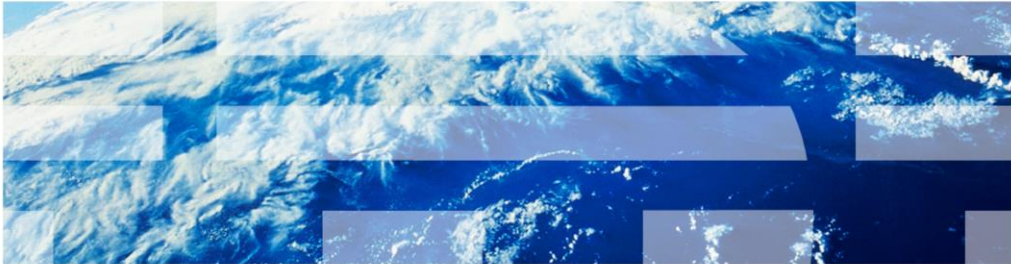

IBM PureApplication System and IBM Workload Deployer IBM Business Process Manager Pattern V8.0

Maintenance



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This presentation will cover the maintenance of the BPM Pattern V8.0 in IBM PureApplication® System and IBM Workload Deployer.

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- BPM Pattern V8.0 maintenance introduction
- Uploading emergency fixes
- Applying post-deployment emergency fixes
- Applying pre-deployment emergency fixes

The agenda is as on this slide.

BPM HVE Maintenance introduction

This section of the presentation will introduce some maintenance topics as they relate to the BPM hypervisor edition.

Types of maintenance

- Emergency fixes:
 - Interim fixes (ifixes)
 - Fixpacks (not requiring new image or pattern)
 - Update catalog with the **Emergency Fix** object using emergency fix add process for Workload Deployer and PureApplication System
- Emergency fixes for BPM:
 - Ifixes are IBM provided in Fix Central, and are applied with generic process
- Service level updates
 - Fixpacks requiring new image or patterns
 - Catalog updated via either image import process or product install process (as described earlier here to initially install BPM)
- Service level updates for BPM:
 - Being a stacked product, BPM currently has more work to do to create upgrade packages as service levels
 - Instead IBM will provide a “BPM pattern fixpack”
 - Applied as an emergency fix
 - Update catalog with the **Emergency Fix** object as described above
 - User will use generic extend/capture maintenance process to build a new image from the maintenance package

From the workload console perspective, there are essentially two types of maintenance that can be applied, emergency fixes and service level updates.

Emergency fixes are interim fixes (ifixes) and fixpacks typically not requiring new images or patterns. These emergency fixes need to be uploaded as Emergency Fix objects into the catalog before they can be applied. For BPM, these emergency fixes are provided by IBM in Fix Central, and will be applied with the generic process used in Workload Deployer and PureApplication System, that is described in the upcoming slides.

Service level updates are fixpacks that typically do require a new image and possibly patterns. Each middleware product can have some variations of how these are uploaded to the catalog on the system. One can use HTTP to import a new virtual image with the virtual image import option. Some products may provide an installation script, similar to what was described in the BPM pattern presentation about installing the product.

At this time, BPM pattern service level updates are not provided by IBM. Since BPM is a stacked product, more work is required before IBM can provide a BPM upgrade package as a service level update. Instead IBM will provide a “BPM pattern fixpack” that will be applied as an emergency fix. Therefore it will need to be uploaded to the catalog just as with the emergency fixes already discussed. Additionally, users might be instructed to create a new image using the extend/capture process.

Post-deployment and pre-deployment maintenance

- Post-deployment maintenance
 - Apply maintenance to running instance using the **Service** icon in Workload Deployer or PureApplication System
 - For either an emergency fix or a service level
 - Client has option of manually applying maintenance to products in virtual machines
- Pre-deployment maintenance
 - Emergency fixes applied via extend/capture/deploy
 - Service levels applied as new deploys
- Emergency fix must be uploaded to catalog before proceeding with above
- Currently no mechanism to apply maintenance while initiating a deployment

At another level, one needs to consider post-deployment maintenance and pre-deployment maintenance. That is, maintenance is typically required to be applied to all running instances affected by the maintenance (post-deployment), and to all new deployments (pre-deployment). This is true for all middleware products running in Workload Deployer or PureApplication System.

To apply maintenance to a running virtual system pattern (which BPM is), it is applied using the Service icon in the running virtual system instance, for both an emergency fix or a service level update. As always, clients do also have the option of manually applying maintenance to the running virtual machines, using appropriate tools per product, such as Installation Manager for WebSphere® for example.

To apply emergency fixes to be picked up by new deployments, the image extend / capture process is used. Service level updates are typically imported and then included with new deployments.

In either scenario, emergency fixes do need to be uploaded to the catalog before it can be applied using any of the methods mentioned so far.

More details of these three processes are provided later in this presentation.

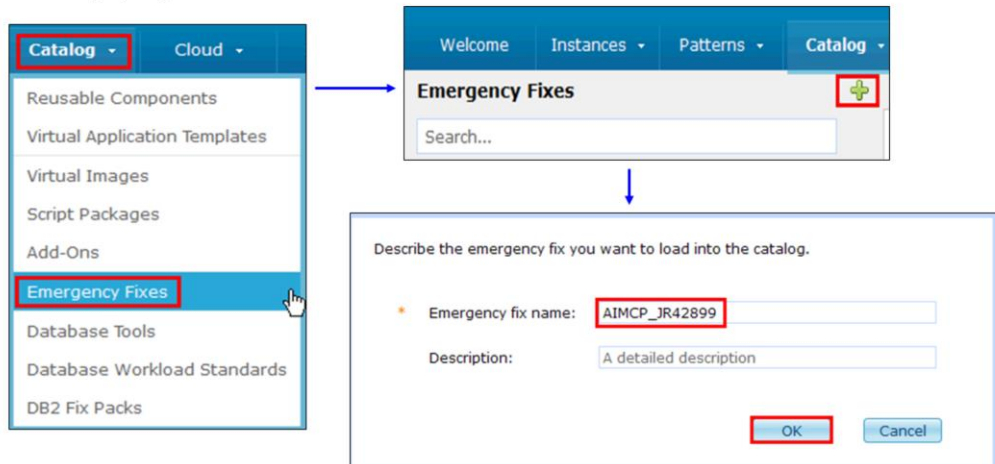
A note that for virtual system patterns, at this time, there is no means to apply maintenance while initiating a deployment (which can be done for a virtual application pattern).

Uploading emergency fixes

This section of the presentation will discuss how to upload emergency fixes to PureApplication System and Workload Deployer.

Upload emergency fix – Add new fix – Step 1

- Navigate to **Catalog > Emergency fixes**
- Click “+” to create a new Emergency fix
- In the pop-up, enter a free-form name, and click OK – creates a “shell”



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To upload an emergency fix, navigate to **Catalog**, and then to **Emergency fixes**. Click the “+” icon, and in the pop-up, provide the emergency fix name. Continue on the next slide.

Upload emergency fix – Provide fix file – Step 2

- Browse to where you downloaded the fix from Fix Central, and then click Upload
- In “Applicable to”, in the Images field place cursor and select 1 or more images the fix is applicable for
- Plugins field never required for BPM

AIMCP_JR42899	
Description:	None provided
Created on:	Aug 29, 2012 6:50:32 PM
Updated on:	Aug 29, 2012 6:50:32 PM
Emergency fix files:	<input type="text" value="Browse..."/> <input type="button" value="Upload"/> There are no files for this script package.
Access granted to:	deploy18 [owner] <input type="text" value="Add more..."/>
Severity:	Normal <input type="button" value="v"/>
Applicable to:	Images: <input type="text" value="Add more..."/> Plugins: <input type="text" value="Add more..."/>
Comments	There are no comments yet

Emergency fix files:	<input type="text" value="Browse..."/> <input type="button" value="Upload"/> The script package is in 8.0.0.0-WS-BSPACE-IFJR42899.zip. <input type="button" value="Download"/>
-----------------------------	--

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Click in the Browse field, navigate to where you have stored the fix from Fix Central on your local workstation, select that file, and click **Upload**. When the upload completes, then the **Applicable to** field for **Images** needs to be updated. Click in the **Images** field, and select all the images that the emergency fix is applicable to. See the next slide for more detail about this latter step.

Upload emergency fix – Provide applicable images – Step 3

- Scroll through list and select images the fix is applicable for
- Enter sub-text in the provided field to filter results
- Once all applicable images are selected, this process is complete

Applicable to:	Images:	
	Plugins:	
Comments	There are no comments	
	<ul style="list-style-type: none"> Advanced Middleware Configuration 1.0, RedHat Enterprise Linux 64-Bit (RHEL x64), 6 DB2 Enterprise 9.7.5.0, RedHat Enterprise Linux 64-Bit (RHEL x64), 6 IBM OS Image for Red Hat Linux Systems 2.0.0.1, RedHat Enterprise Linux 64-Bit (RHEL 6.2 X64), 6.2 WebSphere Application Server 8.0.0.3, RedHat Enterprise Linux 64-Bit (RedHat Enterprise Linux 6), 6 WebSphere Application Server 8.5.0.0 32-bit RHEL 6 x86-64 (VMWare), RedHat Enterprise Linux 64-Bit (RedHat Enterprise Linux Server), 6 Advanced 8.0.0.0 RHEL 6 x64 (VMWare), RedHat Enterprise Linux 64-Bit (RedHat Enterprise Linux 6), 6 Type to find more... 	

Again, this slide shows what happens when you click in the Images field. All the images are displayed, and you must select one or more images this fix is applicable for.

Note that for the BPM pattern, you do not need to determine the Plugins applicable, as plug-ins are only used by virtual application patterns, and BPM is a virtual system pattern.

Upload emergency fix – Auto-detects all instances affected – Part 4

- All running instances using the applicable images identified on the previous slide will have their history updated with a message stating “New fixes available ...”
- You will not know which fixes those are until you start the process of applying them; you will then be presented with the list of available fixes



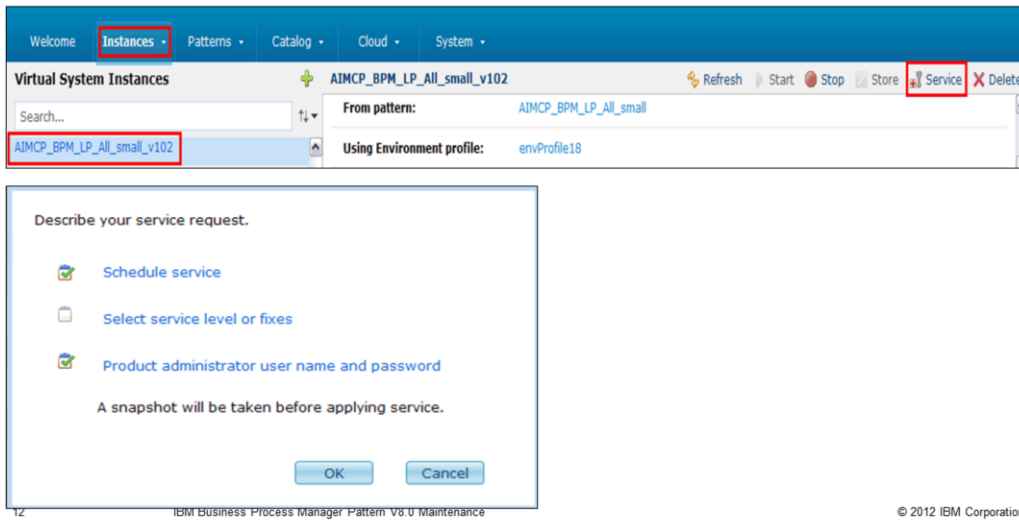
After you complete the process of determining the images affected, Workload Deployer or PureApplication System will scan all running virtual system deployments, and for all running instances affected, place a message in those virtual systems' History section.

Applying post-deployment emergency fixes

This section of the presentation will discuss how to apply emergency fixes to deployed BPM instances.

Apply emergency fix to running instance – initiate the process

- Navigate to **Instances > Virtual System Instances** and select your instance
- Click **Service**
- A pop-up window is presented



To apply an emergency fix to a running virtual system instance, navigate to the virtual system instance, and click the **Service** icon. A pop-up window is displayed, requesting three sets of information. See the next slide for details.

Apply emergency fix to running instance – populate service fields

- Default is to schedule service now – option to provide a specific time
- Click button for “Apply emergency fixes” and select 1 or more fixes
– NOTE the option to apply a service level here
- Provide the root ID and its password
- Click OK

Select service level or fixes

Move to service level

Apply emergency fixes

AIMCP_JR42899

AUTOTEST-BPM-FIX1

AUTOTEST-BPM-FIX2

Describe your service request.

Schedule service

Select service level or fixes

Product administrator user name and password

User name: root

Password:

A snapshot will be taken before applying service.

OK Cancel

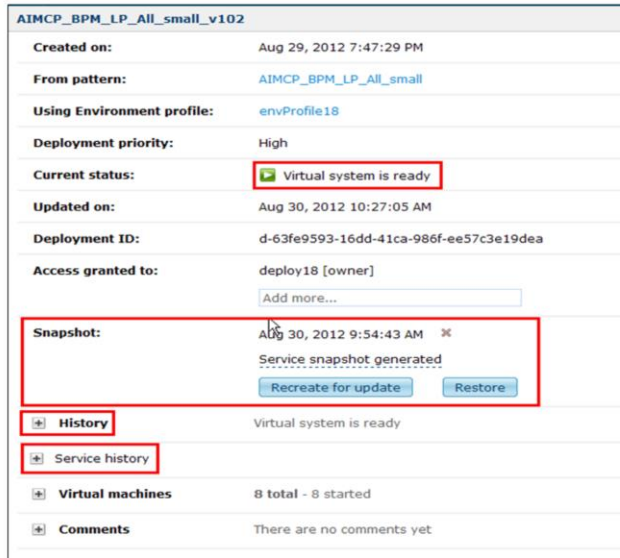
Current status: Applying service to the virtual system.

First, schedule the service. The default is “now”, but it can be scheduled for a future date. Then select the fixes or service level to be applied. As previously mentioned, the BPM pattern will initially not have any service level updates, so applying an emergency fix is the only valid option. All uploaded emergency fixes are displayed, and one or more can be selected to be applied. Then the administrator’s user ID and password can be entered, although the default typically should be sufficient.

After clicking OK, the status for that running instance will change to “applying service to the virtual system.”

Apply emergency fix to running instance – Completion

- Takes a snapshot as part of applying the fix; can Restore (automatically if failure, manually if required)
- Adds a Service History section; updates History section



AIMCP_BPM_LP_All_small_v102	
Created on:	Aug 29, 2012 7:47:29 PM
From pattern:	AIMCP_BPM_LP_All_small
Using Environment profile:	envProfile18
Deployment priority:	High
Current status:	✔ Virtual system is ready
Updated on:	Aug 30, 2012 10:27:05 AM
Deployment ID:	d-63fe9593-16dd-41ca-986f-ee57c3e19dea
Access granted to:	deploy18 [owner] Add more...
Snapshot:	Aug 30, 2012 9:54:43 AM ✕ Service snapshot generated Recreate for update Restore
History	Virtual system is ready
Service history	
Virtual machines	8 total - 8 started
Comments	There are no comments yet

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Before the service is applied, a service snapshot of the running virtual system is taken. This allows the system to automatically back out the applied fix if the system detects a problem, or the fix can be manually backed out by restoring to the service snapshot.

A new Service history section is added to the running virtual system, and the History section is updated with information about the fix applied, as seen in the upcoming slides.

Apply emergency fix to running instance – Service history

- Service history section provides information about fixes applied
 - Person applying the fix, the date and time, the resulting status, and the fix name itself

Service history		
User name	Date and Time	Status
deploy18	Aug 30, 2012 9:54:17 AM	✓ Service applied
Emergency fix record	AIMCP_JR42899	

A Service history section is added or updated (if it is not the first fix applied) showing the user name, date / time the fix was applied, the status, and the fix applied.

Apply emergency fix to running instance – History

History		Virtual system is ready
Virtual system is ready		Aug 30, 2012 10:27:05 AM
Service applied on the virtual system		Aug 30, 2012 10:27:01 AM
Virtual machine services started.		Aug 30, 2012 10:26:25 AM
Starting virtual machine services after maintenance.		Aug 30, 2012 10:26:02 AM
Executing script package AIMCP_JR42899 on virtual machine d5353a7a-95d2-44b7-b5e8-4b74ce4d9a84		Aug 30, 2012 10:15:56 AM
Executing script package AIMCP_JR42899 on virtual machine 1adb4c63-e9cd-4cc6-b4e9-e21f715a7fd1		Aug 30, 2012 10:06:08 AM
Executing script package AIMCP_JR42899 on virtual machine 21820649-993a-46e1-af6a-a766a5d5c1ed		Aug 30, 2012 10:05:57 AM
Executing script package AIMCP_JR42899 on virtual machine 7c192b7a-4c15-41e6-bc55-360af1de1556		Aug 30, 2012 10:05:45 AM
Executing script package AIMCP_JR42899 on virtual machine 93fff886-c19c-4396-9a1a-4a3015a79c35		Aug 30, 2012 10:02:46 AM
Executing script package AIMCP_JR42899 on virtual machine 82ea2c09-bc50-45ac-a690-c8692bfc385e		Aug 30, 2012 10:02:34 AM
Executing script package AIMCP_JR42899 on virtual machine b9b8b2b9-8b62-43b0-a0ad-646b036b6e35		Aug 30, 2012 10:02:22 AM
Executing script package AIMCP_JR42899 on virtual machine 1e8dd140-3c72-4394-af46-01126e603aa8		Aug 30, 2012 9:59:10 AM
Applying service to the virtual machine		Aug 30, 2012 9:59:09 AM
Service snapshot generated		Aug 30, 2012 9:59:09 AM
Virtual system is ready		Aug 30, 2012 9:59:09 AM
Snapshotting virtual system		Aug 30, 2012 9:54:43 AM
Generating maintenance snapshot		Aug 30, 2012 9:54:43 AM
Virtual machine services stopped for maintenance		Aug 30, 2012 9:54:43 AM
Stopping virtual machine services for maintenance		Aug 30, 2012 9:54:20 AM
Applying service to the virtual system.		Aug 30, 2012 9:54:20 AM
New fixes available for this virtual system		Aug 30, 2012 2:06:23 AM

The History section shows many details about what transpires when a fix is applied. Briefly, it can be seen that the virtual machine services are stopped, the snapshot is taken, the script package containing the fix is run on all virtual machines, and the virtual machines are restarted.

Apply emergency fix to running instance – PC IHS virtual machine (1 of 2)

- View maintenance results for the Process Center HTTP virtual machine

Virtual machines 8 total - 8 started

Name	CPU	Memory	SSH	Actions
ipas-lpar-111-024-BPM PC DMGR-AIMCP_BPM_LP_All_small_v102-8024	0%	11%	Login	Manage
ipas-lpar-111-025-BPM PC IHS-AIMCP_BPM_LP_All_small_v102-8025	0%	6%	Login	Manage

General information

Created on: Aug 29, 2012 7:47:35 PM

From virtual image: [AIMCP_BPMv8_102](#)

Part name: BPM PC IHS

Current status: Virtual machine has been started

To review the results of the actual application of the fix, you can review the logs of the script package run to apply the fix. In the case in this slide, you are looking at the results as they ran for the HTTP server for the BPM pattern.

Apply emergency fix to running instance – PC IHS virtual machine (2 of 2)

- Fix runs as a script package
- View results in remote_std_out.log
- This applied fix was not applicable to the PC IHS virtual machine

Script Packages		
ILMT Agent Install Package	✓ Aug 29, 2012 9:45:59 PM	remote_std_out.log remote_std_err.log
Must Gather Logs	✓ Aug 29, 2012 9:50:36 PM	remote_std_out.log remote_std_err.log cloudburst_collect1346291436188.zip
AIMCP_JR42899	<input checked="" type="checkbox"/> Execute now ✓ Aug 30, 2012 10:02:28 AM	remote_std_out.log remote_std_err.log

```
remote_std_out.log-28.txt
1 >> installAppService Entry
2 No ifix need to apply
3 << installAppService Exit
4
```

As can be seen in the slide, the emergency fix name correlates to the script package name that ran. In viewing the “standard out log”, it can be seen that the fix did not run on the HTTP server virtual machine. That is because the fix was not applicable to the HTTP server.

Apply emergency fix to running instance – PC DMGR virtual machine

ipas-lpar-111-024-BPM_PC DMGR-AIMCP_BPM_LP_All_small_v102-8024 0% 11% Login Manage

```
remote_std_out_log-29.txt
1 >> installAppService Entry
2 ensure permissions are suitable for the update
3 stop BPM if it is started
4 ADMU0116I: Tool information is being logged in file
5 | | | /opt/IBM/BPM/v80/profiles/BPMPCDmgrNode/logs/dmgr/stopServer.log
6 ADMU0128I: Starting tool with the BPMPCDmgrNode profile
7 ADMU3100I: Reading configuration for server: dmgr
8 ADMU3201I: Server stop request issued. Waiting for stop status.
9 ADMU4000I: Server dmgr stop completed.
10
11 installing ifix
12 adding: atoc/ (stored 0%)
13 adding: atoc/atoc.xml (deflated 66%)
14 adding: atoc/nq/ (stored 0%)
15 adding: atoc/nq/native_zip.xml (deflated 63%)
16 adding: atoc/nq/native_file.xml (deflated 62%)
17 adding: atoc/nq/eclipse_plugin.xml (deflated 74%)
18 adding: native/ (stored 0%)
1263 Installed 8.0.0.0-WS-BSPACE-IFJR42899_8.0.0.20120523_1845 to the /opt/IBM/BPM/v80 directory.
1264 Installation successful.
1265 start BPM after install ifix
1266 ADMU0116I: Tool information is being logged in file
1267 | | | /opt/IBM/BPM/v80/profiles/BPMPCDmgrNode/logs/dmgr/startServer.log
1268 ADMU0128I: Starting tool with the BPMPCDmgrNode profile
1269 ADMU3100I: Reading configuration for server: dmgr
1270 ADMU3200I: Server launched. Waiting for initialization status.
1271 ADMU3000I: Server dmgr open for e-business; process id is 7387
1272 << installAppService Exit
```

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In viewing the emergency fix script package results for the deployment manager virtual machine, it can be seen that the fix was applied to this virtual machine. The “standard out log” provides details about the applied fix.

Applying pre-deployment emergency fixes

This section of the presentation will discuss how to apply fixes to the BPM virtual image effective for new deployments.

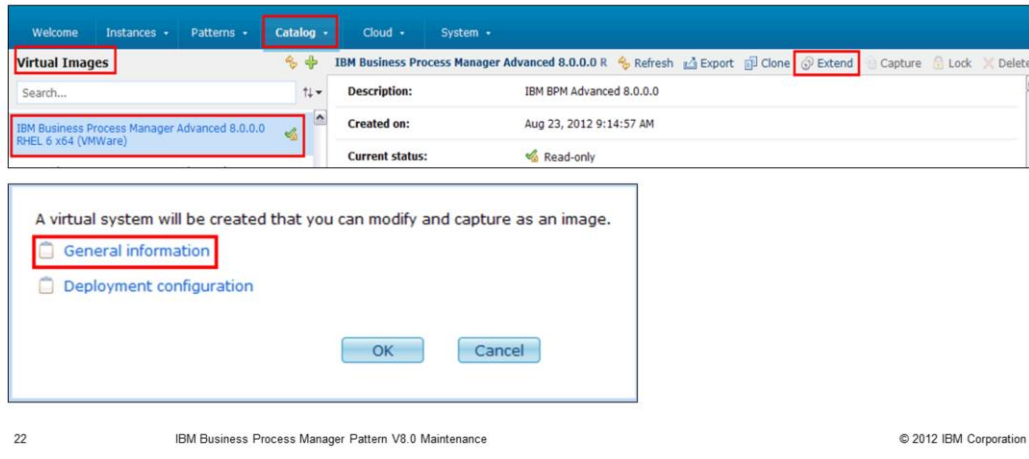
Pre-deployment fixes - overview

- Basically follows the extend and capture process
- Select the image and extend it
- Auto-generates and auto-deploys a pattern
- When pattern is deployed, apply service to the pattern
- Capture the image
- Create or clone new patterns or edit existing patterns to use this captured image with the fixes

Briefly, the process to apply pre-deployment fixes is to extend the image (which auto-generates and auto-deploys a virtual system pattern with the image), apply service to the deployed instance, capture the image, and then create or clone new patterns with the captured image. The next set of slides provide more detail.

Extend virtual image – Begin the process

- Navigate to **Catalog > Virtual Images**, select the image
- Click the **Extend** icon
- Pop-up for information displayed



To begin the process, navigate to **Catalog**, then to **Virtual Images**, and select the image to have the service applied to. When the image is displayed, click the **Extend** icon. This will present a pop-up requesting information, discussed on the next slide.

Extend virtual image – Provide required fields

- General Information:
 - Name of image
 - Version of image: propagated down to parts in a pattern using the virtual image
- Typical deployment info required for any deployment (PureApplication System shown below):
 - Environment profile, cloud, IP group, password
- Click OK

The screenshot shows a dialog box with two main sections. The 'General information' section has three fields: 'Name' (AIMCP_BPM_8.0.0.0_Extended), 'Description' (Virtual image description), and 'Version' (1.2.3.4). The 'Deployment configuration' section has five fields: 'IP version' (IPv4), 'Choose profile' (envProfile18), 'Choose cloud' (CloudGroupLarge), 'IP Group' (ipgroup18), and 'Password' (empty). Below these sections are 'OK' and 'Cancel' buttons.

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The pop-up window requests two sets of information. The first set of info is for the extended image name and version number. You probably need to do some pre-planning on how you will use these version numbers, as they are used within Workload Deployer and PureApplication System in much the same way as IBM product version numbers are used. Then you are required to provide some deployment information for the virtual system pattern that the extend / capture process automatically generates and deploys. All the deployment fields are required, as shown in the slide.

Extend virtual image – Completion

AIMCP_BPM_8.0.0.0_Extended		Refresh	Export	Clone
Description:	None provided			
Created on:	Sep 5, 2012 1:34:18 PM			
Current status:	Draft			
Updated on:	Sep 5, 2012 2:27:05 PM			
License agreement:	Accepted			
Hypervisor type:	ESX			
Operating system:	RedHat Enterprise Linux 64-Bit, version 6 (RedHat Enterprise Linux 6)			
Version:	1.2.3.4			
Image reference number:	bea201236.0			
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 more]			
Included in patterns:	AIMCP_BPM_8.0.0.0_Extended 1.2.3.4			
In the cloud now:	AIMCPBPM8.0.0.0Extended-1.2.3.4			
Access granted to:	Administrator [owner] Add more...			
Extended from:	IBM Business Process Manager Advanced 8.0.0.0 RHEL 6 x64 (VMWare) [compare]			
Hardware				
Comments	There are no comments yet			

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While the extend process is running, do not interfere with the auto-deployed pattern.

When the extend process completes, the extended image will have a Draft status and the version you provided on the previous slide. Also the auto-generated pattern and auto-deployed virtual system instance are shown in the image.

Extend – Auto-generated pattern

- Navigate to **Patterns, Virtual Systems**, and select your auto-generated pattern

The screenshot displays the details for the pattern **AIMCP_BPM_8.0.0.0_Extended_1.2.3.4**. The interface includes a toolbar with **Refresh**, **Deploy**, **Edit**, **Clone**, **Lock**, and **Dele** (Delete) buttons. The main content area shows the following information:

- Description:** None provided
- Created on:** Sep 5, 2012 1:34:31 PM
- Current status:** Read-only
- Updated on:** Sep 5, 2012 2:37:05 PM
- In the cloud now:** AIMCPBPM8.0.0.0Extended-1.2.3.4
- Access granted to:** Administrator [owner] (with an **Add more...** link)
- Topology for this pattern:** Deploys to ESX hypervisors. A warning icon indicates: "This pattern requires the following parts: process server deployment manager, process server custom nodes, and process server database; add any missing parts to complete the pattern." Below this, a diagram shows a single node labeled "Process server custom nodes" with the version "1.2.3.4" highlighted in a red box.
- Comments:** There are no comments yet.

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This slide shows an example of the auto-generated pattern created as part of the **Extend** process for the BPM image. As can be seen, the pattern contains only one custom node part, which is sufficient for this process. The custom node part defaults to the version you provided on a previous slide. The warning message about the missing parts can be ignored in this case.

Extend – Auto-deployed pattern

- Navigate to **Instances, Virtual System Instances**, and select the auto-deployed instance

The screenshot displays the details for a virtual system instance named 'AIMCPBPM8.0.0Extended-1.2.3.4'. The interface includes a toolbar with 'Refresh', 'Start', 'Stop', 'Store', 'Service', and 'Delete' buttons. The instance details are as follows:

- Created on:** Sep 5, 2012 1:34:34 PM
- From pattern:** AIMCP_BPM_8.0.0.0_Extended 1.2.3.4
- Using Environment profile:** None provided
- Current status:** The virtual system has been deployed (indicated by a green play button icon)
- Updated on:** Sep 5, 2012 2:27:08 PM
- Access granted to:** Administrator [owner] (with an 'Add more...' button)
- Snapshot:** (none) (with a 'Create' button)
- History:** The virtual system has been deployed
- Virtual machines:** 1 total - 1 started

Name	CPU	Memory	SSH	Actions	Group Actions
aimcpwd008-BPM PS_Custom_Node-A	0%	22%	Login	Manage	<input type="checkbox"/>

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This slide shows an example of the auto-deployed pattern created as part of the **Extend** process for the BPM image. As can be seen it looks very much like any deployment of a virtual system pattern.

Extend – Update fix as applicable to new extended image

- Navigate to **Catalog, Emergency Fixes**, and select your emergency fix
- Update the Applicable to field with the new extended image

AIMCP_JR42899		Refresh	Delete
Description:	None provided		
Created on:	Sep 5, 2012 1:09:49 PM		
Updated on:	Sep 5, 2012 1:11:42 PM		
Emergency fix files:	<input type="text" value="Browse..."/> <input type="button" value="Upload"/> The script package is in 8.0.0.0-WS-BSPACE-IFJR42899.zip. <input type="button" value="Download"/>		
Access granted to:	Administrator [owner] <input type="text" value="Add more..."/>		
Severity:	Normal <input type="button" value="v"/>		
Applicable to:	Images: IBM Business Process Manager Advanced 8.0.0.0 RHEL 6 x64 (VMWare), RedHat Enterprise Linux 64-Bit (RedHat Enterprise Linux 6) [remove] AIMCP_BPM_8.0.0.0_Extended , RedHat Enterprise Linux 64-Bit (RedHat Enterprise Linux 6) [remove] <input type="text" value="Add more..."/>		

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Before applying service to the auto-deployed pattern, you need to update the emergency fix information in the catalog with the new extended image that it is applicable for. Navigate to **Catalog**, then **Emergency Fixes**, select the extended image, and update the **Applicable to** field with the new extend image name.

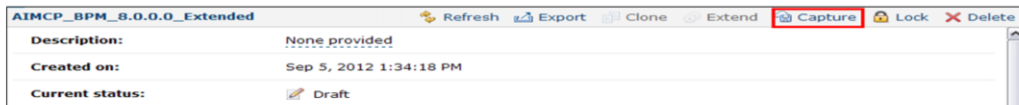
Extend – Apply service to auto-deployed pattern

- Follow directions for applying post-deployment emergency fix as in previous section
 - Select the running instance and click the Service icon
 - In the resulting pop-up, provide the details of the service request, such as the emergency fix name
 - Click OK, and wait for the service request to complete
- When service request is complete, capture the image (next slide)

Now you are ready to apply service to the auto-deployed virtual system pattern containing the new extended image. To do so, use the exact same process as was previously described for the post-deployment process of applying fixes, by using the **Service** icon in the running instance of the pattern. Then wait for the application of the service to complete, and confirm using the script package results that the service was applied successfully.

Capture – Initiate the capture of the image

- Navigate to **Catalog, Virtual Images**, select the extended image, and click the **Capture** icon

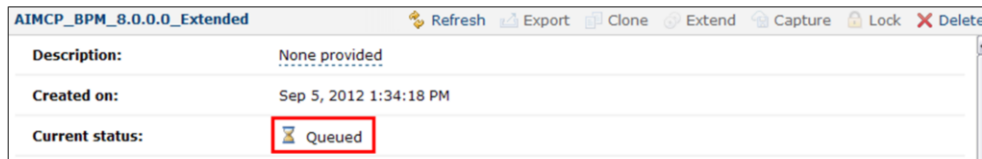


AIMCP_BPM_8.0.0.0_Extended	
Description:	None provided
Created on:	Sep 5, 2012 1:34:18 PM
Current status:	Draft

Are you sure you want to capture this virtual image? This process takes a while to complete due to the significant size of the virtual image. This operation cannot be undone.

OK

Cancel



AIMCP_BPM_8.0.0.0_Extended	
Description:	None provided
Created on:	Sep 5, 2012 1:34:18 PM
Current status:	Queued

If the service was applied successfully on the previous slide, then you are ready to capture the new extended image back into the catalog. To do so, navigate to **Catalog, Virtual Images**, and select the extended image. When the extended image is displayed, click the **Capture** icon. On the confirmation pop-up, click **OK**. This will queue the capture process, which can take some time to complete.

Capture – Completed capture

AIMCP_BPM_8.0.0.0_Extended		Refresh	Export	Clone
Description:	None provided			
Created on:	Sep 5, 2012 1:34:18 PM			
Current status:	Virtual image has been captured. You can recapture it or set as read-only.			
Updated on:	Sep 5, 2012 4:01:27 PM			
License agreement:	Accepted			
Hypervisor type:	ESX			
Operating system:	RedHat Enterprise Linux 64-Bit, version 6 (RedHat Enterprise Linux 6)			
Version:	1.2.3.4			
Image reference number:	bea201236.0			
Product IDs (e.g., 5724-X89):	5725-G76 (P.V.U. license) 5725-C04 (P.V.U. license) 5765-F41 (P.V.U. 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 more]			
Included in patterns:	AIMCP_BPM_8.0.0.0_Extended 1.2.3.4			
In the cloud now:	AIMCPBPM8.0.0.0Extended-1.2.3.4			
Access granted to:	Administrator [owner] <input type="text" value="Add more..."/>			
Extended from:	IBM Business Process Manager Advanced 8.0.0.0 RHEL 6 x64 (VMWare) [compare]			
<input type="checkbox"/> Hardware				
<input checked="" type="checkbox"/> Service history				
<input type="checkbox"/> Comments	There are no comments yet			

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When the capture process completes, the auto-deployed pattern will have a status of “Virtual image has been captured...” There is a field called **Extended from**, which tells you the image the new captured image was originally extended from, along with a **compare** link to compare the two images. Additionally the service history is updated, as shown on the next slide.

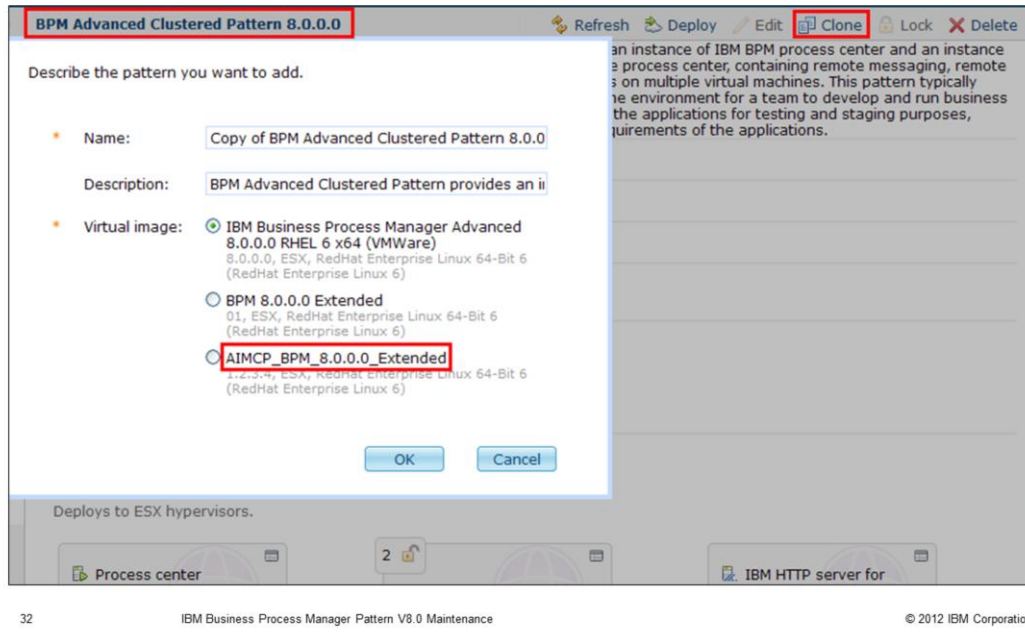
Capture – Service history in auto-deployed pattern

Service history

User name	Date and Time	Status
cbadmin	Sep 5, 2012 3:15:20 PM	✓ Service applied
Emergency fix record	AIMCP_JR42899	

Again, the Service history is updated with the fix that was applied to the extended image.

Clone pattern and deploy



To deploy a new running instance of the virtual system with the extended and captured image with the maintenance, first clone the original pattern used. In the clone pop-up, all the images available to you for this pattern are displayed. By default, the image used in the original pattern is automatically selected. In this case, select the image that you just completed going through the extend / capture process for. This image will then be used for this deployment.

Edit pattern and deploy

Editing **BPM Advanced Clustered Pattern 8.0.0.0 (build .89)** Refresh Undo Undo All Done editing

Deploys to ESX hypervisors. Updated on Sep 5, 2012 5:27:16 PM | Ordering | Advanced Options

Process center deployment manager
8.0.0.0
01
1.0
1.2.3.4
8.0.0.0

1 Process center custom nodes
8.0.0.0

IBM HTTP server for process center
8.0.0.0

Process center database
8.0.0.0

AddDisk

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Additionally, when in the virtual system pattern editor, each part will now include your new version number of the image that you extended and captured. Here you have another opportunity to modify the pattern to move from the old image to the new one you just created with the maintenance applied.

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