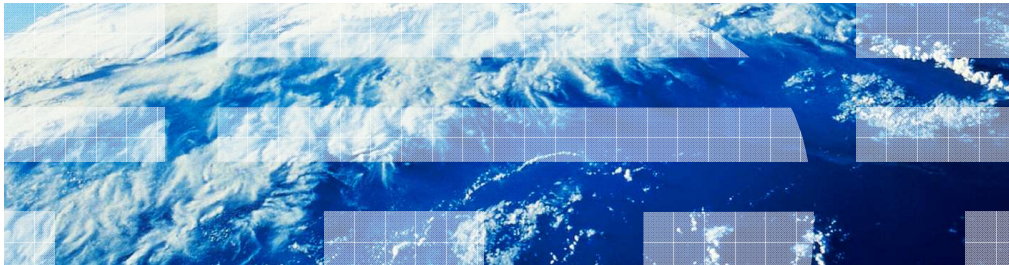IBM

IBM WebSphere CloudBurst Appliance V1.1

Cloud configuration overview

WebSphere software

This presentation will discuss the IBM® WebSphere® CloudBurst™ Appliance initial configuration and setup.

Agenda

- Configuring the cloud
  - IP groups
  - Cloud groups
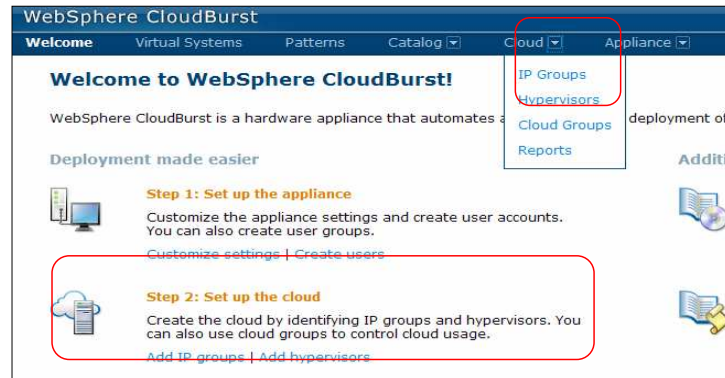 - Hypervisor
- Summary

Cloud configuration overview

This presentation will discuss configuring the IP groups, cloud groups and hypervisors in a cloud using the WebSphere CloudBurst administrative console.

Section

Configuring the cloud

Cloud configuration overview

This section will discuss configuring the cloud.
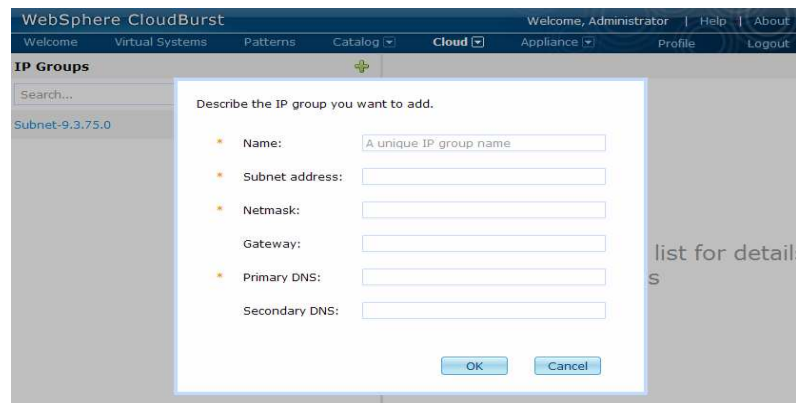
Setting up cloud resources

- IP groups
- Hypervisors
    - Storage
- Cloud groups

WebSphere CloudBurst's view of the cloud is that it is made up of hypervisors, IP groups and storage. WebSphere CloudBurst has a prerequisite that the cloud should already be in existence and started. What this means is that hypervisors should already be installed and started and there must be a pool of available IP addresses to work with.

Adding IP group

- To create an IP group, go to **Cloud > IP Groups >** then click +

An IP group is a pool of IP addresses. When WebSphere CloudBurst deploys a pattern into the cloud it will use IP addresses from the IP group that you have defined. Located on the left of this screen capture you will find previously defined IP groups. The green plus icon is used to create a new IP group. Clicking on the plus icon will bring up a window in which you can enter initial values for your IP group.

The name of the IP group can be any unique value that you want WebSphere CloudBurst to manage this IP group by. Subnet address, netmask, gateway, primary DNS and secondary DNS are standard networking concepts when defining a subnet.

Defining an IP group defines the total IP pool. In order to complete the setup you need to define a subset of IP addresses within this larger pool. The reason for this is multiple hypervisors can all share the same subnet, but each taking from different IP pool within the subnet.

IP group attributes

Subnet-9.3.75.0 ✕

Subnet address:	9.3.75.0
Netmask:	255.255.255.0
Gateway:	9.3.75.1
Primary DNS:	9.0.7.1
Secondary DNS:	9.0.6.11
Hypervisors:	HV-aimcp059 [remove]
	HV-aimcp061 [remove]

IP Addresses:
- ✅ 9.3.75.148 (aimcp148.austin.ibm.com) [remove]
- ✅ 9.3.75.149 (aimcp149.austin.ibm.com) [remove]
- ✅ 9.3.75.150 (aimcp150.austin.ibm.com) [remove]
- ☑ 9.3.75.151 (aimcp151.austin.ibm.com) [remove]
- [show more]

Add range [start] to [end] Add

▪ IP group attribute view
  – View hypervisors currently using this IP group
  – View IP addresses currently in use
  – Add and remove IP addresses to the available pool

6   Cloud configuration overview

This view shows the information that was entered during the initial creation of the IP group. It displays the hypervisors that are currently making use of this IP group and the IP addresses that are available for use by WebSphere CloudBurst. The green checkmark indicator shows which IP addresses are in use. Defining a subnet is not complete in WebSphere CloudBurst until you define the IP addresses available for use by WebSphere CloudBurst during the deployment process. You can define IP addresses one by one or define a range of IP addresses.

Cloud groups are used to group hypervisors with similar capabilities. You can group hypervisors by capability or any grouping logic you choose. For example you can create two groups, one for your ESX hypervisors and another for my zVM hypervisors or you can create one group for your hypervisors that have one processor and another that has ten processors. The only restriction is that you cannot mix hypervisor types.

Cloud group attributes

- Cloud group attributes view
  - View hypervisor type that this group supports
  - View, add and remove hypervisors from the group

ESX test group

Description:	A detailed description
Hypervisor type:	ESX or ESXi
Type:	Custom cloud group
Status:	All hypervisors available
Hypervisors:	aimcp124
	Add more...
Access granted to:	Administrator [owner]
	Add more...

Cloud configuration overview

This view allows you to add or remove hypervisors from the group based on some predefined logic. You can also configure cloud group access.

Managed cloud groups

- Managed cloud group attributes
  - Discovered when cloud is added or connection reset
  - View, add and remove hypervisors from the group

vCenter

Description:	A detailed description
Hypervisor type:	ESX or ESXi
Type:	Managed by a Virtual Center
Status:	Connected
URL:	https://aimcp028.austin.ibm.com/sdk
Security certificate:	Accepted [remove]
Hypervisors:	aimcp127.austin.ibm.com
⊞ Login information	
Access granted to:	Administrator [owner]
	Add more...

Cloud configuration overview

Managed cloud groups represent sets of hypervisor systems managed by a single administrative endpoint. PowerVM™ cloud groups are always managed by IBM Systems Director VMControl as the administrative endpoint. VMware ESX and ESXi hypervisors can be managed by VMware Virtual Center (or managed in a custom cloud group). You can work with managed cloud groups and hypervisors in several ways.

Hypervisors in the managed cloud group are discovered when you add the cloud group or reset the connections for a cloud group. They cannot be added separately from the cloud group. In the user interface, you can access hypervisors in a managed cloud group from the Cloud Groups window. When a hypervisor has been removed from the cloud group, the hypervisor can be added back to the cloud group by resetting the connections. Resetting connections resets the latest hypervisor, storage, and network connections.

Adding hypervisors

- **Cloud > IP Groups >** then click +
- Adding a hypervisor allows WebSphere CloudBurst to dispense virtual images to it and manage it
- The hypervisor must already be installed and running out in the cloud before this step

WebSphere CloudBurst

| Welcome | Virtual Systems | Patterns | Catalog ▼ | Cloud ▼ | Appliance ▼ | Profile | Logout |

Hypervisors

Search...

MAPSRV21

Describe the hypervisor you want to add. If the hypervisor is managed by Virtual Center or Systems Director, cancel and create a new cloud group.

* Name: A unique hypervisor name
* Type: ESX or ESXi
* Host name: Remote location of the hypervisor
* User name: Remote user name
* Password:
* Verify password:

OK   Cancel

WebSphere CloudBurst has a prerequisite that the hypervisors already be installed and operational before adding them to IBM WebSphere CloudBurst Appliance. To allow WebSphere CloudBurst to manage an existing hypervisor you need to add the hypervisor in the WebSphere CloudBurst administrative console. In managed cloud groups, for both vCenter and PowerVM groups, the hypervisors are automatically discovered when you create the cloud group. To start the process of adding a hypervisor you give it a name which can be any unique name. You specify the type of hypervisor; an example of which is z/VM®. The last step is to provide the host name of the physical machine hosting the hypervisor and the user name and password of the hypervisor so that WebSphere CloudBurst can log in and administer the hypervisor.

Once you click the "OK" button you are presented with a security certificate of the hypervisor. This certificate exchange allows WebSphere CloudBurst to trust the hypervisor and thus allows for secure communications between the two.

Hypervisor attributes

- This screen capture shows the available hypervisor attributes

HV-aimcp059	
Type:	ESX
URL:	https://aimcp059.austin.ibm.com/sdk
User name:	root
Password:	•••••••• [edit]
Security certificate:	Accepted
Current status:	Started (move to maintenance mode to make changes)
Performance:	Active virtual machines: CPU usage 2% Memory usage 36% [show more]
In cloud group:	Default ESX group
Virtual machines	
Networks	
Storage devices	16%

The hypervisor attributes page has two modes; WebSphere CloubBurst's view and maintenance mode. In order to manipulate the hypervisor you must configure an IP group for the hypervisor and start the hypervisor.

In WebSphere CloudBurst's view of the hypervisor it is running and accepts requests. In maintenance mode you can update the attributes.

There are a few attributes worth discussing. Security certificate allows you to either accept a certificate or remove an existing certificate. If you remove the certificate then secure communications between WebSphere CloudBurst and the hypervisor can not occur.

Current Status shows you WebSphere CloudBurst's current view of the hypervisor. This is not the actual state of the hypervisor out in the cloud. To solidify this point, the hypervisor can be operational out in the cloud and serving up requests, but WebSphere CloudBurst views it as stopped.

Cloud group shows which cloud group this hypervisor belongs to.

Networks allows you to view and update which subnet or IP pool WebSphere CloudBurst will choose from when deploying virtual machines to this hypervisor.

Storage devices gives you a view on the existing storage attached to the hypervisor. When you add a new hypervisor WebSphere CloudBurst automatically detects the available storage and adds it to the list.

Deployment ready

- WebSphere CloudBurst is now deployment ready
  - Create or deploy existing patterns
  - Manage your deployed patterns (virtual systems)
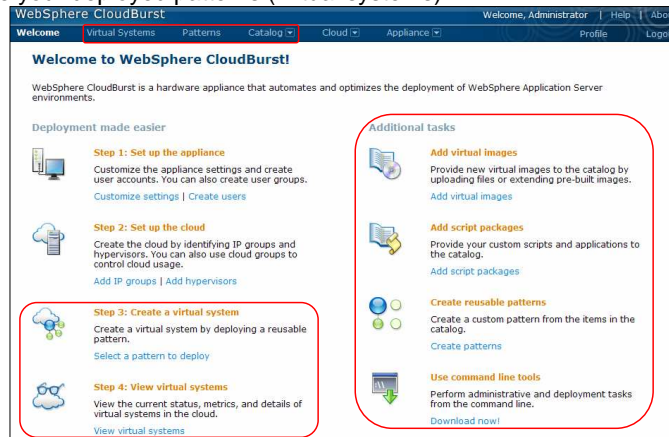
WebSphere CloudBurst is now deployment ready. You can create or deploy existing patterns. Also, you can manage your deployed patterns.

Section

Summary

Cloud configuration overview

This section will summarize the cloud configuration presentation.

Summary

- Configuring the cloud through the UI
  - IP groups
  - Cloud groups
  - Hypervisors
- At this point the WebSphere CloudBurst appliance is ready to use

　　Cloud configuration overview　　

This presentation has discussed the WebSphere CloudBurst configuration using the WebSphere CloudBurst administrative console. You have configured an IP group, cloud group and hypervisor.

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