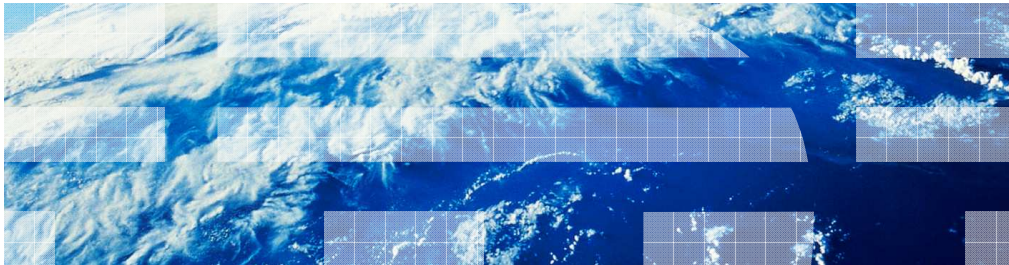


IBM WebSphere CloudBurst Appliance

Using PowerVM hypervisors



This presentation describes how to set up your PowerVM™ hypervisors from within the IBM® WebSphere® CloudBurst™ Appliance to prepare for deploying virtual systems.

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The first section of the presentation covers how to set up the PowerVM cloud from within WebSphere CloudBurst, including creating the cloud group and activating the hypervisors. The last section provides some tips for documentation that you should gather if you encounter any problems deploying virtual systems to your PowerVM hypervisors.

Using PowerVM Hypervisors

This section of the presentation describes how to use PowerVM hypervisors with WebSphere CloudBurst.

Using PowerVM hypervisors

- To use PowerVM hypervisors:
 - Create a PowerVM cloud group
 - Configure an IP group for your hypervisors and start them
 - Import PowerVM virtual images into your appliance catalog
 - Deploy patterns to your PowerVM cloud group

The first step to enabling your WebSphere CloudBurst Appliance to use your PowerVM hypervisors is creating a PowerVM cloud group. When you create the cloud group, the appliance will automatically discover the related PowerVM hypervisors and add them to the cloud group. Then, you need to assign an IP group to the hypervisors you want to use and start them from within the appliance. Before deploying any virtual systems, you also need to be sure that you have PowerVM virtual images in your appliance catalog. If your appliance did not come with PowerVM images pre-installed, then you need to download the appropriate images from Passport Advantage[®] and import them into your appliance catalog. Then, you are ready to deploy patterns into your PowerVM cloud group.

Creating a PowerVM cloud group (1 of 2)

1. From the appliance menu, select **Cloud > Cloud Groups**, then click the plus icon

2. Provide a cloud group name

3. Select **PowerVM** as the hypervisor type – the configuration menu then expands

Describe the cloud you want to create.

* Name: **2**

Description:

* Hypervisor type: **3**

Group type:

In the PowerVM environment, when you create the cloud group, the PowerVM hypervisor is discovered and created automatically. To create a PowerVM cloud, click **Cloud** and select **Cloud Groups** in the WebSphere CloudBurst administrative console. First, type the cloud name and optionally a description. In the pull down, select **PowerVM** as the hypervisor type. When you select the **PowerVM** hypervisor type, the remainder of the definition screen will dynamically change to allow you to type in the VMControl and operating system information.

Creating a PowerVM cloud group (2 of 2)

4. Provide the host name or IP address for VMControl – this is the same as the IP for Systems Director

5. Provide the credentials for VMControl

6. Provide the credentials for the operating system where Systems Director is running

Describe the cloud you want to create.

Name:

Description:

Hypervisor type:

Group type:

Provide the credentials for VMControl

Host name: **4**

User name:

Password: **5**

Verify password:

Provide the operating system credentials

User name:

Password: **6**

Verify password:

After the cloud group configuration display expands, you need to provide information for connecting to VMControl and provide operating system credentials where VMControl is running. Type the IP address or host name for VMControl; this is the same IP or host name that is assigned to IBM Systems Director. Type the credentials for VMControl, which includes the user name and password, and the password verification. Then, provide the operating system credentials. Finally, click **Create**. The cloud group definition is saved, and the appliance launches the discovery process for the PowerVM hypervisors.

PowerVM hypervisor discovery

PowerVM Cloud

Description: [A detailed description](#)

Hypervisor type: PowerVM

Type: Managed by a VMControl

Status: Discovering hypervisors, networks, and storage devices

URL: [9.3.252.169](#)

Security certificate: Accepted

NIM:

Hypervisors: (none)

After creating the cloud group, the appliance begins discovering hypervisors, networks, and storage devices

PowerVM Cloud

Description: [A detailed description](#)

Hypervisor type: PowerVM

Type: Managed by a VMControl

Status: You must start at least one hypervisor to create virtual systems.

URL: [9.3.252.169](#)

Security certificate: Accepted [\[remove\]](#)

NIM:

Hypervisors: [IBM 8203 E4A 10AA662 \[remove\]](#)

When discovery completes, the status message reminds you to start at least one hypervisor

The discovered hypervisors are listed in the lower part of the cloud group screen

When you create the cloud group, the discovery process begins for the hypervisors, networks, and storage devices. When discovery completes, typically after one or two minutes, a status message is issued in the cloud entry to remind you to start at least one hypervisor. Also notice the hypervisors that were discovered are now listed in the cloud group definition. Click directly on the hypervisor name or click **Cloud > Hypervisors** to see the hypervisor definition. The next slide describes how you can prepare the hypervisor so you can start it, which allows the PowerVM cloud you defined to be used.

Preparing the PowerVM hypervisor

1. Navigate to **Cloud > Hypervisors**, then select the name of the hypervisor to configure

2. Expand Networks and assign an IP group to the virtual network

3. Click the start icon to start the hypervisor

The screenshot shows the IBM Cloud console interface for configuring a PowerVM hypervisor. The 'Cloud' menu is open, and 'Hypervisors' is selected. The hypervisor details for '10AA662' are displayed, including its type, current status (Maintenance mode), performance status (Performance data is not available yet), and associated cloud group (PowerVM Cloud). The 'Networks' section is expanded, showing 'Virtual Network 1' with a VLAN of 1 and an IP group of 'None'. A green start icon is visible in the top right corner of the hypervisor details panel.

After discovery completes, you can select **Cloud > Hypervisors** within the web console and see the PowerVM hypervisors that were discovered. To enable a PowerVM hypervisor to be started, you must select an IP group under the Networks portion of the hypervisor. Then click the “start” icon. The PowerVM cloud that is associated with this hypervisor is now available to be used for deployments.

Virtual images for PowerVM

- There are three PowerVM virtual images available:
 - WebSphere Application Server Hypervisor Edition V6.1.0.31
 - WebSphere Application Server Hypervisor Edition V6.1.0.31 with Feature Packs
 - WebSphere Application Server Hypervisor Edition V7.0.0.11
- Import PowerVM images to the appliance and deploy patterns based on the images
- Only WebSphere Cloudburst can provision the PowerVM images
 - These images cannot be used outside of the appliance

Before you can work with PowerVM patterns or deploy a PowerVM virtual system, the PowerVM images must be imported into the appliance. All virtual images are available for download through Passport Advantage. The PowerVM virtual images are designed for use with WebSphere CloudBurst only. Unlike the VMware ESX images, PowerVM images can only be provisioned by the appliance. In all other ways, PowerVM images behave in a similar fashion to the ESX images and are deployed using standard WebSphere CloudBurst administrative tools. The same WebSphere Application Server versions are available for both hypervisor platforms – V6.1.0.31, V6.1.0.31 with Feature Packs, and V7.0.0.11. The V6.1.0.31 with Feature Packs level includes support for EJB™ 3.0, web services and Web 2.0.

Differences between PowerVM and ESX

Snapshots are not supported for PowerVM virtual systems

ESX images support VNC, but PowerVM virtual images do not – no VNC link available for PowerVM virtual systems

For VMWare ESX deployments, you can create a “snapshot” backup of a virtual system and later restore from that snapshot to recover the state of the virtual system. The snapshot functionality is not yet available in the PowerVM environment. The virtual systems detail screen displays a reminder message about the restriction.

A VNC interface is available in the deployed ESX virtual systems. However, PowerVM virtual images do not include the required X libraries to support a VNC interface, so a VNC interface is not available for deployed PowerVM virtual systems. The screen capture for the consoles on the bottom of this slide was captured from an ESX virtual system, so it includes the VNC link. For a PowerVM virtual system, the VNC link is not be present in the console.

Gathering documentation for problems

This section describes how to gather documentation if you experience any PowerVM deployment problems from WebSphere CloudBurst.

Documentation for deployment errors

- WebSphere CloudBurst appliance log files
 - **Appliance >Troubleshooting**, then expand **Logging** and select **Download log files**
- Take screen snapshot of the error on the appliance
- IBM Systems Director – create tar file of logs
 - **/opt/ibm/director/bin/grablogs.sh** - creates tar file of log files and places into /tmp
- NIM – create tar file of NIM director agent logs
 - **tar -cvf /tmp/dir_agent_logs.tar /opt/ibm/director/agent/logs**

For many errors, the WebSphere CloudBurst appliance log files are sufficient, along with a screen snapshot of the appliance screen that shows the error. But if the appliance has been communicating with the PowerVM environment when the error occurs, often you will need logs from the PowerVM environment. On the IBM Systems Director partition, use the **grablogs.sh** shell script in the director's bin library to create a tar file of the IBM Systems Director logs. On the NIM partition, tar the logs directory for the director agent. To save space and transmission time, gzip the tar files and compress any bmp screen captures before sending to IBM support.

Summary

The next section provides a summary of this presentation.

Summary

- To use PowerVM hypervisors:
 - Create a PowerVM cloud group
 - Assign an IP group to the hypervisors that get discovered and start them
 - Import PowerVM virtual images, if needed
 - Deploy virtual systems

This presentation discussed how to set up your PowerVM cloud resources from within the IBM WebSphere CloudBurst Appliance. This requires creating a PowerVM cloud group, assigning an IP range to the hypervisors that are discovered and added to the cloud group, starting the hypervisors, importing PowerVM virtual images into the appliance catalog, and then deploying virtual systems based on those images to your PowerVM cloud group.

References

- HMC
 - <http://www.ibm.com/developerworks/wikis/display/virtualization/HMC>
- VIOS main page
 - <http://www14.software.ibm.com/webapp/set2/sas/f/vios/home.html>
- IBM Systems Director
 - <http://www-03.ibm.com/systems/management/director/>
- VMControl
 - <http://www.ibm.com/systems/management/director/plugins/syspools/index.html>
- Step-by-step movie demos
 - <http://www.ibm.com/developerworks/wikis/display/WikiPtype/Movies>
- YouTube channel
 - <http://www.youtube.com/user/WebSphereClouds>

Here are some references for more information about the PowerVM environment.



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