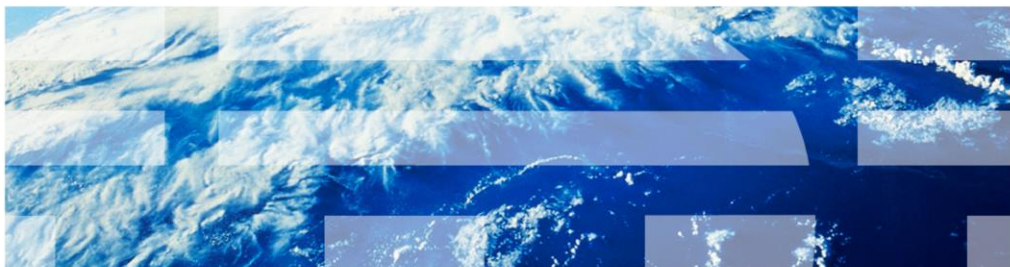


IBM PureApplication System

IBM Operational Decision Manager Pattern V8.0 on Red Hat Enterprise Linux Server

Overview



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This presentation provides an overview of the IBM Operational Decision Manager Pattern V8.0 on Red Hat Enterprise Linux[®] Server product, available for IBM PureApplication System.

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You will learn how to install the product and about the patterns that are provided with the product. You will also see how to customize the patterns, the techniques for applying maintenance and how to collect the MustGather information you might need for IBM support. A brief summary and references concludes this presentation.

Overview

This section will discuss the product overview and benefits.

Overview and benefits

- Offering: IBM Operational Decision Manager Pattern V8.0 on Red Hat Enterprise Linux Server
 - Available on IBM PureApplication System
 - Operational Decision Management and database combined and integrated in product offering
- Drastically reduce time with automation for application environment
 - Resources ready to use in the Cloud
 - Quick image customization and pattern creation
 - Rapid, repeatable, consistent deployments
- Best-of-breed topology built into patterns
- Customizable images using extend and capture
- IBM PureApplication System features available for Operational Decision Management deployments

The IBM Operational Decision Manager Pattern V8.0 for the Red Hat Enterprise Linux Server product is now available for the IBM PureApplication System. This offering drastically accelerates the setup and management of your Operational Decision Management infrastructure. You can deploy your system infrastructure often in less than one hour, allowing you to focus more of your resources on value-add activities and less on installation, configuration and management. Your complex deployments can be customized quickly in catalog images and in patterns, resulting in rapid, repeatable and consistent deployments in a highly-available environment. The patterns represent the best-of-breed topologies that are reflected in your virtual system deployments. The features available in PureApplication System provide you even greater control over your cloud environment for Operational Decision Management.

IBM Operational Decision Manager Pattern V8.0 on Red Hat Enterprise Linux Server



- Features:
 - All IBM WebSphere® Operational Decision Management V8.0.0.1 functionality
 - Ease of configuration and deployment
 - Clustered configuration
 - Horizontal scaling of custom nodes
 - Ease of increasing processor and memory capacity
 - Uses PureApplication System controls
- Predefined patterns:
 - ODM Clustered Pattern
 - ODM Clustered Decision Server Pattern
- Minimum requirement: IBM PureApplication System V1.0.0.1
- Packaged with:
 - IBM WebSphere Application Server Network Deployment V8.0.0.3
 - DB2® Enterprise Server Edition V9.7.0.6
 - IBM HTTP V8.0.0.3

The IBM Operational Decision Manager Pattern V8.0 on Red Hat Enterprise Linux Server offers almost all the functionality provided in the IBM WebSphere Operational Decision Management V8.0.0.1 product. However this new pattern offering allows you all the ease, control and rapid deployment available on the IBM PureApplication System platform. The virtual system environments you deploy are clustered server environments that allow you to easily scale horizontally as your capacity need increases. Using the PureApplication System controls, you can easily customize your virtual image and your system patterns, and increase the processor and memory capacity of your running virtual systems.

You are provided with two predefined patterns. The ODM Clustered Pattern includes both the Decision Server and Decision Center custom nodes. The ODM Clustered Decision Server Pattern includes only the Decision Server custom node. Both patterns deploy with a Rules Execution Server node, an IBM HTTP Server node and a Deployment Manager node. The product base includes WebSphere Application Server Network Deployment V8.0.0.3, IBM DB2 Enterprise Server Edition V9.7.0.6 and the IBM HTTP Server V8.0.0.3.

Installation

This section shows you how to install the product virtual image and patterns.

Installation prerequisites

- Supported browser to access IBM PureApplication System
 - IBM PureApplication System V1.0.0.1 and newer
 - Mozilla Firefox 3.6 and newer
 - Microsoft Internet Explorer V7 and newer
- In Windows® environment, latest version of extraction tool (for example, 7-Zip or WinRAR)
- At least 22 gigabytes of free storage space during extraction of image
- IBM Java Runtime Environment (JRE) 1.6 SR3 or newer
- Installation script should be compatible with:
 - Linux environments (like SLES V9, 10, or 11, or RHEL V5 or V6)
 - Microsoft Windows XP and Windows V7 or V8 environments
- Installation computer must have network access to IBM PureApplication System
 - Suggestion: Use PureApplication System to create your installation system
 - Deploy a virtual system instance using the Linux Core OS Image on IBM PureApplication System
 - Include the *Default add disk* Add-on in pattern and specify at least 22 gigabytes

There are a few installation prerequisites for installing the virtual image and patterns. You must be running IBM PureApplication System V1.0.0.1 or newer. You must use either Mozilla Firefox V3.6 or newer or Microsoft Internet Explorer V7 or newer as your computer browser. If you decide to use a Microsoft Windows environment to run the installation executables, then it must be Microsoft Windows XP or Microsoft Windows V7 or V8, and it must have an extraction utility available such as seven-Zip or WinRAR. You can use any recent Linux versions to run the installation executables, such as SUSE Linux Enterprise Edition V9, V10, or V11, or Red Hat V5 or V6. You must have at least 22 gigabytes of free storage space for the installation binaries. The installation computer must have IBM Java Runtime Environment V1.6 SR3 or newer installed. Also, the installation computer must have network access to the IBM PureApplication System.

If you are familiar with IBM PureApplication System, you can deploy a stand-alone Linux Core OS virtual system on PureApplication System and then you can use that system as a Linux installation platform. Be sure and include the “Default add disk” add-on in the pattern so you can define at least 22 gigabytes of space for your installation system.

Installation package



- Download product package from Passport Advantage®
 - ODM_Pattern_V80_RHEL_X64.tgz
- Extract in your directory
 - Extract the copy of the file to create installation package
 - At least 22 gigabytes free storage space required
 - Unextracted file
 - Extracted files (the installation package)
 - Linux example: **`tar -zxvf ODM_Pattern_V80_RHEL_X64.tgz`**

The package contains these files:

- An open virtual archive (OVA) file that contains the virtual image
- Preconfigured patterns and parts
- The installation utility
- Script packages required by the installation utility

Once you have selected the appropriate computer environment for your installation executables, which must have at least 22 gigabytes of free storage space, then you download the package from Passport Advantage. The package file name is shown in the slide. Extract the file to create the installation package. The extracted package contains the open virtual archive (OVA) file that contains the product virtual image. In addition, the package contains the installer script that installs that virtual image into your PureApplication System and creates the two patterns.

Install the product

- Install scripts provided for Linux and Windows
 - **Linux:**
`./installer.sh -h <host_name> -u <user_name> -p <password> -t PureAS`
 - **Windows:**
`installer.bat -h <host_name> -u <user_name> -p <password> -t PureAS`
 - Requirements:
 - User name must have “create new catalog content” authority
- Installs one image, two patterns
 - If you need to re-install, delete the existing image and patterns



To install the product, issue the command you see on this slide. You provide the host name parameter using either the host name or network IP address of the PureApplication System. You must provide a user name parameter and password for a user account defined in PureApplication System that has “create new catalog content” authority. The installation utility will begin by briefly updating the command level interface library within the installation package binaries and will then start to upload the catalog image into the PureApplication System. Uploading the catalog image might take from 25 to 50 minutes or more, depending on the speed of your network. Once the catalog image is uploaded, then the patterns are created in PureApplication System.

Verify image

Workload Console > Catalog > Virtual Images

The screenshot shows the IBM PureApplication System Workload Console interface. On the left, the 'Catalog' menu is expanded to show 'Virtual Images'. A red arrow points from this menu item to the right pane. The right pane displays the details for the 'IBM WebSphere Operational Decision Management V8.0.0.1 RHEL V6' image. The details include:

- Description:** WODM Hypervisor Edition 8.0.0.1
- Created on:** Oct 15, 2012 11:33:28 PM
- Current status:** Read-only
- Updated on:** Oct 16, 2012 12:01:28 AM
- License agreement:** Accepted [view...]
- Hypervisor type:** PureSystems_ESX
- Operating system:** RedHat Enterprise Linux 64-Bit, version 6 (RedHat Enterprise Linux Server 6.2)
- Version:** 8.0.0.1
- Image reference number:** 092128.807
- Product IDs (e.g., 5724-X89):**
 - 5724-H88 (PDU license)
 - 5725-I09 (PDU license)
 - 5765-F41 (PDU license)
- Contains parts:**
 - Decision Server custom node [part product IDs...]
 - Decision Center custom node [part product IDs...]
 - Rule Execution Server console custom node [part product IDs...]
 - ODM DB2 database [part product IDs...]
 - [show less]
 - ODM deployment manager [part product IDs...]
 - IBM HTTP server for ODM [part product IDs...]

The bottom of the slide shows the page number '10', the word 'Overview', and the copyright notice '© 2012 IBM Corporation'.

After the installation script completes, you can then log onto the PureApplication System and navigate to the Virtual Images list within the system Catalog. To assist in finding the image, you can optionally type “Decision” into the search field in the left pane. The IBM WebSphere Operational Decision Management V8.0.0.1 RHEL V6 image should appear in the list. If you click that item to select it, you can see the details of the catalog image in the right pane. In this slide you see the “parts” that comprise the catalog image. If this screen displays correctly, then you have successfully installed the catalog image.

Verify patterns

- Workload Console > Patterns > Virtual Systems

The screenshot displays the IBM PureApplication System Workload Console interface. The top navigation bar includes 'Workload Console' and 'System Console'. Below this, a menu bar contains 'Welcome', 'Instances', 'Patterns', 'Catalog', 'Cloud', and 'System'. The 'Patterns' menu is expanded, showing 'Virtual Applications', 'Virtual Systems', and 'Database Patterns'. A red box highlights the 'Patterns' menu, and another red box highlights the 'Virtual Systems' option. A large red arrow points from the 'Virtual Systems' option to a list of patterns on the right. The list contains two entries: 'ODM Clustered Decision Server Pattern 8.0.0.1' and 'ODM Clustered Pattern 8.0.0.1', each with a lock icon and an edit icon.

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Next you can navigate the virtual system pattern. You should see the two predefined locked patterns supplied with the catalog image, as shown in the slide. You can deploy these patterns exactly as they are, or you can copy the patterns and then modify them to your requirements.

Operational Decision Manager V8.0.0.1 Pattern details

In this section, we will look at the details of the two predefined patterns.

Pattern details



- Included predefined patterns
 - ODM Clustered Pattern 8.0.0.1
 - ODM Clustered Decision Server Pattern 8.0.0.1
- Options:
 - Include an extra custom node to support the workload
 - Increase number of custom nodes to the pattern for subsequent deployments, or
 - Clone a running custom node while system is running

The two patterns are called the “ODM Clustered Pattern 8.0.0.1” and “ODM Clustered Decision Server Pattern 8.0.0.1.” The predefined patterns cannot be changed but you can copy them and then edit the copies to meet your requirements. In your copy of the patterns, you can increase the number of custom nodes for subsequent deployments. And as a feature of PureApplication System, you can initiate a clone of a Decision Server, Decision Center or an IBM HTTP Server node on a running virtual system.

Pattern parts

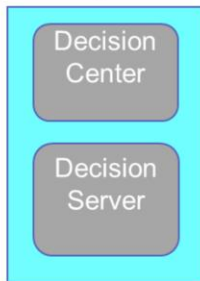
- Operational Decision Manager patterns are based on these parts:
 - DB2 Database
 - WebSphere Application Server V8.0 Deployment manager
 - Decision Server custom node
 - Decision Center custom node
 - Rule Execution Server console custom node
 - IBM HTTP Server
- When the patterns that contain these parts are deployed, each part become a virtual machine in the operational virtual system.
- Additional virtual machines are deployed if the part represents a cluster and the number of virtual machines in a particular cluster part is scaled beyond one

Contains parts:	ODM DB2 database	[part product IDs...]
	Decision Server custom node	[part product IDs...]
	Decision Center custom node	[part product IDs...]
	Rule Execution Server console custom node	[part product IDs...]
	Show less	
	ODM deployment manager	[part product IDs...]
	IBM HTTP server for ODM	[part product IDs...]

The parts of a pattern are directly associated with the virtual machines that are deployed. A virtual machine is deployed for each part in your pattern. For example, the ODM Clustered Pattern 8.0.0.1 contains six parts; so a deployment of that pattern creates at least six virtual machines. The predefined pattern for ODM Clustered Pattern 8.0.0.1 deploys an extra Decision Server custom node and an extra Decision Center custom node because it is configured with “two” for each of these two parts. Therefore this predefined pattern deploys a total of eight virtual machines.

ODM Clustered Pattern

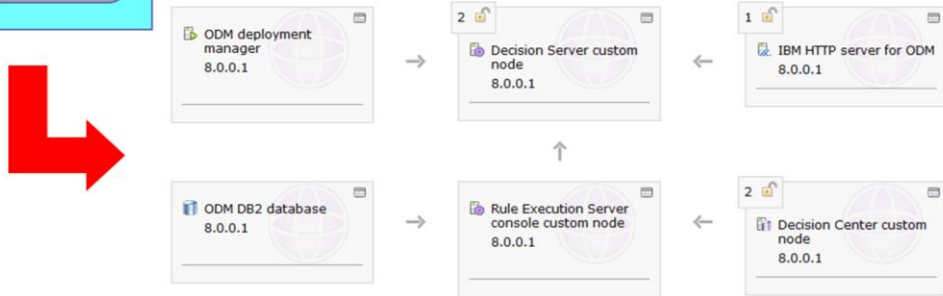
Operational Decision Management cell



This pattern contains these parts:

- Database
- Deployment manager
- Decision Server custom node (2 nodes)
- Decision Center custom node (2 nodes)
- Rule Execution Server console custom node
- IBM HTTP Server

Restriction: You cannot have more than one Rule Execution Server console custom node within a cell topology



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Overview

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One of the predefined patterns included is the **ODM Clustered Pattern 8.0.0.1** pattern. It contains these parts: Database, Deployment manager, Decision Server custom node, Decision Center custom node, Rule Execution Server console custom node and IBM HTTP Server.

You can increase or decrease the number of nodes for those cluster-related parts that are scalable.

Please note the restriction that you cannot have more than one Rule Execution Server custom console node in a cell topology.

ODM Clustered Decision Server Pattern

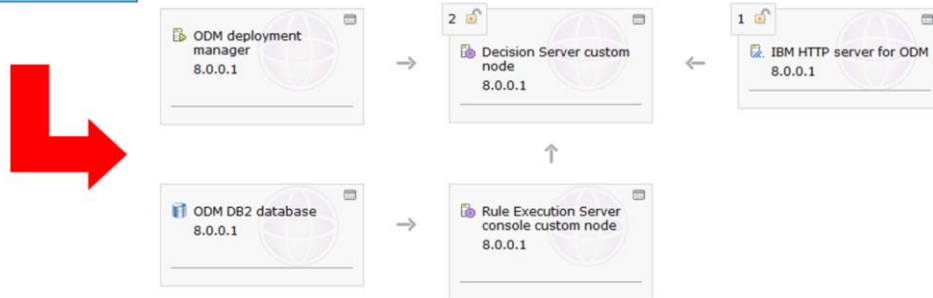
Operational Decision Management/
Decision Server cell



This pattern contains these parts:

- Database
- Deployment manager
- Decision Server custom node (2 nodes)
- Rule Execution Server console custom node
- IBM HTTP Server

Restriction: You cannot have more than one Rule Execution Server console custom node within a cell topology



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Overview

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The other predefined pattern included is the ODM Clustered Decision Server Pattern 8.0.0.1. It contains these parts: Database, Deployment manager, Decision Server custom node, Rule Execution Server console custom node and IBM HTTP Server.

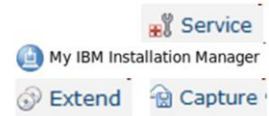
You can increase or decrease the number of nodes, depending on the workload that you want to run.

Again, please note the restriction that you cannot have more than one Rule Execution Server console custom node in a cell topology.

Maintenance

This section teaches you how to apply maintenance to the virtual image and deployments.

Methods to apply maintenance



- WebSphere Application Server and Operational Decision Management Interim Fixes and maintenance can be applied
 - To a specific VM
 - To an entire deployed virtual system
 - To a catalog image
- To a specific deployed VM
 - Start VNC and invoke IBM Installation Manager on that VM
 - Useful for applying specific interim fix for a specific problem on a server
- To an entire deployed virtual system
 - Invoke PureApplication System “Service” function
 - Useful for most general maintenance requests (Service Packs or interim fixes)
- To a virtual image
 - “Extend” the virtual image, apply the maintenance, and capture virtual image
 - Allows subsequent deployments based on that catalog image to run with new maintenance

You can apply service and interim fixes to WebSphere Application Server and to the IBM Operational Decision Manager Pattern V8.0 product using several techniques. You can apply fixes or maintenance to a specific virtual machine using the IBM Installation Manager, which is installed on each of the deployed virtual system nodes. To apply fixes or maintenance to an entire deployment, you can use the PureApplication System “Service” process, which is very easy to implement and launch. You can additionally use a PureApplication System function called “Extend” and “Capture” to create your own customized catalog virtual image which contains the maintenance and customization you require.

MustGather documentation

This section discusses the “MustGather” documentation, which can be important when you encounter software issues.

MustGather overview

- PureApplication System provides MustGather link within deployments
- Allows easy collection of “first-look” documentation
- Expand the VM of interest
 - Scroll down to Script Packages output

Workload Console > Instances > Virtual Systems > (your deployment)

General information
 Created on: Nov 12, 2012 3:10:34 PM
 From virtual image: IBM WebSphere Operational Decision Management 8.0.0.1 RHEL 6 x64 (VMWare)
 Part name: DS_Node
 Current status: ✔ Virtual machine has been started
 Updated on: Nov 15, 2012 2:11:18 AM
 In cloud group: CloudGroupLarge
 Registered as: 7f86e608-4ac8-4b90-877e-6ab4926d9f98
 Stored on: CloudGroupLarge storage
 In virtual application: None provided

IBM products (with license count for isolated usage)
 IBM DECISION CENTER: 0 PVU
 HYPERVISOR EDITION ON RED HAT ENTERPRISE LINUX SERVER

Hardware and network
 Virtual CPU count: 4
 SSH public key: id_rsa.pub

Operating system
 Name: Linux
 Type: RedHat Linux
 Version: 2.6.32-220.13.1.el6.x86_64

WebSphere configuration
 Cell name: ODMCell
 Node name: DSNode
 Profile name: DefaultCustom01

[Show all environment variables](#)

Script Packages

maestro	✔	Nov 12, 2012 3:55:41 PM	remote_std_out.log remote_std_err.log cloudburst_collect1352764540277.zip
Must Gather Logs	✔	Nov 12, 2012 5:57:54 PM	remote_std_out.log remote_std_err.log cloudburst_collect1352764573838.zip

[Execute now](#)

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Overview

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PureApplication System provides a MustGather link under the deployment’s “Virtual machines” detail section. If you scroll down into that section until you see the “Script Packages” section, then you will see “MustGather Logs”. Simply click the hyperlink at the right that contains the “.zip” suffix to download the MustGather log files. You need these logs when you talk with IBM support.

MustGather file contents

- MustGather file:
 - Expand each VM and look under **Script Packages** section
 - Filename similar to: **cloudburst_collectnnnnnnnnnnnn.zip**
- Typically wasprofilelogs.tar contains the significant logs for Operational Decision Management

Script Packages

maestro ✓ Nov 12, 2012 5:55:41 PM

Must Gather Logs ✓ Nov 12, 2012 5:57:54 PM

Execute now

remote_std_out.log
remote_std_err.log
cloudburst_collect1352764540277.zip

remote_std_out.log
remote_std_err.log
cloudburst_collect1352764673838.zip

	RES						
	DB2	DMGR	Console	DS	DC	IHS	
ae.tar	x	x	x	x	x	x	IPAS/image related
CoCBase.tar	x	x	x	x	x	x	IPAS/image related
ihslogs.tar		x	x	x	x	x	
virtualImage.properties	x	x	x	x	x	x	IPAS/image related
waslogs.tar		x	x	x	x	x	
wasprofilelogs.tar		x	x	x	x		
workloadLogs.tar	x	x	x	x	x	x	IPAS/image related

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Overview

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This is an expanded view of the “Script Packages” section. You can see the link for downloading the “MustGather” logs. If you want the latest set of logs, click the “Execute Now” link and new logs are generated after a few minutes. Then click to download the newly generated MustGather logs.

The graphic at the bottom shows a summary of the types of information gathered in the MustGather logs. In most cases, the relevant logs can be found within the “was profile logs tar” file.

Summary and references

This section provides references you might find helpful and a summary of this presentation.

References – information centers

- PureApplication System V1.0 information center:
 - <http://pic.dhe.ibm.com/infocenter/psappsys/v1r0m0/index.jsp>
- WebSphere Operational Decision Management V8.0 information center:
 - <http://pic.dhe.ibm.com/infocenter/dmanager/v8r0/index.jsp>

Click the stop button on your player if you want to copy this information. Here you see the URLs for the PureApplication System V1.0 information center and the WebSphere Operational Decision Management V8.0 information center.

Summary

- Overview
- Installation
- Operational Decision Manager patterns
- Customizing patterns
- Maintenance
- MustGather documentation
- Summary and references

This presentation provided an overview of the IBM Operational Decision Manager Pattern V8.0 for Red Hat Enterprise Linux Server product. You learned how to install the product and reviewed the patterns that are provided with the product. You learned that the patterns can be copied and customized to meet your requirements. You heard about the techniques for applying maintenance and then how to collect the MustGather information you might need for IBM support.

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