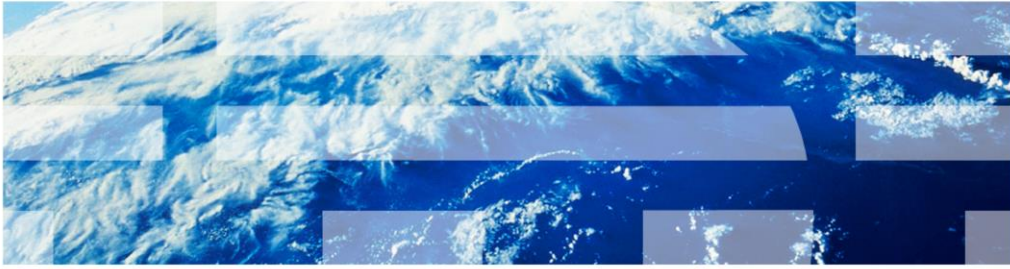IBM Business Process Manager Pattern V8.0
IBM PureApplication System and
IBM Workload Deployer

Overview and installation

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This presentation will cover the introduction and benefits of the BPM Pattern V8.0 in IBM PureApplication System and IBM Workload Deployer, as well as the installation of the pattern.

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Overview and benefits

This section of the presentation will provide a brief overview of the BPM Pattern V8.0 and it's benefits.

BPM V8.0 pattern announcement

- Sept 28, 2012 GA date

- Intel support on Workload Deployer and PureApplication System

- Minimum requirement:
  - Workload Deployer V3.1.0.2
  - PureApplication System V1.0.0.1

- Advanced BPM edition only

- Packaged with:
  - IBM WebSphere® Application Server Network Deployment V8.0.0.3
  - DB2® Enterprise Server Edition V9.7.5.0
  - HTTP V8.0.0.0
  - RedHat Enterprise Linux 64-Bit, version 6.2 for X86

On September 28th, 2012, IBM announced the availability of the IBM Business Process Manager Advanced Pattern version 8.0 offering. It provides support for Red Hat Enterprise Linux Server on the Intel platform, on both IBM Workload Deployer and IBM PureApplication System. The minimum requirement is V3.1.0.2 for Workload Deployer, and V1.0.0.1 for PureApplication System.

Additionally, this BPM pattern provides support for IBM System x support on VMware ESX

IBM plans to provide patterns only for the Advanced BPM edition.

The BPM virtual image that comes packaged with this offering is packaged together with WebSphere Application Server Network Deployment V8.0.0.3, DB2 Enterprise Server Edition 9.7.5.0, HTTP V8.0.0.0, and Redhat Enterprise Linux 64-bit V6.2 for X86.

Overview and benefits

- As part of IBM PureApplication System and IBM Workload Deployer, IBM is offering the Business Process Management V8.0 runtime as <u>virtual system patterns</u>

- Dramatically accelerates the setup and management of complex Business Process Manager configurations that are pre-optimized for production use
  - The IT resources and cloud environment are already available with no traditional procurement
  - Optimization done once with BPM image customization and pattern customization
  - Repeatable deployments that take relatively short periods of time with just a few clicks
  - Built-in best practice recommended topology, without the need for deep WebSphere skills
  - Ability for customization and extension

- Provides easier upgrade experience in virtualized environment than upgrading each of the machines in physical environment

The BPM V8.0 runtime will run as part of Workload Deployer and PureApplication System as a virtual system pattern. As with all virtual system patterns, this offers some dramatic benefits in terms of accelerating the installation, configuration and management of complex BPM configurations that are pre-optimized for production use. No procurement is required as the resources are already available in your cloud. The pattern contains a built-in best practice topology, that does not require deep WebSphere skills to implement and manage. Deployments require just a few clicks, and take a relatively short time to fully install a process center or process server or both, as compared to the traditional installation methods. Additionally there are opportunities for further optimization and customization. Workload Deployer and PureApplication System also offers an easier maintenance process for applying fixes and upgrades then the traditional processes in a physical environment.

BPM Patterns V8.0 model
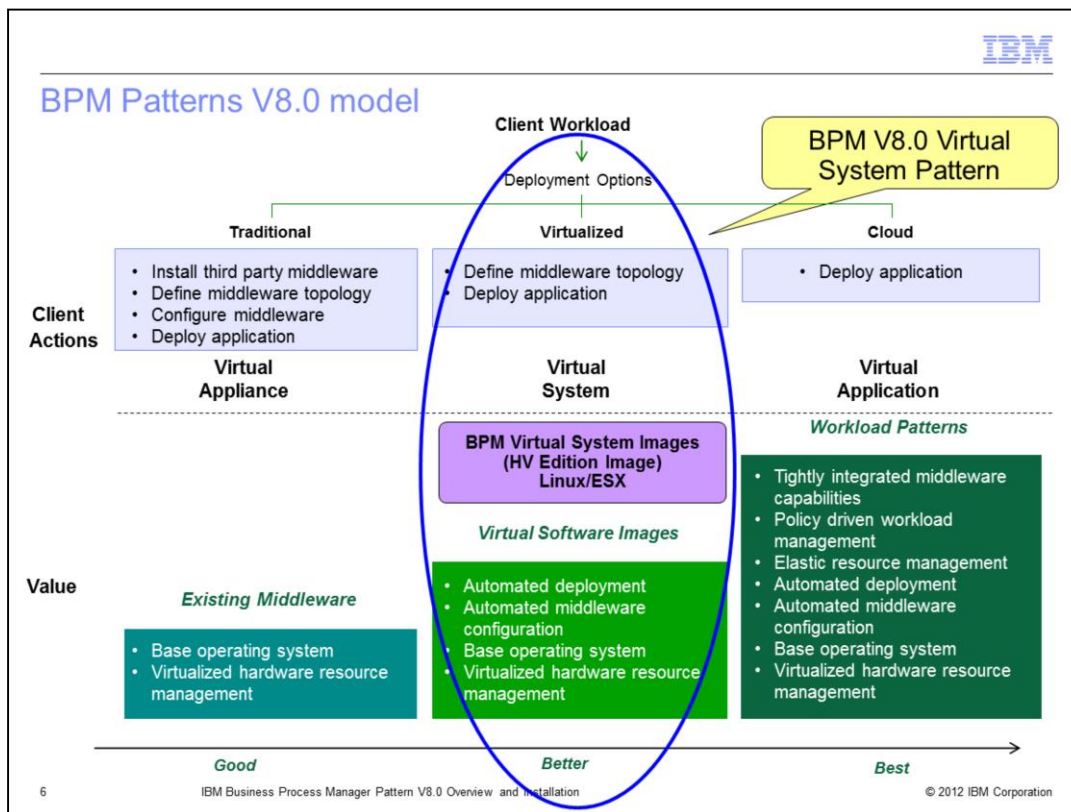
Here you see the three deployment models available. As previously stated, BPM Pattern V8.0 uses the virtual system deployment model, which is middleware centric. This model uses IBM's hypervisor edition images with pre-installed middleware and operating system. This allows you to define your topology as a pattern, customize it with script packages, and finally deploy that pattern into the cloud. This model provides rich customization capabilities and allows fast, automated provisioning of IBM middleware. When you have a topology defined as a pattern, it is provisioned for you with minimal effort on your part. The pattern can be deployed multiple times with the same results each time as the deployment is fully automated. IBM provided patterns follow best practices based on years of experience. You can use those patterns as-is or use them as a starting point for your own patterns, customizing them as needed. You can also create your own custom images to be deployed as virtual systems using the Extend / Capture process or IBM Image Construction and Composition Tool.

By moving to the virtual system model, you save time and ownership cost by relying on IBM's pre-built hypervisor edition image for all BPM product capabilities. You still have significant ability to customize your topology deployments. There are some administration capabilities provided within the Workload Deployer and PureApplication System consoles, but typically administration is "business as usual." For example, you still have the WebSphere administrative console capabilities provided to you.

Overall, the cost of ownership goes down considerably when you rely on IBM to maintain the product images in the virtual system model.

IBM

BPM V8.0 feature summary

- All V8.0 Advanced functionality
- Three predefined patterns: Process Center, Process Server, or both together
- Out of the box clustered configuration with a four cluster gold topology
- Standalone configuration available (no patterns provided)
- Horizontal scaling of custom nodes
- Vertical scaling of CPU and memory
- DASD scaling for DB2 disk space
- Option to customize BPM configuration with exposed scripts

IBM Business Process Manager Pattern V8.0 Overview and installation   © 2012 IBM Corporation

With this offering, all BPM V8.0 Advanced functionality is made available through three pre-defined patterns, the Process Center pattern, the Process Server pattern, and a pattern containing both the Process Center and Process Server. These IBM provided BPM patterns will deploy a clustered configuration with a four cluster gold topology. A BPM stand-alone configuration is also available, although you will need to build your own virtual system pattern for deployment.

These patterns provide scaling opportunities at many levels. There is horizontal scaling of the custom nodes, there is vertical scaling of all the virtual machines, and there is dasd scaling for the DB2 databases.

Additionally, IBM has exposed all the configuration scripts for all the products in the patterns, providing the capability to customize the BPM configuration as required.

References

- IBM Announcement:
  http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&appname=gpateam&supplier=897&letternum=ENUS212-168

- Information centers:
  - BPM V8.0, All platforms:
    - http://pic.dhe.ibm.com/infocenter/dmndhelp/v8r0mx/index.jsp
  - BPM V8.0 in a cloud:
    - http://pic.dhe.ibm.com/infocenter/dmndhelp/v8r0mx/topic/com.ibm.wbpm.cloud.doc/ic-homepage-priclo.html
  - Workload Deployer V3.1:
    - http://pic.dhe.ibm.com/infocenter/worlodep/v3r1m0/index.jsp
  - PureApplication System V1.0:
    - http://pic.dhe.ibm.com/infocenter/psappsys/v1r0m0/index.jsp

There are several references provided here, including the Announcement for the BPM Pattern V8.0, and the InfoCenters for BPM, BPM in a cloud, Workload Deployer, and PureApplication System.

BPM Pattern V8.0 installation

IBM Business Process Manager Pattern V8.0 Overview and installation

This section of the presentation will discuss the installation process for the BPM Pattern V8.0.

Installation process

- Download package (.tgz file) from Passport Advantage® – link in PureSystems™ Centre
- Extract to your directory – about 13GB required for .tgz and extracted files
- Install scripts provided for Linux and Windows
  - Linux: **./installer -h <host_name> -u <user_name> -p <password>**
  - Windows: **installer.bat -h <host_name> -u <user_name> -p <password>**
- User name must have "create new catalog content" authority
- Requires IBM Java Runtime Environment (JRE) 1.6 SR3 or later
- A running status log is displayed
- Installs 1 image, 10 parts, 3 patterns, and 2 script packages
  - Process Designer does come with the image
  - Integration Designer and Business Monitor do not
- If need to re-install:
  - Delete any existing BPM image and patterns, or install will fail
  - Existing script packages are NOT overlaid, so delete existing ones to replace
- When installation completes, accept the three licenses in the BPM virtual image

Clients are required to download the .tgz package for the BPM Pattern V8.0 from Passport Advantage. They can use the link in the PureSystems Centre to get to Passport Advantage. Once it is downloaded, use your favorite archive tool to extract it to your directory of choice. About 13 GB are required to store both the .tgz and the extracted files.

Once extracted, you will see two installation scripts, one for Linux and one for Windows. All the script requires is the IP address of the Workload Deployer or PureApplication System, and the ID and password to be used on that system. Before running the installation script, ensure the ID used has "create new catalog content" authority on the system. This installation process requires IBM Java Runtime Environment (JRE) 1.6 SR3 or later on your workstation, as the process is running the Command Line Interface in the background. While the installation is running, a running status log indicating progress is displayed.

When the installation completes, it will have installed one virtual image containing ten parts, three patterns, and two script packages. If the installation does not complete successfully and needs to be rerun, ensure any installed image or patterns are removed from the system, or the installation will fail if it finds they exist. Additionally, if the installation finds any of the script packages on the system, it will not overlay them.

The Process Designer does come with the image, and can be downloaded from the Process Centre, once it is deployed and running. As with the base product, the Integration Designer and Business Monitor are not part of this offering.

Before the patterns can be used on the system, the three licenses in the BPM virtual image must be accepted.

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Here are the catalog objects provided with the install.

There is the BPM Advanced V8.0 virtual image. Note that this image is "locked" and cannot be modified. You can use the Extend / Capture process to modify and capture a new image, or the Image Construction and Composition (ICCT) tool.

There is a BPM Advanced Clustered Process Center pattern, a BPM Advanced Clustered Process Server pattern, and a pattern that contains both the Process Center and Process Server. Note that these IBM provided patterns are "locked" and cannot be modified. You can either clone these patterns and modify them, or create your own new patterns.

Additionally there are two script packages called AddDisk and ConfigBPM.

BPM V8.0 patterns and parts

- BPM Advanced Clustered Process Center Pattern 8.0.0.0
  - **Process center custom nodes**
  - **Process center deployment manager**
  - **Process center database**
  - **IBM HTTP server for process center**
- BPM Advanced Clustered Process Server Pattern 8.0.0.0
  - **Process server custom nodes**
  - **Process server deployment manager**
  - **Process server database**
  - **IBM HTTP server for process server**
- BPM Advanced Clustered Pattern 8.0.0.0
  - BPM Advanced Clustered Process Center Pattern 8.0.0.0
  - BPM Advanced Clustered Process Server Pattern 8.0.0.0
- Standalone Process Center pattern (not provided)
  - **Stand-alone process center**
- Standalone Process Server pattern (not provided)
  - **Stand-alone process server**

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The BPM virtual image contains a total of ten parts, and they are high-lighted in the slide.

The Process Center pattern uses the process center custom node part, process center deployment manager part, process center database part, and the process center HTTP server part. The Process Server pattern uses the process server custom node part, process server deployment manager part, process server database part, and the process server HTTP server part. The third pattern contains all eight of these parts.

Additionally there is a process center stand-alone part and a process server stand-alone part, which can be used to provide stand-alone configurations of the individual parts or the combination of the two parts. One must build their own patterns for these stand-alone topologies, which is very easy to do.

BPM V8.0 virtual image - Product IDs and parts

Product IDs (e.g., 5724-X89):	5725-G76 (PVU license)	
	5725-C04 (PVU license)	
	5765-F41 (PVU license)	
Contains parts:	Process server custom nodes	[part product IDs...]
	Process server deployment manager	[part product IDs...]
	Process center custom nodes	[part product IDs...]
	Process center deployment manager	[part product IDs...]
	[show less]	
	Process center database	[part product IDs...]
	Process server database	[part product IDs...]
	IBM HTTP server for process server	[part product IDs...]
	IBM HTTP server for process center	[part product IDs...]
	Stand-alone process server	[part product IDs...]
	Stand-alone process center	[part product IDs...]

This slide shows the product IDs and the ten parts as they appear when viewing the BPM image in the console.

BPM V8.0 virtual image – Hardware section

Hardware

General information

Virtual CPU count:	1
Virtual memory (MB):	2048
Network interfaces:	1

Disk

Label	File name	Capacity (GB)
disk1	RHEL62-64.vmdk	12.0
disk2	BPM_Binaries.vmdk	20.0

This slide also is taken from the view of the BPM virtual image in the console. The expanded Hardware section shows some attributes of the image itself, such as the default CPU count, virtual memory, and network interfaces per each virtual machine started from the pattern. These defaults are typically over-ridden later. Additionally is shown the two disks that are transferred to each virtual machine at deployment time. These disks contain the binaries and everything else required to install and run that virtual machine. Any space left over can be used as storage space for working files, databases, and so on. For example, on a deployed DB2 virtual machine for this BPM pattern, approximately 8GB of storage remains from the total of the 32 GB image size which is used for the databases.

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