

HP Network Node Manager i Software

For the Windows[®] and Linux operating systems

Software Version: NNMi 10.00

HP Network Node Manager i—HP Operations Orchestration Integration Guide

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Acknowledgements

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

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

Available Product Documentation

In addition to this guide, the following documentation is available for NNMi:

- *HP Network Node Manager i Software Documentation List*—Available on the HP manuals web site. Use this file to track additions to and revisions within the NNMi documentation set for this version of NNMi. Click a link to access a document on the HP manuals web site.
- *NNMi Installation Guide*—This is an interactive document, and is available on the NNMi product media. See the `nnmi_interactive_installation_en_README.txt` file, located on the product media, for more information.
- *HP Network Node Manager i Software Upgrade Reference*—Available on the HP manuals web site.
- *HP Network Node Manager i Software Release Notes*—Available on the product media and the NNMi management server.
- *HP Network Node Manager i Software System and Device Support Matrix*—Available on the product media and the NNMi management server.
- *HP Network Node Manager iSPI Network Engineering Toolset Planning and Installation Guide*—Available on the NNM iSPI NET diagnostics server product media.

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HP Operations Orchestration

HP Operations Orchestration (HP OO) automates incident resolution, change orchestration, and routine maintenance tasks in your data center. HP OO is beneficial for the following tasks:

- Automating incident resolution to increase service availability.
- Implementing best practices for change management and provisioning.
- Automating simple tasks, such as file archiving, and complex tasks, such as disaster recovery planning, consistently and without errors.
- Managing a virtual infrastructure, including self-service provisioning and day-to-day maintenance, consistent with a physical infrastructure.

For information about purchasing HP OO, contact your HP sales representative.

This chapter contains the following topics:

- [HP NNMi–HP OO Integration](#) on page 9
- [HP NNM iSPI NET Diagnostics](#) on page 10
- [Comparison of HP OO Integrations](#) on page 12

HP NNMi–HP OO Integration

The HP NNMi–HP OO integration provides a way to run HP OO flows from the NNMi console. Depending on configuration, flows can be run as lifecycle transition actions or from the **Actions** menu.

If you are running licensed versions of HP NNMi and HP OO, no further licenses are needed to use this integration.

You can run the HP NNMi–HP OO integration concurrently with HP NNM iSPI NET diagnostics.

Provided HP OO Operations

The HP NNMi–HP OO integration provides the following HP OO operations for interacting with HP NNMi-managed devices:

- Operations on incidents:
 - The Add Incident operation adds a new incident.
 - The Delete Incident operation deletes an incident from HP NNMi.
 - The Enumerate Incidents by Lifecycle operation retrieves all incidents in the specified lifecycle.
 - The Enumerate Incidents by Severity operation retrieves all non-closed incidents of the specified severity.
 - The Get Incident operation retrieves detailed information about an incident.
 - The Update Lifecycle Status operation changes the status of an incident.
 - The Update Priority operation updates the priority of an incident.
- Operations on nodes:
 - The Delete Node operation deletes a node from HP NNMi.
 - The Get Node by Name operation retrieves the node or nodes with the specified name, and returns details about them.
 - The Get Node by UUID operation retrieves the node with the specified UUID and returns detailed information about it.
 - The Get Node Conclusions operation retrieves a summary of what HP NNMi has concluded about the date of the specified node.
 - The Update Node Management Mode operation changes the management mode of a node. You can use this operation for tasks such as disabling monitoring.

Using the HP NNMi–HP OO Integration

For information about enabling, using, disabling, and troubleshooting the HP NNMi–HP OO integration, see the *HP Operations Orchestration Software HP Network Node Manager (i series) Integration* guide.

HP NNM iSPI NET Diagnostics

HP NNM iSPI NET diagnostics are part of the HP NNM iSPI Network Engineering Toolset Software (HP NNM iSPI NET), which must be purchased separately from HP NNMi. With HP NNM iSPI NET diagnostics, the HP-provided diagnostic flows automatically gather diagnostic information when HP NNMi detects certain network incidents.

The HP NNM iSPI NET diagnostics server is an embedded packaging of HP OO. If you already have the full HP OO product, you can install the NNM iSPI NET diagnostic flows on that server.

If you have the full HP OO product, you can also import HP OO flow definitions into HP NNMi and then assign these flows to run when HP NNMi detects certain network incidents.

Provided HP OO Flow Definitions

After installation, HP NNM iSPI NET provides the following diagnostics:

- Cisco Router Diagnostics:
 - The Cisco Router Baseline Information uses a series of show commands to determine the current configuration of a Cisco router.
 - The Cisco Show IP Route flow obtains routing information using the show ip route command.
 - The Cisco Route To Node Diagnostic flow determines failures of either ping or traceroute to a target node. Uses the router to perform a ping and a traceroute to a target node.
 - The Cisco Interface Diagnostic flow performs a number of diagnostic checks on a specified interface on the Cisco router.
- Cisco Switch Diagnostics:
 - The Cisco Switch Baseline Information flow uses a series of show commands to determine the current configuration of a Cisco switch.
 - The Cisco Switch Spanning Tree Baseline flow gathers spanning tree protocol and port information from the Cisco switch.
- Nortel Switch Diagnostics:
 - The Nortel Port Diagnostic flow determines statistics, including rate-limit and usage for a specified port on a Nortel switch.
 - The Nortel Route to Node Diagnostic flow determines failures of either ping or traceroute to a target node.
 - The Nortel Switch Baseline flow determines the configuration of a Nortel switch.
 - The Nortel Switch Spanning Tree Baseline flow gathers spanning tree protocol and port information from the Nortel switch.

For more information about the available diagnostics, see *Diagnostics (Flows) Provided by NNM iSPI NET* in the NNMi help.


Installing and Using the HP NNM iSPI NET Diagnostics

For information about installing the NNM iSPI NET diagnostics server or installing the HP NNM iSPI NET diagnostics flows on an existing HP OO server, see the *HP NNM iSPI NET Planning and Installation Guide*.

For information about using the HP NNM iSPI NET diagnostics flows and other HP NNM iSPI NET, see the *HP NNM iSPI NET Planning and Installation Guide*.

Comparison of HP OO Integrations

The primary differences between the HP NNMi–HP OO integration and HP NNM iSPI NET diagnostics are as follows:

- Determining the flows to run:
 - With HP NNM iSPI NET diagnostics, you can configure a flow to run for a variety of devices and let HP NNMi figure out the flows to run based on the device category and vendor information in HP NNMi.
 - With the HP NNMi–HP OO integration, the HP OO flow must determine what operations to run. For example, for an SNMPColdStart trap, HP NNMi would pass device category, vendor, and so forth to the HP OO flow, which would then decide the operations to run.
 - Flow Extensibility:
 - The HP NNMi–HP OO integration delivers flows for accessing the NNMi SDK.
 - The HP NNMi–HP OO integration delivers generic ways to launch and view arbitrary HP OO flows from menu items using the specified URLs or by using NNMi event actions.
 - If you purchase HP NNM iSPI NET, you can only use the flows from HP NNM iSPI NET.
 - If you purchase both HP OO and HP NNM iSPI NET, you can import flows from HP OO into HP NNMi.
 - Managing flow run rate:
 - HP NNM iSPI NET diagnostics manages the running of flows to avoid overloading HP OO
 - With the HP NNMi–HP OO integration, HP NNMi attempts to run as many flows as there are incidents configured to run lifecycle transition actions.
-  Be cautious when using URL-based launching of HP OO actions that operate against network switches and routers. If HP OO actions repeatedly attempt to log on to devices using telnet or ssh (during a short time period), the devices might interpret these actions as a denial of service attack. These devices might prohibit the HP OO server from establishing additional sessions. The potential results explained in this caution depend on device configurations and the launch rate of URL based HP OO actions.
- Maintaining device logon information:
 - HP NNM iSPI NET diagnostics stores device user names and passwords separately from the configuration of when to run flows. Credentials can be configured for specific devices, groups of devices, and as default values, similar to the way that HP NNMi stores the SNMP configuration. Each time a flow is run, HP NNM iSPI NET diagnostics retrieves the correct logon credentials for the device and passes them to HP OO.
 - With the HP NNMi–HP OO integration, the configured action must include the device user name and passwords in the launch URL. Thus, each action is limited to a group of devices with identical logon credentials.
 - Viewing flow run history:

- HP NNM iSPI NET diagnostics stores flow run history with an incident. An NNMi user can access the historical flow run results from the NNMi console.
- With the HP NNMi–HP OO integration, launch actions initiate a flow but do not provide access to previously run flows. An NNMi user must log on to HP OO Central to view flow run history.
- Setting flow baselines:
 - With HP NNM iSPI NET diagnostics, you can establish a baseline configuration for comparing to future flows.
 - With the HP NNMi–HP OO integration, you can manually run baseline flows and archive the flow results for future comparisons.
- Using certificates for SSL connections:
 - The HP NNM iSPI NET integration requires the use of SSL between HP OO and HP NNMi.
 - If you plan to use the full HP OO product, and not just the HP NNM iSPI NET integration, you must export a certificate from the HP OO keystore to a well known file before running the iSPI-NET Diagnostics Server installer. See the *HP NNM iSPI NET Planning and Installation Guide* for more information.
 - The HP NNM iSPI NET diagnostics installation process handles configuration of certificates for SSL communication between the NNMi management server and the HP OO server.

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