPI Performance for Metrics. You can restart the iSPI Performance for Metrics instances, after starting the iSPI Performance for Traffic Master Collector.

• Problem: 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 forTraffic 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 or Mozilla Firefox 3.0 version web browser.

  — Maximize all the working windows.

Working with iSPI Performance for Traffic

- Problem: 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 `nmsdbmngr` is running, by typing the following command in the command prompt: `%NnmInstallDir%\bin\ovstatus -c nmsdbmngr` 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. For more information, see Starting the iSPI Performance for Traffic Leaf Collector on page 28.

  — 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 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: 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 `nmsdbmngr` service is up and running:

— If NNMi is installed on the same system check whether nmsdbmngr is running, type the following command in the command prompt: %NnmInstallDir%\bin\ovstart -c nmsdbmngr

— 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. For more information, see Starting the Master Collector on page 25.

— 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_spi_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 forLeaf 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: 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 retreive the password.

• Problem: 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 must 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 User Interface if the iSPI Performance for Traffic Leaf Collector status displays as RUNNING. This implies that iSPI Performance for Traffic Leaf Collector is receiving and processing the flow records.

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

- Problem: 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: 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 `nnm.extended.properties` and `nms-traffic-master.adress.properties` in `%TrafficDataDir%\shared\traffic-master\conf` directory. Restart the iSPI Performance for Traffic Master Collector.

Reports

- Problem: 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: 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 37. 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 iSPI Performance for Metrics processes are running.

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

- Problem: 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 9, Tuning Parameters for any tuning parameters with inadequate size limit.

- Problem: 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: 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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