HP Operations Orchestration

For Windows and Linux operating systems

Software Version: Content Pack 11

HP Network Automation Integration Guide

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> **http://h20230.www2.hp.com/new_access_levels.jsp**

Contents

Introduction

This chapter includes:

Overview of HP Network Automation Integration

With this integration, administrators can build HP Operations Orchestration (OO) flows that are integrated into HP Network Automation (NA).

To use this integration successfully, you should have administrator-level knowledge of the HP Network Automation software, with a working knowledge of the NA command line interface (CLI) in particular.

This document describes the configuration and usage of the HP Network Automation (NA), formerly Opsware Network Automation System (NAS), in integration with HP Operations Orchestration.

Supported Versions

Operations Orchestration Version	NA Version
OO Content Pack 11	6.x 7.x 9.x (up to and including 9.20)

Downloading OO Releases and Documents on HP Live Network

HP Live Network provides an Operations Orchestration Community page where you can find and download supported releases of OO and associated documents.

To download OO releases and documents, visit the following site:

https://hpln.hp.com/

> **Note:** This site requires that you register for an HP Passport and sign-in.

To register for an HP Passport ID:

1. Go to: http://h20229.www2.hp.com/passport-registration.html

   Or

   Click the **New users - please register** link on the HP Passport login page.

2. On the HP Live Network page, click **Operations Orchestration**.

3. On the left-hand side, click **Operations Orchestration Content Packs**.

4. In the **Operations Orchestration Content Packs** box, click **Content**. The HP Passport and sign-in page appears.

5. Enter your user ID and Password to access to continue.

6. Click **HP Operations Orchestration 9.00**.

7. Search for the required HP Operations Orchestration Content Pack.

Getting Started

This chapter includes:

Installing and Configuring the HP Network Automation Integration

The integration for NA 6.x utilizes the SSH command line interface available for NA 6.x and requires that the NA SSH service be accessible from the RAS host. Versions 7.x and 9.x integrations use the NA Java API, which requires that NA has the SOAP Web service available and running (default).

In all versions of the NA integration, a Java Remote Action Service (RAS) must be installed that can access the NA core(s) that are targeted.

What You Need to Know About NA Before Using the Integration

You must have a working knowledge of the HP Network Automation Command Line Interface (CLI) to understand and use this integration effectively. All of the operations in this integration are based on CLI commands.

> **Caution:** To use operations and flows in the Task folder, you need to have workflow mode enabled on your Network Automation host. See the Network Automation documentation to learn how to accomplish this, and be sure that you understand the implications of enabling workflow mode.

Some of the flows in the Samples/ folder for this integration require custom data to be set up on the NA host. For more information please see the Custom Data Setup section of the Network Automation User Guide.

Use Cases

This section defines the major use cases for the HP Network Automation integration, and lists the operations and flows that you can use to implement them.

1. Apply an update to multiple devices and rollback changes for all devices if any update fails:

   - List Iterator

   - Run Command Script

   - Rollback Device to Last Snapshot

2. Check the status of a task:

   - List Tasks

3. Change the configuration on a Cisco router, but rollback changes if the router becomes unreachable:

   - Get Configurations By IP

   - Take Snapshot

   - Delayed Reload

   - Deploy Configuration

   - Cancel Delayed Reload

4. Perform diagnostics on a list of network devices:

   - List Iterator

   - Diagnose Device

   - List Diagnostic

   - Get Device Diagnostic

   - Generate Report From Lists

5. Rollback device configuration to last snapshot:

   - Get Configurations By IP

   - Deploy Configuration

Architecture

Depending on the integration version you are using, the RAS host either communicates with the NA core using the NA SSH command line interface (for NA 6.x) or the NA Java API using SOAP over HTTP or HTTPS (for NA 7.x and 9.x). The default port for SSH communication is 22, and for SOAP it is HTTPS (443), both of which can be changed if necessary.
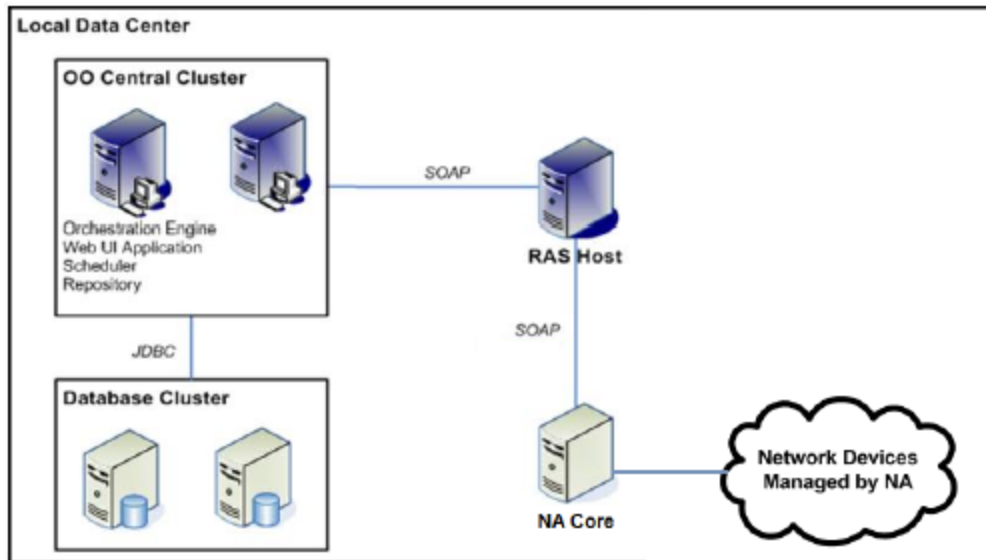
Location of NA Integration Operations and Flows in OO Studio

The HP Network Automation integration includes the following operations and flows in the **OO Studio Library/Integrations/Hewlett-Packard/Network Automation/** folder.
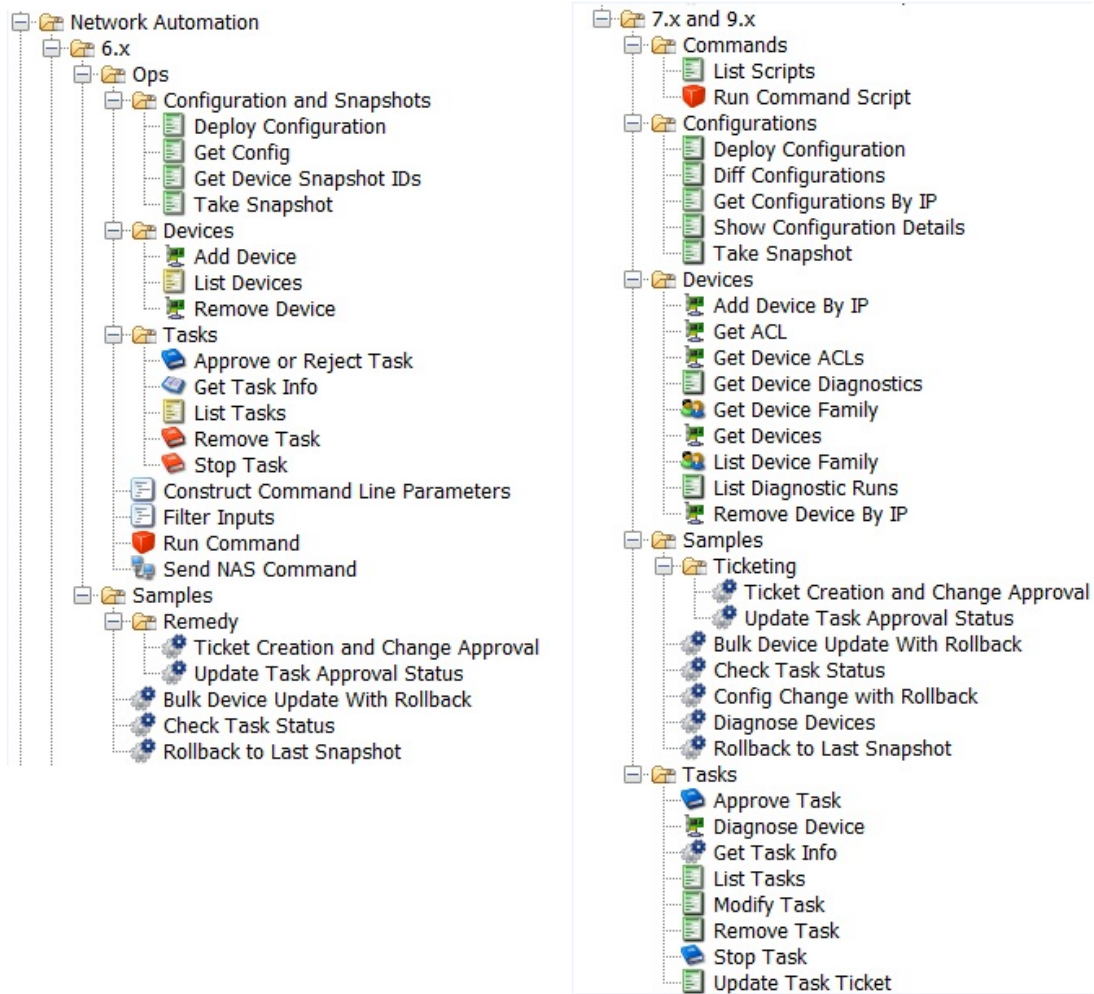
Security

OO uses the standard SSH protocol to integrate with NA 6.x and SOAP to integrate with NA 7.x and 9.x. Since NA 7.x and 9.x does not automatically forward to secured ports in its SOAP service and allows HTTP communication in its Web service, users should confirm that the protocol used is HTTPS before sending sensitive information. As of OO 7.50, an internal session is maintained within the flow run context to avoid repeated logon authentication. This session information aside from the ID of the session, is not readily visible or logged within the OO system.

OO Tools You Can Use with the NA Integration

Following are OO tools that you can use with the NA integration:

- **RSFlowInvoke.exe and JRSFlowInvoke.jar**

  RSFlowInvoke (RSFlowInvoke.exe or the Java version, JRSFlowInvoke.jar) is a command-line utility that allows you to start a flow without using Central (although the Central service must be running). RSFlowInvoke is useful when you want to start a flow from an external system, such as a monitoring application that can use a command line to start a flow.

  These tools are available in the Operations Orchestration home folder in **/Studio/tools/**.