

HP Operations Orchestration 10.x

Windows and Linux Operating Systems

OO SAP Landscape Virtual Management Content Pack Version 1.0.x

Release Notes

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Contents

Introduction	6
SAP LVM Overview	6
What's New	7
Content Pack Integrations	9
Deploying the SAP LVM Content Pack	10
Configuring the SAP LVM to HP OO integration	10
Implementing Custom Hooks	11
Known Issues	13
Limitations	14

Introduction

This document provides an overview of the HP Operations Orchestration SAP Landscape Virtualization Management (LVM) Content Pack 1.0.0 release. It contains important information that is not included in the manuals or in the online help. This release supports the following languages:

- en – English
- jp – Japanese

SAP LVM Overview

SAP LVM software is a management tool that enables the SAP basis administrator to automate SAP system operations, including end-to-end SAP system clone/copy/refresh operations. SAP LVM software is shipped as an add-on to SAP NetWeaver 7.3 (Application Server Java) and is available in two additions: Standard Edition and Enterprise Edition.

Standard Edition - Key Functions:

- Start/Stop/Relocate
- Mass Operations
- Validations
- Task Planner
- AS (un-)installation
- Basic dashboards
- Virtualization integration
- Inter-system dependencies
- Extensibility (custom operations/hooks/services)
- Fine granular access control

Enterprise Edition - Key Functions:

- Advanced Dashboards
- Reporting
- Performance monitoring
- System clone/copy/refresh
- Automatic capacity management
- Landscape visualization

With SAP LVM software, you can simplify and automate the management and operations of your SAP systems running on virtual or cloud infrastructures. In the virtualization-based architecture, the SAP LVM connects to hypervisors such as VMware vSphere through Virtualization Connectors. In this scenario, the hypervisors manage the SAP systems as virtual machines. In the cloud or storage-based architecture, the SAP LVM connects through storage connectors to physical storage systems such as HP 3PAR or EMC that store the actual SAP instances.

What's New

SAP LVM defines the copy/clone/refresh process through provisioning templates. You can orchestrate the entire automation process from HP Operations Orchestration and create complex and personalized workflows with provisioning templates. For example:

- With the **Clone SAP System** flow, you clone a system to create a duplicate of an existing system with an identical system ID.
- With the **Copy SAP System** flow, you copy an SAP system to create a duplicate of an existing SAP system with a different host name and a unique system ID.
- With the **Refresh SAP System** flow, you refresh a system to overwrite an existing target system with the latest data from a source system while maintaining the configuration.

This release of the SAP LVM content pack provides for the provisioning of SAP systems and contains the following operations and flows:

- The Configurations folder contains the following operations, which enable users to download and upload LVM configurations to and from the LVM environment:
 - **Download Configurations** operation
 - **Upload Configurations** operation
- The Processes folder contains the following operations and flows, which you can use to retrieve and monitor the processes of LVM operations:
 - **Get Process Details** operation
 - **Get Processes of State** operation
 - **Get Progress** flow
- The SAP Instances folder contains the following operations, which execute start, stop and restart actions on SAP Instances, as well as a flow that assesses the status of an SAP instance:
 - **Execute Operation** operation
 - **Restart SAP Instance** operation

- **Start SAP Instance** operation
- **Stop SAP Instance** operation
- **Test SAP Instance** flow
- The SAP Systems folder contains the following flows, which provision an SAP System:
 - **Clone SAP System** flow
 - **Copy SAP System** flow
 - **Provision SAP System** flow
 - **Refresh SAP System** flow
- The Utilities folder contains the following operations and flows, which retrieve information regarding SAP Systems and System Validation details:
 - **Check System Instances** flow
 - **Get SAP System Details** flow
 - **Get Validation Issues** flow
 - **Get Validation Results** flow
 - **Wait for Process to Finish** flow
- The Templates folder contains the following operations, which allow the user to interact with templates on a LVM environment:
 - **Delete Template** operation
 - **Download Template** operation
 - **Execute Template operationa**
 - **List Templates** operation
 - **Update Template** operation

Content Pack Integrations

The following table lists the integrations that the HP SAP Landscape Virtualization Management (LVM) Content Pack supports:

Integration Name	Versions
SAP Landscape Virtualization Management	<p>Standard Edition</p> <ul style="list-style-type: none"> • 1.0 with Support Packages SP03, SP04, SP05, SP06, SP07 and SP08 • 2.0 with Support Packages SP01, SP02, SP03, SP04, SP05, SP06 and SP07 • 2.1 with Support Packages SP01, SP02 <p>Enterprise Edition</p> <ul style="list-style-type: none"> • 1.0 with Support Packages SP04, SP05, SP06, SP07 and SP08 • 2.0 with Support Packages SP01, SP02, SP03, SP04, SP05, SP06 and SP07 • 2.1 with Support Packages SP0, SP02 <p>For additional details about SAP LVM, refer to the Release Notes and http://help.sap.com/nwlvms.</p>

Deploying the SAP LVM Content Pack

OO platform versions 10.00 and later support SAP Landscape Virtualization Management Content Pack 1.0.0. However, it is recommended to deploy the Content Pack 1.0.0 on an existing OO platform version of 10.50 or later. For details on deploying a content pack, see "Importing Content Packs to a Project" in the Studio Authoring Guide and "Deploying a Content Pack" in the Central User Guide.

For details on deploying a content pack, see "Importing Content Packs to a Project" in the *Studio Authoring Guide* and "Deploying a Content Pack" in the *HP OO Central User Guide*.

Note: HP SAP Landscape Virtualization Management Content Pack version 1.0.0 is dependent upon Base Content Pack version 1.6.2 or later. If you want to deploy the HP SAP Landscape Virtualization Management Content Pack version 1.0.0, you must also deploy HP Base Content Pack version 1.6.2 or later.

Note: For details on how to uninstall/roll back a content pack, see "Roll back to the last deployment" in the *HP OO Central User Guide*.

Configuring the SAP LVM to HP OO integration

Custom hooks help extend the out-of-the-box functionality that SAP LVM delivers. Custom hooks are defined to execute custom operations implicitly while starting or stopping services. A custom hook is automatically triggered by SAP NetWeaver Landscape Virtualization Management before (prehook), after (posthook), or after an error (errorhook) of a selected operation (such as a start/stop/refresh service).

You can use custom hooks to launch an HP OO flow that creates and updates information into an IT service or asset management product such as HP Service Manager, HP Service Anywhere, or HP Asset Manager. HP Operations Orchestration plays a key role in translating these custom hooks and performing the appropriate action on the Ticketing manager.



The triggered OO flow can contain multiple steps (in addition to the one in which the Incident is created); it can send an email with information on the newly-provisioned SAP Services, or it can immediately perform operations on them to make sure they are up and running.

Implementing Custom Hooks

To create and execute a custom hook operation:

1. A *definition*, which specifies what, exactly, is being executed, is required for the configuration of a custom hook. This definition is referenced by the custom hook. Custom hooks specify when or under what circumstances the operation can be or is being executed.

The following screen displays the custom hook implementation definition panel from the SAP LVM user interface:

The screenshot shows a web-based configuration interface titled "Details of Provider Implementation Definition". At the top left, there are "Save" and "Cancel" buttons. Below this, the "Common Attributes" section contains:

- Name:** * Launch OO Flow
- Type:** * HTTP POST (with a dropdown arrow and an information icon)
- URL:** * http://HPOOCentralHostname:PORT/PAS/services/rest/run/ab493d59-7686-40

 The "Additional Attributes" section contains:

- User Name:** admin
- Password:** *****
- Test Connection** button
- Timeout [seconds]:** 10

 At the bottom, there is a "Used In" section with a button labeled "Hook Post Hook for Start Operation".

Custom Hook Implementation Definition

Your custom hook implementation definition can be one of the following types:

- HTTP POST (a servlet or something similar that is called directly by LVM)
- Web Services (a Web service that implements the WSDL defined by LVM)
- Remote function call and scripts registered with a host agent (A script that is registered on and executed by the host agent).

To execute an OO flow, in this example we're using the HTTP POST type of implementation to access the REST API exposed by HP OO Central. Because this implementation does not offer the possibility to add a body to the HTTP request, we're using the 9x REST API of OO, which HP

supports for the 10x platform also. In the URL field, we identify the HP OO flow by its name or a universally unique identifier (UUID) and the flow inputs are provided as URL parameters.

2. After creating the implementation definition, you can create custom hook operations that will define when and under what circumstances these definitions are executed. A custom hook is an implicit invocation of a provider implementation for instances and hosts.

The following screen shows the SAP LVM user interface. You can choose the desired definition from your list of implemented definitions, and select the operation for which you want the hook to be triggered, as well as the hook type (prehook, posthook and errorhook):

Custom Hook Details

Save Cancel

Name: * Post Hook for Start Operation

Definition Name: * Launch OO Flow [Go to Definition](#)

Entity Type: Instance

Operation: * Start

Hook Type: * Post hook

Has Dynamic Caption:

Dynamic Caption:

Custom Hook Details

3. Enable custom executions of your SAP services. In this particular configuration, we created a post hook for the Start Service operation, and (see the following screenshot) the custom hook succeeds the Start SAP Instance operation and completes successfully.

Status	Step Time	Duration	Operation	Instance/Virtual Element
Completed	0:00	0:33	Create Firewall Rules	ABC Central Instance (ABAP): 00.c
Completed	0:33	0:39	Start	ABC Central Instance (ABAP): 00.c
Completed	1:13	0:15	Post Hook for Start Operation	ABC Central Instance (ABAP): 00.c

Custom Hook Execution, posthook for Start Service coperation

Known Issues

For more information about known issues, visit [HP Software Support Online](#), or contact your HP Support representative directly.

Defect in LVM Execute Template API method

Due to a defect in the LVM executeTemplate API method, the template execution does not work with default placeholder values.

Limitations

TLS configuration may result in an exception

While the interaction with the API is established through the HTTP protocol, and the operation inputs support SSL parameters, the HP OO-to-SAP LVM connection may return an error in an SSL configuration. If this occurs, contact support.

When using the HTTP POST implementation definition to configure Custom Hooks in LVM, the REST call does not allow a body to be added to the request.

When using the HTTP POST implementation definition to configure Custom Hooks in LVM, the REST call does not allow a body to be added to the request. When triggering an OO flow, flow inputs are provided as URL parameters; because of this only the 9.x OO API is used where flow inputs are passed through the URL. The OO 10.x REST API provides backwards compatibility with the 9.x REST API.

