HP Operations Orchestration

for the Windows and Linux operating systems

Software Version: OO Content Pack 7

HP BladeSystem Onboard Administrator Integration Guide

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Software Release Date: January 2012

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Contents

1 Introduction

This section includes the following topics:

Purpose of the HP BladeSystem Onboard Administrator Integration

With this integration, administrators can create HP Operations Orchestration (OO) flows that are integrated with Onboard Administrator (OA).

To learn how to create OO flows, see the *Studio Guide to Authoring Operations Orchestration Flows* (Studio_AuthorsGuide.pdf) in the documentation set for the current OO release,

The Onboard Administrator integration uses the Secure Shell (SSH) technology to integrate with OO.

This document explains how this integration has been implemented, and how the integration's operations and flows communicate between OO and OA.

Audience

This guide is intended for system administrators who establish and maintain the implementation of the integration between Onboard Administrator and HP OO. This guide assumes that you have full administrative access to both systems.

Prerequisites

To use this integration successfully, you should have Administrator-level knowledge of the Onboard Administrator using the command line interface through SSH to integrate with OO.

Supported Versions

Table 1 Supported Versions

Operations Orchestration Version	Onboard Administrator Version
OO Content Pack 7	Version 3.31

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/

This site requires that you register for an HP Passport and sign-in. To register for an HP Passport ID, go to:

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

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

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

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1. On the left-hand side, click **Operations Orchestration Content Packs**.
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3. Enter your user ID and Password to access to continue.
4. Click **HP Operations Orchestration 9.00**.
5. Search for HP Operations Orchestration Content Pack 7

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Related Documents

- *Studio Guide to Authoring Operations Orchestration Flows*
- *HP BladeSystem Onboard Administrator User Guide*
- *HP BladeSystem Onboard Administrator Command Line Interface User Guide*

2 Getting Started with the Onboard Administrator Integration

This section includes the following topics:

Installing and Configuring the Integration

No special installation and configuration instructions are required for this integration.

Onboard Administrator — OO Integration Architecture

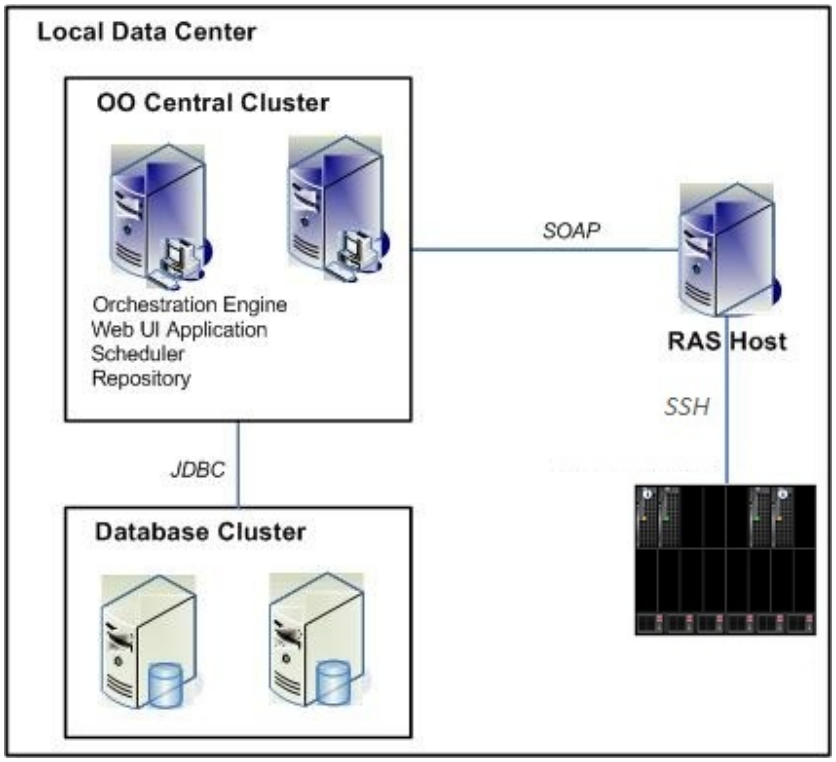

Figure 1 - HP BladeSystem Onboard Administrator Architecture

Onboard Administrator Use Cases

Following are the major use cases for the Onboard Administrator integration, and the operations and flows that you can use to implement them.

1 Network

- Add OA Address IPv6
- Add OA DNS IPv4
- Add OA DNS IPv6
- Add SNMP Trapreceiver
- Clear NTP

- Clear SSH Key
- Configure Alert Mail
- Configure DHCPv6
- Configure Enclosure IP Mode
- Configure HTTPS
- Configure IPv6
- Configure NTP
- Configure Router Advertisements
- Configure SNMP
- Configure Telnet
- Configure Trusted Host
- Configure XML Reply
- Get Network
- Get SNMP
- Get SSH Encryption
- Get SSH Fingerprint
- Get SSH Key
- Remove OA Address IPv6
- Remove OA DNS IPv4
- Remove OA DNS IPv6
- Remove SNMP Trapreceiver
- Remove Trusted Host
- Set IPCONFIG DHCP
- Set IPCONFIG Static
- Set OA Gateway
- Set SSH Encryption
- Set SSH Key
- Set Trusted Host
- Test Alert Mail
- Test SNMP

2 OA

- Clear OA Syslog
- Configure GUI Login Detail
- Configure Link Loss Failover
- Get Config
- Get Date
- Get OA Information

- Get OA Syslog
- Get Syslog History
- Get VCmode
- Set Date
- Set OA Name
- Set OA UID LED
- Set Time Zone

3 Power Management:

- Get Power
- Get Power Cap
- Get Power Cap Excluded Bays
- Get Power Summary
- Get Power Supply
- Set PDU Type
- Set Power Cap
- Set Power Cap Bays to Exclude
- Set Power Limit
- Set Power Mode
- Set Power Savings

4 Rack and Enclosure Management:

- Get Enclosure Info
- Get Enclosure Status
- Get Enclosure Temp
- Get FRU
- Get Rack Name
- Get Topology
- Set Asset Tag
- Set Enclosure Name
- Set Enclosure UID LED
- Set Part Number
- Set Rack Name
- Set Serial Number

5 User Account Management:

- Add User
- Delete User
- Get Password Settings

- Get Session Timeout
- Get User
- Get Users
- Modify User
- Set Password Settings
- Set Session Timeout

Onboard Administrator Terminology

The following terms are used in the *HP BladeSystem Onboard Administrator Integration Guide*.

BIOS

Basic Input/Output System

CA

Certificate Authority

CLI

Command Line Interface

CPU

Central Processing Unit

DDNS

Dynamic Domain Name System

DHCP

Dynamic Host Configuration Protocol

DNS

Domain Name System

EBIPA

Enclosure Bay IP Addressing

FRU

Field Replaceable Unit

FTP

File Transfer Protocol

GUI

Graphical User Interface

HP SIM

HP Systems Insight Manager

HTTP

Hypertext Transfer Protocol

HTTPS

Hypertext Transfer Protocol Secure Sockets

IA

Interface Adapter

ICMP

Internet Control Message Protocol

iLO

Integrated Lights-Out

IP

Internet Protocol

LDAP

Lightweight Directory Access Protocol

LED

Light-Emitting Diode

MAC

Media Access Control

NIC

Network Interface Controller

NTP

Network Time Protocol

OA

Onboard Administrator

OS

Operating System

PDU

Power Distribution Unit

PKCS

Public-Key Cryptography Standards

PXE

Preboot Execution Environment

RBSU

ROM-Based Setup Utility

RIBCL

Remote Insight Board Command Language

SNMP

Simple Network Management Protocol

SOAP

Simple Object Access Protocol

SSH

Secure Shell

SSO

Single Sign-On

TFTP

Trivial File Transfer Protocol

UID

Unit Identification

URB

Utility Ready Blade

URL

Uniform Resource Locator

XML

Extensible Markup Language

3 Using the Onboard Administrator – OO Integration

This section includes the following topics:

Location of Onboard Administrator Integration Operations and Flows in OO Studio

The Onboard Administrator integration includes the following operations and flows in the OO Studio Library/Integrations/Hewlett-Packard/Onboard Administrator/ folder.

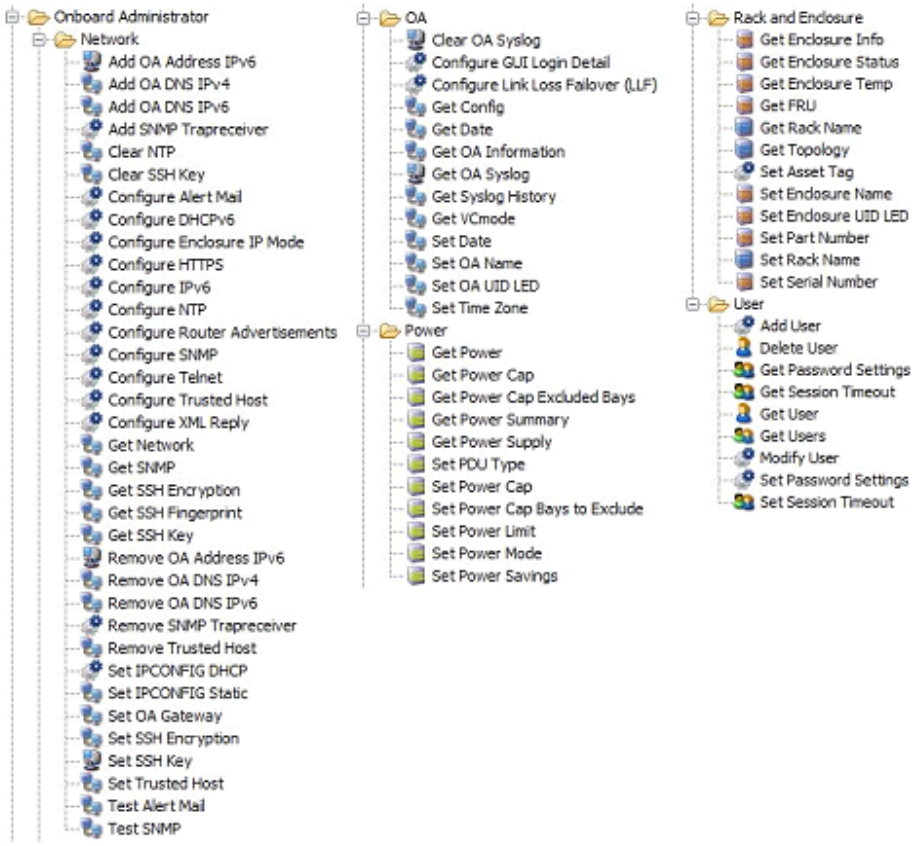

Figure 2 – Location of HP Onboard Administrator Integration Location in Studio

Common Inputs in the Integration

OO operations and flows use inputs to specify how they obtain the data that they need and when the data is obtained. The following inputs are used consistently throughout the Onboard Administrator integration's operations and flows.

host

The hostname or IP address that is assigned to the target OA.

username

The login name for the user account that has Administrator and OA privileges on the target OA.

password

The password for the OA user account.

port

The port number for running the command.

command

The command to execute for the operation. The user should not change the command.

arguments

The arguments to pass to the command. The user should not change the arguments.

pty

Specifies whether to use pty. The valid values are **true** and **false**. The default is **false**.

privateKeyFile

The path to the private key file, relative to ICONCLUDE_HOME on the RAS.

timeout

The time in milliseconds to wait for the command to complete (optional). The default is **90** seconds.

characterSet

The character set name for input stream encoding from the target machine.

For example, **SJIS**, **EUC-JP**, or **UTF-8**. The default is **UTF-8**.

closeSession

Specifies whether to close the SSH session at completion of this operation. The valid values are **true** and **false**. If you specify a value of **false**, the SSH session is cached for future calls of this operation during the life of the flow. If you specify a value of **true**, the SSH session used by this operation is closed. The default is **true**.

Common Results in the Integration

The following results are used consistently throughout the Onboard Administrator integration's operations and flows.

returnResult

This is the primary output.

STDERR

The STDERR of the operation from using SSH.

STDOUT

The STDOUT of the operation from using SSH.

Common Responses in the Integration

The following responses are used consistently throughout the Onboard Administrator integration's operations and flows.

success

The operation completed as stated in the description.

failure

The operation completed unsuccessfully.

Descriptions of Onboard Administrator Integration Operations and Flows

Network

The operations and flows in this group are used to manage the various Onboard Administrator network parameters.

Add OA Address IPv6

The **Add OA Address IPv6** operation adds an IPv6 static address for the Onboard Administrator. If IPv6 is enabled, this setting takes effect immediately. The IP address must be in the form ####:####:####:####:####:####:####:####/### where each #### ranges from 0 to FFFF and the prefix /### ranges from 0 to 128. The prefix length is mandatory. Up to 3 IPv6 addresses are allowed.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv6Address

The IPv6 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Notes:

The SSH session is terminated automatically after this operation is done. This is done to avoid leaving an active SSH session on the OA. If this should happen, the orphaned session will remain until the session times out which may be up to 24 hours.

Add OA DNS IPv4

The **Add OA DNS IPv4** operation adds an IPv4 address to the list of DNS servers. The IP address must be in the form ###.###.###.###, where each ### ranges from 0 to 255. A maximum of two DNS servers can be added.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv4Address

The IPv4 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Add OA DNS IPv6

The **Add OA DNS** IPv6 operation adds an IPv6 address to the list of DNS servers. The IP address must be in the form ####:####:####:####:####:####:####:####/### (with a prefix), where each #### ranges from 0 to FFFF and the prefix /### ranges from 0 to 128. The prefix length is optional. A maximum of two DNS servers can be added.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv6Address

The IPv6 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Add SNMP Trapreceiver

The **Add SNMP Trapreceiver** flow adds a new trap receiver address to the SNMP configuration. Defaults for the traps are version v1 and port 162. The SNMP Trap community string is set to public or the optional "<community>". The "<community>" string, if specified, must be 1 to 20 characters in length. Acceptable characters include any printable character excluding quotes and newlines. A maximum of eight IP addresses can be added to receive SNMP traps. Only v1 traps are supported. The <trapreceiver> value can be an IPv4 address, an IPv6 address, or a DNS name (maximum of 64 characters). IPv6 addresses must be typed without the network prefix length.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

trapreceiver

The host to receive the trap.

community

The community name.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Clear NTP

The **Clear NTP** operation disable access to the primary or secondary NTP server. Clearing the primary NTP server will disable NTP.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

serverOption

The NTP server to disable which can be primary or secondary.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Clear SSH Key

The **Clear SSH Key** operation removes all the SSH keys use for SSH login.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Configure Alert Mail

The **Configure Alert Mail** flow enable or disable the sending of alert emails when an event occurs set the email address where events are sent, set the DNS domain where the Onboard Administrator is located (for example, abc.com, and set the mail server where the Onboard Administrator delivers its e-mail based events. The mail sever value can be an IPv4 address, an IPv6 address, or a DNS name. Note that the IPv6 address cannot specify the network prefix length.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or disable alertmail.

mailbox

The email address where events are sent.

senderdomain

The DNS domain where the OA is located.

smtpserver

The mail server where the OA delivers its e-mail based events.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure DHCPv6

The **Configure DHCPv6** flow enables or disables DHCPv6. In DHCPv6 mode, IPv6 and DNS addresses are obtained from the DHCPv6 server. With DHCPv6 disabled, the IPv6 and DNS addresses are not obtained from the DHCPv6 server. This setting takes effect immediately.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or Disable DHCPv6.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Configure Enclosure IP Mode

The **Configure Enclosure IP Mode** flow enables or disables Enclosure IP mode.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or disable enclosure IP mode.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Restrictions:

When using enclosure IP mode only replaces the standby OA module while the enclosure is powered on to ensure persistence of Enclosure IP Mode settings.

Configure HTTPS

The **Configure HTTPS** flow enables or disables HTTPS (web-based access).

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or Disable HTTPS.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure IPv6

The **Configure IPv6** flow enables or disables IPv6.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or Disable IPv6.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure NTP

The **Configure NTP** flow enables NTP support for the Onboard Administrator or disables the synchronizing of time and date with a remote server using the NTP protocol. Disabling does not clear any NTP servers that have been configured.

Set the polling interval of the NTP servers. The poll time should be between 60 and 86,400 seconds.

Set the primary server used for synchronizing time and date using NTP. The <ntpPrimary> value can be an IPv4 address, an IPv6 address, or a DNS name. IPv6 addresses cannot specify the network prefix length.

Set the secondary server used for synchronizing time and date using the NTP. The <ntpSecondary> value can be either an IPv4 address, an IPv6 address, or a DNS name. IPv6 addresses cannot specify the network prefix length.

Note if the parameter is left blank, no changes will be made for that parameter.

Note that this flow uses multiple SSH operations. If one command should fail, all changes before the failure will remain. All changes after the failure including the failed command will not be executed.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or disable NTP.

ntpInterval

The polling interval in seconds.

ntpPrimary

The NTP primary server.

ntpSecondary

The NTP secondary server.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure Router Advertisements

The **Configure Router Advertisements** flow enables or disables auto-configuration of IPv6 addresses from Router Advertisement messages.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or **Disable** Router Advertisements.

bayNumber

OA bay number which can be **active**, **1**, **2**, or **standby** from the selection list

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure SNMP

The **Configure SNMP** flow enables or disables SNMP support for the Onboard Administrator. Disabling SNMP does not clear the SNMP trap receivers that have been configured. SNMP trap receivers can still be added and removed. If you disable SNMP, then Insight Manager Agents do not work properly.

Configure the name of the system contact. The default contact is blank. The <contact> must be no more than 20 characters long. Valid characters are all alphanumeric, the underscore (_), the dash (-), and spaces.

Sets the community name for the read or write SNMP community. If a blank write community name is given, the SNMP set commands are disabled until a non-empty community name is give. The write <writeCommunity> must be no more than 20 characters long, and the read <readCommunity> must be 1 to 20 characters long. All printable characters are valid. The default read community name is public. The default write community name is public.

Configures the SNMP location of the enclosure. The default location is blank. The <location> must be no more than 20 characters long. Valid characters are all alphanumeric, the underscore (_), the dash (-), and spaces.

Note if the parameter is left blank, no changes will be made for that parameter. To blank out any of the parameters, use two double quotes ("") in the input field.

Note that this flow uses multiple SSH operations. If one command should fail, all changes before the failure will remain. All changes after the failure including the failed command will not be executed.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or **Disable** SNMP.

contact

The name of the system contact.

readCommunity

The SNMP read community name.

writeCommunity

The SNMP write community name.

location

The SNMP location of the enclosure.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure Telnet

The **Configure Telnet** flow enables or disables Telnet access to the Onboard Administrator.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or **Disable** Telnet.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure Trusted Host

The **Configure Trusted Host** flow enables or disables Trusted Host. Note that disabling Trusted Host allows all hosts to connect to the Onboard Administrator.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or **Disable** trusted host.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Configure XML Reply

The **Configure XML Reply** enables or disables XML reply data over an HTTP connection.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Enable or **Disable** trusted host.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Get Network

The **Get Network** operation gets the various network settings and protocol status for the Onboard Administrator. The information can include the IP addresses, DHCP state, subnet mask, gateway address, DNS addresses, MAC address, http and https server status, SNMP status, SSH status, telnet status, NTP status, trusted host status, etc.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Get SNMP

The **Get SNMP** operation gets the SNMP status, system name, location, contact, read community name, write community name, and a list of trap destinations.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Get SSH Encryption

The **Get SSH Encryption** gets the current SSH encryption option.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Get SSH Fingerprint

The **Get SSH Fingerprint** operation gets the SSH key fingerprint of the Onboard Administrator host public key.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Get SSH Key

The **Get SSH Key** operation gets the contents of the existing SSH authorized key files.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Remove OA Address IPv6

The **Remove OA Address IPv6** operation removes an IPv6 static address for the Onboard Adiministrator. If IPv6 is enabled, this setting takes effect immediately. The IP address must be in the form ####:####:####:####:####:####:####:####/### where each #### ranges from 0 to FFFF and the prefix /### ranges from 0 to 128. The prefix length is mandatory.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv6Address

The IPv6 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Notes:

The SSH session is terminated automatically after this operation is done. This is done to avoid leaving an active SSH session on the OA. If this should happen, the orphaned session will remain until the session times out which may be up to 24 hours.

Remove OA DNS IPv4

The **Remove OA DNS IPv4** operation removes the specified DNS IPv4 address from the list of DNS addresses for the specified Onboard Administrator. The IP address must be in the form ###.###.###.###, where each ### ranges from 0 to 255.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv4Address

The IPv4 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Remove OA DNS IPv6

The **Remove OA DNS IPv6** operation removes the specified DNS IPv6 address from the list of DNS addresses for the specified Onboard Administrator. The IP address must be in the form ####:####:####:####:####:####:####:####/### (with a prefix), where each #### ranges from 0 to FFFF and the prefix /### ranges from 0 to 128. The prefix length is optional.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv6Address

The IPv6 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Remove SNMP Trapreceiver

The **Remove SNMP Trapreceiver** flow removes the <trapreceiver> from the list of systems that receive SNMP traps. If the same <trapreceiver> is listed multiple times with different communities, all instances of the <trapreceiver> disappear unless <community> specifies which one is to be removed. The <trapreceiver> value can be either an IPv4 address, an IPv6 address, or a DNS name. The IPv6 addresses cannot specify the network prefix length.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

trapreceiver

The host to receive the trap.

community

The community name.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Remove Trusted Host

The **Remove Trusted Host** operation removes an IPv4 or IPv6 address from the list of addresses being handled by the IP Security feature.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

trustedHost

The IPv4 or IPv6 address of the trusted host.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Set IPCONFIG DHCP

The **Set IPCONFIG DHCP** flow configures the IP settings for the OA to DHCP mode. In DHCP mode the IP address, netmask, gateway address, and DNS addresses will be obtained from the DHCP. This setting will take effect immediately. If "dynamicdns" is specified this the DNS server will be notified of the system's new IP address once it is received from the DHCP server.

Inputs:

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA to configure. The default is the currently active OA. The selection list option is **active**, **1**, **2**, or **standby**.

dynamicdnsOption

The dynamic DNS option.

Results:

All of the flow's results are described in *Common Results in the Integration*.

Responses:

All of the flow's responses are described in *Common Responses in the Integration*.

Set IPCONFIG Static

The **Set IPCONFIG Static** operation configures IP settings for the OA to static mode. In this mode the IP address and Netmask will be set to <ipv4Address> and <netmask>, respectively. These will take affect immediately. The gateway address can be set by using the "Set OA Gateway" operation and the DNS addresses can be set by using "Add OA DNS IPv4" operation.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv4Address

The IPv4 address.

netmask

The subnet mask.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Set OA Gateway

The **Set OA Gateway** operation sets the network default gateway. This command can be used if the system is configured to use a static IP address. The IP address must be in the form ###.###.###.###, where each ### ranges from 0 to 255.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured. Default is **active**. Can be **active**, **1**, **2**, or **standby**.

ipv4Address

The IPv4 address.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Set SSH Encryption

The **Set SSH Encryption** operation sets the SSH encryption option. Using "strong" encryption enforces use of only FIPS 140-2 approved algorithms including AES, 3DES, and SHA. Setting this option to "normal" also enables other SSLv3 algorithms such as RSA, RC4, and MD5.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

encryptionOption

Selection list of the encryption option -- **normal** or **strong**.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Set SSH Key

The **Set SSH Key** operation adds an SSH key or keys to the Administrator local account. Multiple SSHKEYs can be concatenated in the string. The SSHKEY string is limited to 8 KB.

Inputs:

sshKey

The SSHKEY string.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Notes:

The SSH session is terminated automatically after this operation is done. This is done to avoid leaving an active SSH session on the OA. If this should happen, the orphaned session will remain until the session times out which may be up to 24 hours.

Set Trusted Host

The **Set Trusted Host** operation adds a new IPv4 or IPv6 address to the list of addresses being handled by the IP Security feature. A maximum of 5 IP addresses is allowed.

Inputs:

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

trustedHost

The IPv4 or IPv6 address of the trusted host.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Test Alert Mail

The **Test Alert Mail** operation sends a test Alert Mail message to the configured email address.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

Test SNMP

The **Test SNMP** operation sends a test SNMP trap to all of the configured trap destinations.

Inputs:

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results:

All of the operation's results are described in *Common Results in the Integration*.

Responses:

All of the operation's responses are described in *Common Responses in the Integration*.

OA

Clear OA Syslog

The **Clear OA Syslog** flow clears the Onboard Administrator system log. You cannot restore this information after you delete it.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA.

- The valid values are **active**, **1**, **2**, or **standby**.
- The default is **active**.

Results

All of the flow's results except the following are described in *Common Results in the Integration*.

visualized

The output of the command in XML format.

The SSH session is terminated automatically when this operation completes. This is done to avoid leaving an active SSH session on the OA. If this should happen, the orphaned session will remain until the session times out, which could be up to 24 hours.

Configure GUI Login Detail

The **Configure GUI Login** Detail flow enables or disables extended enclosure information available in the GUI on the login page.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Allows you to select whether to enable or disable the GUI login detail.

Results

All of the flow's results are described in *Common Results in the Integration*.

Configure Link Loss Failover (LLF)

The **Configure Link Loss Failover (LLF)** flow enables or disables Link Loss Failover (LLF) for Onboard Administrator redundancy and sets the Link Loss Failover interval. This feature only takes effect when a redundant OA module is installed. The failover interval must be an integer between 30 and 86400 seconds.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

option

Allows you to select whether to enable or disable Link Loss Failover (LLF).

interval

The LLF interval in seconds.

Results

All of the flow's results are described in *Common Results in the Integration*.

Get Config

The **Get Config** operation gets the script required to recreate the settings of the enclosure. Paswords are not included for any user.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Get Date

The **Get Date** operation gets the current date, time, and time zone of the internal clock.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Get OA Information

The **Get OA Information** operation gets the available information for the OA which include its information, network, status, uptime, USB, and certificate.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

infoType

The type of information desired.

The valid values are **info, network**, **status**, **uptime**, **usb**, and **certificate**.

oaBayNumber

The OA bay number.

The valid values are **1**, **2**, **all**, **active**, and **standby**.

Results

All of the operation's results are described in *Common Results in the Integration*.

Get OA Syslog

The **Get OA Syslog** operation gets the OA syslog information.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The OA bay number.

The valid values are **active**, **1**, **2**, and **standby**.

Results

All of the operation's results except the following are described in *Common Results in the Integration*.

visualized

The output of the command in XML format.

Get Syslog History

The **Get Syslog History** operation gets the extended system log history for the Onboard Administrator. Specify a value of **0** (zero) for the **numberOfEntriesdisplay** input for all logged entries. The extended system log appears for the active OA.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

numberOfEntries

The number of entries to retrieve. Specify a value of **0** (zero) for to retrieve all logged entries.

Results

All of the operation's results are described in *Common Results in the Integration*.

Get VCmode

The **Get VCmode** operation gets the Virtual Connect mode settings.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Set Date

The **Set Date** operation sets the date, time, and timezone.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

dateTime

The date and time.

The value format is **`MMDDhhmm[[CC]YY] [TZ]`**.

The valid values are:

- **MM** is the month from **01** to **12**.
- **DD** is the day from **01** to **31**.
- **hh** is the hour from **00** to **24**.
- **mm** is the minute from **00** to **60**.

- **CC** is the optional century. If you do not specify a value for CC, the default is **20**. If you specify a value for CC, you must include a value for YY.
- **YY** is the optional year from **00** to **99**. If you do not specify a value for YY, the previous entry is used.
- **TZ** is the optional time zone. See the *HP BladeSystem Administartor Command Line Interface User Guide* for the valid time zone value. The values include **CET**, **CST6CDT**, **EET**, **EST**, **EST5EDT**, **GB**, **GMT**, **HST**, **MET**, **MST**, **MST7MDT**, **NA**, **PRC**, **PST8PDT**, **UCT**, and **UTC**.

For example**:**

- **10101500** for 10/10/2011 15:00 assuming a previous entry of 2011 in the system.
- **0902154513** for 09/02/2013 15:45.
- **090216012011** for 09/02/2011 16:01.
- **090216272011** PST8PDT for 09/02/2011 16:27 Pacific time zone.

Results

All of the operation's results are described in *Common Results in the Integration*.

Set OA Name

The **Set OA Name** operation sets the Onboard Administrator name (DNS host name). The Onboard Administrator name:

- Must be 1 to 32 characters in length.
- Must not begin or end with a dash (-).
- Must only consist of letters, numbers, and dashes.
- Cannot be entirely numeric.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

bayNumber

The bay number of the OA being configured.

The valid values are **active**, **1**, **2**, and **standby**.

The default value is **active**.

oaName

The OA name.

Results

All of the operation's results are described in *Common Results in the Integration*.

Set OA UID LED

The **Set OA UID LED** operation turns the Onboard Administrator UID LED on or off.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

oaBayNumber

The OA bay.

The valid values are **active**, **1, 2**, and **standby**.

uidOption

Specify whether to turn the LED on or off.

Results

All of the operation's results are described in *Common Results in the Integration*.

Set Time Zone

The **Set Time Zone** operation sets the time zone.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

timeZone

The time zone settings as documented in the *HP BladeSystem Administrator Command Line Interface User Guide*.

For example, **CET**, **CST6CDT**, **EET**, **EST**, **EST5EDT**, **GB**, **GMT**, **HST**, **MET**, **MST**, **MST7MDT**, **NA**, **PRC**, **PST8PDT**, **UCT**, or **UTC**.

Results

All of the operation's results are described in *Common Results in the Integration*.

Power Management

The operations in this group are used to manage the power in the enclosure.

Get Power

The **Get Power** operation gets the current power configuration.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Power Cap

The **Get Power Cap** operation gets the current Enclosure Dynamic Power Cap in watts.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Power Cap Excluded Bays

The **Get Power Cap Excluded Bays** operation gets the bays in the enclosure that are exempt from the Enclosure Dynamic Power Cap.

Inputs

All of the *flow*'s inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Power Summary

The **Get Power Summary** operation gets a detailed summary of the enclosure's present power state.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Power Supply

The **Get Power Supply** operation gets power supply information that includes power supply status, AC input status, capacity, part number, and serial number.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

powerSupplyNumber

The power supply number. The valid values are a comma-delimited list of numbers, a comma-delimited list of ranges, or **all**.

For example, **1** for power supply number 1; **1-4** for power supplies 1 through 4; **1-2, 5** for power supplies 1 through 2 and 5; **1, 3, 5** for power supplies 1, 3, and 5; **all** for all power supplies; or **1-2, 5-6** for power supplies 1 through 2 and 5 through 6.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set PDU Type

The **Set PDU Type** operation sets the enclosure's power distribution unit (PDU) type.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

pduType

Specifies the PDU type. The valid values are **1** for single-phase, **2** for two-phase, **3** for three-phase international, and **4** for DC power input module.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Power Cap

The **Set Power Cap** operation sets the Enclosure Dynamic Power Cap in watts. OFF disables the Enclosure Dynamic Power Cap. Average power will not exceed the value of **cap** or **derated_circuit_capacity**. Peak power will not exceed **rated_circuit_capacity**.

For example, suppose the PDU powering the enclosure has a rated capacity of 30 amps. In North America and Japan, the standard de-rating ratio is 80%, so the PDU has a derated capacity of 24 amps (0.80 * 30). At 208 volts, the Rated Circuit Capacity would be entered as 6240 watts (30 * 208), and the Derated Circuit Capacity would be entered as 4992 watts (24 * 208). When specifying only **cap**, the other values are calculated using the standard de-rating ratio for North America. So, **derated_circuit_capacity** is equal to **cap** and **rated_circuit_capacity** is equal to 1.25 * **cap**.

The Enclosure Dynamic Power Cap and Derated Circuit Capacity can be specified as any value in the allowable range. The Derated Circuit Capacity must be at least as large as the Enclosure Dynamic Power Cap and no larger than the Rated Circuit Capacity. The Enclosure Dynamic Power Cap can be used to limit the enclosure's power consumption based on a cooling constraint that may be lower than the Derated Circuit Capacity.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

powerCap

Specify the power values as **<cap>**, **<cap> <derated_circuit_capacity> <rated_circuit_capacity>**, or **off**.

For example, **3000**, **4000 4992 6240**, or **off**.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Power Cap Bays to Exclude

The **Set Power Cap Bays to Exclude** operation specifies bays to omit from Enclosure Dynamic Power Cap. Blades in omitted bays are treated as unmanaged components of the system. They receive a maximum power allocation even when the power is not being consumed, raising the minimum Enclosure Dynamic Power Cap value that can be applied to the enclosure. Any blades in bays not specified are managed.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

excludeBays

The bays to be excluded. The valid values are a comma-delimited list of numbers, a comma-delimited list of ranges, or **none**. If you have previously specified bays to exclude, using this operation again replaces that specification rather than augmenting it.

For example, **1** for bay number 1; **1-4** for bays 1 through 4; **1-2, 5** for bays 1 through 2 and 5; **1, 3, 5** for bays 1, 3, and 5; **none** for no exclusion; or **1-2, 5-6** for bays 1 through 2 and 5 through 6.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Power Limit

The **Set Power Limit** operation sets or removes a limit on how much input power can be consumed by the enclosure. This setting is helpful if the enclosure receives power from a PDU with a limited power rating.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

powerLimit

The power limit number or **off** to remove the power limit.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Power Mode

The **Set Power Mode** operation configures the power supply redundancy settings.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

powerMode

Specifies the type of redundancy settings. The valid values are **notredundant** to enable all power supplies to function without regard for redundancy, **powersupply** to enable one power supply to fail without being over committed on power, and **redundant** to enable half of the power supplies to fail without being over committed on power.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Power Savings

The **Set Power Savings** operation turns power savings mode on or off. Power savings mode turns unneeded power supplies off. The increased load on the remaining power supplies increases their efficiency, resulting in less power consumption.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

powerSavings

Specifies the power savings mode. The valid values are **on** to turn on power savings and **off** to turn off power savings.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Rack and Enclosure Management

The operations and flows in this group are used to manage the rack and enclosure.

Get Enclosure Info

The **Get Enclosure Info** operation gets the enclosure information including the enclosure name, enclosure type, Onboard Administrator hardware version, enclosure part number, serial number, and asset tag.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Enclosure Status

The **Get Enclosure Status** operation gets the basic health and status of the enclosure subsystem.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Enclosure Temp

The **Get Enclosure Temp** operation gets the highest ambient temperature reported by the installed blade devices. If no blade devices are installed, it gets the temperature of the OA module as an approximation of the ambient temperature.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get FRU

The **Get FRU** operation gets FRU and provides information on all field replaceable units within the enclosure.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Rack Name

The **Get Rack Name** operation gets the user-defined rack name setting for the enclosure.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Topology

The **Get Topology** operation gets the list of enclosures connected by the enclosure link and lists a table with the enclosure name, overall health of the enclosure, and the IP address.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Asset Tag

The **Set Asset Tag** flow sets the enclosure asset tag.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

assetTag

The asset tag. The value must be 1 to 32 characters long and may includes all alphanumeric, underscore (_), and dash (-) characters. If you do not specify a value for this input, the asset tag is cleared.

Results

returnResult

This is the primary output.

Responses

All of the flow's responses are described in *Common Responses in the Integration*.

Set Enclosure Name

The **Set Enclosure Name** flow sets the enclosure name. The enclosure name must be 1 to 32 characters long and can include alphanumeric, underscore (_), and dash (-) characters.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

enclosureName

The enclosure name.

Results

All of the flow's results are described in *Common Results in the Integration*.

Responses

All of the flow's responses are described in *Common Responses in the Integration*.

Set Enclosure UID LED

The **Set Enclosure UID LED** operation turns the UID LED of the enclosure on or off.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

uidOption

A selection list consisting of **On** and **Off** to turn the LED on or off, respectively.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Part Number

The **Set Part Number** operation sets the enclosure's part number.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

partNumber

The new part number for the enclosure. The part number must be 10 characters in length. The first character must be a number; the rest can be alphanumberic or dash characters.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Rack Name

The **Set Rack Name** operation sets the rack name. The rack name can be 1 to 32 characters long. Acceptable characters are alphanumeric, dash (-), and the underscore (_).

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

rackName

The rack name.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Set Serial Number

The **Set Serial Number** operation sets the enclosure's serial number.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

serialNumber

The new serial number for the enclosure. The serial number must be 10 characters in length. The valid characters include alphanumerics, dashes, and underscores.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

User

The operations and flows in this group are used to manage the user accounts and user sessions on the Onboard Administrator.

Add User

The **Add User** flow adds a new user to the Onboard Administrator (OA) system with the desired full name, contact information, access rights, and privileges. Note that this flow uses multiple SSH operations. If a command fails, all changes before the failure remain. All changes after the failure including the failed command are not executed. If the user is created, you can use the **Modify User flow** to modify the existing user account attributes.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

addUsername

The name of the new user to add to the OA system.

addPassword

The password for the new user.

fullname

The user's full name. The default full name is blank.

contact

The contact information for the user. The default is blank.

userAccess

Specifies the user access level. The valid values are **administrator**, **operator**, and **user**. The default is **user**.

oaAccess

Specifies whether to assign Onboard Administrators access to the user. The valid values are **yes** and **no**. The default is **no**.

enableUser

Specifies whether to enable the user account. The valid values are **yes** and **no**. The default is **yes**.

serverAccess

Assigns access to server bay. Specify a value of **all** to assign all device bays.

For example, **1-1b** for bays 1, 1a, 1b; **7-8a** for bays 7, 7a, 8, 8a; **10-12** for bays 10, 11, 12; **13b** for bay 13b; **1-4, 7-8b** for bays 1, 2, 3, 4, 7, 7a, 7b, 8, 8a, 8b; and **1, 3, 7a, 16** for bays 1, 3, 7a, 16.

interconnectAccess

Assigns access to interconnect bay. Specify a value of **all** to assign all interconnect bays.

For example, **1-2, 7-8** for bays 1, 2, 7, 8; **3, 5** for bays 3, 5.

Results

All of the operation's responses except the following are described in *Common Results in the Integration*.

returnResult

This is the primary output.

Responses

All of the flow's responses are described in *Common Responses in the Integration*.

If the user access level is administrator and if OA access is allowed, all server or device bays and all interconnect bays are selected by the Onboard Administrator for that user.

Delete User

The **Delete User** operation deletes an OA user.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

deleteUsername

The name of the user in the OA system account to delete.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Password Settings

The **Get Password Settings** operation gets the current OA user minimum password length and strong password settings.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Session Timeout

The **Get Session Timeout** operation gets the current OA user session timeout. The timeout is the number of minutes before inactive sessions are removed.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get User

The **Get User** operation gets a user's full name, contact information, user rights, account status, server bay access list, interconnect bay access list, and OA access status. The user rights can be **Admin**, **Operator**, or **User**. The account status can be **Enabled** or **Disabled**. The OA access status can be **Yes** or **No**.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

getUsername

The name of the user in the OA system account.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Get Users

The **Get Users** operation gets a list of OA users along with their full names, privilege levels, and account statuses. The privilege level can be **Admin**, **Operator**, or **User**. The account status can be **Enabled** or **Disabled**.

Inputs

All of the operation's inputs are described in *Common Inputs in the Integration*.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

Modify User

The **Modify User** flow modifies an existing user password, full name, contact information, access rights, and privileges in the Onboard Administrator (OA) system. Note that this flow uses multiple SSH operations. If one command fails, all changes before the failure remain. All changes after the failure including the failed command are not executed.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

modifyUsername

The name of the user in the OA system to modify.

modifyPassword

The new password for the user. If you leave this input blank, no changes are made.

fullname

The new user's full name. If you leave this input blank, no changes are made.

contact

The new contact information for the user. If you leave this input blank, no changes are made.

userAccess

Specifies the user access level. The valid values are **administrator**, **operator**, **user**, or **no change**. The default is **no change**.

oaAccess

Specifies whether to assign Onboard Administrators access to the user. The valid values are **yes**, **no**, and **no change**. The default is **no change**.

enableUser

Specifies whether to enable the user account. The valid values are **yes**, **no**, and **no change**. The default is **no change**.

serverAccess

Assigns access to the server bay. Specify a value of **all** to assign all device bays. All previous assignments are removed before applying the new assignment. If you leave this input blank, no changes are made. Specify a value of zero (**0**) to remove all assigned bays.

For example, **1-1b** for bays 1, 1a, 1b; **7-8a** for bays 7, 7a, 8, 8a; **10-12** for bays 10, 11, 12; 13b for bay 13b; **1-4, 7-8b** for bays 1, 2, 3, 4, 7, 7a, 7b, 8, 8a, 8b; or **1, 3, 7a, 16** for bays 1, 3, 7a, 16.

interconnectAccess

Assigns access to the interconnect bay. Specify a value of **all** to assign all interconnect bays. If you leave this input blank, no changes are made. Specify a value of zero (**0**) to remove all assigned bays.

For example, **1-2, 7-8** for bays 1, 2, 7, 8 or **3, 5** for bays 3, 5.

Results

returnResult

This is the primary output.

Responses

All of the flow's responses are described in *Common Responses in the Integration*.

Set Password Settings

The **Set Password Settings** flow enables or disables the strong passwords and modifies the minimum password length for the user session on the Onboard Administrator (OA) system.

Inputs

All of the flow's inputs except the following are described in *Common Inputs in the Integration*.

enableStrongPasswords

Specifies whether to enable a strong password. The valid values are **No Change**, **Yes**, and **No**. The default is **No**. When it is enabled, the user's password must contain at least one character from three of the following four categories: **uppercase**, **lowercase**, **numeric**, and **nonalphanumeric**.

minPasswordLength

Sets a minimum length for passwords. The default length is **3**. The maximum length is **40**. If you leave this input blank, no changes are made to the password length.

Results

returnResult

This is the primary output.

Responses

All of the flow's responses are described in *Common Responses in the Integration*.

Set Session Timeout

The **Set Session Timeout** operation sets the number of minutes before inactive user sessions are removed. Valid session timeout values range from **10** to **1440** minutes (24 hours). The session timeout can be disabled by setting it to zero (**0**). The default setting is **1440** minutes.

Inputs

All of the operation's inputs except the following are described in *Common Inputs in the Integration*.

sessionTimeout

The timeout value in minutes.

Results

All of the operation's results are described in *Common Results in the Integration*.

Responses

All of the operation's responses are described in *Common Responses in the Integration*.

If the session timeout value is lowered, currently inactive sessions may be removed.

4 Troubleshooting

This section includes the following topics:

Troubleshooting Overview

This section provides troubleshooting procedures and tools that you can use to solve problems you may encounter while using this integration. It also includes a list of the error messages you may receive while using the integration and offers descriptions and possible fixes for the errors.

General Troubleshooting Procedures and Tools

If an operation or flow fails, the primary output **returnResult** should contain the output from the SSH command that indicates the reasons or causes for the failure.

Error Messages

This section lists the error messages you may receive while using this integration. Each error message includes possible causes and fixes for the error.

Invalid Arguments

If the wrong or invalid arguments are specified for an operation or flow, the primary output displays the help message corresponding to the OA command with the valid arguments.

java.net.ConnectException: Connection refused: connect

This is usually caused by providing the wrong hostname or credentials for the target OA.

5 Security

This section includes the following topics:

About Onboard Administrator Security

This section describes how security is handled by the Onboard Administrator integration.

The HP BladeSystem Onboard Administrator is accessed by using the Secure Shell (SSH) with the user providing the username and password of the OA Administrator.

6 OO Tools

This section includes the following topic:

- OO Tools You Can Use with the Onboard Administrator

OO Tools You Can Use with the Onboard Administrator

The following is an OO tool that you can use with the Onboard Administrator 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.

This tool is available in the Operations Orchestration Home folder in Studio/tools/.