HP Network Node Manager i-series Smart Plug-in for IP Telephony

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

Software Version: 8.10

Deployment Guide

Document Release Date: Febuary 2009
Software Release Date: December 2008

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1 Introducing the iSPI for IP Telephony

HP Network Node Manager i- series Smart Plug-in for IP Telephony (iSPI for IP Telephony) helps you extend the capability of HP Network Node Manager i-series (NNMi) to monitor the overall health of the network.

Factors that impact the deployment of the iSPI for IP Telephony include the type of database configured with NNMi and the size of the network that you want to monitor. In addition, make sure to install the latest NNMi patches before installing the iSPI for IP Telephony in a non- english environment.

Plan the deployment of the iSPI for IP Telephony based on how NNMi is deployed in the environment. While planning the deployment, consider the following to achieve an optimum size and performance of the system:

- Number of managed IP telephony nodes
- Number of managed non-IP telephony nodes
- Deployment of the iSPI for IP Telephony in a High Availability (HA) environment
- Deployment of the iSPI for IP Telephony in an Application Failover environment
- Deployment of the iSPI for IP Telephony along with other iSPIs (iSPI for IP Multicast and iSPI for IP Telephony)

Preparing for Deployment

Before you start deploying the iSPI for IP Telephony, you must plan the installation based on your deployment requirements. You must identify the the supported configurations, make sure that your installation process complies with all the prerequisites.

To install and configure the iSPI for IP Telephony in a HA and Application failover environment, see the HA and App failover section of *NNMi Deployment Guide*.

Read the following NNMi documents before you start installing and configuring the iSPI for IP Telephony:

- *HP Network Node Manager i-series Deployment Guide, 8.10*
- *HP Network Node Manager i-series Release Notes, 8.10*
- *HP Network Node Manager i-series Support Matrix, 8.10*

In addition, read the following iSPI for IP Telephony documents before you start deploying the iSPI for IP Telephony:

- *HP Network Node Manager Smart Plug-in for IP Telephony Installation Guide, 8.10*
- *HP Network Node Manager Smart Plug-in for IP Telephony Release Notes, 8.10*
- *HP Network Node Manager Smart Plug-in for IP Telephony Support Matrix, 8.10*

2 Deploy the iSPI for IP Telephony

You should start deploying the iSPI for IP Telephony after installing NNMi on a system. To install and configure NNMi on a system, see the *NNMi Installation Guide*.

You can deploy the iSPI for IP Telephony for the following scenarios:

- Installing NNMi and iSPI for IP Telephony on a system.
- Installing the iSPI for IP Telephony on a system where NNMi is already UP and running.

Ensure to install the NNMi patches when you are installing the iSPI for IP Telephony in a non-English environment.

Deploying NNMi and the iSPI for IP Telephony Together

To deploy the iSPI for IP Telephony on a management server after installing NNMi, follow these steps:

1. Start the NNMi installation process. Do not disable HTTP communication after completing the NNMi installation process.

You must use the database type (embedded or Oracle) you used for the NNMi installation when you install iSPI for IP Telephony.

2 Install the iSPI for IP Telephony.

Make sure that you have tuned the **Xmx** values in the `jboss properties` file of NNMi and iSPI for IP Telephony. To update the **Xmx** values, see the steps listed in *Tuning the jboss Memory* section of the *iSPI for IP Telephony, Support Matrix* .

Also, see the *iSPI for IP Telephony, Support Matrix* for recommended values as applicable for the size of your network.

Follow the instructions in Step 3 only if you are using an embedded database. For the Oracle database, go to Step 5.

3 Modify the values in `nms-ds.xml` and `postgresql.conf` as mentioned in Tuning Embedded Postgres Database for Scalability and Performance of NNMi and iSPI for IP Telephony on page 14.

4 Restart the NNMi and iSPI for IP Telephony processes.

5 Configure the auto-discovery rules for IP phones. For more information, see the Setting NNMi Auto Discovery Rules to Discover IP Phones on page 15.

6 Seed the IP telephony devices from the NNMi console. Seeding enables NNMi to start the discovery process and the iSPI for IP Telephony nodes are discovered along with NNMi nodes.

7 Wait for sometime till the iSPI for IP Telephony nodes are discovered. Log on to the NNMi console, and then verify the availability of the IP Telephony workspace and IP Telephony views.

Deploying the iSPI for IP Telephony in an NNMi Environment

To deploy the iSPI for IP Telephony on a management server where NNMi is UP and running, follow these steps:

1 Install the iSPI for IP Telephony on a management server where NNMi is already installed, running and nodes are discovered.

You must use the database type (embedded or Oracle) you used for the NNMi installation when you install iSPI for IP Telephony.

Follow the instructions in Step 3 only if you are using an embedded database. For the Oracle database, go to Step 4.

2. Modify the values in `nms-ds.xml` and `postgresql.conf` as mentioned in Sizing and Configurations for Scalability and Performance of the iSPI for IP Telephony on page 14.
3. Restart the NNMi and iSPI for IP Telephony processes.
4. Configure the auto-discovery rules for IP phones. For more information, see the Setting NNMi Auto Discovery Rules to Discover IP Phones on page 15.
5. You can start the iSPI for IP Telephony discovery process to discover the IP Telephony nodes from the discovered NNMi nodes in any *one* of the following ways:
   - Select all the IP Telephony nodes (except IP phones) from NNMi Inventory workspace and start the configuration poll. For more information, see *Help for NNMi, Launch the Actions: Configuration Poll Command*.
   - Wait for the next NNMi discovery cycle to rediscover the nodes and also start the discovery of the iSPI for IP Telephony nodes.

Deploying Multiple iSPIs (iSPI for MPLS, iSPI for IP Multicast, and iSPI for IP Telephony) on a Management Server

You can deploy more than one add-on iSPIs (iSPI for MPLS, iSPI for IP Multicast, and iSPI for IP Telephony) on a management server. For more information, see the specific deployment guide.

You can deploy the iSPIs (iSPI for MPLS or iSPI for IP Multicast or iSPI for IP Telephony)in any order.

Use the Oracle database, if you are deploying multiple iSPIs (iSPI for MPLS or iSPI for IP Multicast or iSPI for IP Telephony) on a management server.

Sizing and Configurations for Scalability and Performance of the iSPI for IP Telephony

For sizing information of the iSPI for IP Telephony, see the *iSPI for IP Telephony Support Matrix*.

To achieve optimal performance and scalability of NNMi and the iSPI for IP Telephony, see the following sections:

- Tuning Embedded Postgres Database for Scalability and Performance of NNMi and iSPI for IP Telephony on page 14
- Tuning NNMi Polling Configurations for Performance and Scalability of NNMi and iSPI for IP Telephony on page 15.

Tuning Embedded Postgres Database for Scalability and Performance of NNMi and iSPI for IP Telephony

If you are using an embedded database while installing the iSPI for IP Telephony, update the following files:

Stop all the processes and make sure to take a backup of the files listed below.

- Modify the value default value=60 to 120 specified as `<max-pool-size>60</max-pool-size>` in the `nms-ds.xml` from

  `<INST_DIR>/nonOV/jboss/nms/server/nms/deploy/nms-ds.xml.`

  For example: If you have to change the default value=60 to 120, then change the `<max-pool-size>120</max-pool-size>.`
- Modify the value of `max_connections=100 to max_connections=200` from

  `<DATA_DIR>/shared/nnm/databases/Postgres/postgresql.conf`

After updating the above files, restart both the NNMi and iSPI for IP Telephony processes.

Tuning NNMi Polling Configurations for Performance and Scalability of NNMi and iSPI for IP Telephony

To increase the performance of NNMi with iSPI for IP Telephony, disable the polling for IP Phones, follow the steps:

1. From the **Monitoring Configuration** workspace, click **Node Settings** tab.
2. To view the details, click the **Open** icon with Ordering column specified as `400` which corresponds to Non-SNMP devices.
3. From the Fault Monitoring, clear the check boxes preceding `Enable ICMP Fault Polling`, `Enable SNMP Fault Polling`, and `Enable Component Health Fault Polling`.
4. To save the configuration, click **Save and Close.**

Setting NNMi Auto Discovery Rules to Discover IP Phones

To set the Auto-discovery rules in NNMi to discover IP phones as non-SNMP devices, follow the steps:

1. From the **Discovery Configuration**, click **Auto-Discovery Rules** tab.

Make sure to check the left pane for the `Node Name Resolution` section. For first choice, select **IP Address**. Similarly, for second choice, select **Short sysName** and for third choice, select **Short DNS Name**.

2. From the **Auto-Discovery Rules** tab, add a new rule. From the left pane, **Basics** section, type the details such as Name and Ordering. For more information, see the *Help for NNMi*.

Make sure to select the check box for **Discover Non-SNMP Devices** and clear the checkbox for **Enable Ping Sweep**.

3. From the **IP Address Ranges for this Rule**, click **New** and add the range of IP addresses of the IP Phones.
4. To save the configuration, click **Save and Close.**

3 Migrate to the iSPI for IP Telephony, 8.10

Before you start migrating IP Telephony SPI, 7.5x to a newer version, make sure that you migrate NNMi 7.5x to 8.x. For migrating NNMi from previous versions, see the *NNMi Deployment Guide*.

NNM IP Telephony SPI, 7.53 is supported on 32 bit HP-UX, Solaris, and Windows platforms in contrast to the iSPI for IP Telephony which is supported on 64 bit HP-UX, Solaris, Windows, and Linux platforms. There is no direct migration available for migrating the IP Telephony SPI, 7.53 to the iSPI for IP Telephony, 8.10. For more information on supported database, hardware, and software requirements, see the *iSPI for IP Telephony, Support Matrix, 8.10*.

To migrate from IP Telephony SPI, 7.53 to the iSPI for Telephony, 8.10 follow these steps:

1. **Migrate the SNMP configurations for the IP telephony nodes**: Migrate the community string and SNMP parameters such as retry count, timeout, and response interval configurations from NNM 7.5x to NNMi 8.10. For more information, see the *NNMi Deployment Guide*.
2. **Migrate the seeding information of the IP telephony nodes**: Migrate the list of IP telephony nodes from IP Telephony SPI, 7.5x by providing the list of IP telephony nodes as discovery seeds to NNMi. A discovery seed is an IP address or hostname. The discovery seeds (IP addresses or hostnames) for IP Telephony SPI, 7.53 are available in `$OV_DB/nnmet/hosts.nnm` or `$OV_BIN/ovet_topodump.ovpl`.

   If these nodes are not seeded in NNMi, 8.10, use the following NNMi command:

   `${NNMi_INSTALL_DIR}/bin/nnmloadseeds.ovpl -f < seed file>.`

   where <seed file> consists of the list of IP addresses or host name.

   For more information, see *Help for NNMi* and *NNMi Deployment Guide*.

3 **Migrate the data from Automated RCA Configuration View:** Note the the threshold settings, Cisco CallManager IP addresses, and IP addresses of Call Detail Record (CDR)/ Call MOS Records (CMR) repositories from the `Automated RCA Configuration View` of the IP Telephony SPI- Cisco, 7.53. From the NNMi `Configuration` workspace, use `IPT QOS Configuration` to migrate information gathered from IP Telephony, 7.53 to the iSPI for IP Telephony, 8.10.

4 **Migrate the polling information**: Note the polling intervals of the IP telephony devices as configured in IP Telephony SPI, 7.5x. Use `IPT Polling Configuration` from NNMi `Configuration` workspace to configure the polling intervals for IP telephony devices for the iSPI for IP Telephony.

Make sure to restart the iSPI for IP Telephony after the configurations.

After migration start the Configuration poll of the IP telephony devices except IP phones **or** wait till the next NNMi discovery cycle to discover the IP telephony devices in the network.

The default polling interval for nodes or interfaces in the iSPI for IP Telephony is 5 minutes. After migrating from the IP Telephony SPI, 7.53 to iSPI for IP Telephony, 8.10, the polling interval changes to 5 minutes.

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