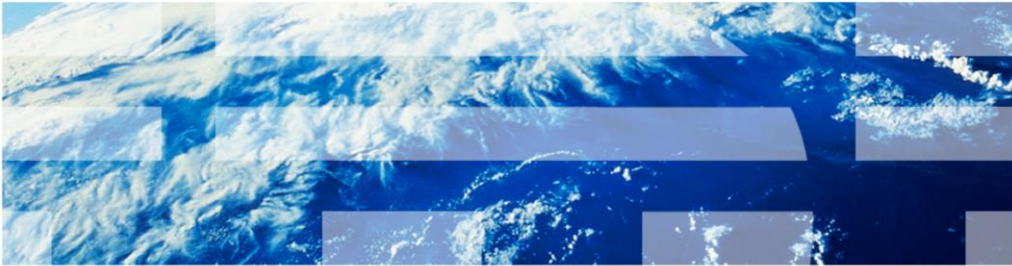


# IBM PureApplication System

## IBM Image Construction and Composition Tool



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This presentation covers the IBM Image Construction and Composition Tool (ICCT) product.

## Table of contents

- Overview
- Install ICCT
- Configure new cloud provider (PureApplication™ System)
- Import image from cloud provider
- Extend image in ICCT and add software bundles
- Synchronize with cloud provider
- Capture the image into cloud provider
- Using new virtual images

This presentation will present an overview of the ICCT product, show the process of installing ICCT using a virtual application, adding software bundles, synchronizing, capturing, and completing the image.

## ***Overview***

This next section provides an overview of the ICCT tool and new product features in IBM PureApplication System.

## Purpose of IBM Image Construction and Composition Tool

- PureApplication System provides a defined set of Hypervisor Edition images
  - WebSphere® Application Server, DB2®, and so on.
- Hypervisor Edition images combine operating system and bundled middleware
- Possible that the specific OS and middleware combinations will not meet every users' needs
- ICCT allows users to create custom operating system content, custom middleware, or deploy non-IBM software into supported cloud provider
- With ICCT, you can configure PureApplication System as cloud provider
  - Can import base images or other images (such as. WebSphere) from PureApplication System catalog
  - Extend the PureApplication System images with software bundles
  - Synchronize/capture those images back into PureApplication System
  - Use images as part of virtual system and deploy in PureApplication System

PureApplication System provides a defined set of Hypervisor Edition images that combine operating system and bundled middleware. However, it is possible that the specific operating system and middleware combinations will not meet your needs. The ICCT provides the capabilities to combine your own operating system definition along with custom software bundles to compose virtual images that can be provisioned into the cloud. With ICCT, you can configure the Workload Deployer as the cloud provider. This allows you to import x86 images from the catalog, extend those images with software bundles, then capture the new image back into PureApplication System. You can then deploy the new image in PureApplication System.

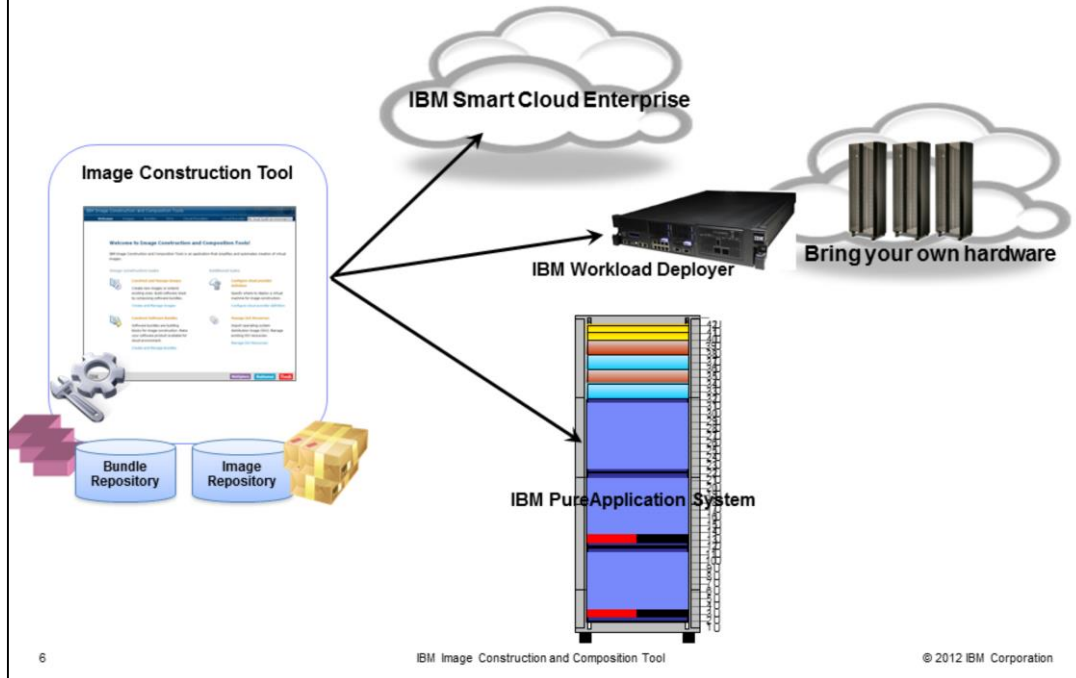
## Creating images using 'traditional method' versus ICCT

- Creating an image using the traditional method is complex and requires specialized knowledge:
  - Create a virtual machine
  - Install and configure software on the virtual machine
  - Requires knowledge of the software
  - Test the virtual machine and software
  - Develop scripts and edit the image metadata as needed.
  - Requires skill in virtualization technology
  - Save the disk image
  - Test the image configuration
- Using ICCT tool, no special knowledge is needed:
  - Choose a base image
  - Add a predefined software bundle
  - ICCT automatically saves the image, installs and configures the software bundle
  - Test the image

This slide compares the tasks of creating an image using the traditional method versus using ICCT. Creating an image with traditional methods is complex and requires specialized knowledge. You have to create a virtual machine and install and configure software on the virtual machine. This requires knowledge of the software. You also need to develop scripts and edit metadata as needed, which requires skills in virtualization technology. With the ICCT tool, no special knowledge is needed. You only need to choose a base image and add a predefined software bundle.

ICCT automatically saves the image, installs, and configures the software bundle.

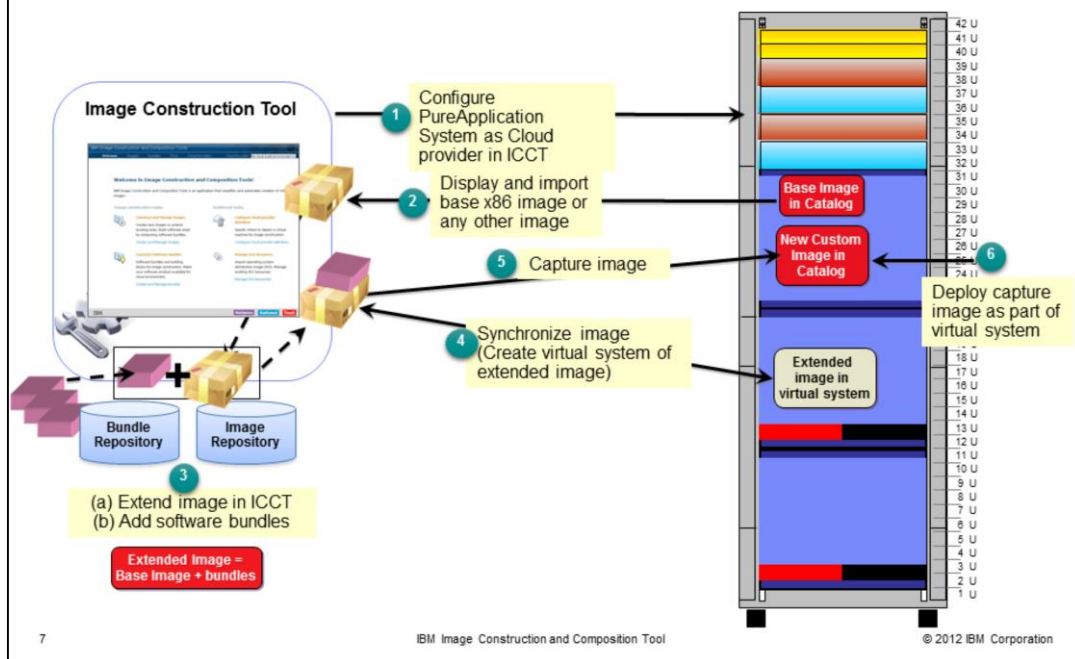
## Support for multiple cloud providers



ICCT supports several options for cloud providers, as shown in this diagram. You can choose the IBM Smart Cloud Enterprise, an IBM Workload Deployer appliance with bring your own hardware, or the IBM PureApplication System.

# IBM Image Construction and Composition Tool

PureApplication System as cloud provider



This diagram shows the interaction of the ICCT with PureApplication System. Step one shows logging into the Image Construction Tool and configuring PureApplication System as a cloud provider. In step 2, you display and import the images that are to be extended. In step 3, you will extend the image by adding software bundles. Step four is to synchronize the image, which will create a temporary virtual system and install the software bundles on that system. The last step is to capture the new image with the software bundles installed back into the PureApplication System catalog.

## ICCT versus PureApplication System extend/capture function

- Extend / capture is a very simple way to add additional content to an image
  - ICCT tool actually uses extend / capture in the background
- Image Construction and Composition Tool provides capabilities that are not available by way of extend / capture:
  - Visibility - Keeps a record of the software bundles you have added
  - Reuse - Same bundle can be added to multiple images
  - Variability - Allows you to add deploy-time parameters directly into an image
  - Repeatability - Same customizations can be reproduced with the touch of a button
  - Pre-req checking – Up-front checks for OS and software compatibility
  - Portability - Same images can be constructed across multiple clouds
  - On-boarding - Allows you to start with your existing images
    - “Bring your own OS”
  - Community Content – Sample bundles available

Extend/capture is a very simple way to add additional content to an image. ICCT actually uses extend / capture in the background. The best way of thinking about ICCT is it is allowing you to make the extend / capture process automated and repeatable. Without the tool, the system had no record of what was added/deleted by way of extend/capture (which made applying to different images, upgrades, and so on riskier).

ICCT also provides additional capabilities that are not available by way of extend / capture such as: Keeps a record of the bundles you have added, the same bundle can be added to multiple images, allows you to add deploy-time parameters for your bundles (extended content). For example, if you are adding a monitoring agent, but you wanted the connecting server to be a parameter, you can do this with a bundle. This ties the binaries and the parameterization and scripting together. And also allows you to build some base OS images to your specifications.



## ***Install Image Construction and Composition Tool***

This section covers installing the Image Construction and Composition Tool.

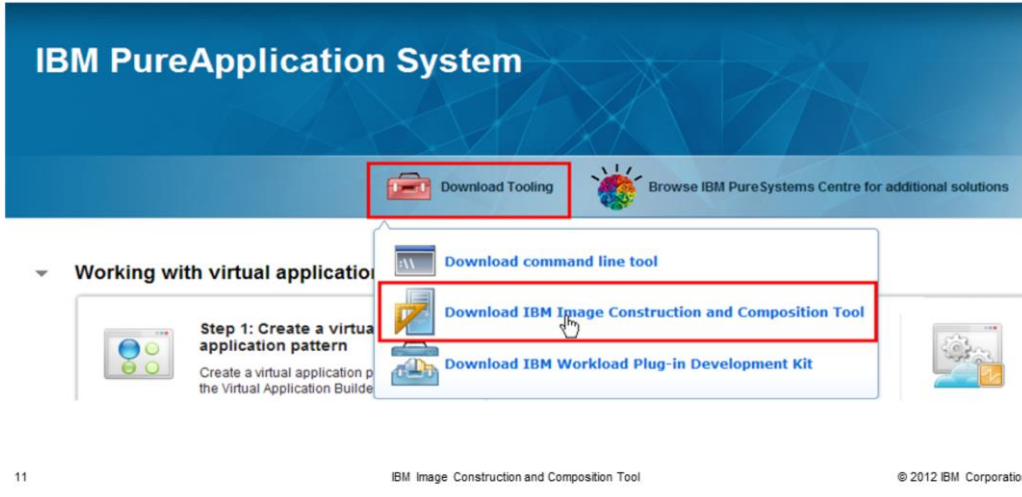
## Overview of ICCT installation

- Much simpler than in Workload Deployer
- Three steps to a running ICCT installation:
  - Create a new virtual application pattern
  - Drag and drop the ICCT component into the pattern and save
  - Deploy the new pattern

Installation of ICCT in PureApplication System is much simpler than in Workload Deployer. There are now only three steps to follow. You will create a new virtual application pattern, then drop the ICCT component into the pattern. Then you will deploy the new pattern to get a running ICCT instance.

## Important note about downloadable ICCT

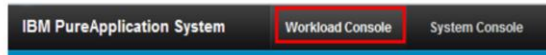
- There is a downloadable ICCT under **Download tools** on the Welcome page of the Workload Console
- The downloadable does NOT work with the PureApplication System cloud provider. To use ICCT for PureApplication System, you must use the virtual application



Notice that Image Construction and Composition is also available as a download from the Welcome page of the Workload Console. ICCT downloaded from the workload console will only work with the VMware cloud provider. The PureApplication System cloud provider is only available through the virtual application. This presentation covers the virtual application only.

## Create a virtual application pattern using PureApplication System (1 of 4)

- Navigate to the **Workload Console**



- Select **Patterns > Virtual Applications**



- Click the plus sign  to create a new pattern

The first step is to create an application pattern in PureApplication System. In PureApplication System, navigate to the Workload Console. Then select **Patterns > Virtual Applications** and click the plus sign to create a new pattern.

## Create a virtual application pattern using PureApplication System (2 of 4)

- In the pop up box, choose **IBM Image Construction and Composition 1.2** for **Pattern type**

Create Application

### Start building your virtual application.

Choose one template of selected pattern type to start building your virtual application.

**Pattern type**

- Web Application Pattern Type 2.0
- IBM Image Construction and Composition 1.2**
- IBM Business Intelligence Pattern 2.0
- IBM Business Intelligence Pattern 1.0
- Application Pattern Type for Java 1.0
- Web Application Pattern Type 2.0
- WebApp Pattern Type 1.0
- Liberty Pattern Type 1.0

**Description:**  
Blank application

**Review:**

Blank Java EE messaging application

Blank Java EE messaging application

Blank Java EE Web application

More information

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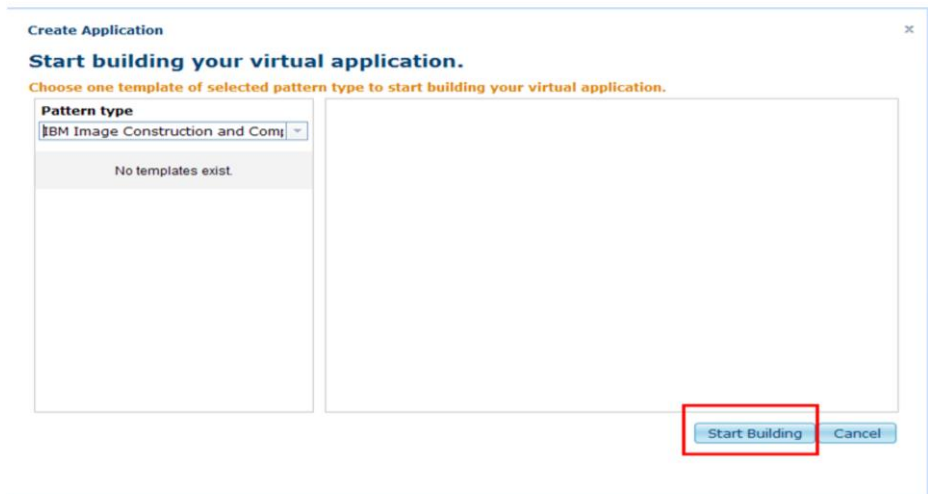
IBM Image Construction and Composition Tool

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In the resulting pop up box, choose IBM Image Construction and Composition for the virtual system type field.

## Create a virtual application pattern using PureApplication System (3 of 4)

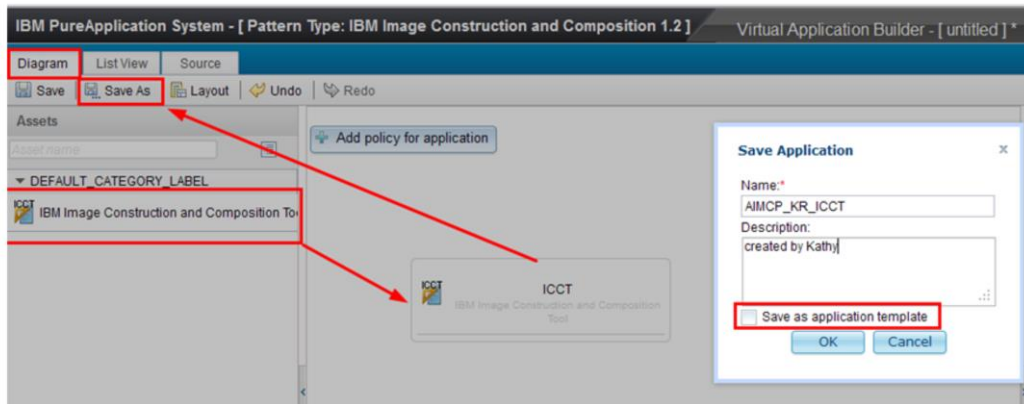
- Click the **Start Building** button to start building your pattern



Click the **Start Building** button in the lower right corner.

## Create a virtual application pattern using PureApplication System (4 of 4)

- A new browser window opens with the Virtual Application Builder
- Be certain that the **Diagram** tab is selected, and drag the ICCT component onto the canvas.
- Click **Save As** and choose a name. Note the option to save as a template for future use



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IBM Image Construction and Composition Tool

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The Virtual Application Builder opens up in a new window, as shown in this slide. Select the Diagram tab, and notice the Image Construction and Composition Tool component in the list on the left side. Drag and drop this component onto the canvas as shown here. Do not forget to save the application pattern. You can also save the pattern as a template for future use. Close the Virtual Application Builder when you are finished.

## Deploy the virtual application pattern (1 of 3)

- You will now see the pattern by clicking on **Patterns > Virtual Application Patterns**
- Select the new pattern and click **Deploy** to deploy the pattern.

The screenshot displays the IBM PureApplication System interface. The top navigation bar includes 'Welcome', 'Instances', 'Patterns', 'Catalog', 'Cloud', and 'System'. The main content area is titled 'Virtual Application Patterns' and shows a list of patterns on the left and a details pane for the selected 'AIMCP\_KR\_ICCT' pattern on the right. The 'Deploy' button in the details pane is highlighted with a red box. The details pane shows the following information:

Application ID:	a-51f1fe00-2453-4104-8e85-ee5eecbbafe
Description:	created by Kathy
Created by:	deploy18
Updated by:	deploy18
Created on:	Jul 22, 2012 3:37:08 PM
Updated on:	Jul 22, 2012 3:38:07 PM
Preview:	

The bottom of the interface shows the page number '16', the text 'IBM Image Construction and Composition Tool', and the copyright notice '© 2012 IBM Corporation'.

You should see the new virtual application pattern in the list of virtual application patterns. Select it, and click the **Deploy** icon to begin the deployment process.



## Deploy the virtual application pattern (2 of 3)

- You are asked to make some decisions about profile, cloud group, IP group, and so on.
- You have the option of adding an SSH key
- Click OK to start the deployment

The screenshot shows a dialog box titled "Deploy Virtual Application". It contains the following fields and options:

- Name:** AIMCP\_KR\_ICCT
- Filter by IP type:** IPv4 (selected), IPv6
- Filter by profile type:** All
- Profile:** envProfile18
- Priority:** High
- Cloud group:** CloudGroupLarge
- IP group:** ipgroup18
- Advanced:** (checkbox checked)
  - SSH Key:** (empty text area)

Buttons: OK, Cancel

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IBM Image Construction and Composition Tool

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A pop-up box will appear. Just like any other virtual application, you need to select a name, IP type, profile, and cloud group for deployment.

Note you have the option of adding an SSH key. Click OK when you are finished.

## Deploy the virtual application pattern (3 of 3)

- Navigate to **Instances > Virtual Applications** and locate the new virtual application
- Wait for the status to show as **Running**

The screenshot displays the IBM PureApplication System interface. The top navigation bar includes 'Welcome', 'Instances', 'Patterns', 'Catalog', 'Cloud', and 'System'. The 'Instances' dropdown menu is open, showing 'Virtual Applications' selected. The main content area shows a list of virtual applications on the left and a detailed view of the 'aimcp\_kr\_icct' instance on the right. The 'Status' field in the detailed view is highlighted with a red box and shows 'Running' with a green checkmark icon. Other details include Name: aimcp\_kr\_icct, Created by: deploy18, Started on: Jul 16, 2012 2:56:51 PM, ID: d-617eb2de-c153-41b2-b248-7b34f971b888, Using Environment profile: envProfile18, Priority: High, In cloud group: CloudGroupLarge, and Pattern type: IBM Image Construction and Composition 1.2.

Navigate to **Instances > Virtual Applications** and locate your new application. Wait for the status to read **Running**.

## View the deployed virtual application

- Scroll down the right panel and view the **Virtual machine perspective**.
- Note the IP address of the VM, link to the log, and link to the ICCT console (Endpoint)

The screenshot displays the IBM Image Construction and Composition Tool interface for a virtual machine named 'aimcp\_kr\_icct'. The interface includes a top navigation bar with buttons for Stop, Start, Manage, Upgrade, Maintain, Resume, and Delete. Below this, the 'In cloud group' is set to 'CloudGroupLarge'. The 'Referenced shared services' section is empty. The 'Pattern type' is 'IBM Image Construction and Composition 1.2'. Under the 'Middleware perspective (1 in total)' section, there is a link to 'ICCT (ICCT-icct)' and an 'Endpoint' link. The 'Virtual machine perspective (1 in total)' section is expanded, showing a table with the following data:

Name	Public IP	VM Status	Started on	Middleware Status
<a href="#">ICCT-icct</a> 11342468611689	172.17.110.246 ipas-lpar-110-246. purescale.raleigh. ibm.com	Running <a href="#">Log</a>	Jul 16, 2012 2:57:18 PM	ICCT <a href="#">Endpoint</a>

Below the table, the 'History' section shows the message 'The virtual system has been deployed' with a timestamp of 'Jul 16, 2012 3:24:47 PM'. The footer of the interface includes the page number '19', the text 'IBM Image Construction and Composition Tool', and the copyright notice '© 2012 IBM Corporation'.

After you have verified the application is running, scroll down the right panel and expand the section titled Virtual machine perspective. Here you see the IP address of the virtual machine, a link to the log file, and a link to the Endpoint. Notice there is a second link to the Endpoint under Middleware perspective. The Endpoint is link to the Image Construction and Composition Tool console. You have successfully installed and started ICCT.

---

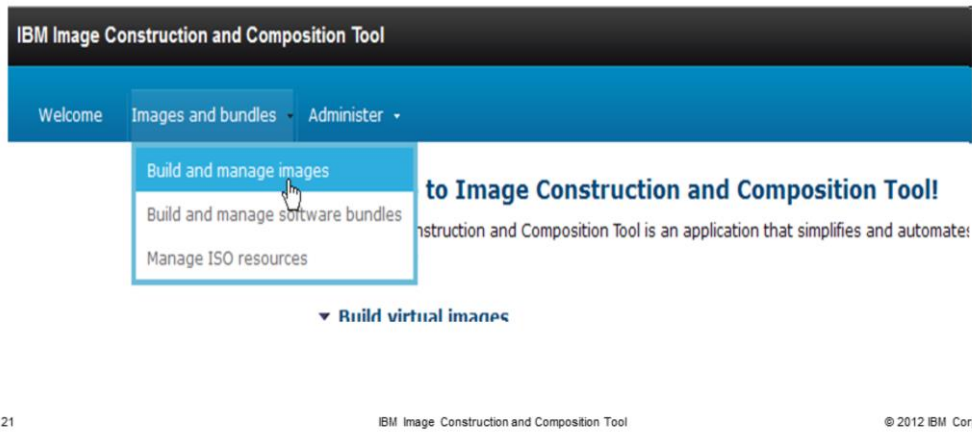
Section

***Step 1: Select cloud provider***

This next section shows how a cloud provider is selected.

## Select cloud provider in ICCT (1 of 2)

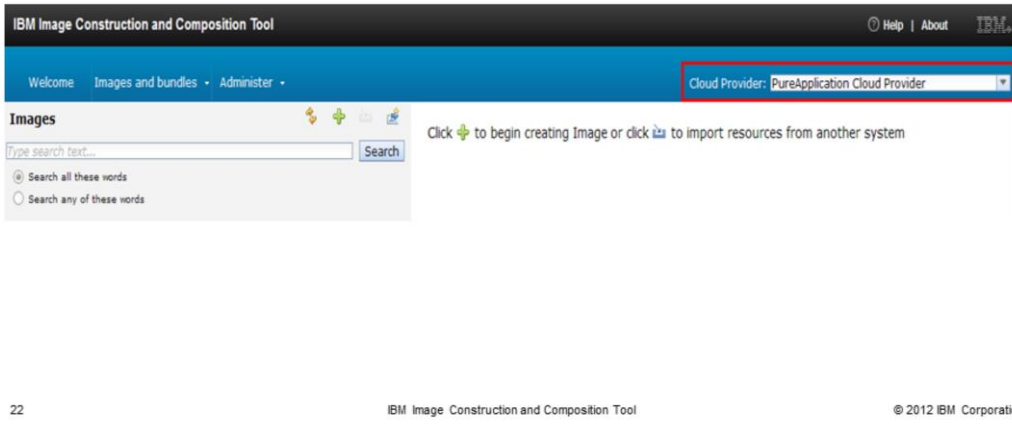
- Access the console for ICCT at by clicking the **Endpoint** link in the virtual application.
  - By default the user ID/password is admin/password
- Navigate to **Images and bundles > Build and manage images**



Clicking on the Endpoint links shown in the previous section will display the URL for the Image Construction and Composition Tool console. Clicking on this will open the console in a new browser window. Select **Images and bundles**, then **Build and manage images**.

## Select cloud provider in ICCT (2 of 2)

- Select the PureApplication Cloud Provider in the upper right corner
- This cloud provider is pre-configured for you
- Note: you can configure a VMware cloud provider in **Administer > Manage Cloud Providers**



Notice the Cloud Provider drop down box in the upper right corner. Be sure it shows the pre-configured PureApplication Cloud Provider.

You also have the option of configuring a VMware cloud provider.

---

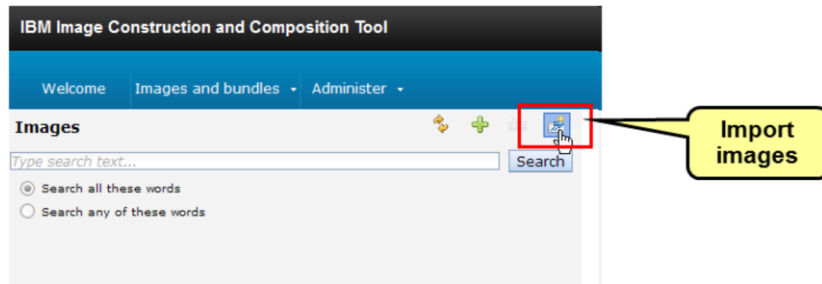
Section

***Step 2: Importing image from cloud provider***

This section shows how to import an image from the cloud provider

## Import images from Cloud provider

- **Images and bundles > Build and manage images**
- Click Import icon to import images from selected cloud provider

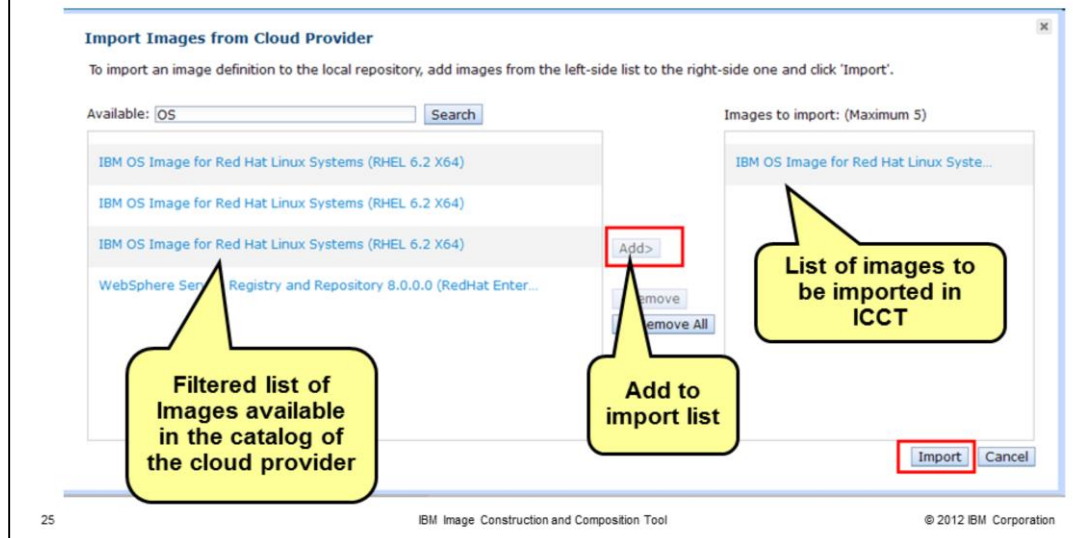


Continuing in the Image Construction and Composition Tool console, click the import icon to import images from the cloud provider.



## Select images to import



- Filter the Search for and select the images, and add them to the import list, as shown below
- In the example below, "IBM OS Image for Red Hat Linux Systems" is imported



A list of available images in the cloud provider opens on the left side of the pop-up box. Search for and select the image you want to work with. Click the Add button, and the image opens in the box on the right. Finally, click the Import button on the lower right to import your selected image.

## Import image continued

- Wait until the image has a status of “Completed”

IBM OS Image for Red Hat Linux Systems		Completed					
Description:	IBM OS Image for Red Hat Linux Systems						
Universal ID:	icon.image.ibm_os_image_for_red_hat_linux_systems						
Version:	2.0.0.1						
Extends Image:							
Image Status:	 Completed						
Created on:	July 22, 2012 7:27:00 PM Central Daylight Time						
Updated date:	July 22, 2012 7:27:40 PM Central Daylight Time						
Operating System:	Type:	Linux					
	Distribution:	Red Hat Enterprise Linux (RHEL)					
	Version:	6.2					
	Activation Framework:	IBM Virtual Solutions Activation Engine					
Cloud Provider:	PureApplication Cloud Provider						
Validation Status:	 Valid (0 errors, 0 warnings, 0 information, 0 unknown)						

The Image Status will say “Completed” when the import is finished.

---

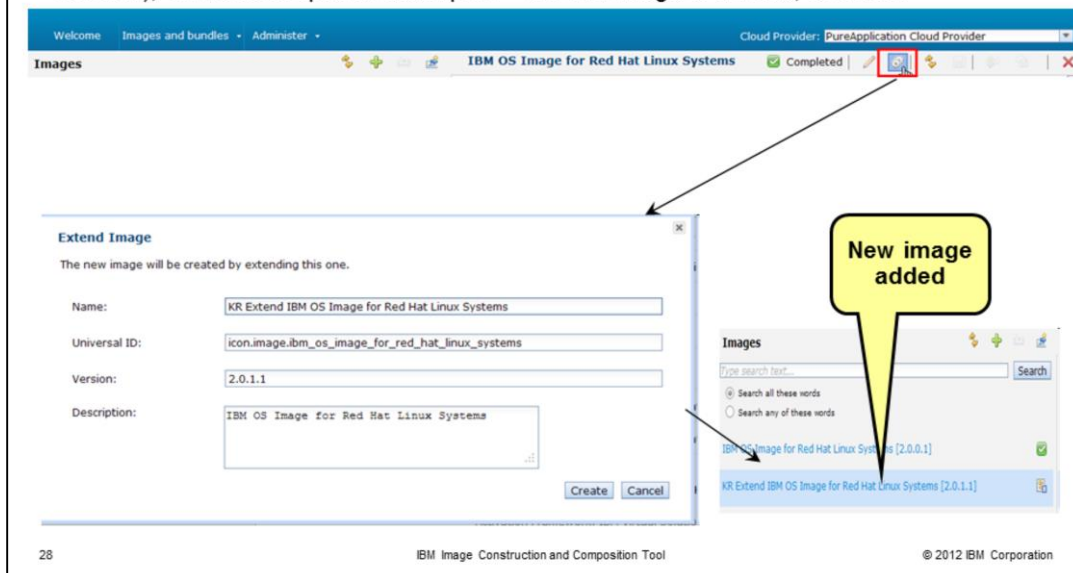
Section

***Step 3a: Extend image in ICCT and add software bundles***

This next section covers extension of the image and adding software bundles.

## Extend the image in ICCT

- Extend the completed image by clicking on the extend icon
- On “Extend an Image” panel, provide new image name, Universal ID (typically some dotted notation), version and optional description – the new image is created, as shown



Select the image you just imported and click the Extend icon. Provide the new image name, Universal ID, version and optional description. The universal ID allows the Image Construction and Composition Tool to look up bundles independently from the repository they are stored in.

Result of extend image

IBM

KR Extend IBM OS Image for Red Hat Linux... Out of sync

Extend Image: IBM OS Image for Red Hat Linux Systems [2.0.0.1]

Image Status: Out of sync

Created on: July 22, 2012 8:30:22 PM Central Daylight Time

Updated date: July 22, 2012 8:30:23 PM Central Daylight Time

Operating System:

- Type: Linux
- Distribution: Red Hat Enterprise Linux (RHEL)
- Version: 6.2
- Activation Framework: Linux/AIX Enablement Bundle for IBM Workload Deployer

Cloud Provider: PureApplication Cloud Provider

Software Bundles:

- Red Hat Enterprise Linux (RHEL) [6.2]

Sort: Alphabetically, By installation order

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Note that the new image has a status of “Out of sync”. Any existing bundles are shown in green under the Software Bundles section. To add bundles, click the pencil icon to edit the image.

---

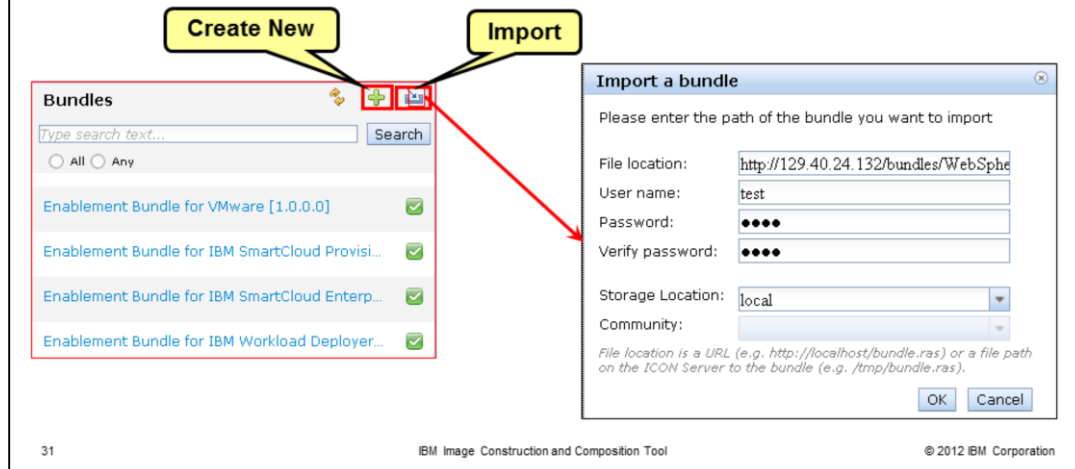
Section

***Step 3b: Add software bundles***

This next section covers adding software bundles

## Import or create software bundles

- Import or create software Bundles, if not already done
- Go to **Images and bundles** → **Build and manage software bundles**
- Click the import icon. You are prompted for the file location



Before you can add software bundles to an image, you must tell Image Construction and Composition Tool about the bundle by importing an existing bundle into the tool, or creating a new bundle within the tool. In this example, you import an existing bundle. Navigate to **Images and bundles** > **Build and manage software bundles**. Click the import icon and enter the path of the bundle you want to import.

## Software bundle - After import or create

**Bundles**

type search text...

All  Any

- WebSphere Application Server Commun...
- Enablement Bundle for IBM SmartCloud ...
- Enablement Bundle for VMware [1.0.0.0]
- Enablement Bundle for IBM Workload D...
- WebSphere Application Server Commun...
- Enablement Bundle for IBM SmartCloud ...

Draft 🔍 🔄 📄 ✖

**WebSphere Application Server Community Edition**

General Requirements Install Configuration Firewall Reset

Description: WebSphere Application Server Community Edition v2.1.1.5  
Available from <http://www-01.ibm.com/software/webservers/appserv/community/>

Universal ID: com.ibm.was.ce.v2115.linux.x86.32

Version: 1.0.2

Publisher:

Created on: Sat Aug 27 2011 15:25:37 GMT-0500 (Central Daylight Time)

Updated date: Fri Feb 24 2012 11:02:36 GMT-0600 (Central Standard Time)

Products in the bundle: +

Product Name	Version	Vendor	✖
WebSphere Application Server Community Edition	2.1.1.5	IBM	✖
Java SDK	6.0 SR9	IBM	✖

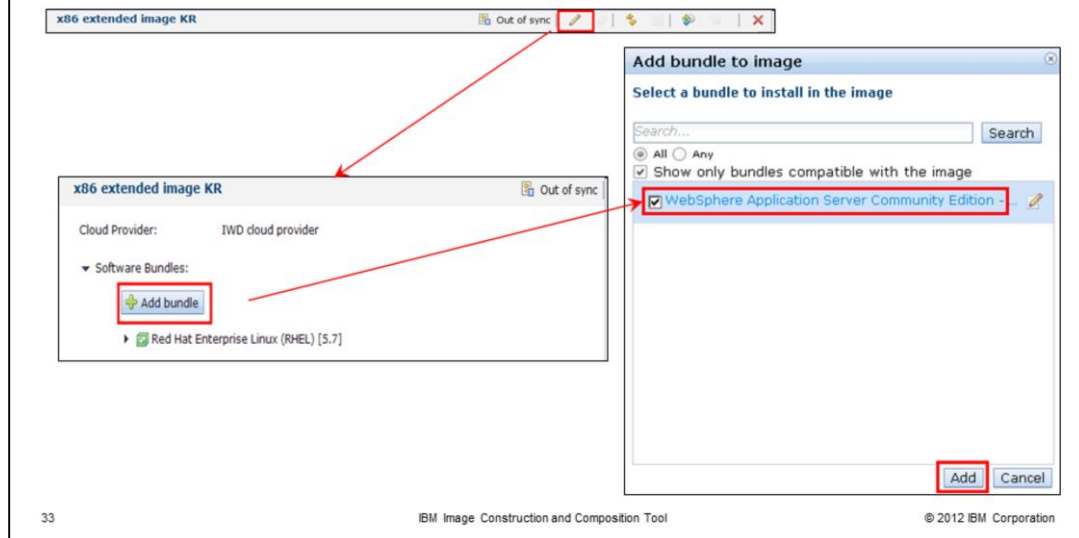
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IBM Image Construction and Composition Tool
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The software bundle you imported in the bundles list as shown here.



## Add software bundle to the image

- To add a bundle to the extended image, navigate to **Images and bundles > Build and manage images**, select the image to extend and click the pencil icon to edit the image
- Expand **Software Bundles**, click the **Add bundle** button. Select the bundle to add from the list of all bundles in ICCT, as shown



Now you are ready to add the bundle to the image. Pull up the image in the **Build and manage images** menu. Click the pencil icon to edit. Scroll down the page to the section titled Software Bundles and expand it. Click the button labeled **Add bundle**. A pop-up box opens with the list of available bundles. Select the bundle you want to add and click the **Add** button.

**IBM**

## Save image

- After adding bundles, finish editing and save image

Done editing      Save image

**New Bundle added to image**

- The image state is “Out of sync” with the cloud provider (PureApplication System) – next step is to synchronize the image with the cloud provider

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After adding the bundles to your new image, finish editing and save the image. Note that the image state is “Out of sync”, and the newly added bundle shows in orange text.

As you edit the image, the ICCT Tool identifies any missing or problematic input by highlighting any unusable entry or by including a message in the validation status section. When you save, the ICCT Tool completes semantic validation to ensure that the image definition is consistent. For example, it validates that the specified bundle order satisfies any dependency requirements.

The validation report entries have three severities, either info, warning, or error. If your image has any **error** severity validation entries, any synchronize or capture action for the image is likely to fail. Even if the synchronize or capture action succeeds, the resulting image might not be usable.

This validation is performed by the server and is performed only when you save changes.

***Step 4: Synchronize image to cloud provider***

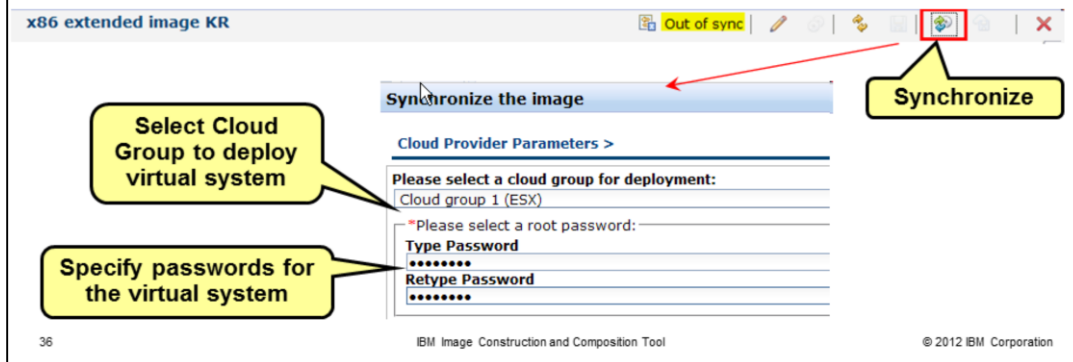
This next section covers synchronizing the image to the cloud provider

## Synchronize new Image from ICCT to cloud provider

Synchronize steps will perform these functions:

Synchronize step will take 5-10 minutes

- Transfer the new image to the cloud provider – a image copy is made in the cloud provider catalog
- Create a virtual system pattern with the new image in the pattern in the cloud provider
- Deploy the virtual system and create an instance in the cloud provider – creates image VM
- Run the installation scripts of each of the bundles in the image VM
- Lay down the configuration scripts of each of the bundles in the image VM
- Get the image ready for capture as a virtual image in the cloud provider catalog



Click the Synchronize icon to synchronize.

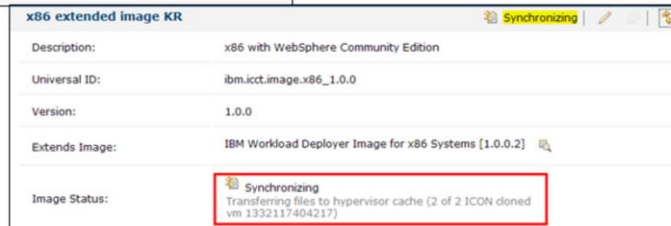
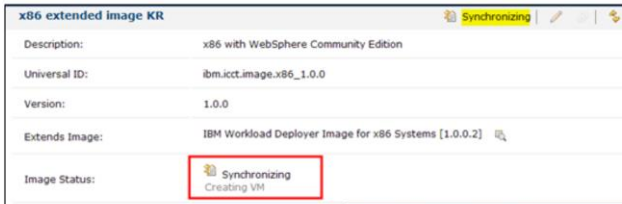
The deployment parameters dialog box is displayed, prompting you to enter values for the deployment parameters, such as passwords. Default deployment values that were specified during bundle creation are displayed. Make changes to the deployment parameters, as required. You are also asked to choose a cloud group for the image from the drop down box.

The synchronization process starts your base image in the build environment, performs the software bundle installations, and then performs any additional configuration specified in the software bundles. This step is when the Image Construction and Composition Tool starts a virtual machine from the base OS image, and during this step files are copied and installation tasks run. Synchronization takes several minutes to complete.

You can perform the synchronize step multiple times. If you synchronize an image more than once, each synchronization executes any additional planned bundles. After executing a bundle, the tool moves that bundle to the Installed section under the Software tab for the image. If the synchronization process fails, you can edit the list of planned bundles and resynchronize by clicking Synchronize again.

## View synchronizing status on image in ICCT

- Status should change to **Synchronizing**
- ICCT communicates with cloud provider to get status on the deployed VM of the image
- Refresh the image in the ICCT tool to monitor synchronization progress
  - Synchronize step will take several minutes depending on the load



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IBM Image Construction and Composition Tool

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The status will change to Synchronizing. ICCT communicates with the cloud provider to get the status. To monitor progress, you will need to refresh the image in ICCT.

## Temporary virtual image in PureApplication System catalog

**Virtual Images**

Search...

ICON cloned vm 1332117404217

- Virtual image is created in the catalog from which a virtual system pattern is created and deployed as an instance
- In PureApplication System, view this by clicking **Catalog > Virtual Images**

**ICON cloned vm 1332117404217**

Updated on: Mar 18, 2012 7:37:13 PM

License agreement: Accepted

Hypervisor type: ESX

Operating system: RedHat Enterprise Linux 64-Bit, version 5.7 (RHEL 5.7 X64)

Version: 1.0.0.2

Image reference number: cba201212.0

Product IDs (e.g., 5724-X89): 5725-D64 (PVU license)

Contains parts: Core OS [part product IDs...]

Included in patterns: ICON cloned vm 1332117404217 1.0.0.2 [remove]

In the cloud now: ICON cloned vm 1332117404217-1.0.0.2 [remove]

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IBM Image Construction and Composition Tool

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The synchronization process creates a temporary virtual image in the PureApplication System catalog. View the temporary image by logging into the PureApplication System and choosing **Catalog > Virtual Images**. It is in the format of “ICON cloned vm” with a numerical string attached. The numerical string represents a timestamp.

## Deployed temporary virtual system pattern and instance in cloud provider

View the cloud provider console and note that a pattern and instance is created

The screenshot displays two panels from the IBM Image Construction and Composition Tool interface. The top panel, titled 'Virtual System Patterns', shows a list of patterns on the left and a detailed view of a selected pattern on the right. The selected pattern is 'ICON cloned vm 1332117404217\_1.0.0.2', which is highlighted with a red box. A yellow callout bubble with a pointer to this box contains the text 'Virtual system pattern'. The detailed view on the right shows the following information:

- Description: None provided
- Created on: Mar 18, 2012 7:36:49 PM
- Current status: Read-only
- Updated on: Mar 18, 2012 7:36:50 PM
- In the cloud now: ICON cloned vm 1332117404217-1.0.0.2
- Access granted to: deployer [owner]

The bottom panel, titled 'Virtual System Instances', shows a list of instances on the left and a detailed view of a selected instance on the right. The selected instance is 'ICON cloned vm 1332117404217-1.0.0.2', highlighted with a red box. A yellow callout bubble with a pointer to this box contains the text 'Virtual system instance'. The detailed view on the right shows the following information:

- Created on: Mar 18, 2012 7:36:51 PM
- From pattern: ICON cloned vm 1332117404217\_1.0.0.2
- Using Environment profile: None provided
- Current status: Transferring files to hypervisor cache (2 of 2 ICON cloned vm 1332117404217)
- Updated on: Mar 18, 2012 7:51:24 PM
- Access granted to: deployer [owner]

At the bottom of the screenshot, the text '39' is on the left, 'IBM Image Construction and Composition Tool' is in the center, and '© 2012 IBM Corporation' is on the right.

PureApplication System is the cloud provider in this example, so you view the virtual system patterns and virtual system instances to see the temporary pattern and virtual system created during ICCT synchronization.

## Synchronization complete results

- ICCT console displays synchronization results
- On the PureApplication System Console, you should see the virtual system instance running

**Status**: Synchronized

**Software Bundles:**

- WebSphere Application Server Community Edition [1.0.2]
- Red Hat Enterprise Linux (RHEL) [5.7]

**Products:**

Name	Version	Publisher	Bundle
IBM Virtual System Activation Engine	2.1.1	IBM	Enablement Bundle for IBM Workload Deployer
ConfigIcon	1.0.0	IBM	Enablement Bundle for IBM Workload Deployer
Java SDK	6.0 SR9	IBM	WebSphere Application Server Community Edition
WebSphere Application Server Community Edition	2.1.1.5	IBM	WebSphere Application Server Community Edition
Red Hat Enterprise Linux (RHEL)	5.7		Red Hat Enterprise Linux (RHEL)
IBM Virtual Solutions Activation Engine	1.1	IBM	Red Hat Enterprise Linux (RHEL)
IBM Java SDK	6.0.9		Red Hat Enterprise Linux (RHEL)
Python	2.6		Red Hat Enterprise Linux (RHEL)

**Hardware:**

**Virtual System:**

- Virtual System ID: 6
- Virtual System Status: RM01006
- Hostname: 9.3.75.143
- IP Address: 9.3.75.143
- [Download logs](#)

**List of products**

**Virtual system instance info**

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When synchronization finishes, the status will show in ICCT console. Note that the bundle you added should now be in green under software bundles, and you should see the list of products under the “products” tab. On the PureApplication System console, you will see the virtual system running.



---

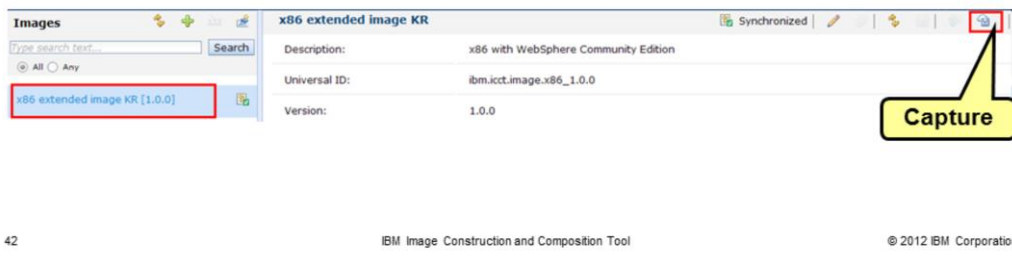
Section

***Step 5: Capture (from ICCT) the deployed image to create a new virtual image in PureApplication System***

This next section covers capturing the deployed image to create a new image in PureApplication System.

## Capture from ICCT (1 of 2)

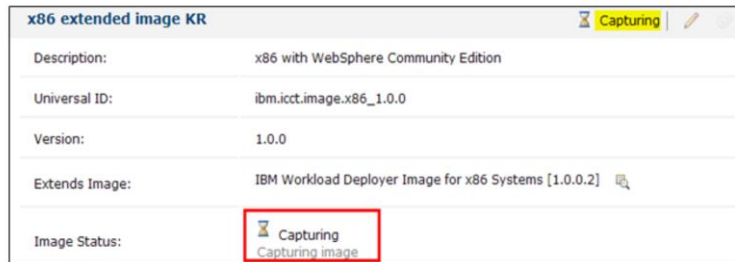
- After image has been synchronized, it can be “Captured” from ICCT
- Capture step will take few minutes depending on the load
- Capture creates a new copy of the virtual image in PureApplication System’s Catalog – has the same image name as the one used to create the image in ICCT Tool
- Temporary virtual system pattern and virtual system instance created during synchronize step are deleted
- The newly created catalog image can now be used to create virtual system patterns



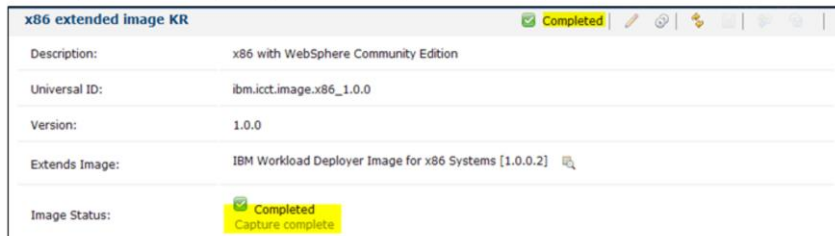
Once the image status is “Synchronized”, it is ready to be captured by clicking on the capture icon in ICCT. The capture creates a new copy of the virtual image in PureApplication System’s catalog, and the name of the image is the same name you used to create the image in ICCT. The temporary virtual system pattern and running instance that were created during synchronization are deleted. The new catalog image can now be used to create virtual system patterns.

## Capture from ICCT (2 of 2)

- During “Capture” step, status changes to “Capturing”



- After “Capture” is complete, status changed to “Completed”



During the capture, the status shows as “Capturing”. After completion, the status changes to “Completed”.

## Capture results in PureApplication System

x86 extended image KR	x86 extended image KR
	Operating system: RedHat Enterprise Linux 64-Bit, version 5.7 (RHEL 5.7 X64)
	Version: 1.0.0
	Image reference number: cba201212.0
	Product IDs (e.g., 5724-X89): 5725-D64 (PVU license) <a href="#">Click to add</a>
	Contains parts: x86 extended image KR [part product IDs...]
	Included in patterns: <a href="#">ICON cloned vm 1332117404217 1.0.0.2</a>
	In the cloud now: (none)
	Access granted to: <a href="#">deployer [owner]</a> <input type="text" value="Add more..."/>
	Extended from: <a href="#">IBM Workload Deployer Image for x86 Systems [compare]</a>

- In PureApplication System, the temporary placeholders in **Instances > Virtual Systems** and in **Patterns > Virtual Systems** are deleted.
- The virtual image in **Catalog > Virtual Images** will remain, and the name is changed to match the name in the ICCT tool

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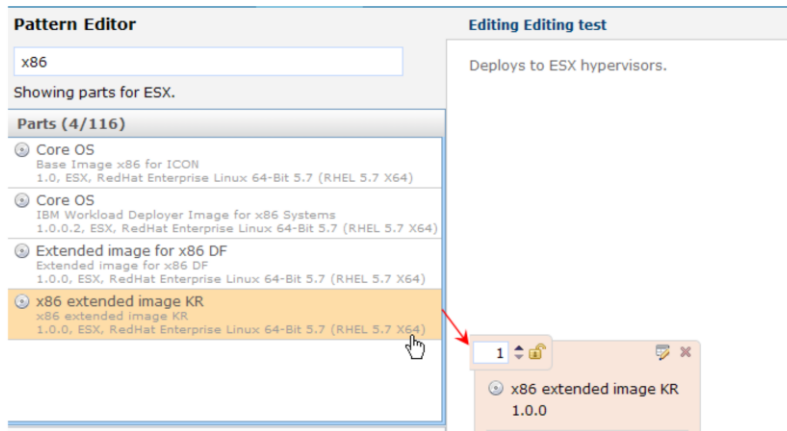
The capture results in the temporary virtual system instance and pattern in PureApplication System being deleted. The virtual image in PureApplication System will remain and the name is changed to match the name in ICCT.

## ***Using new virtual images***

This section will discuss how to use the new virtual image.

## Use new virtual image in virtual system pattern

- The part from the new catalog image now shows up in the pattern editor when creating a new virtual system pattern.
- You can add this image part to a pattern and deploy it to the cloud



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The part from the new catalog image now displays in the pattern editor when creating a new virtual system pattern. You can use this image part in a pattern and deploy it to the cloud.

## Deployment of virtual system containing new virtual Image

- When you deploy the new pattern to the cloud, you are prompted for the parameters required by the software bundle

Fill in the required values for this part of the pattern.

KERNELSERVICE_URL:	x
SIGNER_PRIVATE_KEY:	x
SSVC_TOKEN:	x
* Number of servers:	1
* WAS CE home:	/opt/IBM/WebSphere/AppServerCommunityEdit
* WAS CE admin username:	system
* WAS CE admin password:	*****
* Verify password:	*****

OK Cancel

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When you deploy the new pattern to the cloud, you are prompted for any parameters that are required by the software bundle. The parameters required by the WebSphere Community Edition software bundle are shown here.

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