Hewlett Packard Enterprise

HPE Network Node Manager i Software

Software Version: 10.30
for the Windows® and Linux® operating systems

HPE Network Node Manager i–HPE 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 Visigoth Software Society (http://www.visigoths.org/).

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

- Software Version number, which indicates the software version.
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Integrate NNMi with HPE Operations Orchestration

HPE Operations Orchestration (HPE OO) automates incident resolution, change orchestration, and routine maintenance tasks in your data center. HPE 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 HPE OO, contact your HPE sales representative.

This chapter contains the following topics:

NNMi-HPE OO Integration

The NNMi–HPE OO integration provides a way to run HPE 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 NNMi and HPE OO, no further licenses are needed to use this integration.

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

Provided HPE OO Operations

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

- Operations on incidents:
  - The Add Incident operation adds a new incident.
  - The Delete Incident operation deletes an incident from 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 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 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 NNMi-HPE OO Integration

For information about enabling, using, disabling, and troubleshooting the NNMi–HPE OO integration, see the HPE Operations Orchestration Software HPE Network Node Manager i Integration guide available at http://softwaresupport.hpe.com.

NNM iSPI NET Diagnostics

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

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

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

Provided HPE OO Flow Definitions

After installation, 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 NNM iSPI NET Diagnostics

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

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

Comparison of HPE OO Integrations

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

- Determining the flows to run:
  - With NNM iSPI NET diagnostics, you can configure a flow to run for a variety of devices and let NNMi figure out the flows to run based on the device category and vendor information in NNMi.
  - With the NNMi–HPE OO integration, the HPE OO flow must determine what operations to run. For example, for an SNMPColdStart trap, NNMi would pass device category, vendor, and so forth to the HPE OO flow, which would then decide the operations to run.
- Flow Extensibility:

  - The NNMi–HPE OO integration delivers flows for accessing the NNMi SDK.
  - The NNMi–HPE OO integration delivers generic ways to launch and view arbitrary HPE OO flows from menu items using the specified URLs or by using NNMi event actions.
  - If you purchase NNM iSPI NET, you can only use the flows from NNM iSPI NET.
  - If you purchase both HPE OO and NNM iSPI NET, you can import flows from HPE OO into NNMi.
- Managing flow run rate:
  - NNM iSPI NET diagnostics manages the running of flows to avoid overloading HPE OO.
  - With the NNMi–HPE OO integration, NNMi attempts to run as many flows as there are incidents configured to run lifecycle transition actions.

    CAUTION: Be cautious when using URL-based launching of HPE OO actions that operate against network switches and routers. If HPE 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 HPE OO server from establishing additional sessions. The potential results explained in this caution depend on device configurations and the launch rate of URL based HPE OO actions.
- Maintaining device logon information:
  - 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 NNMi stores the SNMP configuration. Each time a flow is run, NNM iSPI NET diagnostics retrieves the correct logon credentials for the device and passes them to HPE OO.
  - With the NNMi–HPE 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:
  - 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 NNMi–HPE OO integration, launch actions initiate a flow but do not provide access to previously run flows. An NNMi user must log on to HPE OO Central to view flow run history.
- Setting flow baselines:
  - With NNM iSPI NET diagnostics, you can establish a baseline configuration for comparing to future flows.
  - With the NNMi–HPE OO integration, you can manually run baseline flows and archive the flow results for future comparisons.
- Using certificates for SSL connections:

- The NNM iSPI NET integration requires the use of SSL between HPE OO and NNMi.
- If you plan to use the full HPE OO product, and not just the NNM iSPI NET integration, you must export a certificate from the HPE OO keystore to a well known file before running the iSPI-NET Diagnostics Server installer. See the HPE NNM iSPI NET Planning and Installation Guide for more information.
- The NNM iSPI NET diagnostics installation process handles configuration of certificates for SSL communication between the NNMi management server and the HPE OO server.

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