

HP NNM iSPI Performance for Metrics

for the Linux operating system

Software Version: 8.13

Installation Guide

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1 Introduction

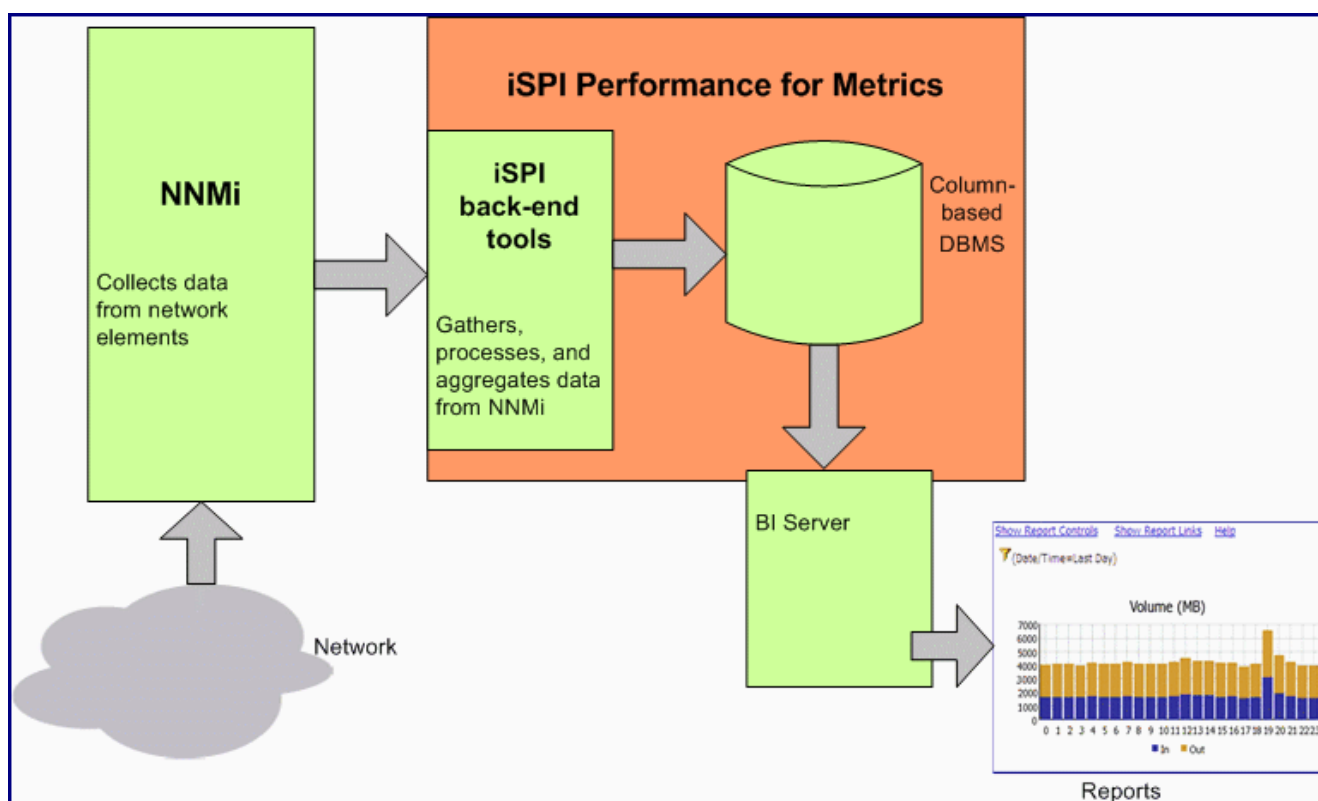
The HP NNM iSPI Performance for Metrics (**iSPI Performance for Metrics**) provides the core performance management capability to Network Node Manager i-series software (**NNMi**) by collecting and monitoring metric data gathered from different network elements. With the combination of NNMi and the iSPI Performance for Metrics, you can monitor the operational performance of the network infrastructure.

The iSPI Performance for Metrics collects data from NNMi, builds data tables, runs queries in response to user selections, and displays query results in web-based reports that help you diagnose and troubleshoot problems in your network.

Overview of Architecture

The iSPI Performance for Metrics uses the collection and polling mechanism provided by NNMi. After gathering the metric data from NNMi, the iSPI Performance for Metrics processes and aggregates the data, and then stores the data into the **column-based** database management system (DBMS). The business intelligence framework—**BI server**—provides a foundation for data storage, data analysis, and reporting. With the help of data analysis tools available with the BI server, you can view ready-to-use reports that indicate the performance of network elements available in the environment.

Figure 1 High-Level Architecture of the iSPI Performance for Metrics



Components of the iSPI Performance for Metrics

The components of the iSPI Performance for Metrics can be grouped into the following categories:

- **Server**

The server components provide the infrastructure and resources to gather and process the performance data collected by NNMi. The combination of data processing tools, DBMS, and the BI Server enables the iSPI Performance for Metrics to analyze, aggregate, and store the performance metrics collected by NNMi.

- **Extension packs**

Extension packs provide rules and definitions to generate reports from the data gathered from NNMi. The default, ready-to-use extension packs available with the iSPI Performance for Metrics help you view reports indicating the health and performance of network interfaces, components, and network paths.

Integration with the iSPI Performance for Traffic

You can use the iSPI Performance for Metrics in conjunction with the iSPI Performance for Traffic to view reports that help you understand performance bottlenecks in your network more effectively. In addition, you can monitor network flow data and store the data for future analysis.

The iSPI Performance for Traffic shares system resources with the iSPI Performance for Metrics. When both the products are deployed together, you must install the iSPI Performance for Metrics in the environment before installing the iSPI Performance for Traffic. Both the products use the same data repository, which enables correlation and coordination of performance data between these two products. Use of the common, column-based DBMS enables you to view reports in the context of topology.



The iSPI Performance for Traffic 8.13 is supported only on Windows systems.

For information on installing the iSPI Performance for Traffic, see the *HP NNM iSPI Performance for Traffic Installation Guide*.

Licenses

The iSPI Performance for Traffic is licensed separately from the iSPI Performance for Metrics. You can purchase the license for the iSPI Performance for Traffic without purchasing a license for the iSPI Performance for Metrics. In this case, the **License-to-Use (LTU)** for the iSPI Performance for Traffic will not allow you to use the iSPI Performance for Metrics reports.

The iSPI Performance for Traffic installation depends on the server components of the iSPI Performance for Metrics. To complete an installation of the iSPI Performance for Traffic, you must first install of the server components of the iSPI Performance for Metrics.

Installation Overview

You can install the iSPI Performance for Metrics on the NNMi management server or on a dedicated, standalone server. Based on sizing guidelines provided in the *HP NNM iSPI Performance for Metrics Support Matrix* document, you can select the option that suits your requirement.



Do not install the iSPI Performance for Metrics on a system where the **iSPI for Performance** (8.00/8.01/8.11) is installed and running. To install the iSPI Performance for Metrics on such a system, completely remove the iSPI for Performance, restart the system, and then begin the installation procedure.

With the iSPI Performance for Metrics, do not use an NNMi management server that is already configured with an instance of the iSPI for Performance (8.00/8.01/8.11).

Installing on the NNMi Management Server

Installing the iSPI Performance for Metrics on the NNMi management server involves running the installer program. The installation process in this scenario is relatively simpler.

Installing on a Dedicated Server

In addition to running the installer program, this installation option requires you to perform additional configuration steps with the following utilities:

- **Enablement script**

The enablement script, available on the NNMi management server (placed on the system by the NNMi installer), facilitates smooth communication between NNMi and the iSPI Performance for Metrics.

- **Configuration utility**

The iSPI Performance for Metrics installation process introduces the configuration utility to the system. The configuration utility enables you to specify the information that helps iSPI processes communicate with the NNMi management server.

Sources for Additional Information

Consult the following HP sources for additional information:

- *HP NNM iSPI Performance for Metrics 8.13 Support Matrix*
- *HP NNM iSPI Performance for Metrics 8.13 Release Notes*
- *HP NNM iSPI Performance for Metrics 8.13 online help*
 - Troubleshooting tips
 - iSPI Performance for Metrics utilities
 - Report descriptions and use-case scenarios
- *Network Node Manager i-series software 8.13 Deployment Guide*
- *Network Node Manager i-series software 8.13 Release Notes*
- *Network Node Manager i-series software 8.13 Support Matrix*

Documentation Conventions

The iSPI Performance for Metrics documentation uses the following conventions:

Table 1 iSPI Performance for Metrics Documentation Conventions

Symbol	Meaning
<i>%nnminstalldir%</i>	<i>Windows only.</i> The environment variable for the NNMi application directory. This variable is automatically created by the NNMi installer. If you install the iSPI Performance for Metrics on an NNMi (Windows) management server, all application files of the iSPI are placed here.
<i>%nnmdatadir%</i>	<i>Windows only.</i> The environment variable for the NNMi data directory. This variable is automatically created by the NNMi installer. If you install the iSPI Performance for Metrics on an NNMi (Windows) management server, all the data and configuration files of the iSPI are placed here.
<i><Install_Dir></i>	<i>Windows only.</i> The iSPI Performance for Metrics application directory. When you install the iSPI on the NNMi management server, the iSPI installer uses <i>%nnminstalldir%</i> as the application directory for the iSPI.
<i><Data_Dir></i>	<i>Windows only.</i> The iSPI Performance for Metrics data directory. This directory contains all the configuration and data files used by the iSPI Performance for Metrics. When you install the iSPI on the NNMi management server, the iSPI installer uses <i>%nnmdatadir%</i> as the data directory for the iSPI.

On Linux, the iSPI Performance for Metrics installer directly installs the necessary files into the following directories:

- **Application files:** /opt/OV
- **Data and configuration files:** /var/opt/OV

2 Prerequisites and Planning

Before you begin installation, make sure that all the prerequisites are met. After evaluating your requirements, identify the most suitable installation option for the environment, and then you can create a step-by-step plan for the installation.

Prerequisites

- **Primary Domain Name System (DNS) suffix**

The system where you plan to install the iSPI Performance for Metrics must have a primary DNS suffix configured. Also, the system must be reachable on the network using the fully-qualified domain name (FQDN).

- **Port availability**

The iSPI Performance for Metrics uses the following ports for different processes: 9300, 9301, 9302, 9303, and 9304. Before installation, make sure that these ports are free. To see the list of used ports on the system, run the `netstat` command.

- **IPv4 address in the hosts file**

The `hosts` file (present in the `/etc` directory) must include at least one IPv4 address.



You cannot install the iSPI Performance for Metrics 8.13 in a High Availability (HA) environment.

Planning the Installation

An installation plan prepares you for the installation process and helps you gather all the information required to complete the installation. After reviewing your requirements and finalizing the installation option (installation on the management server or a dedicated server), create a plan for the installation.

NNMi Version

You can use the iSPI Performance for Metrics 8.13 only with NNMi 8.13 (Patch 5 or 6). Make sure to upgrade NNMi to the version 8.13 (Patch 5 or 6) before installing the iSPI Performance for Metrics.

To verify the version of NNMi, follow these steps:

- 1 Log on to the NNMi console.
- 2 Click **Help** → **About HP Network Node Manager i-series**.

- 3 Verify that the version is 8.10, 8.13.005.

Platform Combination

If you choose to install the product on a dedicated server, make sure that the platform combination of the iSPI server and management server is supported by the iSPI Performance for Metrics.

Use an NNMi management server that runs on one of the following operating systems:

- Linux
- HP-UX
- Solaris

Table 2 Platform Combination

iSPI Media	Supported NNMi Platform
Linux	Linux
	HP-UX
	Solaris

File Sharing Mechanism

When you install the iSPI Performance for Metrics on a dedicated server, you must enable the file sharing mechanism between the iSPI server and NNMi management server.

The NNMi management server shares necessary files with the iSPI server using the **network file system (NFS)** protocol.

Domain Names

When you install the iSPI Performance for Metrics on a dedicated server, the NNMi management server and dedicated server must have the same domain name.

Verify that the dedicated server and NNMi management server are in the same DNS domain; for example, hp.com. Membership in different sub-domains is allowed, but the parent domain must be the same. For example:

- nnm.hp.com
- iSPI.hp.com

Preinstallation Checklist

The preinstallation checklist, provided with [Table 3](#) on page 15 helps you ensure that all the preinstallation tasks are complete.

Table 3 Preinstallation Checklist

Task	Reference Document/Topic	Complete (y/n)
Identify the installation option: on the management server or a dedicated server	<i>HP NNM iSPI Performance for Metrics Support Matrix</i>	
Verify that the iSPI for Performance (8.00/8.01/8.11) is not present on the system where you want to install the iSPI Performance for Metrics.		
Verify that the NNMi version is 8.13.		
Verify that NNMi is not configured with an instance of the iSPI for Performance (8.00/8.01/8.11).		
Verify that the system (where you want to install the product) meets the system requirements.	<i>HP NNM iSPI Performance for Metrics Support Matrix</i>	
Verify that the system (where you want to install the product) meets the prerequisites.	Prerequisites on page 13	
<i>Only for the dedicated server installation:</i> Verify that you have selected a supported platform combination	Platform Combination on page 14	
<i>Only for the dedicated server installation:</i> Verify that the management server and dedicated server belong to the same DNS domain. Note down the FQDN of the dedicated server.	Domain Names on page 14	
<i>Only for the dedicated server installation:</i> If you want to use a security-enabled Linux as an NNMi management server, make sure to disable security policies or make exceptions for the SMB traffic on the SELinux management server.	Platform Combination on page 14	

After you complete all the tasks specified in [Table 3](#), start the installation procedure.

Single Sign-On

Installing the iSPI Performance for Metrics enables a security mechanism known as Single Sign-on (SSO). SSO allows the iSPI to recognize the same user names and passwords that the NNMi Console recognizes. When SSO is enabled, a user who is already logged on to NNMi, can move from NNMi to an iSPI report without having to log on a second time.

For SSO to work, the iSPI Performance for Metrics and NNMi must share the same domain name and the URL that launches NNMi must include NNMi's fully-qualified domain name (FQDN). If a user points a browser at a URL using an unqualified host name, the SSO servlet will display a logon window, forcing the user to log on a second time. If NNMi and the iSPI are installed on the same server, and NNMi is not yet configured with an FQDN, you can achieve the same results—no second logon window when you move from NNMi to a report—by using NNMi's IP address in the URL.

3 Installing on the NNMi Management Server

If you want to install the iSPI Performance for Metrics on a dedicated server, skip this chapter and go to [Installing on a Dedicated Server](#) on page 19.

Before you begin the installation process, make sure that NNMi is running on the server and the version of NNMi is 8.13 (Patch 5 or 6).

Installing the iSPI Performance for Metrics

To install the iSPI Performance for Metrics, follow these steps:

- 1 Log on to the management server with the root privileges.
- 2 Insert the iSPI Performance for Metrics installation media into the DVD drive.
- 3 Make sure the DVD-ROM drive is mounted, and then use the `cd` command to change to the `/cdrom` directory.
- 4 From the media root, run the following command:

```
./HPNNMPerformanceSPI_8.13.000_setup.bin
```

The installation wizard opens.

If the Application requirement check warnings dialog box opens, review the warning messages, take appropriate actions, and then click **Continue**.

- 5 On the Introduction page, click **Next**. The License Agreement page opens.
- 6 On the License Agreement page, select **I accept the terms....**, and then click **Next**. The installer program initiates the system checking process and verifies if system requirements are met.
- 7 If the installation check succeeds, click **Next**. The Pre-Install Summary page opens.
- 8 On the Pre-Install Summary page, click **Install**. The installation process begins.
- 9 When the installation process is complete, click **Done**.
- 10 Restart NNMi's jboss process by running the following commands:
 - a **ovstop -c ovjboss**
 - b **ovstart -c ovjboss**

Removing the iSPI Performance for Metrics



To remove the iSPI Performance for Metrics from the management server, follow these steps:

If you want to continue to use the iSPI Performance for Traffic, do not remove the iSPI Performance for Metrics. You cannot use the iSPI Performance for Traffic if the iSPI Performance for Metrics is not available in the environment.

- 1 Log on to the management server with the root privileges.
- 2 Make sure NNMi is running.
- 3 From the command prompt, run the following command:

```
/opt/OV/Uninstall/HPNNMPerformanceSPI/  
HPNNMPerformanceSPI_8.13.000_setup.bin
```

The wizard opens.

If the Application requirement check warnings dialog box opens, review the warning messages, take appropriate actions, and then click **Continue**.

- 4 A welcome page opens. Click **OK**.
- 5 On the Application Maintenance page, select **Uninstall**, and then click **Next**. The Pre-Uninstallation Summary page opens.
- 6 On the Pre-Uninstallation Summary page, click **Uninstall**. The program starts removing the iSPI Performance for Metrics from the system.
- 7 When the program completely removes the iSPI Performance for Metrics, click **Done**. The removal process removes all the components of the iSPI Performance for Metrics from the system.

4 Installing on a Dedicated Server

If you want to install the iSPI Performance for Metrics on a dedicated server, you must run the enablement script first on the NNMi management server, and then run the installer program on the dedicated server.

Running the Enablement Script

Before you begin the installation on the dedicated server, you must run the enablement script on the NNMi management server. The NNMi version must be 8.13 (Patch 5 or 6). The enablement script is placed on the management server by the NNMi installer.


With the Linux media of the iSPI Performance for Metrics, you must use a Linux, HP-UX, or Solaris NNMi management server.

To run the enablement script on a Linux, HP-UX, or Solaris management server, follow these steps:

- 1 Log on to the NNMi management server with the root privileges.
- 2 Go to the following location:

```
/opt/OV/bin
```
- 3 Run the script `nnmenableperfspi.ovpl`. The enablement script starts operating in the interactive mode. The script shows the following message:

```
Would you like to begin?
```
- 4 Type **Y**, and then press **ENTER**. The script asks if the version of the iSPI Performance for Metrics is 8.13 or later.
- 5 Type **Y**, and then press **ENTER**. The script asks if you want to install the iSPI Performance for Metrics on the local system with NNMi.
- 6 Type **N**, and then press **ENTER**. The script asks for the FQDN of the system where you plan to install the iSPI Performance for Metrics.
- 7 Type the FQDN, and then press **ENTER**.

 Use only FQDN; do not use the IP address.

The script shows the following message:

```
The default port for the iSPI is 9300.
```

```
Press [return] to use this port.
```

- 8 Press **ENTER**. The script prompts you to share drive space from the management server. Choose the following file sharing option:

NFS share: Choose this option since you are using a Linux iSPI media.

- 9 The script creates a share in the following location:

```
/var/opt/OV/shared/perfSpi
```

The iSPI Performance for Metrics will access this location from the dedicated server to gather data collected by NNMI.

- 10 The enablement script enables the Single Sign-On security for the iSPI Performance for Metrics.
- 11 The enablement script stops. The Next Steps section shows the shared path (to be accessed by the iSPI Performance for Metrics) in the following format:

```
\\<FQDN>\PerfSpi
```

Note down this location and use this with the iSPI Performance for Metrics on the dedicated server in exactly the same format.

The script performs the following tasks while running on the management server:

- Enables the Instant-On license for the iSPI Performance for Metrics.
- Adds a new item—the **Reporting- Report Menu** item—to the Actions menu in the NNMI console.
- Shares a location on the management server.
- Creates a new user on the management server.
- Enables the Single Sign-On security for the iSPI Performance for Metrics.

- 12 Restart NNMI's jboss process by running the following commands:

- a **ovstop -c ovjboss**
- b **ovstart -c ovjboss**

Installing the iSPI Performance for Metrics

You must perform this procedure on the dedicated server. To run the installer program for the iSPI Performance for Metrics, follow these steps:


- 1 Log on to the dedicated server with the root privileges.
- 2 Insert the iSPI Performance for Metrics installation media into the DVD drive.
- 3 Make sure the DVD-ROM drive is mounted, and then use the **cd** command to change to the `/cdrom` directory.
- 4 From the media root, run the following command:

```
./HPNNMPerformanceSPI_8.13.000_setup.bin
```

The installation wizard opens.

If the Application requirement check warnings dialog box opens, review the warning messages, take appropriate actions, and then click **Continue**.

- 5 On the Introduction page, click **Next**. The License Agreement page opens.
- 6 On the License Agreement page, select **I accept the terms....**, and then click **Next**.
- 7 The installer program initiates the system checking process and verifies if system requirements are met.

- 8 If the installation check succeeds, click **Next**. The Pre-Install Summary page opens.
- 9 On the Pre-Install Summary page, click **Install**. The installation process begins.
- 10 Toward the end of the installation process, the Configuration Utility opens. In the Configuration Utility, follow these steps:
 - a Specify the path to the shared location created by the enablement script on the NNMi management server.
 -  Use exactly the same format displayed by the enablement script summary.
 - b Specify the detailed data archive retention period. Depending on the system resource, we can choose a value for this parameter.
 - c Click **Start** to start the necessary daemons for the iSPI Performance for Metrics on the dedicated server.
 - d Click **Apply**.
- 11 When the installation process is complete, click **Done**.

Troubleshooting Tips

The Configuration Utility shows the following failure message:

FATAL: Service configuration test failed

- *Cause:*

Incorrect format of the shared path.

Solution:

Make sure to specify the correct share path in the correct format. To specify the correct path, follow these steps:

- a Go to the NNMi management server.
- b Collect the log file `nnenableperfspi_log.txt` for the enablement script from the following location: `%nnmdatadir%\log` or `/var/opt/OV/log`
- c At the end of the file, look for the shared location details in the Summary or Next Steps section.
- d Copy the location from the log file and paste in the Path field in the Configuration Utility.

Removing the iSPI Performance for Metrics

To remove the iSPI Performance for Metrics from the dedicated server, follow these steps:



If you want to continue to use the iSPI Performance for Traffic, do not remove the iSPI Performance for Metrics. You cannot use the iSPI Performance for Traffic if the iSPI Performance for Metrics is not available in the environment.

- 1 Make sure NNMi is running.
- 2 Log on to the NNMi management server with the administrative or root privileges.

- 3 Go to the following location:

On Windows: %nninstalldir%\bin

On UNIX or Linux: /opt/OV/bin



Do not run the script `nnmdisableperfspi.ovpl` if you want to continue to use the iSPI Performance for Traffic.

- 4 Run the disablement script (`nnmdisableperfspi.ovpl`).

- 5 Log on to the dedicated server with the root privileges.

- 6 From the command prompt, run the following command:

```
/opt/OV/Uninstall/HPNNMPerformanceSPI/  
HPNNMPerformanceSPI_8.13.000_setup.bin
```

The wizard opens.

If the Application requirement check warnings dialog box opens, review the warning messages, take appropriate actions, and then click **Continue**.

- 7 A welcome page opens. Click **OK**.

- 8 On the Application Maintenance page, select **Uninstall**, and then click **Next**. The Pre-Uninstallation Summary page opens.

- 9 On the Pre-Uninstallation Summary page, click **Uninstall**. The program starts removing the iSPI Performance for Metrics from the system.

- 10 When the program completely removes the iSPI Performance for Metrics, click **Done**. The removal process removes all the components of the iSPI Performance for Metrics from the system.

5 Getting Started

This chapter covers the following topics:

- Launching the iSPI Performance for Metrics
- Verifying that the iSPI Performance for Metrics is operating without errors
- Changing the defaults for performance polling
- Setting thresholds for exceptions
- Changing the password for BI Server
- Preparing for NNMi Application Failover



If you acquired a license for only the iSPI Performance for Traffic, you will not be able to use the features of the iSPI Performance for Metrics. To use the combined capabilities of the iSPI Performance for Traffic and iSPI Performance for Metrics, you must separately acquire the licenses for both the iSPI Performance for Traffic and iSPI Performance for Metrics.

Launching the iSPI Performance for Metrics Reports

You can launch the iSPI Performance for Metrics reports from:

- The NNMi console
- Report Menu

Launching from the NNMi Console

- 1 Enter the following URL into a web browser window:

`http://<fully-qualified-domain-name>:<port>/nnm/`

where *fully-qualified-domain-name* is the fully-qualified domain name of the NNMi management server, and *port* is the port used by the jboss application server to communicate with the NNMi console.

- 2 When the NNMi console logon window opens, type your user account name and password, and then click **Sign In**.
- 3 When the NNMi console opens, select **Actions > Reporting - Report Menu**. The iSPI Performance for Metrics report window opens.

Directly Launching the Report Menu

- 1 Point your browser to the following URL:

`http://<fully-qualified-domain-name>:9300/PerfSpi/login`

- 2 When the NNMi console logon window opens, type your user account name and password, and then click **Sign In**.
- 3 The Report Menu opens. From this page, you can open any report. From any report, you can reach the Report Menu by clicking **Show Links**.

Verify Error-Free Operation

To verify that the iSPI is operating without errors, perform these tasks:

- [Task 1: Locating Application Files and Runtime Files](#) on page 24
- [Task 2: Validating the Configuration File](#) on page 25
- [Task 3: Using the Configuration Utility](#) on page 25
- [Task 4: Using the Log File Monitor](#) on page 25
- [Task 5: Using the Log File Analyzer](#) on page 26
- [Task 6: Using the Diagnostic Reports](#) on page 27

Task 1: Locating Application Files and Runtime Files

iSPI software consists of static application software files (binaries) and dynamic runtime files. The default path for static application software is:

```
<Install_Dir>/NNMPerformanceSPI
```

The **NNMPerformanceSPI** directory contains the following folders:

- bin
- config
- Docs
- extentionpacks
- Installation
- java
- lib
- SHS

The default path to the dynamic runtime files is:

```
<Data_Dir>/NNMPerformanceSPI
```

The **NNMPerformanceSPI** directory contains the following folders:

- Component_Health
- contentstore
- database
- Interface_Health
- logs
- nnmappfailover
- rconfig

- PerfSPI_Diagnostics

Task 2: Validating the Configuration File

The configuration checker verifies that the main configuration file contains valid entries. To launch the configuration checker:

- 1 `cd` to the following directory:
`/opt/OV/NNMPerformanceSPI/bin`
- 2 Type the following command:
`./checkConfig.ovpl`

If everything is okay, the checker displays the following message:

```
INFO: configuration file validated OK
```

Task 3: Using the Configuration Utility

Use the Configuration Utility to change the following parameters:

- Path to the NNM datafiles folder
- Data retention

To make any of these changes, follow these steps:

- 1 Launch the Configuration Utility.
 - a `cd` to the following directory: `/opt/OV/NNMPerformanceSPI/bin`
 - b Type the following command: `./runConfigurationGUI.ovpl`
- 2 Click **Stop**. (Clicking **Stop** stops metric processing and table creation; it does not stop the iSPI from collecting data from NNM.)
- 3 Make any of these changes:
 - Change the account name
 - Change the password
 - Change the path to the shared NNM datafiles directory
 - Modify the default retention period for archive table data:
 - Default = 14 days
 - Max retention period = 70 days
- 4 Click **Apply**.
- 5 Click **Start**.
- 6 Click **Exit**.

The system will not read your changes until you restart. Under certain circumstances (for example, a shared file system is not ready), you may be required to delay restarting.

Task 4: Using the Log File Monitor

The log file monitor is Chainsaw. Using Chainsaw, you can monitor DEBUG, INFO, WARN, ERROR, and FATAL messages as they reach the `prspi.log` file. The `perfspi.log` file contains every message generated since previous night at midnight. The path to `prspi.log` is:

```
/var/opt/OV/NNMPerformanceSPI/logs/prspi.log
```

Follow these steps to verify that the iSPI is running without errors.

- 1 Open the Log File Monitor.
 - a cd to the following directory: `/opt/OV/NNMPerformanceSPI/bin`
 - b Type the following command: `./runChainsaw.ovpl`
- 2 The welcome page includes several tabs. Select the message interface tab (the path to `perfspi.log`). This view includes three panes:
 - Event pane — top center
 - Detail event pane — below the Event pane
 - Tree logger pane — to the left of the Event pane

The event pane is constantly changing, showing the most recent message as it arrives in `perfspi.log`, and additional information about that message in the detail event pane.
- 3 Open the Interface Health folder and watch for WARN, ERROR, or FATAL messages generated by loggers.
- 4 Open the Component Health folder and watch for WARN, ERROR, or FATAL messages generated by loggers.



If the logfile is truncated and archived, Chainsaw may stop scrolling messages. If this happens, restart Chainsaw.

Task 5: Using the Log File Analyzer

Use the Log File Analyzer to display:

- A daily summary of warnings produced by processes within each extension package
- A daily summary of errors produced by processes within each extension package
- Timing data for selected processes within each extension package

Follow these steps:

- 1 Open the Log File Analyzer:
 - a cd to the following directory: `/opt/OV/NNMPerformanceSPI/bin`
 - b Type the following command: `./log_analyzer.ovpl`
- 2 Review warnings and errors.

The summary data for warnings and errors covers the previous two weeks. The last summary, covering today, will be incomplete. The summary data indicates:

- Date
- Number of errors per process, if any
- Number of warnings per process, if any

A warning normally indicates a transient condition, usually a temporary mismatch, that will self-correct. If you see a warning message or an error message, you may want to examine it in more detail by viewing the associated logfile in a text editor.

- 3 Scroll down past the summary of warnings and errors to see timing data. Timing data shows:
 - Total number of times a process executed over the previous two weeks
 - Average execution time per process over the previous two weeks

- Standard deviation
- Maximum execution time per process over the previous two weeks
- Average number of records processed per execution
- Average number of records processed per second

Task 6: Using the Diagnostic Reports

The Self Diagnostics extension pack contains six reports:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Top N
- Top 10 Task Duration

These reports monitor trends related to the duration of iSPI processes. For details about report contents, see online help.

Changing the Defaults for Performance Polling

When you install the iSPI Performance for Metrics, some performance polling is enabled for you, automatically. If your polling requirements are different from the defaults, the defaults must be changed. Changing the defaults is an NNMi console task.

To change the performance polling defaults for a node group, use the Node Settings form. To access this form from the NNMi console, select:

Workspaces > Configuration > Monitoring Configuration > Node Settings

If you need help changing performance polling defaults, refer to the following help topic in the Administration section of online help for the iSPI:

Setting Performance Polling in NNMi

Setting Thresholds for Exceptions

Although several iSPI Performance for Metrics reports monitor exceptions, data about exceptions will be missing from these reports until thresholds for performance metrics are set in NNMi. There are no default thresholds, so no thresholds are set for you automatically. Setting thresholds is a manual step.

To avoid generating too many exceptions, or too many incidents related to threshold conditions, set thresholds that will flag *abnormal* behavior. You can develop a better understanding of abnormal behavior by studying variance in iSPI Performance for Metrics reports.

When you are ready to set thresholds, use the **Threshold Settings** tab on the **Node Settings** form. If you need help with this task, refer to the following topic in the Administration section of online help for the iSPI:

Changing the Admin Password for the BI Server

You can launch the Report Menu from the NNMi console if you log on (to the NNMi console) as an administrator. If the Single Sign-On authentication feature of NNMi does not work, you can launch the iSPI Report Menu with the following steps:

- 1 Launch the following URL:
http://<FQDN_of_iSPI_system>:9300/p2pd
- 2 Set the namespace to `ErsAuthenticationProvider` (the default setting) and click **OK**.
- 3 Log on with the user name `ErsAdmin`.

We recommend changing the default password for BI Server (`ErsAdmin`) promptly, soon after installation. Follow these steps:

- 1 Navigate to this directory: `/opt/OV/NNMPerformanceSPI/bin`
- 2 Type the following command, followed by your new password:
changeBIpwd.ovpl <newpassword>
- 3 The system displays the following message:
`ErsAdmin password set successfully.`
- 4 Restart the BI Server by running the following commands:

- ▶ Restarting the BI Server may take several minutes.
- `/opt/OV/NNMPerformanceSPI/bin/stopBI.ovpl`
- `/opt/OV/NNMPerformanceSPI/bin/startBI.ovpl`

Preparing for Application Failover

Application Failover for NNMi ensures redundancy by allowing a secondary NNMi server to take over immediately after a primary NNMi server fails. Application Failover relies on jboss clustering technology, a shared certificate that must be copied from NNMi to the iSPI Performance for Metrics, and ongoing file system synchronization.

Except for a minor service interruption lasting about 15 minutes, Application Failover is transparent. Users will not notice that a failover took place and there are no special tasks for the iSPI administrator to perform.

The ability of the iSPI Performance for Metrics to support application failover depends on files the iSPI Performance for Metrics retrieves from the primary server in the cluster. As soon as the iSPI Performance for Metrics has these files, it begins monitoring the status of the primary server by checking for status changes every 5 minutes. If the iSPI Performance for Metrics detects a status change, the iSPI Performance for Metrics:

- Determines which server in the cluster is the new primary server
- Redirects data collection to a shared directory on the new primary server

- Begins collecting data (metrics and topology files) from the new primary

Immediately after these events take place, iSPI users will be able to link from the iSPI to NNMi views on the new primary server, just as they were able to do before the failover took place.

Prerequisites for Successful Application Failover

Application Failover will succeed if the following prerequisites are met:

- Configure NNMi the same way on each server in the cluster.
- Run the iSPI Performance for Metrics enablement script on every server in the cluster.
- Each time you run the enablement script, respond to enablement script prompts exactly the same way and establish the same path to the datafiles folder.
- Copy a certificate (a Java keystore file) from NNM to the iSPI Performance for Metrics.

Application Failover

If you are running NNMi in an Application Failover cluster:

- 1 Run the enablement script at least twice, once on the active NNMi server and once on each standby server in the cluster.
- 2 When you run the enablement script on the inactive server, provide the same responses you provided when you ran the enablement script on the active server.
- 3 Later, if you choose to install permanent licenses, be sure to install identical licenses on every server in the cluster.

Additional Configuration Steps

After successfully running the enablement script, follow these steps:



Follow these steps only when NNMi is running on Linux.

- 1 Go to the following directory:

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

- 2 Run the following command:

```
chmod 777 nnm_details.xml
```

- 3 Edit the file `/etc/exports` and add the option `no_root_squash` to the `perfSpi/datafiles` share as shown below:

```
/var/opt/OV/shared/perfSpi/datafiles          spimachine.domain
(rw, sync, no_root_squash)
```

- 4 Run the following commands in the given sequence:

```
a exportfs -ua
```

```
b exportfs -a
```

- 5 Repeat [step 1](#) through [step 4](#) on the secondary node.

Copying the Keystore File from NNM to the iSPI Performance for Metrics

Follow these steps to copy the cluster.keystore certificate from NNM to the iSPI Performance for Metrics:

- 1 Navigate to the cluster.keystore file on NNM:

NNM on Windows

```
%NnmDataDir%\shared\nnm\conf\nnmcluster\cluster.keystore
```

NNM on UNIX

```
/var/opt/ov/shared/nnm/conf/nnmcluster/cluster.keystore
```

- 2 Copy cluster.keystore to the following directory on the iSPI Performance for Metrics:

```
/var/opt/OV/NNMPerformanceSPI/nmappfailover/keystore
```



The keystore enables access to the NNM cluster. We recommend using a secure copy mechanism, such as SCP or USB key.

6 Licensing

To obtain a permanent license, acquire a password for a permanent license and then install the license password using Autopass License Management. Install the license password on the NNMi server, not the iSPI server, even if the iSPI is installed on a dedicated server.



If you acquired a license for only the iSPI Performance for Traffic, you will not be able to use the features of the iSPI Performance for Metrics after the 30-day evaluation period is over. To use the combined capabilities of the iSPI Performance for Traffic and iSPI Performance for Metrics, you must separately acquire the licenses for both the iSPI Performance for Traffic and iSPI Performance for Metrics.

Do not modify any of the report templates provided with the iSPI Performance for Metrics product (modified report templates will not be supported).

Acquiring a Permanent License for the iSPI Performance for Metrics

Follow these steps to acquire a permanent license for the iSPI Performance for Metrics:

- 1 Gather the following information:
 - a HP product number and order number (these numbers are on the Entitlement Certificate)
 - b IP address of the NNMi management server
 - c Your company or organization information
- 2 At a command prompt, run the following command:

```
/opt/OV/bin/nmlicense.ovpl PerfSPI -g
```

- 3 The Autopass License Management window opens. In the **License Password** dialog box, click **Request License**.
- 4 Install the license password by following the instructions in the window.
- 5 Update your system, and store your license data files, by opening a command prompt and running this command:

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

Acquiring Additional License Passwords for the iSPI Performance for Metrics

Contact your HP Sales Representative or your Authorized Hewlett-Packard Reseller for information about the NNM licensing structure and to learn how to add license tiers for enterprise installations.

To obtain additional license passwords, go to the HP password delivery service:

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

Restrictions Regarding 3rd-Party Software

- The following restrictions apply to the BI Server Software:
 - You cannot have more than one Administrator at one time.
 - You cannot have more than 5 simultaneous users of Query Studio.
 - You cannot extend the iSPI data model, or add additional data sources to the iSPI system.
 - You cannot use the Report Studio, Analysis Studio, Metric Studio, and Event Studio features with the iSPI Performance for Metrics license.
- The Sybase IQ Software is provided as the embedded database for the iSPI Performance for Metrics. Other uses of the Sybase IQ Software are not permitted.

A Errors Related to Application Failover

The following table provides a list of INFO, WARN, and ERROR messages related to Application Failover.

Message	Comments
INFO: NNM Application Failover is not enabled.	Failover not enabled. This message is logged every 5 minutes.
INFO: NNM Application Failover is enabled. Checking if active node has changed.	Failover enabled.
INFO: NNM Hostname currently used by iSPI is: \$nnm_current	Failover enabled. Logged every 5 minutes. Displays current NNM hostname being used by the iSPI.
INFO: \$getNNMActiveScript reports active nnm node is: \$nnm_active	Failover enabled. Logged every 5 minutes. Displays NNM hostname reported as the active node in the cluster.
INFO: Active NNM host is unchanged.	Failover enabled but the active host has not changed. Logged every 5 minutes.
INFO: Changing iSPI configuration to use \$nnm_active	Failover enabled. A configuration update is imminent. This message is logged only when the active node is different from the node currently used by the iSPI.
INFO: Configuration updated. Path to NNM is now \$newpath	Failover enabled and config files successfully updated. Logged after the configuration file is successfully updated in response to an application failover.
WARN: NNM Application Failover is not supported on same-system NNM/iSPI installations	Failover enabled but the NNM hostname is not in the path syntax. If the iSPI is running on the same machine as NNM, the path does not contain the hostname.
WARN: Cannot extract remote nnm hostname from value of PRSPI_NNMDIR (\$cfg{PRSPI_NNMDIR})	Failover enabled but the NNM hostname is not in the path syntax. The user may have specified the path in a non-conventional way (for example, by using a hard mount or drive mapping). If the path does not contain the remote NNM hostname, the iSPI Performance for Metrics will be unable to detect application failover

Message	Comments
<p>WARN: Expected PRSPI_NNMDIR of form /net/hostname/var... or //hostname/PerfSpi</p>	<p>Failover enabled but the NNM hostname is not in the path syntax. The user may have specified the path in a non-conventional way (for example, by using a hard mount or drive mapping). If the path does not contain the remote NNM hostname, the iSPI Performance for Metrics will be unable to detect application failover.</p>
<p>ERROR: nnm_details.xml not found in \$newpath</p>	<p>Failover enabled but the nnm_details.xml file is not available. This message is logged if there is no copy of nnm_details.xml on the remote NNM machine.</p> <p>This condition will arise if: (1) the nnmenableperfspi script was not run on that machine, or (2) the machine configurations are not identical. For example, if the pathnames to the shared drive are not identical, the new path will be incorrect when the iSPI substitutes the new hostname into the path. <i>The machine configurations must be identical.</i></p>
<p>ERROR: Unable to modify timestamp of \$newpath/nnm_details.xml: \$!.</p>	<p>Failover enabled, but there is a file permissions error. The iSPI configuration will not change; a file permissions error is preventing the nnm_detail.xml file from being modified on the NNM server.</p>
<p>ERROR: Unable to write changes to config file. Will try again next time.</p>	<p>Failover enabled, but unable to update the config file. Failure to update the config file could be caused by another process that is locking the config file.</p>

B Mounting an ISO Image

If you do not have the iSPI Performance for Metrics on a DVD distributed by HP, you can download an ISO image from HP. After you download the file, mount the image to a drive or burn your own DVD. On the Linux platforms, follow the steps below to use the image directly from your hard drive without burning a physical disc.

To mount:

```
mount -o loop pathToIso mountPoint
```

To unmount:

```
umount mountPoint
```

To burn the image directly to a CD, you will need to install 3rd-party software designed to burn ISO image files. Most CD-burning software is capable of burning ISO images. Follow the instructions that come with your CD burning application to create a physical disc from the ISO image.

If you want to use an ISO file directly from your hard drive, without burning a physical disc, you need software designed to mount ISO files. Following is a list of programs that will mount disc image files in a virtual drive as if they were physical discs in a physical drive:

- Roxio Disk Image Loader
- Smart Projects IsoBuster
- EZB Systems UltraISO
- MagicISO
- Nero's Image Drive
- Virtual CD-ROM Control Panel

Virtual CD-ROM Control Panel v2.1 is a Windows XP utility, however it is reported to be compatible with Windows 2003 Server.

C Performing a Silent Install

To perform a silent install on an unattended system, you need an initialization file that contains the correct parameters. An initialization file with the correct parameters is created when you do a normal install. You also have the option of creating your own initialization file using the following template:

```
[NONOV.OvTomcatA]
ShutdownPort=8005
Jk2Ajp13Port=8009

[installer.properties]
setup=HPNNMPerformanceSPI
licenseAgreement=true
group=Default
appRevision=8.13.000
tempDir=/tmp/
customFeatureSelected=NNMPerfSPI
installDir=/opt/OV/
customLangSelected= en
dataDir=/var/opt/OV/
systemDir=/usr/local/bin
appDescription=HP NNM iSPI for Performance
systemLocale=English
```

Using the ini File You Created

► The `tempDir=` and `dataDir=` parameters are wrapping; if you create your own initialization file, be sure to unwrap those lines.

Follow these steps to run a silent install:

- 1 Log in to the target system as administrator.
- 2 Using the template, create your own ini file and give it this name:
`ovinstallparams.ini`
- 3 Copy the file to the `/var/tmp` folder on the target system.
- 4 Insert the iSPI Performance for Metrics DVD in the DVD-ROM drive on the target system and enter the following command at the command prompt:

```
<DVD_drive>/HPNNMPerformanceSPI_8.13.000_setup.bin -i silent
```

- 5 The silent install begins. There is no progress indicator.

- 6 To confirm a successful install, check the latest installation log file.
 - a Navigate to:


```
/var/tmp/HPOvInstaller/HPNNMPerformanceSPI_8.13.000
```
 - b Open this file:


```
HPNNMPerformanceSPI_8.13.000_<time_stamp>_HPOvInstallerLog.txt
```
 - c If the install was successful, the last line is *Successfully completed.*

Using the Source System ini File

If you installed the iSPI using HP Software Installer, your responses to installation questions were stored in this file:

```
ovinstallparams<time_stamp>.ini
```

The path to the ini file is:

```
/tmp/HPOvInstaller/HPNNMPerformanceSPI_8.13.000
```

Follow these steps to run a silent install:

- 1 Login to the target system as administrator.
- 2 Copy the `ovinstallparams<time_stamp>.ini` file from the source system to the `/var/tmp` folder on the target system.
- 3 Remove the time stamp from the file name; change the file name to:


```
ovinstallparams.ini
```
- 4 Insert the iSPI DVD in the DVD-ROM drive on the target system and enter the following command at the command prompt:


```
<DVD_drive>/HPNNMPerformanceSPI_8.13.000_setup.bin -i silent
```
- 5 The silent install begins. There is no progress indicator.
- 6 To confirm a successful install, check the latest installation log file.
 - a Navigate to:


```
/tmp/HPOvInstaller/HPNNMPerformanceSPI_8.13.000
```
 - b Open this file:


```
HPNNMPerformanceSPI_8.13.000_<time_stamp>_HPOvInstallerLog.txt
```
 - c If the install was successful, the last line is *Successfully completed.*

D Installation Problems

Table 4 Installation Problems

Problem	Details	Solution
The installer program does not start on Linux.	<pre># ./ HPNNMPerformanceSPI_8.13.000_setup.bin Preparing to install... Extracting the JRE from the installer archive... Unpacking the JRE... Extracting the installation resources from the installer archive... Configuring the installer for this system's environment... awk: cmd. line:6: warning: escape sequence `\' treated as plain `\' (i) Checking display ... (-) Display may not be properly configured Please make sure the display is set properly...</pre>	X-Windows display is not configured, and therefore, installer GUI cannot start. If you have a remote terminal session to the system you are installing the iSPI software on, set the DISPLAY environment variable to the hostname:port of a local X-Windows display server. (Note you may have to use 'xhost +' to grant the remote machine display access.)
Installer shows WARNING messages as a result of running system checks.	<p>You may continue with the installation despite warning messages.</p> <p>It is strongly recommended that the problems are corrected before proceeding.</p> <p>Warnings are displayed if system recommendations are not met.</p> <p>Clicking on the name of the individual installation check allows you to see more details.</p> <p>See the <i>Installation Guide</i>, Prerequisites and Planning on page 13, for more information.</p>	Depends on warnings found.

Table 4 Installation Problems

Problem	Details	Solution
Installer shows ERROR messages as a result of running system checks.	You will not be allowed to continue with the installation if the minimum system requirements have not been met. You must correct these problems before proceeding to install. Clicking on the name of the individual installation check allows you to see more details. See the <i>Installation Guide</i> , Prerequisites and Planning on page 13, for more information.	Depends on errors found.

Table 4 Installation Problems

Problem	Details	Solution
NNMi is not installed on machine, yet installer displays an ERROR message for NNMi Version check, indicating that NNMi version is incorrect.	Installer check details pane shows the following message: Checking to see NNM Version supported... Need to check to see NNM Version supported. Running NNM Version check /tmp/HPNNMPerformanceSPI/ AppCheckNNMVersion.sh: line 24: /opt/OV/nonOV/perl/a/bin/perl: No such file or directory ERROR: NNM version not OK NNM Version is not supported	Check to see if the following file exists: <DATA_DIR>/NNMVersionInfo If it does and NNMi is definitely not installed on the system, it must be a remnant of a previously installed version and can be safely removed.
Installation takes a long time.	The installer can take up to 2 hours to complete on some systems, with most of the time being taken by dotNet 3.5 SPI redistributable (windows), BI Server Install, and installExtensionPacks. This is normal. If the splash screens periodically change, and if the hourglass icon on the bottom-right corner rotates, the installer is not hung.	Allow the installer to proceed to completion.
NNMi console's Action menu has no link to Reporting - Report menu.	NNM Enablement step was not run.	Run the <code>nnmenableperfspi.ovpl</code> script. See Running the Enablement Script on page 19.

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