HP Network Node Manager iSPI Performance for Quality Assurance Software

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

Software Version: 9.20

Installation Guide

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Documentation Updates

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

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
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Contents

1 Introduction

The HP Network Node Manager iSPI Performance for Quality Assurance Software 9.20 is referred to as the NNM iSPI Performance for QA in this document.

The NNM iSPI Performance for QA works in conjunction with NNMi and Network Performance Server (NPS) to perform the following tasks:

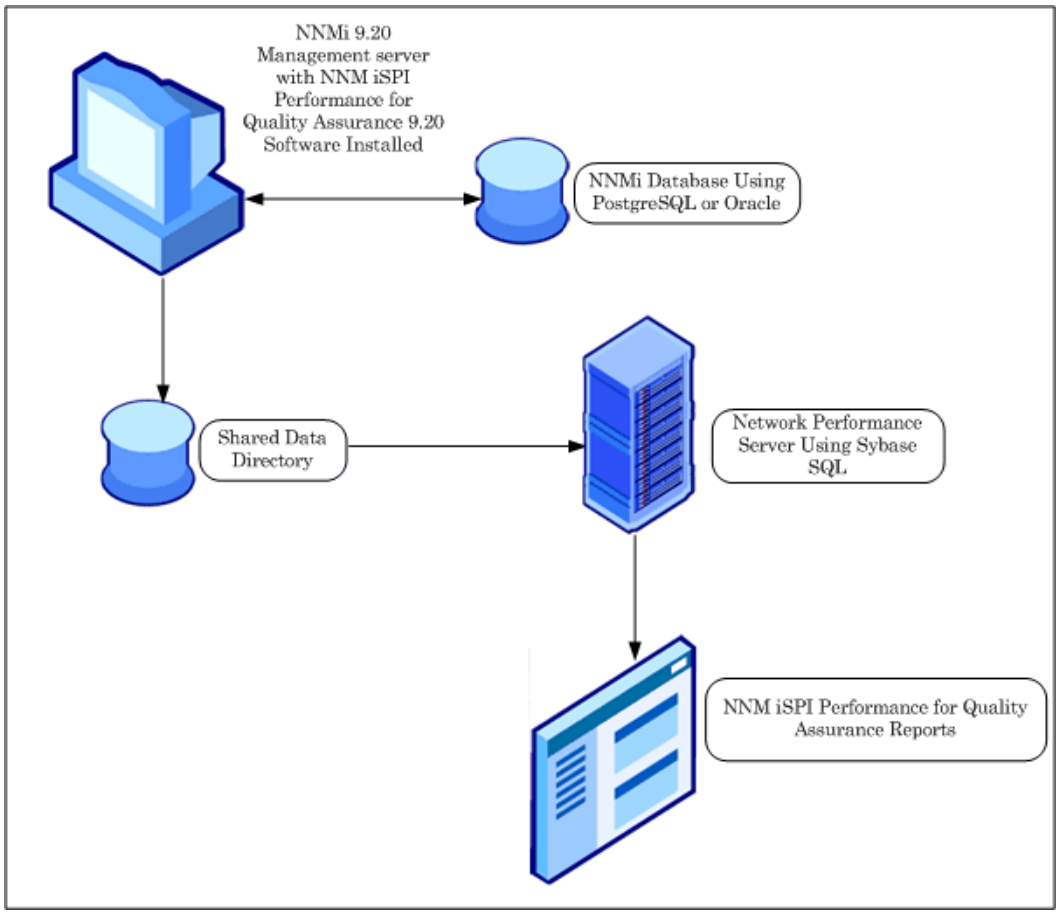
- Configure the QA probes or tests for the network elements. NNM iSPI Performance for QA supports the following vendor-specific technologies:

  CISCO IPSLA, JUNIPER RPM, and other vendors supporting DISMAN Ping implementing RFC 4560

- Discover the configured QA probes for various network elements. NNM iSPI Performance for QA discovers the QA probes of services like UDP Echo, UDP Jitter, ICMP Echo, UDP, TCP Connect, and VoIP
- Configure the QA probes on the network elements to ascertain any performance inconsistency
- Monitor the network performance and view the threshold state of the metric in the NNMi console. NNM iSPI Performance for QA supports the following metrics:
  - Round Trip Time
  - Jitter
  - Packet Loss
  - Mean Opinion Scores
- View the QA probe metric measures on the NNM iSPI Performance for QA probe views.
- Measure the health of a link between two network devices where at least the source device is an NNMi-managed node
- Send the metric measurement details to the Network Performance Server for generating reports. NNM iSPI Performance for QA interacts with NNMi and Network Performance Server to display the Quality Assurance reports.

Deployment Scenario

The following illustration represents a scenario where the NNM iSPI Performance for QA, and Network Performance Server share information through a shared data repository.


NNMi 9.20
Management server
with NNM iSPI
Performance for
Quality Assurance 9.20
Software Installed
NNMi Database Using
PostgreSQL or Oracle
Shared Data
Directory
Network Performance
Server Using Sybase
SQL
NNM iSPI Performance for Quality
Assurance Reports

2 Before Installing NNM iSPI Performance for QA

Before you start installing NNM iSPI Performance for QA, you must plan the installation based on your deployment requirements. You must identify the ideal deployment scenario among the supported configurations and make sure that all the prerequisites are met before you begin the installation process. See the *HP Network Node Manager iSPI Performance for Quality Assurance Software Deployment Guide* for more information.

Documentation References

See the following documents before you start the NNM iSPI Performance for QA installation process:

Document Name	Document Path
HP Network Node Manager iSPI Performance for Quality Assurance Software Deployment Guide	**http://h20230.www2.hp.com/selfsolve/manuals**
HP Network Node Manager iSPI Performance for Quality Assurance Software Installation Guide	File name: `nmQASPI_InstallGuide_en.pdf`
	Windows Media: DVD main drive (root)
	UNIX Media: Root directory
	NNM iSPI Performance for QA console: `Help > NNM iSPI Documentation Library > iSPI Performance for QA Install Guide`

Document Name	Document Path
HP Network Node Manager iSPI Performance for Quality Assurance Software Release Notes	File name: `nmQAispi_releasenotes_en.html`
	Windows Media: DVD main drive (root)
	UNIX Media: Root directory
	NNM iSPI Performance for QA console: `Help > NNM iSPI Documentation Library > iSPI Performance for QA Release Notes`
HP Network Node Manager iSPI Performance for Quality Assurance Software System and Device Support Matrix	File name: `nmQAispi_supportmatrix_en.html`
	Windows Media: DVD main drive (root)
	UNIX Media: Root directory

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Environment Variables

Environment variables enable you to refer to file and directory locations. The environment variables used in NNMi are used in NNM iSPI Performance for QA as well. The default values are listed here. Actual values depend on the selections made during NNMi installation.

Windows

On Windows systems, the NNMi installation process creates the following environment variables:

`%NnmInstallDir%: <drive>\Program Files(x86)\HP\HP BTO Software`

`%NnmDataDir%: <drive>\ProgramData\HP\HP BTO Software`

UNIX/Linux

On UNIX/Linux systems, you must manually create the following environment variables:

`$NnmInstallDir: /opt/OV`

`$NnmDataDir: /var/opt/OV`

Before Installation on the NNMi Management Server

Before installing the NNM iSPI Performance for QA on the NNMi management server, you must make a note of the following configuration details used while installing NNMi:

NNMi Port Details

Note down the following port numbers of the NNMi installation:

- HTTP or HTTPS port of NNMi
- JNDI port of NNMi. You can get this value by referring to the `nmsas.server.port.naming.port` property value in the `nms-local.properties` file available in the following directory:

  For Windows:

  `%Nnmdatadir%\conf\nnm\props\nms-local.properties`

  For UNIX/Linux:

  `$Nnmdatadir/conf/nnm/props/nms-local.properties`

- Port number of jboss on the management server

Database Details

Before installing the NNM iSPI Performance for QA, make sure to note down the database details if you are using the Oracle database.

To achieve higher scalability, you can choose an external Oracle database instead of the PostgreSQL embedded database to store the NNMi data. It is recommended that the external Oracle database reside on a remote server and not on the NNMi management server. You must note down the following details of the NNMi database if you are intending to use the Oracle database:

- **Port**: The port used by the Oracle database.
- **Oracle Database server name**: The Fully Qualified Domain Name of the Oracle server.
- **Oracle Database name**: The Oracle database to be used at the time of Network Node Manager iSPI Performance for Quality Assurance Software (NNM iSPI Performance for QA) installation.
- **Oracle Database Username**: The Oracle database username to be used at the time of NNM iSPI Performance for QA installation.
- **Password**: Password for the above user. The password to be used at the time of NNM iSPI Performance for QA installation.

If you have chosen Oracle database, you must create a new Oracle database instance before installing the NNM iSPI Performance for QA. While installing and configuring the NNM iSPI Performance for QA, do not use the same Oracle instance that was configured with NNMi.

You must make sure that NNMi is installed and runs on the system where you plan to install the NNM iSPI Performance for QA

System Requirements

Before you install the NNM iSPI Performance for QA, verify that your system meets the hardware and software requirements, and the prerequisite software is set.

Make sure the management server meets all the hardware and software requirements.

Refer to the *HP Network Node Manager iSPI Performance for Quality Assurance Software Support Matrix* and *HP Network Node Manager iSPI Performance for Quality Assurance Software Release Notes* documents for a complete information on hardware and software requirements and dependencies.

Table 1 System requirements check list to install Network Node Manager iSPI Performance for Quality Assurance Software

Requirement	Reference Document	Complete (YES/NO)
Disk Space	*HP Network Node Manager iSPI Performance for Quality Assurance Software System and Device Support Matrix*	Yes
Operating System	*HP Network Node Manager iSPI Performance for Quality Assurance Software System and Device Support Matrix*	Yes
Database	*HP Network Node Manager iSPI Performance for Quality Assurance Software System and Device Support Matrix*	Yes

Sizing Considerations

The following factors are considered while deploying NNM iSPI Performance for QA:

- Type of database configured with NNMi (embedded PostgreSQL or Oracle)
- Size of the network that you want to monitor
- Number of QA probes and CBQoS interfaces that you want to configure and monitor

To understand deploying of NNM iSPI Performance for QA with other iSPIs, see the *HP Network Node Manager iSPI Performance for Quality Assurance Software Deployment Guide*.

Port Requirements

The NNM iSPI Performance for QA uses a set of ports on the NNMi management server. List of Ports Used by the NNM iSPI Performance for QA provides a list of those ports. At the time of installation, all ports other than the first three ports must be free.

List of Ports Used by the NNM iSPI Performance for QA

- 54043 (used for HTTP communication; can be configured during installation)
- 54040 (used for HTTPS communication; can be configured during installation)
- 54046 (JNDI port; can be configured during installation)
- 5432 (required only if you plan to use the embedded database)
- 54041
- 54084

- 54048
- 54092
- 54713
- 54712
- 54049
- 54045
- 54714
- 54047

If one of those ports is used by another application on the system, follow these steps:

1. Before installing the NNM iSPI Performance for QA, stop the application that creates port conflict.
2. After installing the NNM iSPI Performance for QA, follow the instructions in Modifying NNM iSPI Performance for QA Ports on page 31 to configure the NNM iSPI Performance for QA to use a non-default port. This step resolves the conflict.
3. Start the application that created the port conflict.

Sequence of Installation

You must always follow the sequence below while installing NNM iSPI Performance for QA:

1. Install NNMi.
2. Install NPS.
3. Install the NNM iSPI Performance for QA.

Installation of the Network Performance Server

You can install the Network Performance Server (NPS) on the same NNMi management server where the NNM iSPI Performance for QA is installed, or you can install NPS on a separate server. See the *HP Network Node Manager iSPI Performance for Metrics Software* Installation guide for installation details.

If you are installing NPS on a separate server, see the topic *Installing on a Dedicated Server* in the *HP Network Node Manager iSPI Performance for Metrics/Network Performance Server Software* Installation guide.

Create a Web Service Client User

Create a user account in NNMi for the NNM iSPI Performance for QA and associate it with NNMi Web Service Clients group. Note that if you have multiple NNM iSPIs installed, you need to create a Web Service Client user for each iSPI. These user credentials need to be entered during the course of the iSPI installation. Do not use the NNMi system account while installing the NNM iSPI Performance for QA. For more details, see the *NNMi Deployment Reference* guide.

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

If you are planning to install NPS on a separate server, make sure that the user has the read/write access to the following directory on the NNMi management server:

On the Windows management server:

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

On the UNIX/Linux management server:

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

3 Installing NNM iSPI Performance for QA

You can install or upgrade NNM iSPI Performance for QA on the Windows and UNIX management servers. See the *HP Network Node Manager iSPI Performance for Quality Assurance Software System and Device Support Matrix* for more information on the supported operating systems.

You can use the installation wizard to install or upgrade NNM iSPI Performance for QA. The installation wizard guides you through the installation process.

Installing on the NNMi Management Server

To install the NNM iSPI Performance for QA on a Windows or UNIX management server, follow these steps:

1. Log on to the management server as root or administrator.
2. Insert the NNM iSPI Performance for QA installation media into the DVD drive.
3. Depending on the management server, do the following to run the installation process:
   - *For Windows Management Server*: Double-click the `setup.exe` file available in the root directory. The HP Software Installer wizard for NNM iSPI Performance for QA opens.
   - *For UNIX Management Server*: Run the following command in the root directory:

     `./setup.bin`

   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.
4. On the Introduction (Install) page, review the overview information, and then click **Next**. The License Agreement page opens.
5. Review the End User License Agreement, select **I accept..**, and then click **Next**. The Select Features page opens.
6. Click **Next**.

   The Setup Type page appears.
7. Select one of the following options:
   - If you want to use the embedded database, select Typical.
   - If you want to use an Oracle database that runs on the standard port (1521), select Typical.
   - If you want to use an Oracle database that runs on a non-standard port (other than 1521), select Custom.

8 **If you select Typical:**

Select Custom only if you want to use the Oracle database that uses a non-standard port. If you select Custom, go to step 9 on page 16.

a After selecting Typical, click **Next**. The Server Configuration page appears.

b In the Choose the Database Type section, select one of the following:

— HP Software Embedded Database

— Oracle

c Go to step d if you selected the Oracle option.

If you selected HP Software Embedded Database, click **Next**. The Install Checks screen appears. The wizard checks for the available disk space. Go to step 9 on page 16.

d If you selected Oracle in the previous step, you must specify necessary details in the following screens:

— **Choose Database Initialization Type:** Select Primary Server Installation if you want to use a database that is not initialized. Select Secondary Server Installation if you want to use a database that is already initialized. After making the selection, click **Next**. The Enter Your Database Server Information screen appears.

— **Enter Your Database Server Information:** Type the hostname of the Oracle system and the database instance name, and then click **Next**. The Enter the Database User Account Information screen appears.

— **Enter the Database User Account Information:** Type the user name and password of the Oracle database instance, and then click **Next**. The Install Checks screen appears. The wizard checks for the available disk space.

9 **If you select Custom:**

If you selected Typical, go to step 10 on page 16.

a After selecting Custom, click **Next**. The Feature Selection page appears.

b Click **Next**. The Server Configuration page appears.

c In the Choose the Database Type section, select Oracle, and then click **Next**. The Choose Database Initialization Type screen appears.

d Select Primary Server Installation if you want to use a database that is not initialized. Select Secondary Server Installation if you want to use a database that is already initialized. After making the selection, click **Next**. The Enter Your Database Server Information screen appears.

e Type the hostname and port of the Oracle system and the database instance name, and then click **Next**. The Enter the Database User Account Information screen appears.

f Type the user name and password of the Oracle database instance, and then click **Next**. The Install Checks screen appears. The wizard checks for the available disk space.

10 After the check is complete, click **Next**. The Pre-Install Summary screen appears.

11 Review the options, and then click **Install**. The installation process begins.

> Perform a forced reinstallation of the already installed components if you previously attempted an unsuccessful installation of the NNM iSPI Performance for QA and you did not manually remove the components that were already placed by the installer.

12 At one point, the QA iSPI Configuration window opens.

13 In the QA iSPI Configuration window, specify the following details:

NNMi Server: Information Required by QA iSPI	QA iSPI Server: Information Required by NNMi
NNMi FQDN: Type the fully qualified domain name of the NNMi management server.	QA iSPI FQDN: Fully qualified domain name of the NNMi management server.
Web Service Client User Name: Name of the NNMi Web Service client user that you created.	QA iSPI HTTP Port: Type the port number that will be used by the NNM iSPI Performance for QA for the HTTP communication (default: 54040).
Web Service Client Password: Password of the above user	QA iSPI HTTPS Port: Type the port number that will be used by the NNM iSPI Performance for QA for the HTTPS communication (default: 54043).
Retype Password: Password of the above user	QA iSPI JNDI Port: Type the port number that will be used by the NNM iSPI Performance for QA as the JNDI port (default: 54046).

> The NNM iSPI Performance for QA installer automatically detects the following values for NNMi: HTTP port, HTTPS port, and JNDI port.

14 Select the `isSecure` option in both the sections (NNMi Server: Information Required by QA iSPI and QA iSPI Server: Information Required by NNMi) if you have configured NNMi to use the HTTPS mode of communication. Selecting this option ensures that NNMi and the NNM iSPI Performance for QA always use the secure mode of communication (HTTPS).

If you want to change your mode of communication after installation of the NNM iSPI Performance for QA, see Updating the Security Mode (HTTP to HTTPS) on page 29 for detailed instructions.

15 Click **OK**.

16 After the installation is complete, a message appears to inform you that the installation process is complete and you can manually start the NNM iSPI Performance for QA processes. Click **OK**.

17 You can click the `Summary` tab to check if the installation is successful and you can click the `Details` tab to verify if the NNM iSPI Performance for QA packages are successfully installed. You can click on the `View log` file link in the window to check the log details and errors, if any.

18 Click **Done**.

The NNM iSPI Performance for QA installation process is complete.

To manually start the QA iSPI processes, see the section Start the NNM iSPI Performance for QA Processes on page 22.

Upgrading the NNM iSPI Performance for QA

You can upgrade NNM iSPI Performance for QA on a Windows or UNIX management server. Note that after you upgrade, it is not possible to restore to the previous version.

Upgrading from the NNM iSPI Performance for QA 9.11

To upgrade to NNM iSPI Performance for QA 9.20, you must follow the sequence below:

1. Before Upgrading to NNM iSPI Performance for QA 9.20 Version
2. Upgrade NNMi to the Version 9.20
3. Verify that NNMi Processes are Up and Running
4. Upgrade the Network Performance Server to the Version 9.20
5. Upgrade to NNM iSPI Performance for QA 9.20
6. Start the NNM iSPI Performance for QA Processes
7. Follow post upgrade steps to restore the configurations as given in the section - Post-Upgrade Tasks

Before Upgrading to NNM iSPI Performance for QA 9.20 Version

Before you upgrade to NNM iSPI Performance for QA 9.20, make sure that you have NNM iSPI Performance for QA 9.11 installed.

If you have NNM iSPI Performance for QA 9.10 installed, upgrade to NNM iSPI Performance for QA 9.11 before upgrading to version 9.20. You can download NNM iSPI Performance for QA 9.11 as a patch for the version 9.10.

You can retain the operational data of NNM iSPI Performance for QA 9.20 version after you upgrade. You can also restore the configuration data by exporting the configuration details to an XML file before you upgrade.

The configuration details are automatically backed up while you upgrade, and the configuration details are automatically restored. Alternatively, you can use the configuration user interfaces of NNM iSPI Performance for QA 9.11 to export or import the configuration details.

You can export the following:

- Site
- Threshold
- Discovery Filter
- CBQoS discovery filter
- CBQoS Threshold

You can export the above configurations by following the procedure below:

— **Export Site Configuration**

If you need to take a backup of the sites configured, you must export sites. You can export the existing site configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqasiteconfigutil.ovpl -u <*username*> **-p** <*password*> **-export** <*filename*>

For Windows:

%NnmInstallDir%\bin\nmsqasiteconfigutil.ovpl -u <*username*> **-p** <*password*> **-export** <*filename*>

See the topic *Exporting a Site* in the *HP Network Node Manager iSPI Performance for Quality Assurance Software Online Help* for more information.

— **Export Threshold Configuration**

If you need to take a backup of the configured thresholds, you must export thresholds. You can export the existing threshold configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqathresholdconfigutil.ovpl -u <*username*> **-p** <*password*> **-export** <*filename*>

For Windows:

%NnmInstallDir%\bin\nmsqathresholdconfigutil.ovpl -u <*username*> **-p** <*password*> **-export** <*filename*>

See the topic *Exporting a Threshold Using the Threshold Configuration Form* in the *HP Network Node Manager iSPI Performance for Quality Assurance Software Online Help* for more information.

— **Export Discovery Filter Configuration**

If you need to take a backup of the discovery filters configured, you must export discovery filters. You can export the existing site configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqadiscofilter.ovpl –u <*username*> **–p** <*password*> **-c CBQoS –export** <*filename*>

$NnmInstallDir/bin/nmsqadiscofilter.ovpl –u <*username*> **–p** <*password*> **-c Probe –export** <*filename*>

For Windows:

%NnmInstallDir%\bin\nmsqadiscofilter.ovpl –u <*username*> **–p** <*password*> **-c CBQoS –export** <*filename*>

%NnmInstallDir%\bin\nmsqadiscofilter.ovpl –u <*username*> **–p** <*password*> **-c Probe –export** <*filename*>

See the topic *Exporting a CBQoS Discovery Filter* in the *NNM iSPI Performance for QA Online Help* for more information.

See the topic *Exporting a Discovery Filter Using Discovery Filter Configuration Form* in the *NNM iSPI Performance for QA Online Help* for more information.

— **Export CBQoS Threshold**

If you need to take a backup of the configured CBQoS Thresholds, you must export the thresholds. You can export the existing threshold configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqathresholdconfigutil.ovpl -u <*username*> **-p** <*password*> **-export -type cbqos** <*filename*>

For Windows:

%NnmInstallDir%\bin\nmsqathresholdconfigutil.ovpl -u <*username*> **-p** <*password*> **-export -type cbqos** <*filename*>

See the topic *Exporting a CBQoS Threshold* in *NNM iSPI Performance for QA Online Help* for more information.

In this instance, <*username*> is the NNMi administrator user name and <*password*> is the password of that user.

- By default the NNM iSPI Performance for QA 9.20 reporting data in Network Performance Server (NPS) is retained after you upgrade. However, you can remove the data from NPS if you do not want to retain the data after you upgrade. See the topic Removing the NNM iSPI Performance for QA Reporting Data from NPS on page 28 for more information.

Upgrade NNMi to the Version 9.20

See the steps in the *HP Network Node Manager i Software 9.20 Installation Guide* for information on upgrading to the version 9.20.

Verify that NNMi Processes are Up and Running

- Before upgrading to NNM iSPI Performance for QA 9.20, make sure the NNMi processes are up and running. You can run the following command to check the status:

  ovstatus -c

- If the `qajboss` process is running, stop it manually using the following command:

  ovstop -c qajboss

  You must not run the **ovstop** commands to stop the NNM iSPI Performance for QA processes in an application failover environment. To stop the NNM iSPI Performance for QA manually in an application failover environment, run the following command:

  nnmcluster -disable -shutdown

Upgrade the Network Performance Server to the Version 9.20

See the steps in the *HP Network Node Manager iSPI Performance for Metrics 9.20 Installation Guide* for information on upgrading from *Network Performance Server 9.11* to *Network Performance Server 9.20* version.

Upgrade to NNM iSPI Performance for QA 9.20

To upgrade the NNM iSPI Performance for QA on the management server, follow these steps:

While you upgrade, you cannot change the database configured for the previous version of NNM iSPI Performance for QA installed in your management server.

1. Log on to the management server with Administrator privileges.
2. Insert the NNM iSPI Performance for QA installation media into the DVD drive.
3. Depending on the management server, do the following to run the installation process:
   a. *For Windows Management Server*: Double-click the `setup.exe` file available in the root directory. The HP Software Installer wizard for NNM iSPI Performance for QA opens.
   b. *For UNIX Management Server*: Run the following command in the root directory:

      `./setup.bin`

   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.
4. On the Introduction (Upgrade) page, review the overview information, and then click **Next**. The License Agreement page opens.
5. Review the End User License Agreement, select **I accept..**, and then click **Next**. The Select Features page opens.
6. Click **Next**. The Select the Installation Type page appears.
7. Select Typical, and then click **Next**. The HP Software Installer verifies the free disk space required to complete installation. The Install Checks page appears. This page displays the required disk space and available disk space on the system.
8. Review the indicated values, and then click **Next**. The Pre-Install Summary page appears. Review the options, and then click **Upgrade**.

   The upgrade process begins.
9. The following message appears:

   ```
   HP strongly recommends that you take a complete backup of the iSPI before proceeding with this upgrade.
   ```

   Click **OK** to proceed with the upgrade.
10. A message appears to confirm that `qajboss` is not running. After you confirm, click **OK** to continue with the upgrade.
11. If you use the embedded database, a message appears to inform you that the installer is attempting to start `nmsdbmgr` for creating the `iSPI PostGreSQL` database and you can stop the NNMi processes after the upgrade is complete. Click **OK**
12. After the installation is complete, a message appears to inform you that the installation process is complete and you can manually start the NNM iSPI Performance for QA processes. Click **OK**.

    The Upgrade is complete. You can click the `Summary` tab to check if the installation is successful, and you can click the `Details` tab to verify if the NNM iSPI Performance for QA packages are successfully installed. You can click on the `View log` file link in the window to check the log details, and errors if any.
13. Click **Done**.

Start the NNM iSPI Performance for QA Processes

To start the NNM iSPI Performance for QA and view the QA probes configured on the managed NNMi nodes, follow the steps as discussed below:

1 Check if the NNMi processes are running using the following command:

```
ovstatus -c
```

If the processes are not running, start them manually using the following command:

```
ovstart -c ovjboss
```

2 Run the following command to start the NNM iSPI Performance for QA processes:

```
ovstart -c qajboss
```

You must not run the **ovstart** commands to start the NNM iSPI Performance for QA processes in an application failover environment. To start the NNM iSPI Performance for QA manually in an application fail-over environment, run the following command:

```
nnmcluster -daemon
```

Upgrading from the NNM iSPI Performance for QA 9.00

NNM iSPI Performance for QA does not support direct upgrade from the version 9.00 to the version 9.20. You can upgrade to 9.20 in a two-step procedure: upgrade from the version 9.00 to the version 9.11, and then upgrade to the version 9.20. Although NNMi supports direct migration from 9.00 to 9.20, this two-step upgrade procedure requires you to upgrade NNMi twice—to the version 9.10 once, and then finally to the version 9.20.

Task 1: Upgrade to the NNM iSPI Performance for QA 9.11

1 Upgrade NNMi from the version 9.00 to version 9.10. For more information see, the *NNMi Deployment Reference 9.10*.

2 Upgrade the NNM iSPI Performance for QA from the version 9.00 to the version 9.10. For more information see, the *NNM iSPI Performance for QA Installation Guide 9.10*.

3 Upgrade NNMi and the NNM iSPI Performance for QA to 9.11.

Task 2: Upgrade to the NNM iSPI Performance for QA 9.20

Upgrade the NNM iSPI Performance for QA to the version 9.20 by following the instructions in Upgrading from the NNM iSPI Performance for QA 9.11 on page 18.

Alternatively, you can uninstall the NNM iSPI Performance for QA 9.00, directly upgrade NNMi to the version 9.20, and then install the version 9.20.

Uninstalling the NNM iSPI Performance for QA version 9.00 and installing the version 9.20 will result in the loss of configuration data.

Post-Upgrade Tasks

Discovery

After upgrading to the NNM iSPI Performance for QA 9.20, you can see a set of elements in the NNM iSPI Performance for QA inventories without any tenant details. Tenant details are visible after your network is discovered again by NNMi.

Import Configurations

This is not a mandatory post-upgrade task. The configuration details are restored automatically after you upgrade.

You can retrieve or import the configuration details that you saved as an XML file prior to upgrading to the NNM iSPI Performance for QA 9.20. You must manually run the commands to import or restore the configuration details. Alternatively, you can use the configuration user interfaces of NNM iSPI Performance for QA 9.20 to import the configuration details. You can import the site, threshold, and discovery filter configurations by following the procedure below:

1 **Import Site Configurations**

You can import the sites that you exported to an XML file before you perform the upgrade task. You can import the existing site configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqasiteconfigutil.ovpl -u <*username*> **-p** <*password*> **–import** <*filename*>

For Windows:

%NnmInstallDir%\bin\nmsqasiteconfigutil.ovpl -u <*username*> **-p** <*password*> **–import** <*filename*>

See the topic *Importing Sites Using Site Configuration Form* in the *NNM iSPI Performance for QA Online Help* for more information.

2 **Import Threshold Configuration**

You can import the thresholds that you exported to an XML file before you perform the upgrade task. You can import the existing threshold configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqathresholdconfigutil.ovpl -u *<username>* -p *<password>* –import *<filename>*

For Windows:

%NnmInstallDir%\bin\nmsqathresholdconfigutil.ovpl -u <*username*> **-p** <*password*> **–import** <*filename*>

See the topic *Importing Thresholds Using Threshold Configuration Form* in the *HP Network Node Manager iSPI Performance for Quality Assurance Software Online Help* for more information.

3 **Import Discovery Filter Configuration**

You can import the discovery filters that you exported to an XML file before you perform the upgrade task. You can import the existing discovery filter configuration using the following command line utility:

For UNIX:

$NnmInstallDir/bin/nmsqadiscofilter.ovpl –u <username> –p <password> –import <filename>

For Windows:

%NnmInstallDir%\bin\nmsqadiscofilter.ovpl –u <username> –p <password> –import <filename>

See the topic *Importing Discovery Filters Using Discovery Filter Configuration Form* in the *HP Network Node Manager iSPI Performance for Quality Assurance Software Online Help* for more information.

4 **Import CBQoS Threshold Configuration**

You can import the CBQoS Threshold configurations that you exported to an XML file before you perform the upgrade task.You can import the existing CBQoS Threshold configuration using the following command line utility:

For UNIX:

```
$NnmInstallDir/bin/nmsqathresholdconfigutil.ovpl –u <username>  –p
<password> -type cbqos –export <filename>
```

For Windows:

```
%NnmInstallDir%\bin\nmsqathresholdconfigutil.ovpl –u <username>  –p
<password> -type cbqos –export <filename>
```

See the topic *Importing CBQoS Thresholds* in the *HP Network Node Manager iSPI Performance for Quality Assurance Software Online Help* for more information.

5 **Import CBQoS Discovery Filter Configuration**

You can import the CBQoS discovery filters that you exported to an XML file before you upgrade. You can import the existing CBQoS discovery filters by using the following command line utility:

For UNIX:

```
$NnmInstallDir/bin/nmsqadiscofilter.ovpl -u <username> -p <password>
-c CBQoS -import <filename>
```

For Windows:

```
%NnmInstallDir%\bin\nmsqadiscofilter.ovpl -u <username> -p <password>
-c CBQoS -import <filename>
```

See the topic *Importing CBQoS Discovery Filters* in the *NNM iSPI Performance for QA Online Help* for more information.

License-Related Information

The license-related information for NNM iSPI Performance for QA are as follows:

Introduction to Instant-On license key and License to Use (LTU)

The NNM iSPI Performance for QA 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.

Introduction to iSPI Points License

The iSPI Points license is a points-based licensing scheme for all NNM iSPIs (other than the iSPI Performance for Metric). Every object monitored by the NNM iSPI consumes a certain number of points. This number may vary from different objects monitored in the NNM iSPI. You can obtain iSPI points by purchasing iSPI Point Packs.

iSPI Points Consumption

NNM iSPI Performance for QA consumes 1 point per probe, 5 points for each discovered CBQoS interface, 10 points for each Intelligent Response Agent (iRA) node, and 1 point for each discovered Ping Latency Pair.

When sufficient iSPI points are not available for your deployment, a warning message appears in the NNMi console. You can view the Probes and Points Usage in **Help -> Help for NNM iSPIs-> System Information for iSPI Performance for QA**.

Enable Licenses for the NNM iSPI Performance for QA

Irrespective of your choice of deployment, you must always enable licenses for iSPIs only on the NNMi management server. The `nnmlicense.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 probes configured in your environment.
2. Determine the iSPI points required to monitor the probes configured in your environment.
3. The total iSPI points required is equivalent to number of probes configured.
4. Based on the iSPI points calculation, choose and obtain an iSPI Points Pack that can enable the monitoring of probes configured in your environment.

Run the nnmlicense.ovpl Command

To enable the NNM iSPI Performance for QA 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:

   On Windows:

   %NnmInstallDir%`\bin\nnmlicense.ovpl iSPI-Points -gui`

   On UNIX/Linux:

   `/opt/OV/bin/nnmlicense.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 QA 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:

On Windows

%NnmInstallDir%`\bin\nnmlicense.ovpl iSPI-Points -f` <*license_file*>

On UNIX/Linux

`/opt/OV/bin/nnmlicense.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*>.

Removing the NNM iSPI Performance for QA

If you remove the NNM iSPI Performance for QA 9.20, the installer cannot restore the previous version. This implies that there will be no traces of NNM iSPI Performance for QA after uninstallation.

Before Uninstallation of NNM iSPI Performance for QA

Before you start the uninstallation process, follow these steps to ensure that the NNM iSPI Performance for QA process (qajboss) is stopped but the NNMi process (ovjboss) is running:

1 Check the status of the NNMi and NNM iSPI Performance for QA process using the following command:

```
ovstatus -c
```

2 If the NNM iSPI Performance for QA process is running, stop it manually using the following command:

```
ovstop -c qajboss
```

If this command does not function, you can see the troubleshooting section for the workaround.

Uninstallation Steps

To uninstall NNM iSPI Performance for QA from an NNMi management server, follow these steps:

1 Log on to the management server with the Administrator (for Windows) or root (for UNIX) privileges.

The `HPOvQAiSPI` directory gets created under the `Uninstall` directory after the installation of NNM iSPI Performance for QA. The `HPOvQAiSPI` directory contains the executable for proceeding with the uninstallation process.

2 Depending on the management server, do the following to run the uninstallation process:

- *On Windows Management Server*:

  Go to the following directory and double-click on `setup.exe`:

  `%NnmInstallDir%\Uninstall\HPOvQAiSPI\setup.exe`

Alternatively, on a Windows management server, you can remove the NNM iSPI Performance for QA in the `Uninstall a Program` window. You can traverse by selecting `Start` → `Control Panel` → `Programs` → `Uninstall a Program`→ `NNM iSPI Performance for Quality Assurance`. Right-Click on `NNM iSPI Performance for Quality Assurance`, and select the `Uninstall` option. The HP Install wizard to uninstall NNM iSPI Performance for QA opens.

- *On UNIX Management Server:*

  Run the following command:

  `$NnmInstallDir/Uninstall/HPOvQAiSPI/setup.bin`

The HP Install wizard to uninstall NNM iSPI Performance for QA opens.

3 You can select the language, and click **OK**. By default, `English` is selected.

4 The Application Maintenance page appears

Select the option Uninstall to uninstall NNM iSPI Performance for QA, and then click **Next**

5 The Pre-Uninstall page appears that shows the summary of the packages to be uninstalled. Click **Next**

Click **Cancel** to cancel the uninstallation process

A message appears to indicate that you can stop the NNMi processes if you do not want them to be running after uninstalling NNM iSPI Performance for QA. Click **OK**

6 You can click the Summary tab to check if the uninstallation is successful, and you can click the Details tab to verify if the NNM iSPI Performance for QA packages are successfully uninstalled. You can click the **View log File** link in the window to check the log details and errors, if any.

7 Click **Done**.

See Appendix A, Troubleshooting to resolve any error generated during uninstallation.

Removing the NNM iSPI Performance for QA Reporting Data from NPS

The NNM iSPI Performance for QA uninstallation process does not remove the reporting data from NPS. So, you must run the following command to manually remove the reporting data where NPS is installed:

On UNIX/Linux:

- **/opt/OV/NNMPerformanceSPI/bin/uninstallExtensionPack -p Quality_Assurance**
- **/opt/OV/NNMPerformanceSPI/bin/uninstallExtensionPack -p Ping_Latency**
- **/opt/OV/NNMPerformanceSPI/bin/uninstallExtensionPack -p CBQoS**

On Windows:

- **%NnmInstallDir%\NNMPerformanceSPI\bin\uninstallExtensionPack -p Quality_Assurance**
- **%NnmInstallDir%\NNMPerformanceSPI\bin\uninstallExtensionPack -p Ping_Latency**
- **%NnmInstallDir%\NNMPerformanceSPI\bin\uninstallExtensionPack -p CBQoS**

Accessing Log Files

NNM iSPI Performance for QA stores all the installation related information into the following directory:

For Windows: `%temp%`

For UNIX: `/tmp`

List of NNM iSPI Performance for QA log files

The log files are as follows:

- `HPOVQASPI_9.20.000`
- `preInstall_qa.log`
- `postInstall_qa.log`
- `preRemove_qa.log`
- `postRemove_qa.log`

Updating the Security Mode (HTTP to HTTPS)

After installing NNMi and the NNM iSPI Performance for QA, if you want to modify the security mode from HTTPS or HTTP or from HTTP to HTTPS without installing the NNMi and iNNM iSPI Performance for QA again, follow these steps:

1. On the management server, open the `nnm.extended.properties` file from the `%NnmDataDir%\shared\qa\conf` or `$NnmdataDir/shared/qa/conf` directory (depending on the type of the management server) with a text editor.
2. Update the values to true or false from the following:
   - **`com.hp.ov.nms.spi.qa.Nnm.isSecure=false`**: To modify the mode of communication used by NNM iSPI Performance for QA to communicate with NNMi.
   - **`com.hp.ov.nms.spi.qa.spi.isSecure=false`**: To modify the mode of communication used by NNMi to communicate with the NNM iSPI Performance for QA.

   The value true represents HTTPS mode of communication and the value false represents HTTP mode of communication.

Always select the same mode of transmission for NNMi and NNM iSPI Performance for QA.

3. Restart the NNM iSPI Performance for QA with the following commands:
   a. **`ovstop -c qajboss`**
   b. **`ovstart -c qajboss`**

Configuring NNM iSPI Performance for QA to Use Modified NNMi Ports

After installing the NNM iSPI Performance for QA, you can modify the following configuration parameters: NNMi HTTP port and HTTPS port

You can configure the NNM iSPI Performance for QA to use the modified NNMi ports by following the steps listed:

1. Open the `nms-local.properties` file available in the following directory:

   For Windows:

   `%Nnmdatadir%\conf\nnm\props\nms-local.properties`

   For UNIX:

   `$Nnmdatadir/conf/nnm/props/nms-local.properties`
2. Obtain the values of the following properties: `nmsas.server.port.web.http` and `nmsas.server.port.web.https`, and
3. Open the `nnm.extended.properties` file from the `%NnmDataDir%\shared\qa\conf` or `$NnmdataDir/shared/qa/conf` directory (depending on the type of the management server) with a text editor.

4 If you changed the NNMi HTTP port, replace the value for `com.hp.ov.nms.spi.qa.Nnm.port` property with the value of `nmsas.server.port.web.http` obtained in step 2.

5 If you changed the NNMi HTTPS port, replace the value for `com.hp.ov.nms.spi.qa.Nnm.secureport` property with the value of `nmsas.server.port.web.https` obtained in step 2.

6 Restart the NNM iSPI Performance for QA with the following commands:

   a **ovstop -c qajboss**

   b **ovstart -c qajboss**

Configuring NNM iSPI Performance for QA to Use Modified NNMi Web Services Client User Name, Password

If you have changed the password for the NNMi Web Services client user specified during the installation of the NNM iSPI Performance for QA, do as follows:

1 Log on to the NNMi management server.

2 Run the following commands:

You must have administrative or root privileges to run this script.

To encrypt new password, run the following command:

nmsqaencryptpassword.ovpl -e qa <*new_password*>

To copy `nms-users.properties` from NNM jboss to SPI jboss, run the following command:

nmsqaencryptpassword.ovpl -c qa

3 Restart the NNM iSPI Performance for QA with the following commands:

   a **ovstop -c qajboss**

   b **ovstart -c qajboss**

If you want to configure the NNM iSPI Performance for QA to use an NNMi Web Service Client user name that is different from the user name specified during the installation of the NNM iSPI Performance for QA, do as follows:

1 Open the `nnm.extended.properties` file available in the following directory:

For Windows:

`%Nnmdatadir%\shared\qa\conf\`

For UNIX:

`$Nnmdatadir/shared/qa/conf/`

2 Edit the value of the following property:

`com.hp.ov.nms.spi.qa.Nnm.username`

3 Run the following commands:

To encrypt password for the new user run the following command

nmsqaencryptpassword.ovpl -e qa *<password for the new user>*

To copy `nms-users.properties` from NNM jboss to SPI jboss, run the following command:

nmsqaencryptpassword.ovpl -c qa

4 Restart the NNM iSPI Performance for QA with the following commands:

a **ovstop -c qajboss**

b **ovstart -c qajboss**

Modifying NNM iSPI Performance for QA Ports

The NNM iSPI Performance for QA uses a set of ports for its operation. These ports are configured at the time of installation by the installer and the installer offers you the option to choose non-default values for the HTTP and HTTPS ports. The `server.properties` file provides a list of those ports. The file is available under the following directory:

- On Windows: `%nnmdatadir%\nmsas\qa`
- On UNIX/Linux: `/var/opt/OV/nmsas/qa`

After installation, you can configure the NNM iSPI Performance for QA to use different ports (different from what was configured at the time of installation).

If you want to configure the NNM iSPI Performance for QA to use non-default ports, follow these steps:

1 Log on to the NNMi management server as administrator or root.

2 Open the `server.properties` file with a text editor.

3 To resolve the port conflict created by another application on the system:

a Identify the port number in the file.

b Replace the port number with a new port number; make sure that the new port is not used by any other applications on the system.

4 To use a new HTTPS port, replace the value of the `nmsas.server.port.web.https` property with the new HTTPS port.

5 To use a new HTTP port, replace the value of the `nmsas.server.port.web.http` property with the new HTTP port.

6 To use a new JNDI port, replace the value of the `nmsas.server.port.naming.port` property with the new JNDI port.

7 To use a new port for the embedded database, replace the value of the `com.hp.ov.nms.postgres.port` property with the new port.

Before you change this value, make sure that NNMi is configured to use the new port for the embedded database. For information on modifying the embedded database port for NNMi, see the *NNMi Deployment Reference*.

8 Restart NNM iSPI Performance for QA processes:

a **ovstop -c qajboss**

b **ovstart -c qajboss**

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

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

Getting Started with NNM iSPI Performance for QA

Follow the steps as discussed below to start using the NNM iSPI Performance for QA to test the performance consistency of your network:

1. Start the NNMi console. For more information on how to access the NNMi console, see *Getting Started with NNMi* in the *HP Network Node Manager i Software Installation Guide*.
2. In the Workspaces pane, click **Quality Assurance**.

Accessing the Online Help

The NNM iSPI Performance for QA Help provides the information on how to use this product. The detailed information in the NNM iSPI Performance for QA help is organized into the following sections:

- Help for Operators
- Help for Administrators

Follow the steps as discussed below to access the iSPI help:

1. Click Help on the NNMi console menu bar
2. Click Help for NNM iSPIs to select the Help for NNM iSPI Performance for QA.

The NNM iSPI Performance for QA help appears in the NNMi console only if the NNM iSPI Performance for QA installation is successful. The help provides you comprehensive information about the NNM iSPI Performance for QA views, forms, and troubleshooting.

A Troubleshooting

Uninstallation Process Starts but does not Complete

Stop the NNM iSPI Performance for QA process but NNMi processes must be running before you start the uninstallation process. You can use the following command to stop the NNM iSPI Performance for QA process:

```
ovstop -c qajboss
```

Check the status again and start the uninstallation process.

Low Memory after the NNM iSPI Performance for QA is Uninstalled

After the unistallation process, ensure that no java process is running with the NNM iSPI Performance for QA name. Stop these processes manually otherwise it increases the memory size.

Uninstallation Process is Complete, Status shows NNM iSPI Performance for QA

After the uninstallation process is complete, still iSPI for NNM iSPI Performance for QA process appears as failed while checking the status. Stop the process and start again using the following commands:

Stop the process: **`ovstop -c`**

Start the process: **`ovstart -c`**

Check the status again, iSPI does not appear in the status.

NNM iSPI Performance for QA Installation Process Stops and Exits

The NNM iSPI Performance for QA installation process stops and exits as the installation process is not able to create and copy the folders.

Check the error messages and check the available disk space, permission issues.

Cannot connect http client invoker. Invalid HTTP server response [401] - Unauthorized. Response: Unauthorized/401

The NNM iSPI Performance for QA communication with NNMi is broken due to invalid user name or password. You can change the Web Service Client password by referring to the section Configuring NNM iSPI Performance for QA to Use Modified NNMi Web Services Client User Name, Password on page 30

Rediscovery of Probes Fail after Upgrading to NNM iSPI Performance for QA 9.10

If NNMi has already discovered the nodes, run the following command to rediscover the probes for the node:

nnmnoderediscover.ovpl –u <username> -p <password> -all

Alternatively, you can run the following command:

nmsqadisco.ovpl -u <username> -p <password> -node <nodename>

You can run the commands from the following directory:

For UNIX: `$NnmInstallDir/bin`

For Windows: `%NnmInstallDir%\bin`

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Product name and version: NNM iSPI Performance for QA, 9.20

Document title: Installation Guide

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