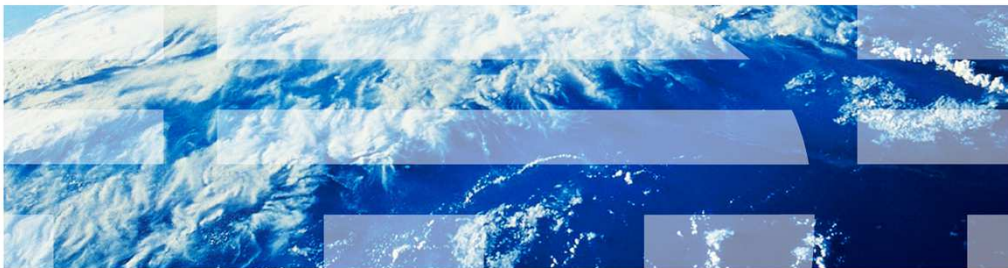

IBM Operational Decision Manager Pattern V8.0.1

Overview



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This presentation shows an overview of the IBM Operational Decision Manager Pattern version 8.0.1, available in both IBM PureApplication™ System and IBM Workload Deployer. It also covers the installation, pattern creation, and deployment details.

Table of contents

- Overview
- Installation
- Pattern details
- Creation and deployment



The session starts with an overview of what's new in Operational Decision Manager Pattern version 8.0.1 with a list of highlighted features. Then you learn how to install the product. After reviewing the pattern details, you learn how to create a pattern and get it deployed in the IBM PureApplication System or IBM Workload Deployer.

Section



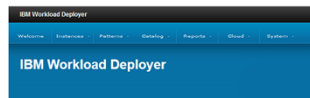
The overview section shows you what's new in the product and a list of highlights.

What's new

- IBM PureApplication System both Intel® and AIX® in Power support



- IBM Workload Deployer (Intel)



- Topology changes
 - Rule Execution Server console is moved to Decision Server cluster node
 - No individual Rule Execution Server console part in patterns
- DB2® for high availability disaster recovery function
 - ODM DB2 standby database is available

Compared with Operational Decision Manager Pattern version 8.0, version 8.0.1 extends the platform support. In addition to the Red Hat Enterprise Linux® Server environments, it adds the support for AIX in Power environments on IBM PureApplication System. And ODM patterns can also use IBM Workload Deployer as a stand-alone appliance with Intel platform support.

A major topology improvement is to move the individual Rule Execution Server console part into the Decision Server cluster node. It eliminates the restriction to have only one Rule Execution Server console custom node within a cell topology.

Another key feature added is that you can enable DB2 for high availability disaster recovery by adding an ODM DB2 standby database to the pattern.

Pattern highlights

- Key features:
 - Same capabilities as delivered in IBM Operational Decision Manager V8.0.1
 - Easy pattern installation, configuration, and deployment
 - Clustered configuration
 - Horizontal scaling of custom nodes
 - Ease of increasing processor and memory capacity
 - DB2 high availability disaster recovery (HADR) support
- Predefined virtual system patterns:
 - ODM Clustered Pattern
 - ODM Clustered Decision Server Pattern
- Packaged with:
 - IBM WebSphere® Application Server Network Deployment V8.0.0.5
 - DB2 Enterprise Server Edition V9.7.0.6
 - IBM HTTP Server V8.0.0.3

The Operational Decision Manager Pattern version 8.0.1 provides the same capabilities that are delivered in a stand-alone Operational Decision Manager version 8.0.1 product. The pattern contains the components that are necessary to manage business rules and events. The installer is provided in the package. The patterns can be easily configured and deployed onto the IBM PureApplication System and IBM Workload Deployer.

The pre-optimized virtual system patterns help you to set up complex Operational Decision Manager runtime environments with decision servers and decision centers clustered configuration. It allows the horizontal scaling of these custom nodes. It is also easy to increase the processor and memory capacities in the patterns, even during runtime.

The newly added DB2 standby part provides high availability disaster recovery support for Operational Decision Manager runtime environments. When you add the ODM DB2 standby database part in an Operational Decision Manager pattern, you have two Operational Decision Manager DB2 databases. The default ODM DB2 database becomes the primary database.

The ODM Clustered Pattern and the ODM Clustered Decision Server Pattern are two predefined virtual system patterns. The whole offering is packaged together with WebSphere Application Server Network Deployment version 8.0.0.5, DB2 Enterprise Server Edition version 9.7.0.6, and IBM HTTP Server version 8.0.0.3.



Installation

In this section, you learn how to install the product and how to verify the patterns and image right after the installation.

Prerequisites

- System requirements for Operational Decision Manager Pattern V8.0.1:
 - On RHEL
 - IBM PureApplication System W1500 V1.0.0.4 or later fix packs
 - IBM Workload Deployer V3.1.0.7 or later fix packs
 - On AIX
 - IBM PureApplication System W1700
- In Windows® environment, use latest version of extraction tool (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 later
- The user must have the right permissions on IBM PureApplication System or IBM Workload Deployer to install Operational Decision Manager patterns
- Installation computer must have network access to the IBM PureApplication System or IBM Workload Deployer

There are prerequisites for installing the virtual image and patterns.

The Operational Decision Manager Pattern on Red Hat Enterprise Linux runs on VMware ESX hypervisors and requires one of these platforms: either IBM PureApplication System W1500 or IBM Workload Deployer version 3.1.0.7.

The Operational Decision Manager Pattern on AIX requires IBM PureApplication System W1700. It runs on PowerVM® hypervisors in IBM PureApplication System environment.

The installer that is packaged with the patterns and images supports AIX, Linux, and Windows operating systems. If you are going to install the product in a Windows environment, you need an extraction tool, such as 7-zip or WinRAR application. For all the systems, you need to have at least 22 gigabytes of free disk storage space for the installation binaries. You also need IBM Java Runtime Environment V1.6 SR3 or newer in order to run the installation tool.

To avoid interruption, make sure the administrator who performs the installation has the right permission set on IBM PureApplication System or IBM Workload Deployer. And also prepare the installation machine to have network access to IBM PureApplication System or IBM Workload Deployer.

Installation package

- Download product package from Passport Advantage® website to a computer that runs a Windows, Linux, or AIX operating system
 - For Windows or Linux: `ODM_Pattern_V801_RHEL_X64.tgz`
 - For AIX: `ODM_Pattern_V801_AIX_X64.tgz`
 - Extract in your directory
 - Extract the copy of the file to create installation package
 - At least 22GB free storage space required
 - The original tgz file
 - Extracted files (the installation package)
 - Linux command line example: `tar xzf ODM_Pattern_V801_RHEL_X64.tgz`
- The package contains these files:
- An open virtual archive (OVA) file that contains the virtual image
 - Predefined patterns and parts
 - The installation utility
 - Script packages required by the installation utility



The package is available for download from the IBM Passport Advantage website. If you use a Windows or Linux machine, the package name is `ODM_Pattern_V801_RHEL_X64.tgz`. And if you are using AIX operating system, choose `ODM_Pattern_V801_AIX_X64.tgz`.

Once the package is downloaded, you extract the archive file using the extraction utility. The package is about 10 gigabytes. So the suggestion is to have at least 22 gigabytes free disk space to hold both the original compressed file and extracted files. On the slide, a Linux extraction command example is provided.

After the package is extracted, you can see that the package contains an Open Virtual Archive file, which contains the virtual image, pre-defined patterns and parts. It also includes the installation utility and scripts.

Install the product

- Installation command (applicable for both PureApplication System and Workload Deployer)
 - Linux/AIX: `./installer -h ${host} -u ${username} -p ${password}`
 - Windows: `./installer.bat -h ${host} -u ${username} -p ${password}`
- Tip: in a non-English environment, set `deployer.console.encoding` value to the corresponding language in `deployer.cli/lib/version_number/registry`
- Installs one image, two patterns
 - If you need to re-install, delete the existing image and patterns
- Note for Rule Designer and Event Designer
 - Not used in runtime environment and no shortcuts in VM
 - Use Installation Manager to install them locally



To start the installation, open a command window and navigate to the extract directory. Issue the command that is shown on this slide based on your operating system. The {host} is the host name or IP address of the IBM PureApplication System or IBM Workload Deployer. You also provide the username and password to access the host system.

If you use a non English environment, you need to modify the registry file in the package. Set `deployer.console.encoding` value to the corresponding language.

The installer uploads one image and installs two patterns onto the host system. If you encounter any problem during the installation process, which can result with a partial installation, the suggestion is to delete the existing image and pattern first, then reinstall it. If you do not do the cleanup, the new installation will not replace the existing artifacts.

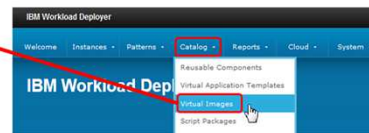
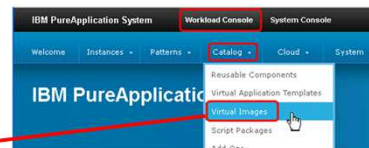
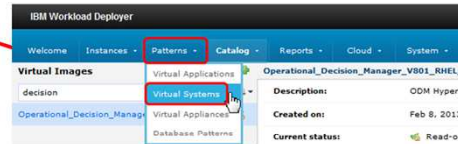
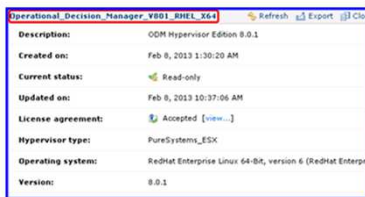
Note that there are no menu shortcuts for accessing the Rule Designer and Event Designer. Because they are not used in the runtime environment. You can use the Installation Manager to install them locally and interact with Decision Center and Decision Server pattern instances through HTTP and HTTPS.

Verify installation

- Verify patterns



- Verify image



To verify the installation, you check the pre-defined patterns and the image.

You locate patterns from the menu “Patterns” then choose “Virtual Systems”. You can see both ODM Clusted Decision Server Pattern and ODM Clusted Pattern in the pattern list.

If you go to menu “Catalog” and choose “Virtual Images”, you can find the Operational Decision Manager V801 in the image list.

Section


Pattern details

In this section, you look into two pre-defined Operational Decision Manager patterns in detail.

In the pattern

- Product IDs
 - Related to the virtual images

Product IDs (e.g., 5724-X89):	5724-H88 (PVU license) ← WebSphere Application Server ND
	5725-109 (PVU license) ← ODM Pattern for RHEL5
	5765-F41 (PVU license) ← DB2 UDB ESE

- Pattern parts
 - Once patterns that contain the parts are deployed, each part becomes a virtual machine

Decision Server custom node	[part product IDs...]
Decision Center custom node	[part product IDs...]
ODM DB2 standby database	[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...]

- Predefined patterns

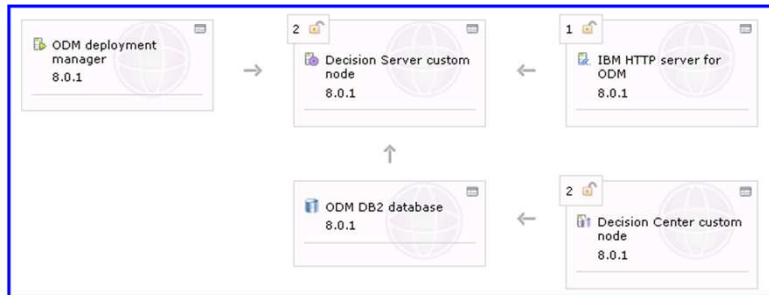
ODM Clustered Decision Server Pattern 8.0.1	
ODM Clustered Pattern 8.0.1	

From the virtual image detail page, you can view the product license and the associated product IDs. The image contains a total of six parts.

Two pre-defined patterns are locked once installed. You can see the lock signs next to their names, which means you cannot modify the pre-defined patterns.

ODM Clustered Pattern

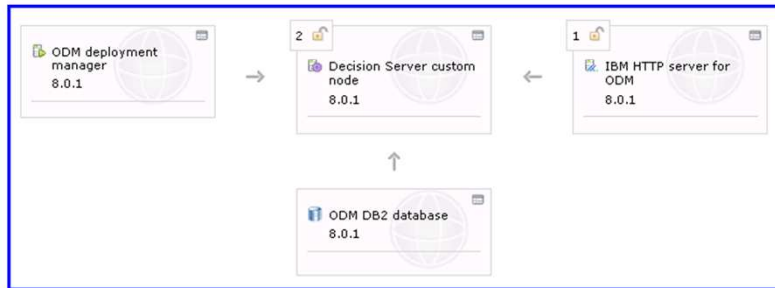
- Containing parts
 - DB2 database
 - Deployment manager
 - Decision Server custom node X 2
 - Decision Center custom node X 2
 - IBM HTTP Server
- Good model for development, test and production



The ODM Clustered Pattern contains five parts. It includes both Decision Server custom node and Decision Center custom node. You typically use this pattern for development, testing, and production. Once it is deployed, each part becomes a separate virtual machine. In total you have seven virtual machines if you directly deploy this pattern to the cell.

ODM Clustered Decision Server Pattern

- Containing parts
 - DB2 database
 - Deployment manager
 - Decision Server custom node X 2
 - IBM HTTP Server
- No Decision Center custom node, good model for operating decisions in production



The ODM Clustered Decision Server Pattern only contains four parts. Compared with the ODM Clustered Pattern, this one doesn't have the Decision Center custom node, where the Decision Center is used for design and development.

The Clustered Decision Server pattern is particularly used for decision operations in production. Once it is deployed, it has five virtual machines running.

Pattern processor and memory resources

- Clustered Pattern (7 nodes)

Parts	Processor Unit	Total Virtual Processor Unit	Memory	Total memory
Deployment Manager	2	2	2048	2048
Decision Server	4 X 2	8	4096 X 2	8192
Decision Center	2 X 2	4	4096 X 2	8192
HTTP Server	1	1	2048	2048
DB2	2	2	4096	4096
		17		24576

- Clustered Decision Server Pattern (5 nodes)

Parts	Processor Unit	Total Virtual Processor Unit	Memory	Total memory
Deployment Manager	2	2	2048	2048
Decision Server	4 X 2	8	4096 X 2	8192
HTTP Server	1	1	2048	2048
DB2	2	2	4096	4096
		13		16384

This slide shows the summary charts for the processor and memory resources used for the patterns. You can use both charts as references.

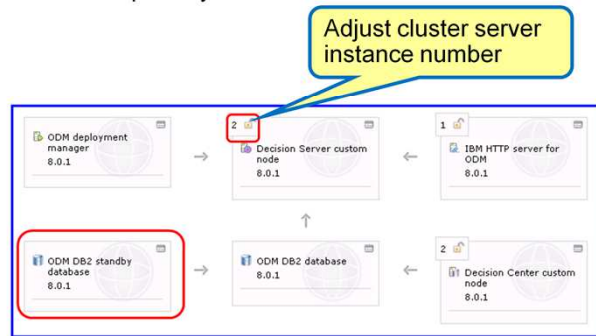


Creation and deployment

In this section, you learn to create a pattern, either from a pre-defined pattern or start from scratch. Then you learn the deployment process and related information.

Pattern creation – clone a predefined pattern

- Clone a predefined pattern
- Customize the cloned pattern
 - Adjust number of cluster server instances, applicable to Decision Server node, Decision Center node, and IBM HTTP Server node
 - Optionally to add DB2 Standby for DB high availability disaster recovery support to redirect traffic if primary DB fails



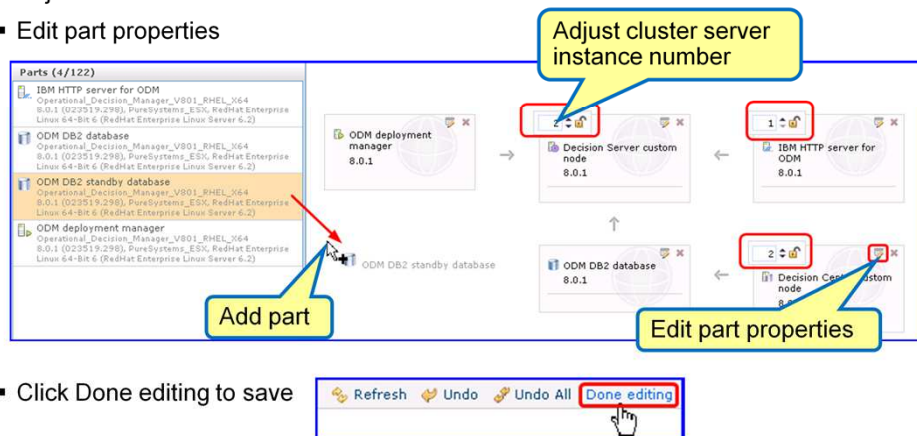
Here is a quick way to create a pattern. You start by cloning a pre-defined pattern. Then you can further customize the cloned pattern. The cloned pattern is unlocked.

You can adjust the number of the cluster server instances, depending on the workload that you want to run. The applicable custom nodes to adjust include the Decision Server node, Decision Center node, and IBM HTTP server node.

You can also add DB2 standby part for high availability disaster recovery support.

Pattern creation – Create your own Operational Decision Manager pattern

- Add necessary part to the pattern with easy drag into the editor
 - General rule: do not add additional mandatory pattern parts or delete Operational Decision Manager parts
- Adjust number of cluster server instances
- Edit part properties



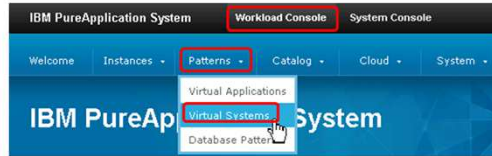
- Click Done editing to save

If you like to create your own Operational Decision Manager pattern, it is easy to construct one by dragging the available parts into the pattern editor. Connections between the parts are created for you when you add new parts. You can adjust the number of part instances and configure the part properties.

Once you complete the configuration, click “Done editing” on the toolbar to save the changes.

Pattern deployment

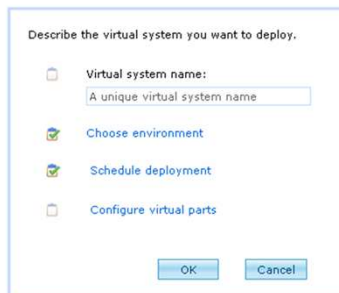
- Choose the virtual system pattern from **Patterns > Virtual Systems**



- Click **Deploy** in the toolbar



- Deployment setting dialog



After you finish creating and configuring the pattern, you are ready to deploy it. Deploying a pattern creates a virtual system. The virtual machines are created from the parts in the pattern.

From the menu “Patterns”, choose “Virtual Systems” option. Then select the pattern that is ready, click “Deploy” on the toolbar. It launches the deployment setting dialog.

Deployment settings

- Set name and choose environment
- Schedule the deployment
 - Deploy and run immediately (default)
 - Deploy at a late time
 - Run at a late time
- Configure virtual parts properties
 - Complete each part
 - Enter password for the required users
 - Adjust processor usage and memory allocation

green checkmarks indicate all virtual parts are configured

In the configuration settings window, you first provide a name for the virtual system instance. Next you choose the environment with an appropriate profile.

By default, the deployment schedule is set to run immediately. To schedule the deployment for a time other than the current time is optional.

Expand the “Configure virtual parts” section, you need to use the links to the parts and make sure all the required part parameters are set properly.

A green check mark beside each item indicates that it doesn’t require further configuration. Once all the configurations are finished, the pattern can be deployed.

Deployment process

- Click the OK button to start the deployment process
- The process includes virtual system deployment and active all the virtual machines

The screenshot displays the IBM Operational Decision Manager interface. On the left, a dialog box titled "Processing your request..." is shown with an "OK" button highlighted by a red arrow. The main window shows the "ODM Clustered Pattern 8.0.1 Deployment" details. Key fields include "Created on", "From pattern", "Using Environment profile", "Deployment priority", "Updated on", "Current status" (highlighted as "Queued"), "Deployment ID", "Access granted to", "Snapshot", "History" (expanded to show "Deployment has been queued"), "Virtual machines" (8 total - 8 inactive), and "Comments". A "Refresh" button is visible in the toolbar. Callouts indicate "Click Refresh to check the latest deployment status" and "Expand History section to see the full list of deployment process".

Click the OK button to kick off the deployment process.

On the virtual system instance page, you can check the “Current status” to see which activity is on-going. Under the “History” section, you can monitor all the activities. The full list of deployment processes is logged. You can always click “Refresh” on the toolbar to check the latest deployment status.

The whole process takes a while to complete, which includes virtual system deployment and brings up all the virtual machines.

Eventually you see the green icon indicating successful virtual system deployment in the current status field. And under the “Virtual machines” section, all VMs are started.

Work on a running virtual machine

- Clone a running VM

ipas-lpar-068-061-DS_Node-ODM Group 473

0% 8% Login Manage

General information

Created on: Apr 2, 2013 2:30:31 AM
 From virtual image: IBM Operational Decision Manager 8.0.1 RHEL 6 x64 (VMWare)
 Part name: DS_Node
 Current status: ✔ Virtual machine has been started
 Updated on: Apr 2, 2013 4:03:59 AM
 In cloud group: Cloudgroup38
 Registered as: 6679d3b1-36cb-43b4-ad52-940b643d56cb
 Stored on: Cloudgroup38 storage
 In virtual application: None provided

Clone a running node for dynamic workload balance, only available for Decision Server, Decision Center, and IBM HTTP server nodes

- Access the VM consoles

Consoles

VNC Decision Center Enterprise Console Decision Center Business Console

Decision Center VM consoles example

Sign in to Decision Center

IBM Operational Decision Manager | Business Console

Expand a running virtual machine, you can review the details, including the product information, the hardware and network information, the troubleshooting script logs, and available consoles.

For Decision Server, or Decision Center, or IBM HTTP server, you can manage the workload by cloning the running virtual machine. Once the cloned virtual machine is started, it immediately balances the workload dynamically.

Under the “Consoles” section, you can find different console links that are corresponding to the virtual machine. The example on this slide shows the Decision Center virtual machine consoles.

Summary

- Overview
- Installation
- Pattern details
 - ODM Clustered Pattern
 - ODM Clustered Decision Server Pattern
- Creation and deployment



This presentation provided an overview of the IBM Operational Decision Manager Pattern V8.0.1 for IBM PureApplication System and IBM Workload Deployer. You learned how to install the product and verify the installation. You reviewed the details of two pre-defined patterns, ODM Clustered Pattern and ODM Clustered Decision Server Pattern. You also learned two approaches to create a pattern and the details on pattern deployment process.



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