

# HP Network Node Manager iSPI Performance for Traffic Software

for the Linux operating system

Software Version: 9.20

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## Installation Guide

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Software Release Date: May 2012



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### Acknowledgements

This product includes software developed by the Apache Software Foundation.  
(<http://www.apache.org>)

This product includes software developed by the Indiana University Extreme! Lab.  
(<http://www.extreme.indiana.edu>)

## Documentation Updates

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

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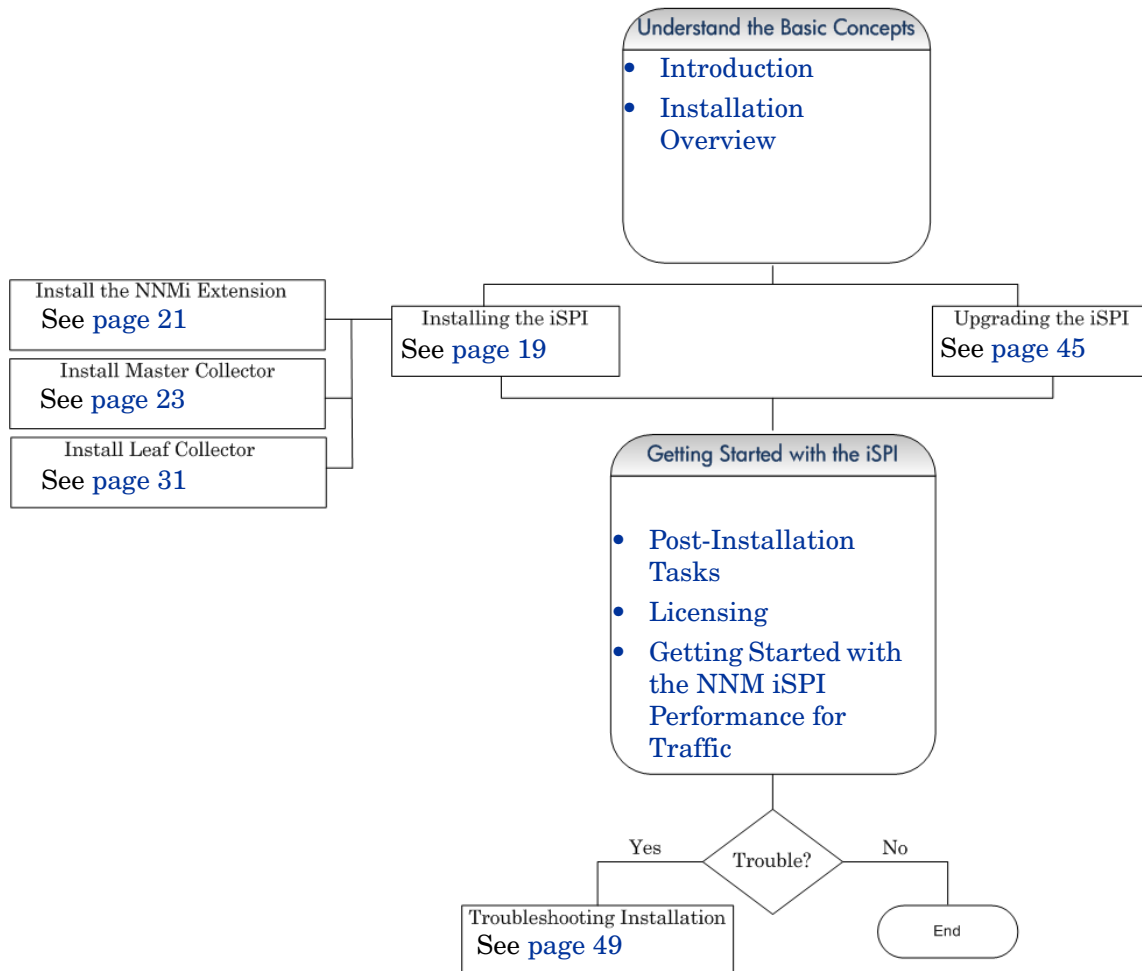
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# 1 Document Map and Conventions

The following document map familiarizes you with the installation flow of the NNM iSPI Performance for Traffic:



# Documentation Conventions

The NNM iSPI Performance for Traffic documentation uses the following conventions:

**Table 1 NNM iSPI Performance for Traffic Documentation Conventions**

Symbol	Description
<i>\$TrafficInstallDir</i>	The NNM iSPI Performance for Traffic install directory when Master Collector or Leaf Collector is not installed on the same system as NNMi.  /opt/OV
<i>\$TrafficDataDir</i>	The NNM iSPI Performance for Traffic data directory when Master Collector or Leaf Collector is not installed on the same system as NNMi.  /var/opt/OV/
<i>\$NnmInstallDir</i>	The environment variable for the NNMi application directory. The NNM iSPI Performance for Traffic is installed in this directory when Master Collector or Leaf Collector is installed on the same system as NNMi.  /opt/OV
<i>\$NnmDataDir</i>	The environment variable for the NNMi data directory. The NNM iSPI Performance for Traffic is installed in this directory when Master Collector or Leaf Collector is installed on the same system as NNMi.  /var/opt/OV/

## Setting Environment Variables

NNM iSPI Performance for Traffic administrators can run a script that sets up many environment variables for navigating to commonly accessed locations.

To set up available environment variables on the NNMi server, use a command similar to the following example:

```
/opt/OV/bin/nnm.envvars.sh
```

To set up environment variables on the NNM iSPI Performance for Traffic Master Collector, use a command similar to the following example:

```
/opt/OV/traffic-master/bin/traffic-master.envvars.sh
```

To set up environment variables on the NNM iSPI Performance for Traffic Leaf Collector, use a command similar to the following example:

```
/opt/OV/traffic-leaf/bin/traffic-leaf.envvars.sh
```



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## 2 Introduction

The HP Network Node Manager iSPI Performance for Traffic Software (NNM iSPI Performance for Traffic) extends the capability of HP Network Node Manager i Software (NNMi) to monitor the performance of the network.

The NNM iSPI Performance for Traffic enriches the obtained data from the IP flow records that are exported by the routers in your NNMi network.

The NNM iSPI Performance for Traffic performs the following tasks:

- Aggregates the IP flow records
- Correlates the IP flow records with NNMi topology for context based analysis.
- Enables you to configure deployment-specific enrichment attributes like site and applications
- Generates performance reports by exporting data to the Network Performance Server (NPS)

You must have NPS installed to generate the traffic reports. Ensure that you install NPS before installing NNM iSPI Performance for Traffic

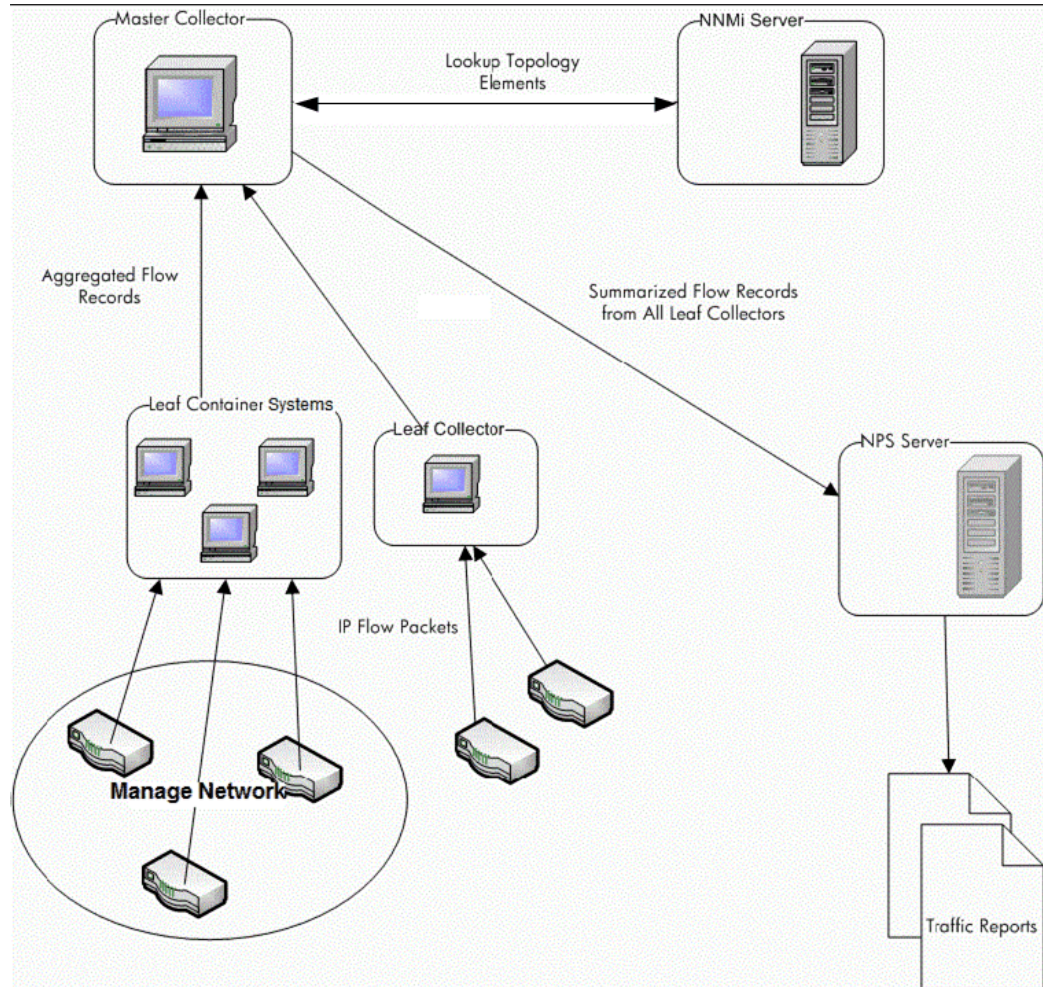
- Provides traffic-related information in the form of inventory views and maps in the NNMi console

### NNM iSPI Performance for Traffic Components

NNM iSPI Performance for Traffic collects and processes traffic data in a two-level architecture.

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

**Figure 1 Product architecture of NNM iSPI Performance for Traffic**



The following components enable the iSPI to generate summarized traffic flow records from the IP flows received from the routers:

## NNM iSPI Performance for Traffic Leaf Collector

In a Leaf Collector System you can configure several logical Leaf Collectors. HP recommends you to configure up to three logical Leaf Collectors in a Leaf Container system. The Leaf Collector performs the following tasks:

- Receives the IP flow packets exported by the routers.
- Parses these IP flow packets into flow records.
- Filters the IP flow packets to process based on filter group rules that you defined.
- Performs application mapping based on the application mapping rules that you defined.
- Performs DNS lookup for source and destination IP addresses based on your configuration.
- Performs site mapping analysis (if configured)
- Aggregates the flow records before sending them to the Master Collector.

- Sends the aggregated flow records to the Master Collector. This operation is called flushing the records from the leaf collectors to the Master Collectors.
- The Leaf Collector also performs top N analysis at 1 minute and 15 minute time intervals to preserve information about the top contributors to traffic and filters out the rest. After the filtering action is performed, the less significant contributors are grouped together and shown with the `Anonymous` label on reports.

## NNM iSPI Performance for Traffic Master Collector

The Master Collector is the centralized processing component for a deployment; the Master Collector receives data from all Leaf Collectors. The Master Collector can also connect and receive data from other regional Master Collectors as well as Leaf Collectors configured in the Global Network Management (GNM) setup. The Master Collector performs the following tasks:

- Synchronizes with the NNMi topology information and adds the topology information to the flow records.
- Delivers the summarized flow data and the topology files to NPS for reporting. NPS in turn, aggregates the report data provided by the Master Collector and generates the network traffic performance reports.
- Forwards the flow records to a global Master Collector in a GNM setup.

A Master Collector can be connected to multiple Leaf Collectors but a Leaf Collector can be connected to only one Master Collector.

## HP NNMi Extension for iSPI Performance for Traffic

The HP NNMi Extension for iSPI Performance for Traffic provides rules and definitions to generate reports from the data generated by the Master Collectors. It adds the NNM iSPI Performance for Traffic related links and views into the NNMi workspace.

By default, each extension pack is installed with different retention periods for the summarized and granular data. You can modify the default retention periods. Changing retention periods may have significant impacts on the disk usage. For more information, see *Tuning the NNM iSPI Performance for Traffic* in the *HP Network Node Manager iSPI Performance for Traffic Software Deployment Guide*.

## Additional Sources of Information

- *HP Network Node Manager iSPI Performance for Traffic Software 9.20 Release Notes*
- *HP Network Node Manager iSPI Performance for Traffic Software 9.20 System and Device Support Matrix*
- *HP Network Node Manager i Software 9.20 Installation Guide*
- *HP Network Node Manager i Software 9.20 Deployment Reference*
- *HP Network Node Manager i Software 9.20 Release Notes*
- *HP Network Node Manager i Software 9.20 System and Device Support Matrix*

- *HP Network Node Manager iSPI Performance for Metric Software / Network Performance Server 9.20 Installation Guide*
- *HP Network Node Manager iSPI Performance for Traffic Deployment by Example 9.20 White Paper*

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## 3 Installation Overview

Depending on the scale of your network, you can install a single Master Collector with a single Leaf Collectors or multiple instances of Leaf Collectors with a single instance of the Master Collector. The HP NNMi Extension for iSPI Performance for Traffic must always be installed on the NNMi management server.

Since the NNM iSPI Performance for Traffic uses the data management infrastructure provided by the NPS, you must install the NPS in your environment before installing the NNM iSPI Performance for Traffic. The type of installation of the NPS (single-server installation or dedicated server installation) has no effect on the installation procedure or performance of the NNM iSPI Performance for Traffic.

You can build one of the following monitoring environments after installing the NNM iSPI Performance for Traffic:

- [Single Collector Environment: Installing a Single Instance of Each Collector](#) on page 14
- [Distributed Collector Environment: Installing Multiple Instances of Collectors](#) on page 17

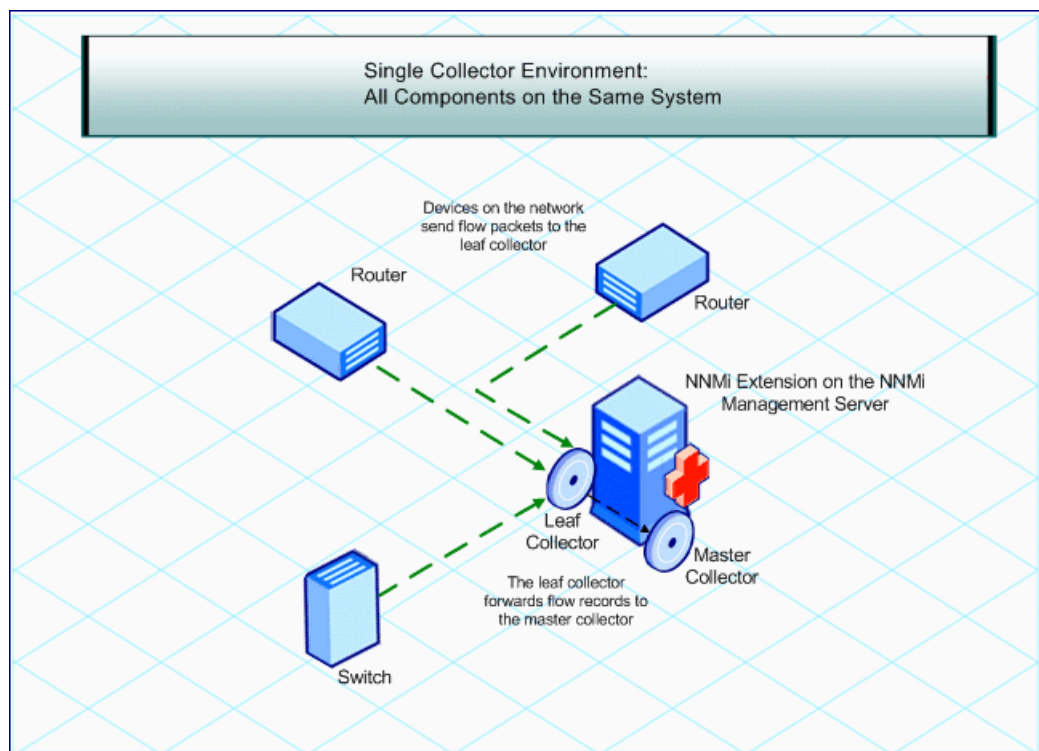
# Single Collector Environment: Installing a Single Instance of Each Collector

You can choose this option for small networks. In this configuration, only one Leaf Collector is used for collecting all the flow information, which is processed by the Master Collector.

## Install All the Components on the Same System

If your system meets all the requirements to support NNMi, the master and leaf collectors, and the HP NNMi Extension for iSPI Performance for Traffic, you can install all the three components of the NNM iSPI Performance for Traffic on a single system. In this configuration, you can use the Master Collector with only one Leaf Collector. You cannot choose an HP-UX or Solaris management server since the master and leaf collectors are not supported on those platforms.

**Figure 2 All Components on the Same System**



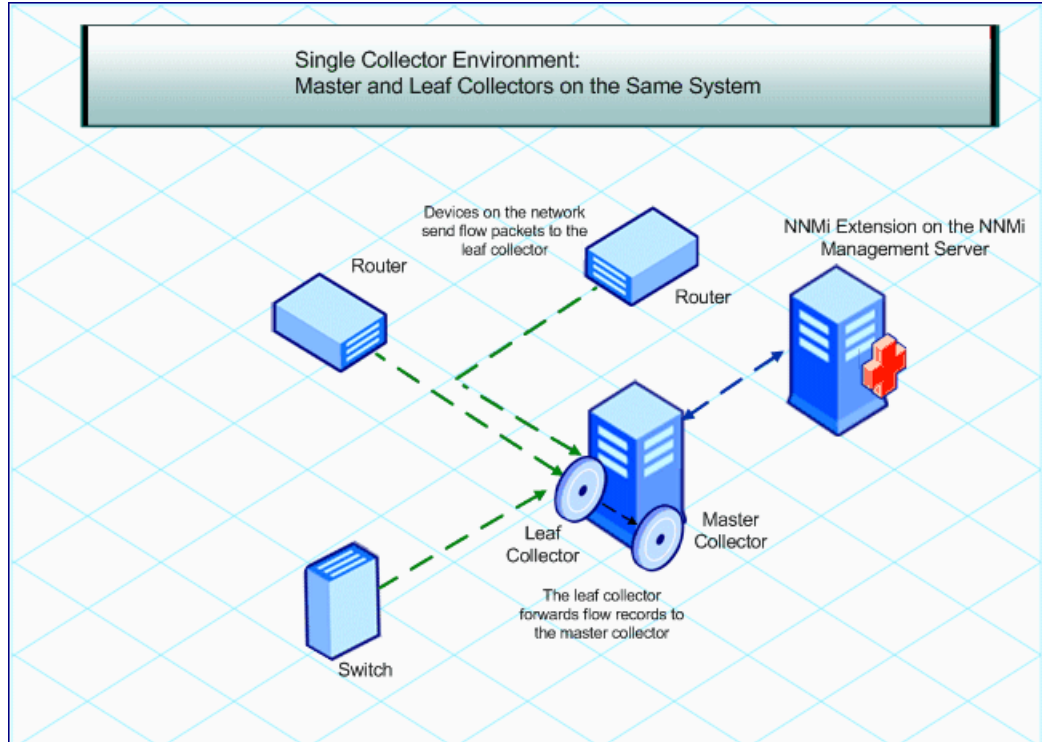
## Install Collectors on Different Systems

You can install one or both the collectors on remote systems. However, you must always install the HP NNMi Extension for iSPI Performance for Traffic on the NNMi management server only. You can use one of the following combinations:

- **Both the collectors on the same remote standalone system:** For information on supported combinations of operating systems for the NNMi management server and Master/Leaf Collector system, see the *NNM iSPI Performance for Traffic Systems and Devices Support Matrix*.



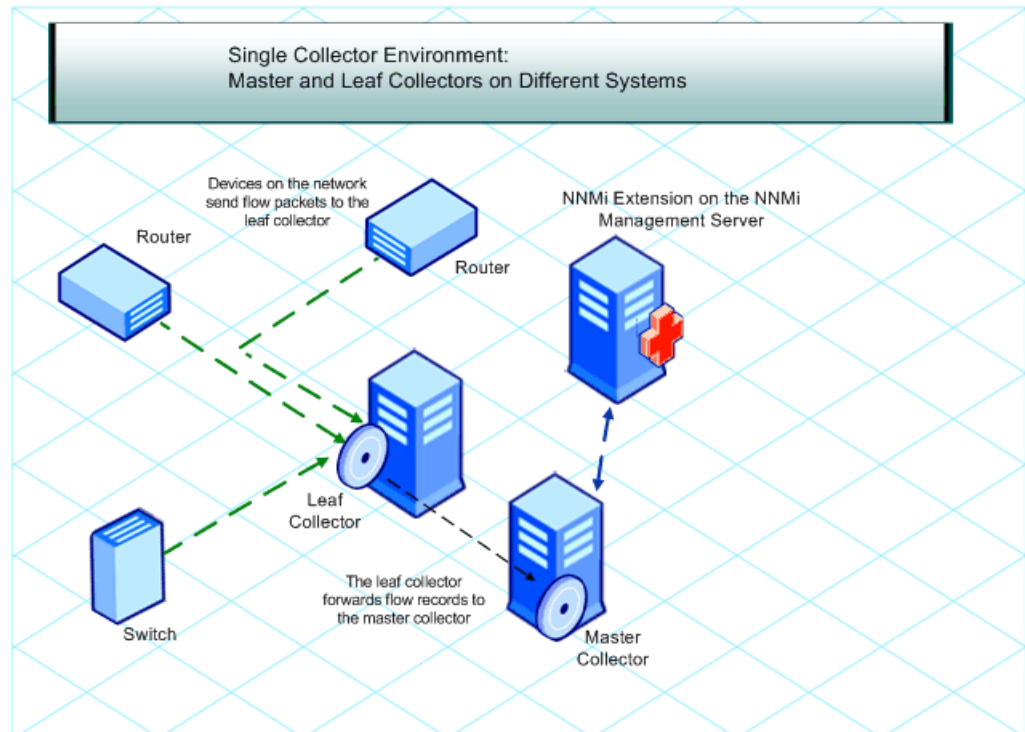
**Figure 3 Both the Collectors on a Standalone System**



- **Both collectors on different systems:** For information on supported combinations of operating systems for the NNMi management server and Master/Leaf Collector system, see the *NNM iSPI Performance for Traffic Systems and Devices Support Matrix*.

You must obtain the Collector Connection Software LTU to enable the communication between the master and leaf collectors. For more information, see [Licensing](#) on page 39.

**Figure 4 Master and Leaf Collectors on Different Systems**



- **One collector on the NNMi management server and the other collector on a remote system:** In this configuration, the NNMi management server and the collector system must run on the same operating system. For information on supported combinations of operating systems for the NNMi management server and Master/Leaf Collector system, see the *NNM iSPI Performance for Traffic Systems and Devices Support Matrix*.

You must obtain the Collector Connection Software LTU to enable the communication between the master and leaf collectors. For more information, see [Licensing](#) on page 39.

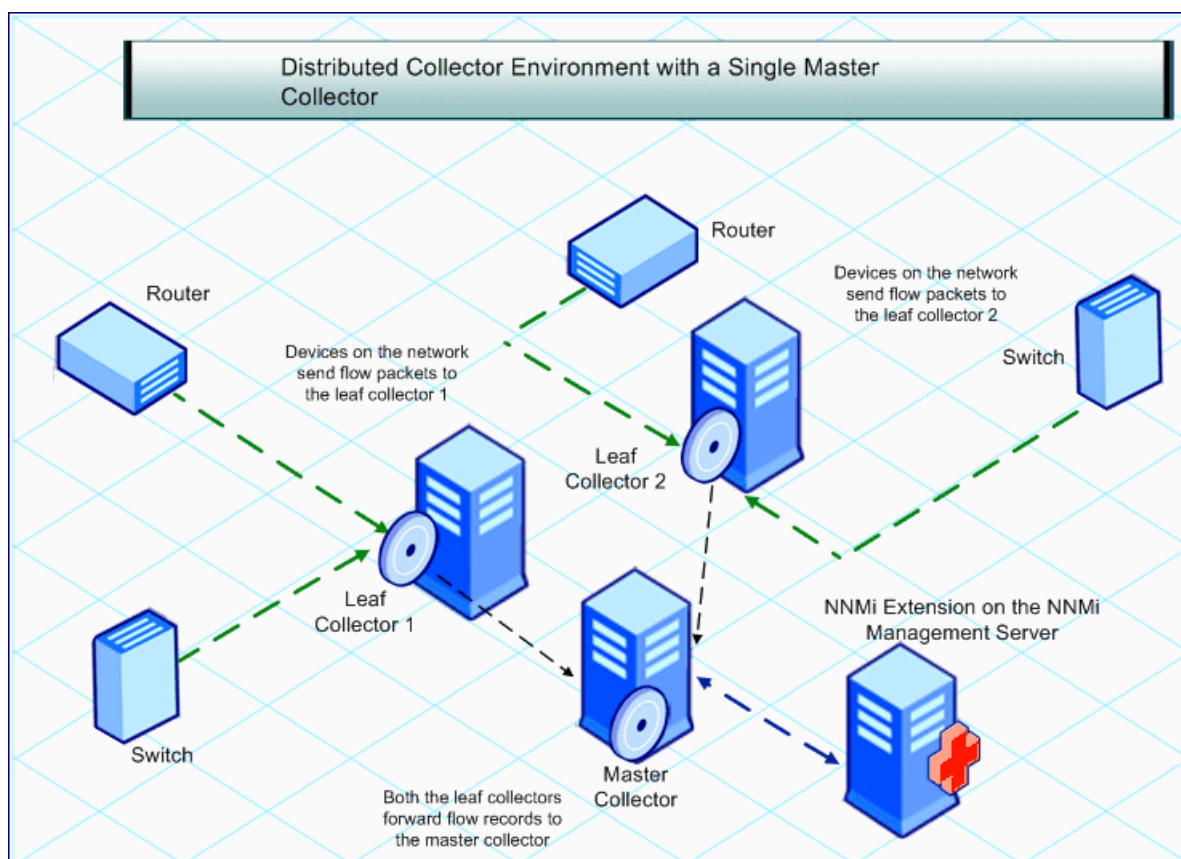


## Distributed Collector Environment: Installing Multiple Instances of Collectors

On a large network, a high volume of the traffic data can affect the performance of the Master and Leaf Collectors. To avoid performance problems, you can install multiple leaf collectors to share the computational load to retain the desired level of performance of the solution.

You can install multiple Leaf Collectors in the environment with a single instance of the Master Collector. The Master Collector, which you can install on the NNMi management server or on a dedicated remote server, receives flow records from different Leaf Collector instances that exist on the network.

**Figure 5 Installation with Multiple Leaf Collectors**



Multiple leaf collectors in your monitoring environment share the load with one another and enhance the performance of solution.

You must obtain the Collector Connection Software LTU to enable the communication between the master and leaf collectors. For more information, see [Licensing](#) on page 39.



## 4 Planning for Installation

Before you begin the installation, ensure that you complete all the tasks listed in the Preinstallation Checklist.

### Preinstallation Checklist

**Table 1 Preinstallation Checklist**

<b>Task</b>	<b>Reference Document/Topic</b>	<b>Complete (y/n)</b>
Identify the deployment type: Master Collector on NNMi, both Master and Leaf collectors on NNMi, Master and Leaf Collectors on standalone systems, multiple Leaf Collectors, and so on.	<i>NNM iSPI Performance for Traffic Systems and Devices Support Matrix</i>	
Verify that the systems (where you want to install different components of the product) meet the prerequisites.	<i>NNM iSPI Performance for Traffic Systems and Devices Support Matrix</i>	
Verify that the NNMi version is 9.20.  If you are upgrading from NNMi 9.0x or 9.1x and you also have the Master or Leaf Collector for the NNM iSPI Performance for Traffic installed on the NNMi system, you must upgrade to NNMi 9.10 patch 3 (or later) and NNM iSPI Performance for Traffic 9.10 patch 2 (or later) before upgrading to NNMi 9.20. Failure to do so will result in the loss of all the NNM iSPI Performance for Traffic data		

**Table 1 Preinstallation Checklist**

Task	Reference Document/Topic	Complete (y/n)
Verify that NPS is installed in the environment.	<i>NNM iSPI Performance for Metrics/ NPS Installation Guide</i>	
Verify that Master Collector is installed on physical system	<i>NNM iSPI Performance for Traffic Systems and Devices Support Matrix</i>	
Verify that NNM iSPI Performance for Traffic Master Collector and Leaf Collector are synchronized using Network Time Protocol (NTP)	<a href="#">Synchronizing Time for All NNM iSPI Performance for Traffic Master and Leaf Collectors on page 36</a>	

You must always use the following sequence while installing the NNM iSPI Performance for Traffic:

- 1 Install the HP NNMi Extension for iSPI Performance for Traffic ([Installing the HP NNMi Extension for iSPI Performance for Traffic](#) on page 21).
- 2 Install the Master Collector ([Installing the Master Collector](#) on page 23).
  - ▶ HP recommends that you install Master Collector on physical server, instead of virtual machine, for Medium and Large environment.
- 3 Install the Leaf Collector ([Installing the Leaf Collector](#) on page 31).

## Platform Combination

For the NNM iSPI Performance for Traffic on Linux media, use an NNMi management server that runs on one of the following operating systems:

- HP-UX
- Solaris
- Linux (SUSE Linux is not supported. You cannot install the Master or Leaf Collector or the HP NNMi Extension for iSPI Performance for Traffic on a SUSE Linux system.)

## Installing the NNM iSPI Performance for Traffic in a High-Availability Cluster or NNMi Application Failover Environment

For information about installing the NNM iSPI Performance for Traffic in a high-availability cluster or NNMi application failover environment, see the *NNM iSPI Performance for Traffic Deployment Guide*.

# 5 Installing the HP NNMi Extension for iSPI Performance for Traffic

The HP NNMi Extension for iSPI Performance for Traffic adds the NNM iSPI Performance for Traffic related links and views into the NNMi workspace.

You must always install the HP NNMi Extension for iSPI Performance for Traffic on the NNMi management server. In the NNMi Application failover environment, make sure you install the HP NNMi Extension for iSPI Performance for Traffic on the primary and secondary NNMi systems. Ensure that the NNM iSPI Performance for Traffic licenses are installed on both the systems.


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

- 1 Log on to the management server with the root privileges.
- 2 Insert the NNM iSPI Performance for Traffic installation media into the DVD drive. Make sure that the DVD drive is mounted, and then use the `cd` command to change to the `/cdrom` directory.
- 3 Do one of the following:
  - If you are installing on a Linux management server, go to the `Traffic_NNM_Extension/Linux` directory on the DVD, and then run the `setup` file.
  - If you are installing on a HP-UX management server, go to `Traffic_NNM_Extension/HPUX` folder on the DVD and then run the `setup` file.
  - If you are installing on a Solaris management server, go to `Traffic_NNM_Extension/SunOS` folder on the DVD and then run the `setup` file.
- 4 The installation initialization process prompts you to choose the language you want to use. The installer configures your system for the installation and initializes the installation process.
- 5 On the Introduction (Install) page, review the overview information, and then click **Next**. The License Agreement page opens.
- 6 Review the License Agreement, select **I accept..**, and then click **Next**. The Select Features page opens.
- 7 Click **Next**.
- 8 The Select Features page opens. Click **Next**.  
The Install Checks page opens.
- 9 The installer checks your system for the installation requirements. When the installer completes the check successfully, click **Next**. The Pre-Install Summary page opens.
- 10 Click **Install**. The installation process begins.
- 11 During installation, the NNMi Extension for iSPI Performance for Traffic dialog box opens. In this dialog box, specify the following details:

- NNMi User Password: Type the password of the NNMi **system** account.
- ▶ The system account is a special administrator account that NNMi creates during installation (see the *Installing NNMi* section in the *HP Network Node Manager i Software Installation Guide*).
- Retype Password: Type the password again.
- Traffic Master FQDN: Type the Fully Qualified Domain Name (FQDN) of the Master Collector system.
- ▶ If you plan to install the Master Collector in a high availability (HA) cluster environment, you must specify the virtual IP address or virtual FQDN of the cluster.

The following details are automatically detected by the installer:

- NNMi User Name: The NNMi system user.
  - NNMi FQDN
  - NNMi JNDI Port
  - Traffic Master HTTP Port
- 12 When the installer completes installing HP NNMi Extension for iSPI Performance for Traffic, a pop-up window appears displaying the status of the installation. Click **OK**.
- 13 Click **Done**.

 You must restart the NNMi processes after installing the NNMi Extension for the NNM iSPI Performance for Traffic. Make sure that no traffic processes are running while performing this operation.

Restart NNMi's processes by running the following commands:

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

#### [Installation Log File on Linux and Solaris](#)

The installation log file (`postInstall_traffic-nnm`) is available in the `/tmp` directory on Linux and Solaris.

#### [Installation Log File on HP-UX](#)

On the NNMi management server on HP-UX, the installer does not create the `postInstall_traffic-nnm` file. Instead, you can see the `swinstall.log` file for more details on the installation process, which is available in the following location:

`/var/adm/sw`

## 6 Installing the Master Collector

You can install the NNM iSPI Performance for Traffic Master Collector on the NNMi management server or on a standalone, remote server.

You can install only one Master Collector in your environment. In a Global Network Management (GNM) environment, you must install one Master Collector for every region.

### Preinstallation Tasks

#### Create a New User with the Web Service Client Role on the NNMi Management Server

Create a user from the NNMi console with the Web Service Client role. This user is used during the installation of the Master Collector. See *Network Node Manager i Software Help for Administrators* for more information on creating a new user with the Web Service Client role.

#### Enable the Read/Write Access to the Data Files on the NNMi Management Server

If you are planning to install the Master Collector on a system other than the NNMi management server, make sure that the following directory is shared using Network File System (NFS) and the user that runs the Master Collector has the read/write access to this directory on the NNMi server:

```
/var/opt/OV/shared/perfSpi/datafiles directory.
```

The share must be visible and writable on the Master Collector system as a network share drive.

#### Create New Oracle Instances

*Skip this task if you choose to use the embedded database with NNMi.*

If you configured NNMi to use an Oracle database, the NNM iSPI Performance for Traffic also must be configured to use Oracle as its database, but you must use a different Oracle instance for the Master Collector. Create a new Oracle database instance for use with the Master Collector.

## Note Down the Details of the Oracle Server

*Skip this task if you choose to use the embedded database with NNMi.*

Note down the following details of the Oracle database instance that you want to use with the NNM iSPI.

- Port: The port used by the Oracle database.
- Hostname: Note down the fully-qualified domain name of the database server.
- Database name: Name of the Oracle database instance created for the NNM iSPI component.
- User name: The Oracle user name created to access the above instance.
- Password: Password of the above user.

## Note Down the Details of the NNMi Management Server



Skip this task if you choose to install the Master Collector on the NNMi management server and NNMi is not installed in an HA or Application Failover environment.

Note down the following details of the NNMi management server if Master Collector is not installed on NNMi management server:

- 1 Go to the following location:

```
/var/opt/OV/conf/nnm/props
```

- 2 Open the `nms-local.properties` file with a text editor.

- 3 Note down the following properties from the primary NNMi management server:

- `com.hp.ov.nms.fqdn`: The FQDN of the NNMi management server.
- `nmsas.server.port.web.http`: The HTTP port used by NNMi.
- `nmsas.server.port.web.https`: The HTTPS port used by NNMi.
- `nmsas.server.port.naming.port`: The JNDI port of NNMi. If this property is commented out (with the `#!` characters) in the file, NNMi uses the default JNDI port, 1099.

If NNMi is installed and configured in the application failover mode, you must *also* note down the above properties from the `nms-local.properties` file on the secondary NNMi management server.

## Ensure the Availability of Necessary Ports

On the Master Collector system, make sure the following ports are available for use:

- 12043
- 12080
- 12083
- 12084
- 12085
- 12086



- 12087
- 12092
- 12099
- 12458
- 12500
- 12501
- 12712
- 12713
- 12714
- 12873

## Installing the Master Collector

To install the Master Collector, follow these steps:



Use this procedure for all types of installation scenarios of the Master Collector: the Master Collector on the NNMi management server, the Master Collector on a standalone system, or the Master Collector on the NPS system.

HP recommends you not to install NPS and the Master Collector on the same system for Medium, Large, and Extra Large tiers. For more information, see *HP Network Node Manager iSPI Performance for Traffic Software System and Device Support Matrix*.

- 1 Log on to the system where you want to install the collector with the root privileges.
- 2 Import the HP public key into the Linux RPM database before installing NNM iSPI Performance for Traffic Master Collector 9.20. To do this, point your browser to the following location and follow the instructions:  
**<https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=HPLinuxCodeSigning>**
- 3 Insert the installation media into the DVD drive.
- 4 Make sure that the DVD drive is mounted, and then use the `cd` command to change to the `/cdrom` directory.
- 5 Go to the `Traffic_Master` directory on the DVD and run the following command:

```
./setup
```

The installation initialization process prompts you to choose the language you want to use. The installer configures your system for the installation and initializes the installation process.

- 6 On the Introduction (Install) page, review the overview information, and then click **Next**. The License Agreement page opens.
- 7 Review the End User License Agreement, select **I accept..**, and then click **Next**. The Select Features page opens.
- 8 Click **Next**.
- 9 If no other HP Software products are installed on the system, the installer opens the Choose the Application and Data Folder page. Make your selection, and then click **Next**.

You can view this page only if you are installing the NNM iSPI on a system separate from NNMi management server.

The Server Configuration page opens.

- 10 On this page, select HP Software Embedded Database if NNMi was installed and configured to use the embedded database. Select Oracle if NNMi was configured to use the Oracle database.
- 11 Click **Next**.
  - If you selected HP Software Embedded Database, go to [step 12](#).
  - If you selected Oracle, the Choose Database Initialization Preferences page opens. On this page, follow these steps:
    - a Do one of the following:
      - If you want to initialize an Oracle database using previously defined database accounts, select Primary Server Installation, and then click **Next**.
      - If you want to connect to an existing database that is already initialized by another primary installation and use this installation in an application failover or HA configuration, select Secondary Server, and then click **Next**.
    - b In the Enter Your Database Server Information page, specify the following details:
      - Host: The FQDN of the Oracle server
      - Port: The port used by Oracle
      - Instance: The Oracle instance name (the Oracle instance that you created in [Create New Oracle Instances](#) on page 23).
    - c Click **Next**. The Enter the Database Account User page opens.
    - d Type the user name and password to access the Oracle instance, and then click **Next**.
- 12 The Install Checks page opens showing the installation requirements. Click **Next**. The Pre-Install Summary page opens.
- 13 Click **Install**. The installation process begins.
- 14 During installation, the Configuring Master dialog box opens with the following sections:
  - **Primary NNMi Server Information Required by NNM iSPI Performance for Traffic**

Specify the following details:

    - Web Service Client User Name: The user created in [Create a New User with the Web Service Client Role on the NNMi Management Server](#) on page 23
    - Web Service Client Password: The password for the above-mentioned user
    - Retype Password: The above-mentioned password
    - Perf SPI Data Path: The shared directory on the NNMi management server that was created by the `nmenableperfspi.ovpl` script.

The data in this field is automatically added by the installer when the Master Collector is installed on the NNMi management server.
    - Is Secure? Select this option if you want the NNM iSPI Performance for Traffic to communicate with NNMi securely (using the HTTPS protocol).

Make sure that you use the same mode of communication for NNM iSPI Performance for Traffic and NNMi. That is if you decide NNMi to use secure mode of communication, make sure that NNM iSPI Performance for Traffic also uses secure mode of communication.



To enable the NNM iSPI Performance for Traffic to use HTTPS protocol, use NNMi's out-of-the-box https configuration that uses a self-signed certificate created during installation. See the *HP Network Node Manager i Software Deployment Reference* for more information about using a signed certificate from a Certificate Authority instead of the self-signed certificate.

- NNMi Failover Configured: Select this option if you configured NNMi to work in the application failover mode.

The following details are automatically detected by the installer:

- NNMi FQDN: FQDN of the NNMi management server
- NNMi HTTP Port: The HTTP port used by NNMi
- NNMi HTTPS Port: The HTTPS port used by NNMi
- NNMi JNDI Port: The JNDI port used by NNMi

- **Secondary NNMi Server Information Required by NNM iSPI Performance for Traffic**

This section is enabled only if you select the NNMi Failover Configured option. Do not type anything in this section if NNMi is not configured to work in the application failover mode.

Specify the following details:

- NNMi FQDN: FQDN of the NNMi management server
- NNMi HTTP Port: The HTTP port used by NNMi
- NNMi HTTPS Port: The HTTPS port used by NNMi
- NNMi JNDI Port: The JNDI port used by NNMi
- Web Service Client User Name: The user created in [Create a New User with the Web Service Client Role on the NNMi Management Server](#) on page 23
- Web Service Client Password: The password for the above-mentioned user
- Retype Password: The above-mentioned password
- Perf SPI Data Path: The shared directory on the NNMi management server that was created by the `nnmenableperfspi.ovpl` script.

The data in this field is automatically added by the installer when the Master Collector is installed on the NNMi management server.

- Is Secure? Select this option if you want the NNM iSPI Performance for Traffic to communicate with NNMi securely (using the HTTPS protocol).

Make sure that you use the same mode of communication for NNM iSPI Performance for Traffic and NNMi. That is if you decide NNMi to use secure mode of communication, make sure that NNM iSPI Performance for Traffic also uses secure mode of communication.



To enable NNM iSPI Performance for Traffic to use HTTPS protocol, use NNMi's out-of-the-box https configuration that uses a self-signed certificate created during installation. See the *HP Network Node Manager i Software Deployment Reference* for more information about using a signed certificate from a Certificate Authority instead of the self-signed certificate.

- **Traffic iSPI Server: Information Required by NNMi**

Specify the following details:

- **Traffic Password:** Type the password for the system user for the Master Collector.

This user is *not* the NNMi system user that you used while installing the HP NNMi Extension for iSPI Performance for Traffic ([Installing the HP NNMi Extension for iSPI Performance for Traffic](#) on page 21). After you specify the password for this user, the Master Collector installer creates this user. This is not an operating system user profile; this user is provisioned inside the Master Collector application.



Note down this password. You need this password to log on to the NNM iSPI Performance for Traffic Configuration form ([step 4](#) on page 43).

HP recommends you to provide the same password here that was specified for the NNMi system account.

- **Retype Password:** Type the above password again.
- **Is Secure?** Select this option if you want the NNM iSPI Performance for Traffic to communicate with NNMi securely (using the HTTPS protocol).

Make sure that you use the same mode of communication for NNM iSPI Performance for Traffic and NNMi. That is if you decide NNMi to use secure mode of communication, make sure that NNM iSPI Performance for Traffic also uses secure mode of communication.

The following details are automatically detected by the installer:

- HTTP Port: 12080
- HTTPS Port: 12043
- JNDI Port: 12099

You cannot modify these ports.

- 15 Click **Submit**. The installation process continues and the Performance SPI Server Configuration dialog box opens.
- 16 In the Performance SPI Server Configuration dialog box, type the FQDN of the NPS server, and then click **OK**.



Do *not* specify any other parameter.

Once the installer completes installing the Master Collector, the Installation Complete page opens.

- 17 Click **Done**.
- 18 Start the Master Collector processes using the following command:

```
/opt/OV/traffic-master/bin/nmstrafficmasterstart.ovpl
```

- 19 Before you start working with NNM iSPI Performance for Traffic, open Installation Verification form from the NNM iSPI Performance for Traffic Configuration form and validate the configuration settings you set up while installing NNM iSPI Performance for Traffic.

For details on how to resolve the installation errors, see [Chapter 12, Troubleshooting Installation](#).

#### Installation Log File

The installation log file (postInstall\_traffic-master) is available in the following directory:

```
/tmp
```



# 7 Installing the Leaf Collector

If you want to install multiple Leaf Collectors, you must install all instances of the Leaf Collector on systems where the Master Collector is not installed. The Master Collector and a Leaf Collector instance cannot coexist on the same system when multiple Leaf Collectors are installed on the network.

## Preinstallation Tasks

### Create New Oracle Instances

*Skip this task if you choose to use the embedded database with NNMi.*

If you configured NNMi to use an Oracle database, you must configure the NNM iSPI Performance for Traffic also to use Oracle as its database. However, you must create a *different* Oracle database instance for *every* instance of the Leaf Collector System. For example, if you want to install five Leaf Collector Systems, create five different Oracle database instances.

### Note Down the Details of the Oracle Server

*Skip this task if you choose to use the embedded database with NNMi.*

Note down the following details of the Oracle database instance that you want to use with the NNM iSPI Performance for Traffic Leaf Collector.

- Port: The port used by the Oracle database.
- Hostname: Note down the fully-qualified domain name of the database server.
- Database name: Name of the Oracle database instance created for the Leaf Collector.
- User name: The Oracle user name created to access the above instance.
- Password: Password of the above user.

### Ensure the Availability of Necessary Ports

On the Leaf Collector systems, make sure the following ports are available for use:

- 11043
- 11080
- 11083
- 11084

- 11085
- 11086
- 11087
- 11092
- 11099
- 11458
- 11500
- 11501
- 11712
- 11713
- 11714
- 11873

In addition, make sure that the ports through which the Leaf Collectors receive flow packets are available.

## Installing the Leaf Collector

Use this procedure for all types of installation scenarios of the Leaf Collector; the Leaf Collector on the NNMi management server, the Leaf Collector on a standalone system, or the Leaf Collector on the NPS system.

To install the Leaf Collector, follow these steps:

- 1 Log on to the system where you install the collector with the root privileges.
- 2 Insert the NNM iSPI Performance for Traffic installation media into the DVD drive.  
Make sure that the DVD drive is mounted, and then use the `cd` command to change to the `/cdrom` directory.
- 3 Go to the `Traffic_Leaf` directory on the DVD.
- 4 Run the following command:  

```
./setup
```


  
The installation initialization process prompts you to choose the language you want to use. The installer configures your system for the installation and initializes the installation process.
- 5 On the Introduction (Install) page, review the overview information, and then click **Next**. The License Agreement page opens.
- 6 Review the End User License Agreement, select **I accept..**, and then click **Next**. The Select Features page opens.
- 7 Click **Next**.
- 8 If no other HP Software products are installed on the system, the installer opens the Choose the Application and Data Folder page. Make your selection and click **Next**.  
You can view this page only if you are installing the NNM iSPI on a system separate from NNMi management server.



The Server Configuration page opens.

- 9 On this page, select HP Software Embedded Database if NNMi was installed and configured to use the embedded database. Select Oracle if NNMi was configured to use the Oracle database.
- 10 Click **Next**.
  - If you selected HP Software Embedded Database, go to step 11.
  - If you selected Oracle, the Choose Database Initialization Preferences page opens. On this page, follow these steps:
    - a Do one of the following:
      - If you want to initialize an Oracle database using previously defined database accounts, select Primary Server Installation, and then click **Next**.
      - If you want to connect to an existing database that is already initialized by another primary installation and use this installation in an application failover or HA configuration, select Secondary Server, and then click **Next**.
    - b In the Enter Your Database Server Information page, specify the following details:
      - Host: The FQDN of the Oracle server
      - Port: The port used by Oracle
      - Instance: The Oracle instance name (the Oracle instance that you created in [Create New Oracle Instances](#) on page 31).
    - c Click **Next**. The Enter the Database Account User page opens.
    - d Type the user name and password to access the Oracle instance, and then click **Next**.
- 11 The Install Checks page opens showing the installation requirements. Click **Next**. The Pre-Install Summary page opens.
- 12 Click **Install**. The installation process begins.

During installation, the Configuring Leaf dialog box opens. In this dialog box, specify the following details:

  - Traffic Leaf Password: Type the password for the **system** user for the Leaf Collector.
    -  Note down this password. You need this password while configuring the Leaf Collector using the NNM iSPI Performance for Traffic Configuration form. You can specify a different password for every Leaf Collector that you install.
  - Retype Password: Type the password again.

The following details are automatically detected by the installer:

  - Traffic Leaf FQDN
  - Traffic Leaf User Name: The system user for the leaf collector. This user is **not** the NNMi system user. After you specify the password for this user, the Leaf Collector installer creates this user. This is not an operating system user profile; this user is provisioned inside the Leaf Collector application.
- 13 Click **Submit**. After the installer completes installing the leaf collector, the Installation Complete page opens.
- 14 Click **Done**.

## Installation Log File

The installation log file (postInstall\_traffic-leaf) is available in the following directory:

/tmp

## 8 Post-Installation Tasks

The NNM iSPI Performance for Traffic interacts frequently with NNMi and NPS. After installing the NNM iSPI Performance for Traffic, you must ensure that the product is able to interact with both NNMi and NPS.

### Exporting Certificates from NPS Configured in SSL


After installing the Master Collector, export the third party Cognos certificate and add it to the trusted certificates list if you want the NNM iSPI Performance for Traffic to communicate with NPS securely (using the HTTPS protocol).

After installing the Master Collector, if NPS is configured with SSL, follow these steps to export the Cognos certificates:

- 1 Export the third-party Cognos certificate
- 2 Add third-party Cognos certificate to the trusted certificates list

### Exporting Cognos Certificate

To export the Cognos certificate using the browser keystone, follow these steps:

- 1 Log on to NPS directly, by pointing your browser at the following URL:  
**https://hostname.domain:9305**
- 2 View the certificate and export it as a DER-encoded binary file. Name the file as "trafficcet.cert".  
 Ignore any warning message that you may see.
- 3 Copy the exported certificate to a temporary location on the Master Collector.

### Adding Cognos Certificate to the Trusted Certificates

After exporting the certificate, follow these steps to add the certificate in the trusted certificates list:

- 1 Stop the Master Collector processes using the following command:  
`/opt/OV/traffic-master/bin/nmstrafficmasterstop.ovpl`
- 2 Create a keystore using the following command to import the Cognos certificate from the temporary location on Master Collector.

```
/opt/OV/nonOv/jdk/nnm/jre/bin/keytool -import -file trafficcert.cer
-keystore traffic.keystore -storepass trafficpass -alias cognos
```

► Ignore any warning message that you may see.

The keytool used should be the Oracle implementation and not the GNU implementation.

- 3 Copy the `traffic.keystore` file at the following location:

```
/var/opt/OV/shared/nnm/certificates
```

► Create the “certificates” folder in `/var/opt/OV/shared/nnm/` location if required.

The file `traffic.keystore` contains the Cognos certificate and is protected with the password “trafficpass”.

- 4 Make sure that running the following command displays Keystore Type as JKS and Keystore provider as SUN:

```
/opt/OV/nonOv/jdk/nnm/jre/bin/keytool -list -keystore /var/opt/OV/
shared/nnm/certificates/traffic.keystore
```

- 5 Start the Master Collector processes using the following command:

```
/opt/OV/traffic-master/bin/nmstrafficmasterstart.ovpl
```

## Synchronizing Time for All NNM iSPI Performance for Traffic Master and Leaf Collectors

If the Master Collector and the Leaf Collector are not located on the same system, you must synchronize the time for the NNMi, NPS, Master Collector, and all Leaf Collectors using Network Time Protocol (NTP).

NNM iSPI Performance for Traffic fails to create bridge between the Master Collector and the Leaf Collectors, if they are not synchronized using NTP.

## Starting the Master Collector

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

To start the Master Collector, log on to the Master Collector system with the root privileges, and then run the following command:

```
/opt/OV/traffic-master/bin/nmstrafficmasterstart.ovpl
```

## Validating Installation Configuration

Before you start working with NNM iSPI Performance for Traffic, follow these steps to validate the configuration settings you set up while installing NNM iSPI Performance for Traffic:

- 1 Start the Master Collector processes.

- 2 Open Installation Verification form from the NNM iSPI Performance for Traffic Configuration form and validate the configuration settings you set up while installing NNM iSPI Performance for Traffic.

For details on how to resolve the installation errors, see [Chapter 12, Troubleshooting Installation](#).

## Enabling Single Sign-On (SSO) for the Master Collector

The NNM iSPI Performance for Traffic enables you to configure single sign-on (SSO) to provide access to Master Collector from the NNMi console while maintaining secure level of access. For more information, see *Managing Securities* in the *HP Network Node Manager iSPI Performance for Traffic Software Deployment Guide*.

## Starting the Leaf Collector

To start the Leaf Collector, log on to the Leaf Collector system with the root privileges, and then run the following command:

```
/opt/OV/traffic-leaf/bin/nmstrafficleafstart.ovpl
```

## Checking the Status of the Leaf Collector

To check the status of the Leaf Collector installation, run the following command on the Leaf Collector system:

```
/opt/OV/traffic-leaf/bin/nmstrafficleafstatus.ovpl
```

If you want to stop the Leaf Collector, run the following command:

```
/opt/OV/traffic-leaf/bin/nmstrafficleafstop.ovpl
```



## 9 Licensing

The NNM iSPI Performance for Traffic product includes a temporary Instant-On license key that is valid for 60 days after you install the iSPI. You must obtain and install a permanent license key as soon as possible.

The NNM iSPI Performance for Traffic may require two different types of licenses:

- **iSPI Points license:** The iSPI Points license is a points-based licensing scheme for all NNM iSPIs (other than the iSPI Performance for Metric). You can obtain iSPI points by purchasing iSPI Point Packs.

Make sure that you specify the IP address of the NNMi management server while obtaining the license for NNM iSPI Performance for Traffic

For the NNM iSPI Performance for Traffic, you need the following:

- For each sFlow interface: One iSPI point
- For each NetFlow interface: Five iSPI points

For example, if leaf collectors in your environment collect data from five sFlow interfaces and five NetFlow interfaces, you must allocate at least  $(1 \times 5) + (5 \times 5) = 30$  iSPI points for your NNM iSPI Performance for Traffic deployment.

When sufficient iSPI points are not available for your deployment, a warning message appears in the NNMi console.

- **Collector Connection Software LTU:** If the Master Collectors and leaf collectors are not located on the same system, you must enable the Collector Connection Software LTU. Your Collector Connection Software LTU must have the capacity to enable monitoring of all the leaf collectors that are configured on servers other than the Master Collector system.

Make sure that you specify the IP address of the NNMi management server while obtaining the license for NNM iSPI Performance for Traffic

In a Global Network Management environment, you can monitor data from remote leaf collectors that belong to different regions (See the *NNM iSPI Performance for Traffic Deployment Reference* for more information). This configuration also requires you to enable the Collector Connection Software LTU.

When your Collector Connection Software LTU does not have sufficient capacity to enable the monitoring of the master-leaf connections for your deployment, a warning message appears in the NNMi console.

### Enabling Licenses for the NNM iSPI Performance for Traffic

Irrespective of your choice of deployment, you must always enable licenses for iSPIs only on the NNMi management server. The `nmmlicense.ovpl` script, available with NNMi, helps you enable licenses by installing license keys on the NNMi management server.

## Before You Begin

Before running the licensing script on the NNMi management server, follow these steps:

- 1 Count the number of traffic interfaces in your environment.
- 2 Determine the iSPI points required to monitor your environment.  
$$\langle Total\_iSPI\_points \rangle = \langle Total\_NetFlow\_Interfaces \rangle \times 5 + \langle Total\_sFlow\_Interfaces \rangle$$
- 3 Based on the iSPI points calculation, choose and obtain an iSPI Points Pack that can enable the monitoring of traffic interfaces in your environment.
- 4 Identify the following items in your environment:
  - Number of leaf collectors on servers other than the Master Collector system.
  - *In a Global Network Management setup.* Number of leaf collectors that belong to another region.
- 5 Obtain the Collector Connection Software LTU for your environment. While obtaining the LTU, make sure the license has the capacity to enable the monitoring of all master-leaf connections in your environment.

## Run the `nmlicense.ovpl` Command on the Management Server

To enable the NNM iSPI Performance for Traffic licenses from the Autopass console, follow these steps on the NNMi management server:

- 1 Log on to the NNMi management server with the administrative or root privileges.
- 2 Enable the iSPI Points license.

At the command prompt, run the following command:

```
/opt/OV/bin/nmlicense.ovpl iSPI-Points -gui
```

The Autopass user interface opens.


Install the license key by following on-screen instructions.

Alternatively, to enable the NNM iSPI Performance for Traffic licenses from the command line, follow these steps:

- a Log on to the NNMi management server with the administrative or root privileges.
- b With the help of a text editor, create a text file that contains only the license key.
- c Save the file on the system.
- d At the command prompt, run the following command:

```
/opt/OV/bin/nmlicense.ovpl iSPI-Points -f <license_file>
```

In this instance, `<license_file>` is the name of the file created in [step b](#).

 Specify the file name with the complete path to the file.

NNMi installs the license key present in `<license_file>`.

- 3 If the Master Collector and leaf collectors are not located on the same system, enable the Collector Connection Software LTU. If you install multiple leaf collectors in the environment (which requires you to install each leaf collectors on a system other than the Master Collector system), you must obtain a license key for each Leaf Collector and follow these steps for each Leaf Collector.



At the command prompt, run the following command:

```
/opt/OV/bin/nmlicense.ovpl TRAFFICCOLLSPI -gui
```

The Autopass user interface opens.


Install the license key by following on-screen instructions.

Alternatively, to enable the NNM iSPI Performance for Traffic licenses from the command line, follow these steps:


- a Log on to the NNMi management server with the administrative or root privileges.
- b With the help of a text editor, create a text file that contains only the license key.
- c Save the file on the system.
- d At the command prompt, run the following command:

```
/opt/OV/bin/nmlicense.ovpl TRAFFICCOLLSPI -f <license_file>
```

In this instance, *<license\_file>* is the name of the file created in [step b](#).

 Specify the file name with the complete path to the file.

NNMi installs the license key present in *<license\_file>*.

 If NNMi is installed in an HA cluster, enable licenses only on the active node.



# 10 Getting Started with the NNM iSPI Performance for Traffic

After you complete the installation of the NNM iSPI Performance for Traffic in your NNMi environment, you can start monitoring your network traffic with the help of reports generated by the NNM iSPI Performance for Traffic.

## Configuration of Routers or Switches for Exporting the IP Flow Data

Make sure that the routers or switches that export the flow data meet the following conditions:

- The routers or switches are configured to export flow packets.
- The routers or switches are seeded as nodes in NNMi and are discovered correctly.

NNM iSPI Performance for Traffic server and NNMi server must be NTP (Network Time Protocol) synchronized. All routers exporting flow data should also be NTP synchronized.

See the documentation of the router or switch vendor for information on configuring interfaces that can report the traffic flow data.

## Configuring the Collectors

You must configure all Leaf Collectors to listen to specific interfaces of routers or switches that are capable of and configured to report the traffic flow data. The NNM iSPI Performance for Traffic Configuration form, which you can launch from the NNMi console, enables you to perform those configuration tasks.

To access the NNM iSPI Performance for Traffic Configuration form, follow these steps:

- 1 Launch the NNMi Console.
- 2 Log on to the NNMi Console with one of the Administrator user roles:
- 3 In the Configuration workspace, double-click **NNM iSPI Performance for Traffic Configuration**. The NNM iSPI Performance for Traffic Configuration form opens.
- 4 Log on to the NNM iSPI Performance for Traffic Configuration form with the credentials of the `system` user for the Master Collector (created in [Traffic iSPI Server: Information Required by NNMi](#) on page 28).
- 5 Log on to the NNMi console with the administrator privileges.
- 6 In the Configuration workspace, click **NNM iSPI Performance for Traffic Configuration**. The NNM iSPI Performance for Traffic Configuration form opens.
- 7 In the NNM iSPI Performance for Traffic Configuration form, configure the following:
  - a Configure the Leaf Collector System.
  - b Configure the Leaf Collector instance.
  - c Configure the Master Collector.

- d Configure additional properties like sites, filters, application mapping groups, and Type of Service groups.

See the *HP Network Node Manager iSPI Performance for Traffic Software Deployment Reference* for more details on the above configuration tasks.

## Accessing the NNM iSPI Performance for Traffic Documents

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

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

# 11 Upgrade the NNM iSPI Performance for Traffic

You can upgrade the NNM iSPI Performance for Traffic 9.11 to the version 9.20. If you have an older version of the NNM iSPI Performance for Traffic installed in your environment, you must first upgrade to 9.11, and then proceed with upgrading to 9.20.

To upgrade NNM iSPI Performance for Traffic 9.11 to NNM iSPI Performance for Traffic 9.20, follow these steps:

## 1 Before you upgrade

- a Stop all Leaf Collector processes. Keep a record of all the systems that had Leaf Collectors installed.
- b Go to system that hosts the Master Collector.
- c Stop the Master Collector.
- d *Only on the systems where NNMi is not installed.* Stop the Postgres daemon on all the systems where the Master and Leaf Collectors are installed.
- e *Only for Oracle.* Back up the NNM iSPI Performance for Traffic 9.11 data.

## 2 Upgrade NNMi

- ▶ If you are upgrading from NNMi 9.0x or 9.1x and you also have the Master or Leaf Collector for the NNM iSPI Performance for Traffic installed on the NNMi system, you must upgrade to NNMi 9.10 patch 3 (or later) and NNM iSPI Performance for Traffic 9.10 patch 2 (or later) before upgrading to NNMi 9.20. Failure to do so will result in the loss of all the NNM iSPI Performance for Traffic data

Make sure that NNMi is upgraded to 9.23.

## 3 Upgrade NPS

Make sure that NPS is upgraded to 9.20 Patch 3.

## 4 Stop the ETL Processes

To stop the ETL processes on the NPS system, run the following command:

*On Windows:* %NnmInstallDir%\NNMPerformanceSPI\bin\stopETL.ovpl

*On Linux:* /opt/OV/NNMPerformanceSPI/bin/stopETL.ovpl

## 5 Back up the perfspi.pm File

The `perfspi.pm` file is available at the following location:

*On Windows:* %NnmInstallDir%\nonOV\perl\lib\5.8.8

*On Linux:* /opt/OV/nonOV/perl/lib/5.8.8

## 6 Upgrade the NNM iSPI Performance for Traffic

- a Make sure that the ETL processes on the NPS system are stopped.

- b Install the HP NNMi Extension for iSPI Performance for Traffic 9.20 on the upgraded NNMi system (see [Installing the HP NNMi Extension for iSPI Performance for Traffic](#) on page 21).

- c Go to the system that hosted the Master Collector 9.11.

On a Linux system, import the HP public key into the Linux RPM database before installing NNM iSPI Performance for Traffic Master Collector 9.20. To do this, point your browser to the following location and follow the instructions:

**<https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=HPLinuxCodeSigning>**

- d Install the Master Collector version 9.20 ([Installing the Master Collector](#) on page 23).

- e Install NNM iSPI Performance for Traffic Leaf Collector 9.20 on all Leaf Collector systems (see [Installing the Leaf Collector](#) on page 31).

- f On every Leaf Collector system, follow these steps:

- Go to the directory `/var/opt/OV/shared/nmsas/traffic-leaf/conf`.
- Open the `nms-traffic-leaf.address.properties` file with a text editor application and add the following content to the file:

```
topn.longterm.data=true
max.dump.hours=1680
topn.flowrecord.pool.size=300000
```

- Save the file and restart the Leaf Collector.

- g Start the Master Collector.

Upgrade all the NNM iSPI Performance for Traffic components before starting NNMi, Master Collector, and Leaf Collector processes.

- ▶
  - You cannot upgrade NNM iSPI Performance for Traffic components after migrating the operating system or database for the system. If you plan to migrate the operating system or database for the system where a NNM iSPI Performance for Traffic component is installed, install the NNM iSPI Performance for Traffic component after you complete the migration.
  - You cannot rollback the NNM iSPI Performance for Traffic 9.20 installation. Before you can revert to an older version, take complete system backup for all systems where Traffic SPI components are installed and make sure that you can restore the backed up information.

## 7 Start the ETL Processes

To start the ETL processes on the NPS system, run the following command:

*On Windows:* `%NnmInstallDir%\NNMPerformanceSPI\bin\startETL.ovpl`

*On Linux:* `/opt/OV/NNMPerformanceSPI/bin/startETL.ovpl`

## 8 Only for Oracle. Post-upgrade tasks.

Run the following command on the NNMi management server:

```
ALTER table masterconfigurationentity add (masterflushcount INTEGER);
UPDATE masterconfigurationentity SET masterflushcount=10000;
```

You can use the backed-up Oracle data (see [step e](#) on page 45) if database corruption occurs during the upgrade process.

Do not start NNM iSPI Performance for Traffic processes immediately after the upgrade. On the NPS system, check the status of the NNM iSPI Performance for Traffic extension packs first by running the following command:

*On Windows:* %NPSInstallDir%\NNMPerformanceSPI\bin\statusALL.ovpl

*On Linux:* /opt/OV/NNMPerformanceSPI/bin/statusALL.ovpl

If the command shows the status of all three extension packs (Interface\_Traffic, Interface\_Traffic\_15\_min, and Interface\_Traffic\_1\_min) as OK, start the NNM iSPI Performance for Traffic processes by following the instructions in [Starting the Master Collector](#) on page 36 and [Starting the Leaf Collector](#) on page 37.





# 12 Troubleshooting Installation

Most of the installation errors you encounter, relate to incorrect installation configuration settings. Before you start working with NNM iSPI Performance for Traffic, open Installation Verification form from the NNM iSPI Performance for Traffic Configuration form and validate the configuration settings you set up while installing NNM iSPI Performance for Traffic.

For details on how to resolve the installation errors, see the following trouble scenarios and tips to resolve these issues.

## Installing the NNM iSPI Performance for Traffic



Before you start working with NNM iSPI Performance for Traffic, open Installation Verification form from the NNM iSPI Performance for Traffic Configuration form and validate the configuration settings you set up while installing NNM iSPI Performance for Traffic. For more information, see [Validating Installation Configuration](#) on page 36.

### Problem Statement: An error occurs during the Leaf Collector installation

Cause: A failure in any or all of the NNM iSPI Performance for Traffic installer tasks can lead to unsuccessful installation. The NNM iSPI Performance for Traffic installer performs the following tasks:

- Encryption of user password
- Creating a postgres User
- Changing the permissions of `/opt/OV/nonOV/Postgres/bin` and `/var/opt/OV/shared/nnm/databases/postgres` directories

Solution:

Make sure that you are running the NNM iSPI Performance for Traffic installer with administrative privileges. Make sure that the user with administrative privileges is part of Local administrator group.

## Starting the NNM iSPI Performance for Traffic

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

Cause can be any one of the following:

- The NNM iSPI Performance for Traffic Leaf Collector ports have already been used
- Postgres is not running
- Running instances of Network Performance Server (NPS) on the Leaf Collector system

- The `/etc/hosts` file does not contain the physical IP address, FQDN, and hostname entries on the Leaf Collector system.

Solution:

- The default Leaf Collector ports are available in the `server.properties` file in the `/opt/OV/traffic-leaf/server/` directory. You can check the file, and make sure the default ports are available.
- Check the `jbossServer.log` file for the Leaf Collector available in the `/var/opt/OV/log/traffic-leaf/` directory to see if there was any problem in starting the 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 you use the embedded database, run the command `ps -aef | grep postgres`. If no postgres install is running, follow these steps:
  - Shutdown traffic-leaf processes.
  - Start postgres manually by running the command: `/etc/init.d/HPSwNnmiSPIPgSql start`
  - Start traffic-leaf process

If you use Oracle, check that the Oracle database instance is configured for use by the Master Collector is available and the user configuration is correct

- If NPS is installed on the same system where you have installed the Leaf Collector, stop any running instances of NPS. You can restart the NPS instance after starting the Leaf Collector.
- Log on to the Leaf Collector system and open the `/etc/hosts` file using a text editor. Add the physical IP address, FQDN, and hostname entries to the `/etc/hosts` file using the following syntax:

<i>physical IP address</i>	<i>FQDN</i>	<i>hostname</i>
----------------------------	-------------	-----------------

For example, the Leaf Collector system with physical IP address `192.168.0.1` and FQDN name `trfleaf.mydomain.com` should have the following entry in the `/etc/hosts` file:

<code>127.0.0.1</code>	<code>localhost.localdomain</code>	<code>localhost</code>
<code>192.168.0.1</code>	<code>trfleaf.mydomain.com</code>	<code>trfleaf</code>

- ▶ Make sure that the loopback IP address (For example, `127.0.0.1`) is not mapped to the physical FQDN (For example, `trfleaf.mydomain.com`).

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

Cause can be any one of the following:

- The Master Collector ports have already been used
- Postgres is not running
- Running instances of Network Performance Server on the system
- The `/etc/hosts` file does not contain the physical IP address, FQDN, and hostname entries on the Master Collector system.

Solution:

- The default Master Collector ports are available in the `server.properties` file in the `/opt/OV/traffic-master/` directory. You can check the file, and make sure if the default ports are available.
- Check the `jbossServer.log` file for the Master Collector available in the `/var/opt/OV/log/` directory to see if there was any problem in starting the iSPI Performance for NNM 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 Leaf Collector is installed, check if postgres is running.

If you use the embedded database, 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 NPS is installed on the same system where you have installed the Master Collector, stop any running instances of NPS. You can restart the NPS instance after starting the Master Collector.

- Log on to the Master Collector system and open the `/etc/hosts` file using a text editor. Add the physical IP address, FQDN, and hostname entries to the `/etc/hosts` file using the following syntax:

<i>physical IP address</i>	<i>FQDN</i>	<i>hostname</i>
----------------------------	-------------	-----------------

For example, the Master Collector system with physical IP address `192.168.0.2` and FQDN name `trfmaster.mydomain.com` should have the following entry in the `/etc/hosts` file:

<code>127.0.0.1</code>	<code>localhost.localdomain</code>	<code>localhost</code>
<code>192.168.0.2</code>	<code>trfmaster.mydomain.com</code>	<code>trfmaster</code>

- Make sure that the loopback IP address (For example, `127.0.0.1`) is not mapped to the physical FQDN (For example, `trfmaster.mydomain.com`).

## Problem Statement: The NNM iSPI Performance for Traffic Configuration Form link does not launch the form

Solution:

- Make sure that the NNMi processes are running.
- Restart NNMi's processes by running the following commands:
  - `ovstop -c ovjboss`
  - `ovstart -c`
- Check the status of the Master Collector by running the `nmstrafficmasterstatus.ovpl` command available in the `/opt/OV/traffic-master/bin/` directory 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 Master Collector.

- Log on to the NNMi console again with new browser session and launch the NNM iSPI Performance for Traffic Configuration Form URL.
- Check that NNMi was restarted after the installation of the HP NNMi Extension for iSPI Performance for Traffic
- Check the log files for the Master Collector in the location `/var/opt/OV/log` to see if there were any problems in starting the Master Collector.
- Make sure that you are using the supported version of the Web browser application. For more information, see *HP Network Node Manager iSPI Performance for Traffic Software System and Device Support Matrix*.

## NNM iSPI Performance for Traffic Analysis Workspace and NNM iSPI Performance for Traffic Configuration Workspace Do Not Appear in NNMi Console

Solution:

- Make sure that you have enabled correct iSPI Points license for NNM iSPI Performance for Traffic. To validate the license information, in the NNMi console, navigate to Help > System Information form and click **View Licensing Information** to view the license information.
- Make sure that you have enabled the Collector Connection Software LTU if the Master Collectors and leaf collectors are not located on the same system.
- Make sure that you have enabled all the licenses on NNMi management server and aligned the licenses to the IP address of the NNMi management server. While obtaining the license for NNM iSPI Performance for Traffic, you must specify the IP address of the NNMi management server.

For more information, see [Chapter 9, Licensing](#).

- After validating the NNM iSPI Performance for Traffic licenses, close and re-open the NNMi console.

## Problem Statement: The `nmstrafficmasterstop.ovpl` command cannot stop the Master Collector

Solution:

Follow these steps to forcibly stop the Master Collector:

- 1 Retrieve the PID from the ps listing using the following command:

```
ps -aef | grep traffic-master
```

- 2 Stop the Master Collector using the following command:

```
kill -9 <PID>
```

# 13 Uninstalling the NNM iSPI Performance for Traffic

While uninstalling NNM iSPI Performance for Traffic, you must uninstall each component of the software separately.

## Uninstalling HP NNMi Extension for iSPI Performance for Traffic

Follow these steps to remove the HP NNMi Extension for iSPI Performance for Traffic:

- 1 On the NNMi management server, go to the `/opt/OV/Uninstall/HPOvTENM` directory.
- 2 Run the command `./setup`. The installer starts uninstalling the HP NNMi Extension for iSPI Performance for Traffic.
- 3 During uninstallation, the Deregistering the HP NNMi Extension for iSPI Performance for Traffic dialog box opens. In this dialog box, specify the following details and click **OK**:
  - NNMi User Password: Type the password of the NNMi system account.
  - Retype Password: Type the password again.The following details are automatically detected by the installer:
  - NNMi User Name: The NNMi system user.
  - NNMi FQDN
  - NNMi JNDI Port
- 4 Uninstall Complete page. Click **Done**.

### Uninstallation Log File on Linux and Solaris

The `setup` program creates the following log files in the `/tmp` directory on Linux and Solaris:

- `preRemove_traffic-nnm`
- `postRemove_traffic-nnm`

### Uninstallation Log File on HP-UX

On the NNMi management server on HP-UX, the `setup` program does not create the `preRemove_traffic-nnm` and `podtRemove_traffic-nnm` files. Instead, you can see the `swinstall.log` file for more details on the uninstallation process, which is available in the following location:

`/var/adm/sw`

# Uninstalling the Master Collector

To remove the Master Collector, follow these steps:

- 1 On the Master Collector system, go to the following location:  
`/opt/OV/traffic-master/Uninstall/HPOvTRMiSPI`
- 2 Run the following command:  
`./setup`
- 3 Follow the on-screen instructions.

## Removing the Traffic Report Extension Pack from NPS

You must manually uninstall the NNM iSPI Performance for Traffic report extension pack when you uninstall the Master Collector.

To manually uninstall the NNM iSPI Performance for Traffic report extension pack:

- 1 Log on to the system where NPS is running.
- 2 Go to the following directory:  
`/opt/OV/NNMPerformanceSPI/bin`
- 3 Use the command `statusALL.ovpl` to ensure that all the processes are running.
- 4 Uninstall the NNM iSPI Performance for Traffic report extension packs by running the following commands:
  - `uninstallExtensionPack.ovpl -p Interface_Traffic`
  - `uninstallExtensionPack.ovpl -p Interface_Traffic_1_min`
  - `uninstallExtensionPack.ovpl -p Interface_Traffic_15_min`
- 5 After uninstalling the extension packs, you must manually remove the iSPI Traffic folder. To remove the iSPI Traffic folder, follow these steps:
  - a Log on to the NNMi Console.
  - b Click **Actions** → **HP NNM iSPI Performance** → **Reporting - Report Menu**. The NPS home page opens.
  - c Click **BI Server** workspace and click **Public Folders**. The iSPI Traffic folder appears in the HP NNM iSPI Performance BI Portal.
    - ▶ If the iSPI Traffic folder does not appear, log on as an Administrator and then click **My home** under My Content area.
  - d Select **iSPI Traffic**.
  - e Click **More Actions for iSPI Traffic** in the Actions column. Perform an action - iSPI Traffic form opens.
  - f Click **✗ Delete**.

# Uninstalling the Leaf Collector

Follow these steps to remove the NNM iSPI Performance for Traffic Leaf Collector:

- 1 On the leaf collector system, go to the following directory:  
`/opt/OV/traffic-leaf/Uninstall/HPOvTRLiSPI`
- 2 Run the command `./setup`.
- 3 The uninstallation initialization process prompts you to choose the language you want to use. The installer then initializes the uninstallation process.
- 4 In the Application Maintenance page, select **Uninstall** and then click **Next**. The Pre-Uninstall Summary page opens.
- 5 Click **Uninstall**.
- 6 After completing the uninstallation process, the installer opens the Uninstall Complete page. Click **Done**.





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**Product name and version:** NNM iSPI Performance for Traffic, 9.20

**Document title:** Installation Guide

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