

HP Operations Orchestration

Software Version: 7.10

Integration for HP Configuration Management

Document Release Date: April 2008

Software Release Date: April 2008



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Documentation Updates

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

- Software Version number, which indicates the software version.
 - The number before the period identifies the major release number.
 - The first number after the period identifies the minor release number.
 - The second number after the period represents the minor-minor release number.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

You will also receive updated or new editions if you subscribe to the appropriate product support service. If you have additional questions, contact your HP Sales Representative.

Table 1 Document Update History

Version	Date	Changes
1.0	04/03/2008	Initial version for publication

Updating Documentation

Documentation enhancements are a continual project at HP Software. You can update the documentation set at any time using the following procedure (which is also available in the HP Operations Orchestra readme file).

To obtain HP Operations Orchestra documentation:

- 1 On the web site **<https://support1.opsware.com/support/index.php>**, log in with account name and password that you received when you purchased HP OO.
- 2 On the **Support** tab, click the **Product Docs** sub-tab.
- 3 Under **Quick Jump**, click **Operations Orchestration** (or **Process Automation System**).
- 4 Under **Operations Orchestration**, click **ZIP** beside **HP OO 7.10 Full Documentation Set**.
- 5 Extract the files in the .zip file to the appropriate locations on your system:

For the tutorials to run, you must store the .swf file and the .html file in the same directory.

To obtain the repository that reflects the state of the flow at the start of the tutorial, unzip the file Exportof<preceding_tutorial_name>.zip.

To obtain the scriptlet for the tutorial that includes using scriptlets, click the scriptlet .txt file name.

To update your Central or Studio Help:

- a Under **Help Files**, click **Studio Help File Bundle** or **Central Help File Bundle**.
- b In the **File Download** box that appears, click either **Open** or **Save**.
- c Extract the files to the Hewlett-Packard Software\HP OO home directory, in either the \Central\docs\help\Central or \Studio\docs\help\Studio subdirectory, overwriting the existing file.

Where to Find Help, Tutorials, and More

The HP Operations Orchestration (HP OO) Software documentation set is made up of:

- Help for Central

Central Help provides information to the following:

- Finding and running flows
- For HP OO administrators, configuring the functioning of HP OO
- Generating and viewing the information available from the outcomes of flow runs

The Central Help system is also available as a PDF document in the HP OO home directory, in `\Central\docs`.

- Help for Studio

Studio Help instructs flow authors at varying levels of programming ability.

The Studio Help system is also available as a PDF document in the HP OO home directory, in `\Studio\docs` directory.

- Animated tutorials for Central and Studio

HP OO tutorials can each be completed in less than half an hour and provide basic instruction on the following:

- In Central, finding, running, and viewing information from flows
- In Studio, modifying flows

The tutorials are available in the

- Studio Welcome pane
- `HP OO\Studio` home directory, in the `Tutorials` subdirectory
- The Opsware Network

- Self-documentation for HP OO operations, flows, and Accelerator Packs

Self-documentation is available in the descriptions of the operations and steps that are included in the flows.

Support

For support information, including patches, troubleshooting aids, support contract management, product manuals and more, visit one of the two following sites:

- <https://support1.opsware.com/support/index.php>
- http://www.hp.com/go/hpsoftware/DCA_support

Overview


This guide is a walk-through of integrating HP Operations Orchestration (HP OO) with HP Configuration Management (HP CM).

The focus of this Integration is to provide HP OO customers with the following HP CM functionality:

- Notification,
- Policy modification
- Software package

HP CM Notification can be used to notify a group of devices to perform an action such as install software or audit services. The policy modification functionality can be used to set and delete a software policy for client devices. The software package functionality can be used to import, export, or delete an HP CM software package into or from an HP CM database.

The intended use of this guide is to assist the reader with tying HP OO flows with HP CM in an automated manner.

 With release 7.20 (July 2008), HP Configuration Management (HP CM) will become HP Client Automation (HPCA).

Related Documents

- *HP CM – HP OO Integration Test Plan*

This describes the testing strategy for the integration.

- *HP CM Glossary*

This provides definitions for the frequently used terms.

- *HP CM Product Manuals*

The following HP CM product manuals provide installation and product information:

- *HP CM Getting Started Guide*
- *HP CM Essentials Guide*
- *HP CM Configuration Server User Guide*
- *HP CM Enterprise Manager User Guide*
- *HP CM Portal Installation and Configuration Guide (Portal User Guide)*

Versions and Components

The versions of HP CM supported are:

- HP Configuration Management (HP CM) 5.1x

The versions of HP OO supported are:

- PAS 7.0
- HP OO 7.1

Installation and Configuration Instructions

HP CM Servers

For a functional HP CM infrastructure, the following server components of HP CM 5.10 or HP CM 5.11 must be installed prior to integration:

- HP CM Configuration Server (CMCS also known as the CM Server)
- HP CM Management Portal (also known as the CM Portal)
- HP CM Enterprise Manager

Please refer to the HP CM product manuals for information about installing these server components. At a minimum, the *CM Getting Started Guide* should be consulted.

After installation, the CM Portal can be accessed from an Internet browser via this URI:

```
http://<server>:<port>
```

The default port is 3471.

HP CM Enterprise Manager can be accessed from an Internet browser via this URI:

```
http://<server>:<port>/em
```

The default port is 8080.

HP CM Agent

To notify target devices, the target devices must also have HP CM agents installed. You use the CM Portal to install an HP CM agent on a device.

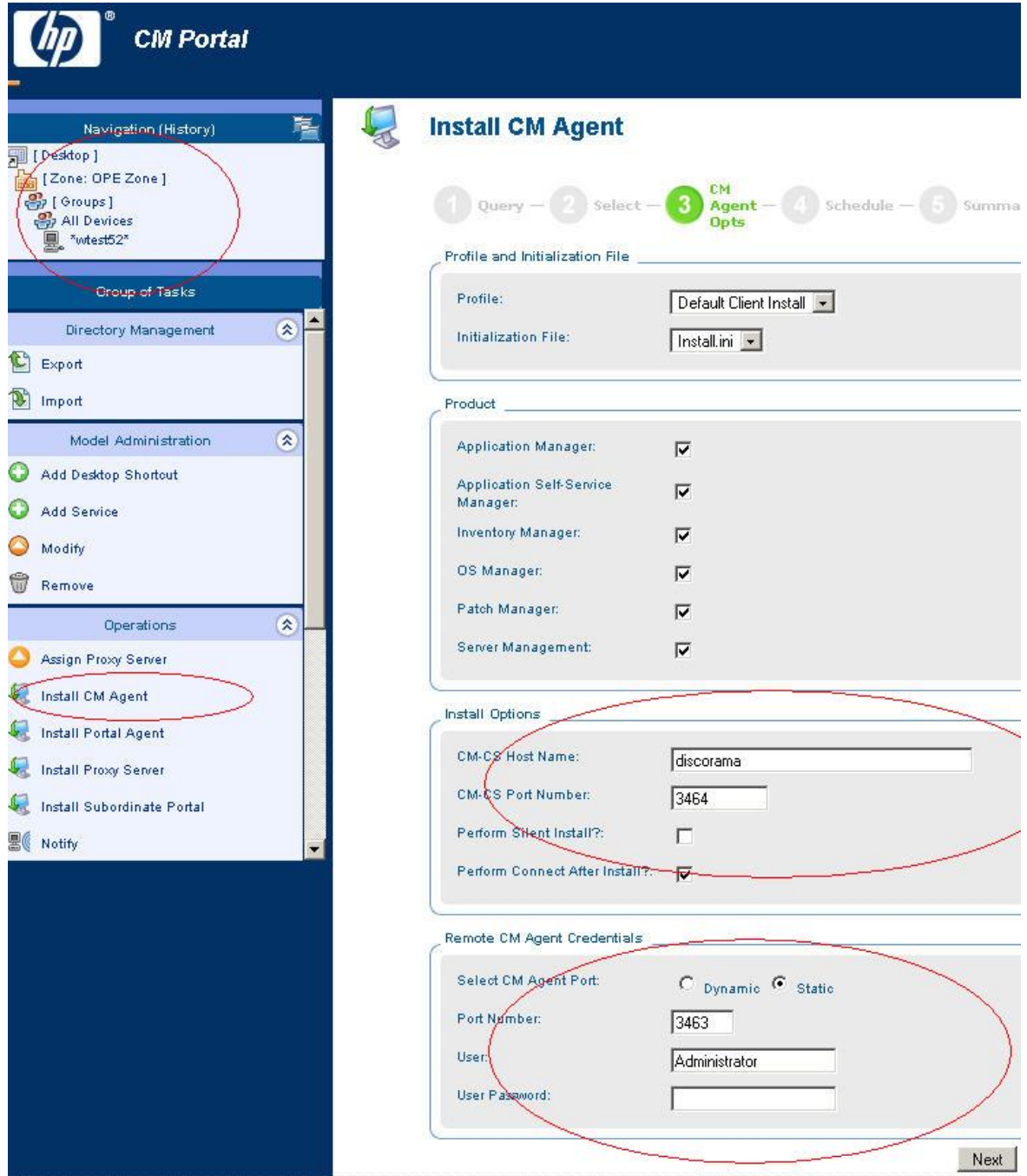
To install the HP CM agent:

- 1 Log in to the CM Portal (see your system administrator for the login credentials).
- 2 Use the navigation aid on the left to select the device or group of devices on which you want to install the HP CM agents.
- 3 From the **Operations** task group, click **Install CM Agent**. The Query Dialog opens:
 - a In the **CM-CS Host Name** text box, type the IP address or host name that the HP CM agent will use to access the HP CM Configuration Server.

- b In the **CM-CS Port** number text box, type the port number that the HP CM agent will use to access the HP CM Configuration Server. Typically this is 3464.
 - c Select **Perform Silent Install** if you want to install an agent without any user interface.
 - d Select **Perform Connect After Install** if you want the client computer to connect to the HP CM Configuration Server after the installation. This allows the client computer to register with the HP CM Configuration Server.
 - e Using the **Select CM Agent Port** radio buttons, select whether to communicate with the CM Portal Agent on the agent using a dynamic or static port number.
If you select **Static**, type the static port number in the **Port Number** text box. The default is 3463.
 - f In the **User** text box, type the administrator ID to obtain administrative authority on the target device's domain.
 - g In the **User Password** text box, type the administrator password to obtain administrative authority on the target device's domain.
- 4 Select **Next** to get to the Schedule dialog.
 - 5 Select **Next** to get to the CM Agent – Summary dialog box.
 - 6 Select **Submit** to install the agent.

Figure 1 on page 9 shows the user interface for the Install CM Agent task. For more detailed information on the steps, refer to the *HP CM Portal Installation and Configuration Guide*.

Figure 1 User Interface for the Install CM Agent Task



HP CM Configuration Server Database Editor (CSDB) Editor

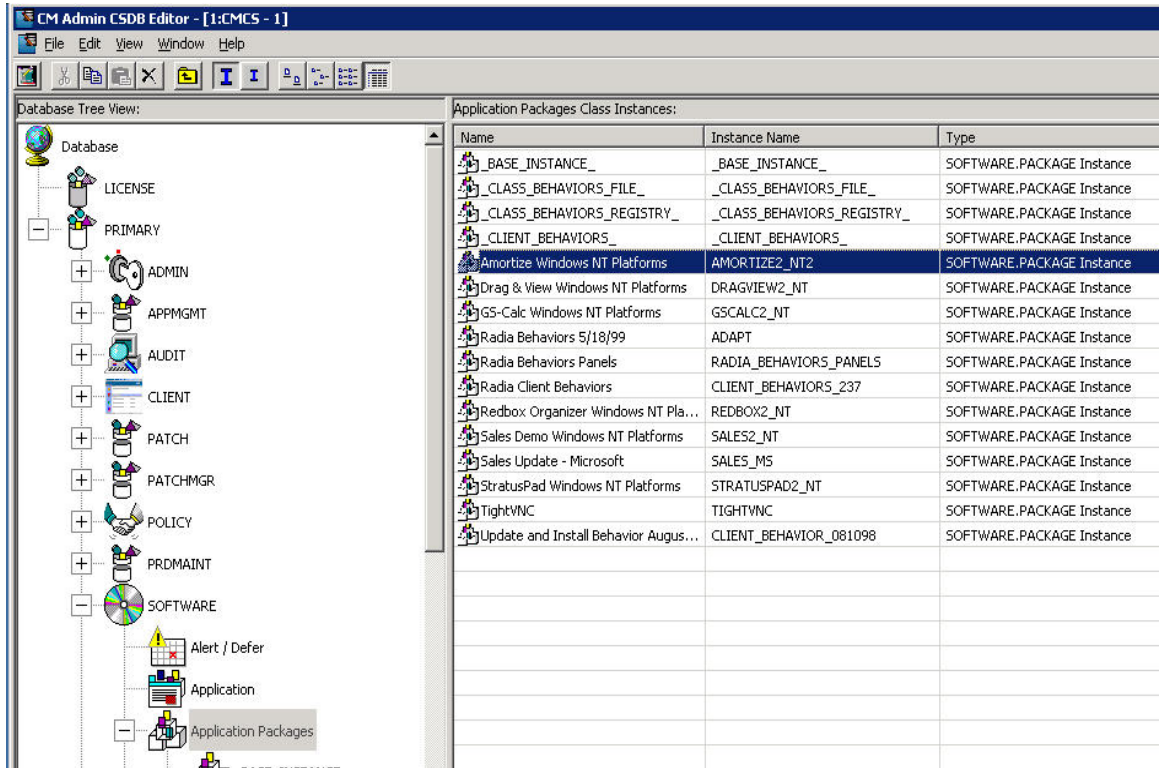
You can use the HP CM Configuration Server Database Editor (CSDB Editor) to browse a CM Server database. It is especially useful to verify the results of the three Software Package flows.

Even though the CSDB Editor is available on Windows platforms only, you can use it to browse the database of a UNIX/Linux CM Server. See “Modifying CSDB Editor to Browse a Different HP CM Database” on page 11 for more information.

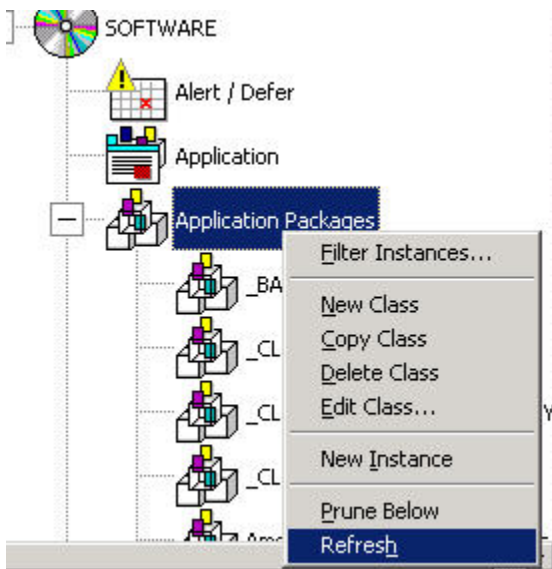
- ▶ An HP CM Configuration Server does not need to be running to browse its database.

To browse an HP CM Server database:

- 1 From a Windows Configuration Server install, click **Start→Programs→HP CM Administrator→Admin CSDB Editor.**
- 2 Browse to **PRIMARY→SOFTWARE→Application Packages** to see the available software package instances on the right panel:



- 3 If necessary, right-click **Application Packages→Refresh** to refresh the instances:



Modifying CSDB Editor to Browse a Different HP CM Database

The following steps describe how to use a Windows CSDB Editor to browse the database of a different HP CM Server, such as a remote UNIX/Linux CA Server.

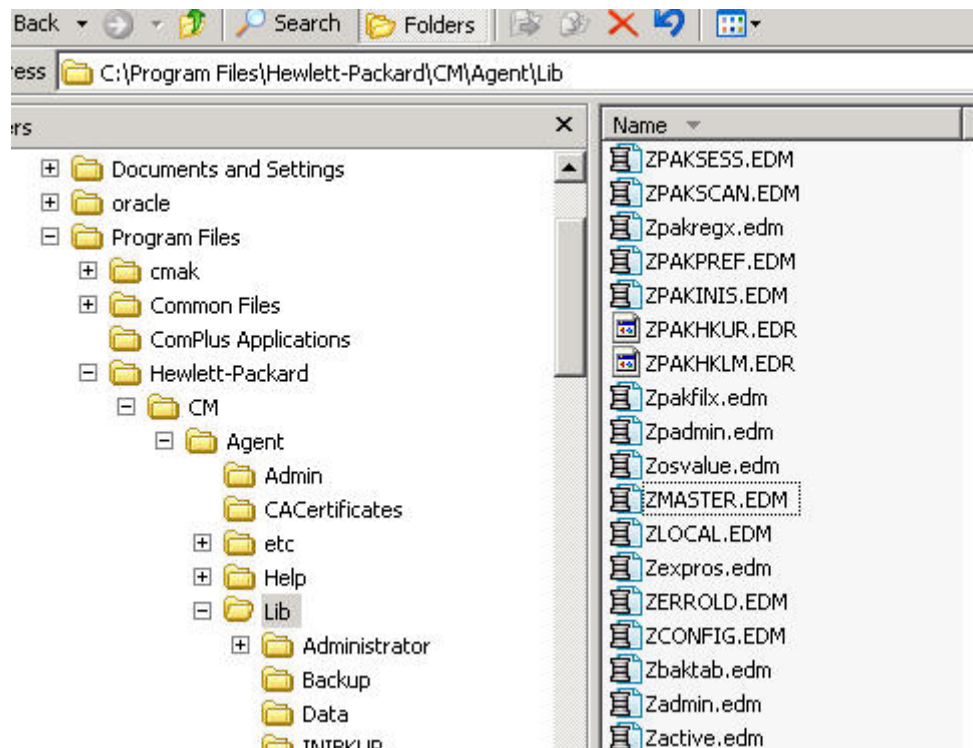
To browse a different HP CM Server:

- 1 On your CSDB Editor Windows system, use the HP CM Agent Explorer (formerly Radia Client Explorer) to open the ZMASTER.EDM object located in your Agent\Lib directory. For example:

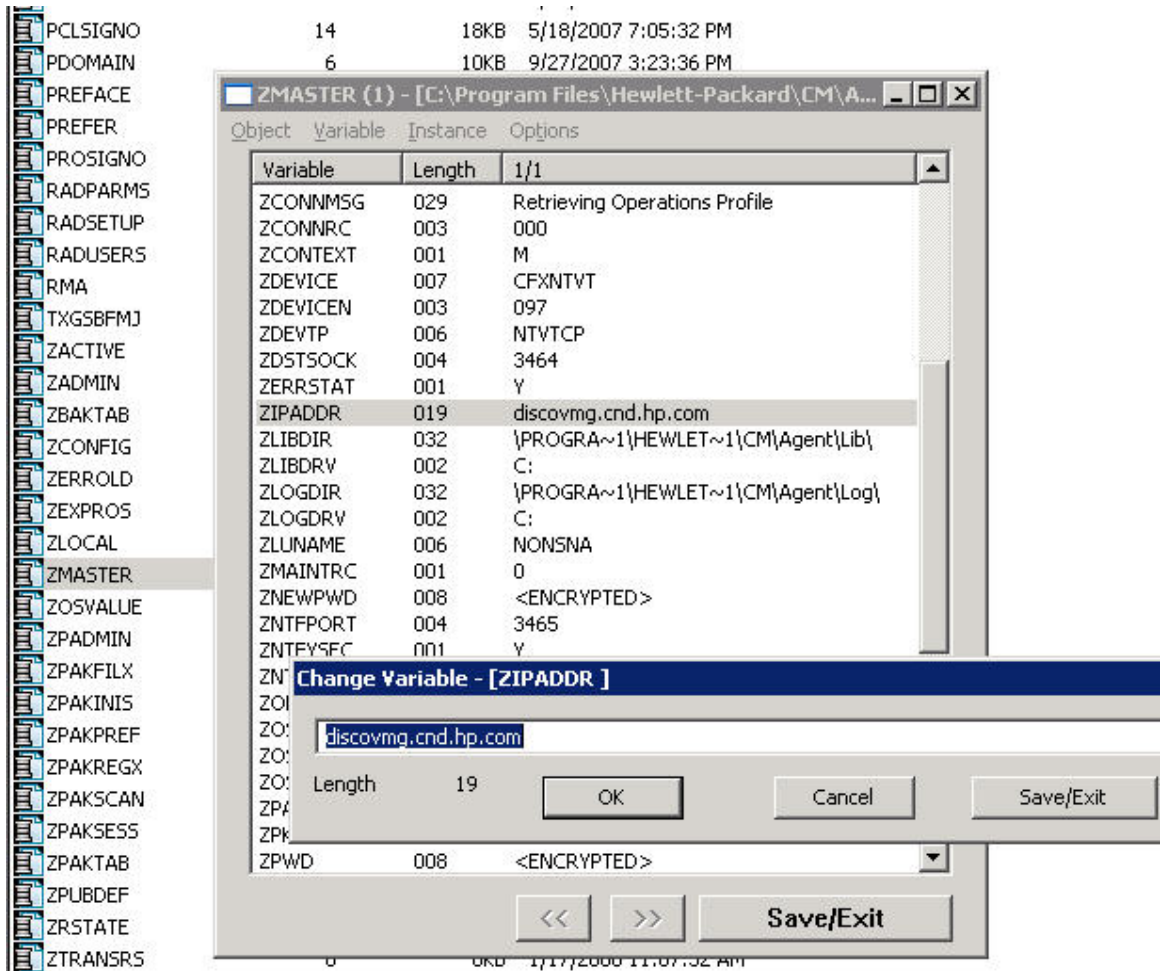
C:\Program Files\Hewlett-Packard\CM\Agent\Lib\ZMASTER.EDM

or

C:\Program Files\Novadigm\Lib\ZMASTER.EDM



- 2 After ZMASTER.EDM is open for edit, double click **ZIPADDR** and change its value to point to the IP Address or host name of your new HP CM Server:



- 3 Click **Save/Exit** to close the Change Variable dialog.
- 4 Click **Save/Exit** again to close the ZMASTER dialog.
- 5 Launch or re-launch CSDB Editor to browse the database of the new HP CM Server.

Integration Contents

The HP CM Integration consists of the following runtime components. Until they are integrated into the HP OO product, these components need to be deposited or published into the HP OO Central Server:

- A JRAS integration jar file (for example, `ovcm-oo.jar`):

This library contains the JRAS operations used by the integration flows. This jar file should reside in the directory

```
$Central_Dir/RAS/Java/Default/repository
```

where `$Central_Dir` is the install directory of Central Server.

- Various 3rd Party jar files:

These are various third party libraries used by the integration flows. They should reside in the following directories:

\$Central_Dir/RAS/Java/Default/repository/lib

\$Central_Dir/RAS/Java/Default/webapp/WEB-INF/lib

- Repository containing integration operations and flows:

This repository contains the integration flows and operations. The repository should be imported into OO Studio and published into the Central Server.

Flows and Operations

The following diagram shows the tree of operations and flows provided by this integration:

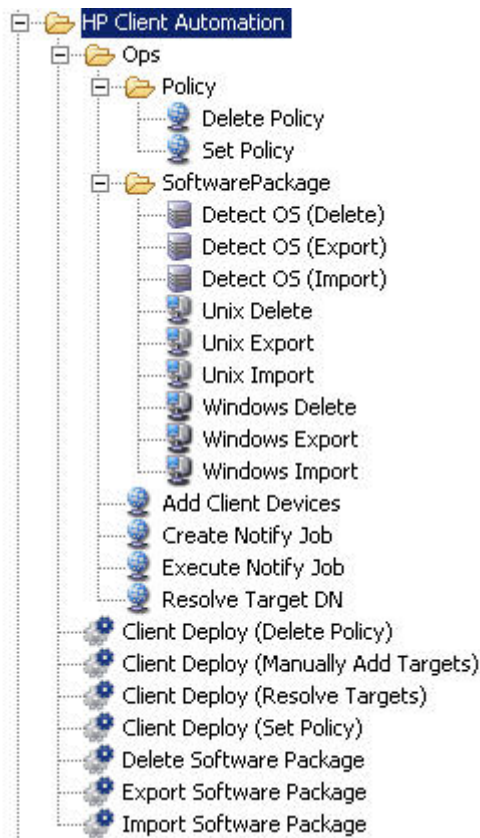


Table 2 - Provided Flows

	Flow	Description
1	Notify Client Devices	This flow notifies a list of HP CM client devices. Client devices are input as a list of semi-colon separated hostnames or IP addresses, such as: <i>system1;system2;system3</i>
2	Resolve Target Devices	This flow resolves a target distinguished name (DN) to a list of HP CM client devices.

	Flow	Description
3	Set Policy	This flow sets or assigns a policy to a target DN. Note that if the policy does not exist, it will be created. If it exists, it will be updated with the latest priority.
4	Delete Policy	This flow deletes a policy from a target DN.
5	Import Software Package	This flow imports a software package from files into an HP CM database. The files have the extensions <code>.xpr</code> , <code>.xpi</code> , and <code>.xpr</code> . If an absolute path to the files is not provided, this flow will search in the <code>#{cfgServerDir}/bin</code> directory for Windows or the default user directory for Linux/Unix.
6	Export Software Package	This flow exports a software package from an HP CM database into 3 files with the extensions <code>.xpr</code> , <code>.xpi</code> , and <code>.xpc</code> . If an absolute path to the output files is not provided, this flow will output to the <code>#{cfgServerDir}/bin</code> for Windows or the default user directory for Linux/Unix.
7	Delete Software Package	This flow deletes a software package from an HP CM database.

Table 3 - Provided Operations

	Operation	Description
1	Notify Client Devices	This operation notifies HP CM client devices. Client devices are specified as a list of semi-colon separated hostnames or IP addresses, such as: <code>system1;system2;system3</code>
2	Resolve Target DN	This operation resolves a distinguished name (DN) of an LDAP object to a list of client devices.
3	Set Policy	This operation sets or assigns a policy to an LDAP object. If the policy does not exist, it will be created. If it exists, it will be updated with the latest priority.
4	Delete Policy	This operation deletes a policy from an LDAP object. If the policy does not exist, the operation has no effect.
5	Detect OS (Delete)	This operation prompts for input to detect the HP CM Server OS and to do software package deletion from an HP CM database.
6	Detect OS (Export)	This operation prompts for input to detect the HP CM Server OS and to do software package export from an HP CM database.
7	Detect OS(Import)	This operation prompts for input to detect the HP CM Server OS and to do software package import into an HP CM database.
8	Unix Delete	This operation deletes a software package instance from a UNIX/Linux HP CM database.

	Operation	Description
9	Unix Export	This operation exports a software package instance from a UNIX/Linux HP CM database.
10	Unix Import	This operation imports a software package instance into a UNIX/Linux HP CM database.
11	Windows Delete	This operation deletes a software package instance from a Windows HP CM database.
12	Windows Export	This operation exports a software package instance from a Windows HP CM database.
13	Windows Import	This operation imports a software package instance into a Windows HP CM database.

Customizing the Integration

We expect that the operations will be the building blocks that customers will use in their own flows. The flows that we provide are mostly available for testing and demonstration purposes.

Many different use cases can be supported using the operations described above. We will describe how these can be used for service automation and for release management.

An example of service automation would be an IT department that wants to roll out a new version of a client server application to an enterprise (ex: SAP). This is going to include changes to both the clients and server infrastructure and needs to be coordinated to avoid an extended period of service unavailability. The administrator uses operations from HP CM to associate a policy with a group in Active Directory and then triggers a notify operation for these clients to update within the service upgrade window.

A service automation flow might call a flow to provision some service in the data center including the server, storage, and network changes needed. Then, once it has been validated that the service is working as intended, use the Set Policy and Notify Client Devices operations available from this integration. This would rollout the client side changes to use the new service.

An example of release management would be an IT department that has created a release management process based on ITIL. Accordingly, they want to have separate development and test environments that they will use before deploying a change into their production environment. In order to automate part of this process they create a flow that deploys a new application sequentially in the development, test and production environments. The flow does not proceed to the next environment until the appropriate specialists, testers and end users have approved the transition.

A release management flow might be triggered from a change control system after a change has been approved. The flow would then follow the release management process. This typically includes using the Import Software Package, Set Policy, and Notify Client Devices operations to implement the change consistently in the development, test, and finally production environments. The only difference in the configuration for these flows would be the HP CM instances being edited and the devices being targeted for the change. Other companies have a single HP CM Configuration Server for their development, test, and production system and differentiate the service by using naming conventions. In this case the difference in the configuration of these flows would be the name of the service being deployed.

Launching Flows

Before running any of the Notify and Policy flows:

- 1 Ensure that the HP CM 5.1x Configuration Server, Portal, and Enterprise Manager server components are installed and configured.
- 2 Ensure that one or more HP CM agents are deployed.
- 3 Write down the following information to be used as inputs to the flows:

	Information	Default / Example
1	HP CM Portal Server name or IP address (for flows Resolve Target Devices, Set Policy and Delete Policy)	
2	HP CM Portal Server port number (for flows Resolve Target Devices, Set Policy and Delete Policy)	3471
3	HP CM Portal login information (for flows Resolve Target Devices, Set Policy and Delete Policy)	See your system administrator for the login credentials.
4	HP CM Enterprise Manager Server name or IP address (for all Notify and Policy flows)	
5	HP CM Enterprise Manager port number (for all Notify and Policy flows)	8080
6	HP CM Enterprise Manager Portal login information (for Notify Client Devices flow)	See your system administrator for the login credentials.
7	HP CM client names or IP addresses (for all Notify and Policy flows)	
8	Distinguished Name (DN) of an LDAP target group object (for flows Resolve Target Devices, Set Policy and Delete Policy)	Example: cn=default,cn=group,cn=hp,cn=radia
9	Radia Service common name for setting and deleting policy (for flows Set Policy and Delete Policy)	Example: SOFTWARE.ZSERVICE.AMORTIZE
10	Policy Priority (for flows Set Policy and Delete Policy)	Must

Before running any of the Software Package flows, ensure that the HP CM Configuration Server is installed.

Write down the following information to be used as inputs to the Software Package flows:

	Information	Default / Example
1	HP CM Server	
2	Administrator login/password	For Windows, the HP CM Server name must be inserted in front of the login id. Examples: Windows: <host>\administrator Unix/Linux: root
3	HP CM CA Server Directory	Examples: Windows: C:\Program Files\Hewlett-Packard\CM\ConfigurationServer Linux: /opt/HP/CM/ConfigurationServer
4	Software Package Instance (for Export Software Package and Delete Software Package)	This is not case sensitive. Examples: PRIMARY.SOFTWARE.PACKAGE.AM ORTIZE2_NT PRIMARY.SOFTWARE.PACKAGE.DR AGVIEW2_NT PRIMARY.SOFTWARE.PACKAGE.GS CALC2_NT PRIMARY.SOFTWARE.PACKAGE.RE DBOX2_NT
5	Output File Name (for Export Software Package)	If an absolute path is not given, the .xpr, .xpi, and .xpc files will be output to the <code>\${cfgServerDir}/bin</code> directory for Windows or to the default user directory (for example, <code>/usr/root</code> or <code>/root</code>) for UNIX or Linux.
6	Input File Name (for Import Software Package)	If an absolute path is not given, the input .xpr, .xpi and .xpc files will be searched in the <code>\${cfgServerDir}/bin</code> directory for Windows or the default user directory for Linux or UNIX.
7	HP CM Server	

In Studio or Central, execute any of the provided flows, and enter input information accordingly when prompted.

For more information on the expected outcomes of the flows, please refer the *HP CM – HP OO Integration Test Plan*.

Security

Two sets of login information will be required to execute the provided flows:

- Login information to the HP CM Portal.

This is required for the following operations:

- Set Policy
- Delete Policy
- Resolve Targets Devices

These operations are used in the flows Resolve Target Devices, Set Policy and Delete Policy.

- Login information to HP CM Enterprise Manager.

This is required for the Notify Client Devices operation that is used by the Notify Client Devices flow.

The HP CM Enterprise Manager authenticates against the HP CM Portal, so the same user and password can be used. See your system administrator for the login credentials for both the HP CM Portal and HP CM Enterprise Manager.