



Cloud computing using Openshift

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OpenShift supports your language & framework.



Jenkins



Bottle



mongoDB



python™



amazon web services™



Java™



MySQL®



symfony



Apache Tomcat



Red Hat Enterprise Linux 6



Couchbase (Membase)



RichFaces



Ruby A Programmer's Best Friend



Joomla!™



Seam



GEARS



RAILS



spring



JBoss® by Red Hat



php



ZEND FRAMEWORK



WORDPRESS



eclipse THE ECLIPSE PROJECT



appcelerator®



APACHE



perl



jclouds multi-cloud library



Drupal



django



AMQP



M BEAN



SUGARCRM. COMMERCIAL OPEN SOURCE



OpenShift CLOUD



Sinatra



simple cloud



OPENSHIFT

Overview

- Cloud Computing Types
- RedHat's Offerings
- Problems with IaaS
- CloudForms
- OpenShift

Cloud Types

- Infrastructure-as-a-Service (IaaS)
 - Compute, Storage, Networking
 - AWS, GoGrid

- Platform-as-a-Service (PaaS)
 - Environment
 - Google AppEngine, Engine Yard, Force.com

- Software-as-a-Service (SaaS)
 - Applications
 - Gmail, PayPal, Salesforce

RedHat's Offerings



C L O U D F O R M S™

by Red Hat®Cloud

BUILD AND MANAGE IAAS

- Build and Manage Hybrid Clouds
- Build, Manage, and Launch Apps
- Provide Cloud Infrastructure Services

APPLICATION LIFECYCLE MANAGEMENT

COMPUTE RESOURCE MANAGEMENT

INFRASTRUCTURE SERVICES



O P E N S H I F T™

PaaS by Red Hat®Cloud

PAAS FOR DEVELOPERS USING OPEN SOURCE

- A quality enterprise PaaS built on enterprise-class technology
- A developer's fast track to the cloud
- An unprecedented level of choice and portability

EXPRESS - FREE AND EASY CLOUD DEPLOYMENTS

FLEX - AUTO-SCALE NEW AND EXISTING APPS IN THE CLOUD

POWER - COMPLETE CONTROL OVER CLOUD DEPLOYMENTS

IaaS : Problems

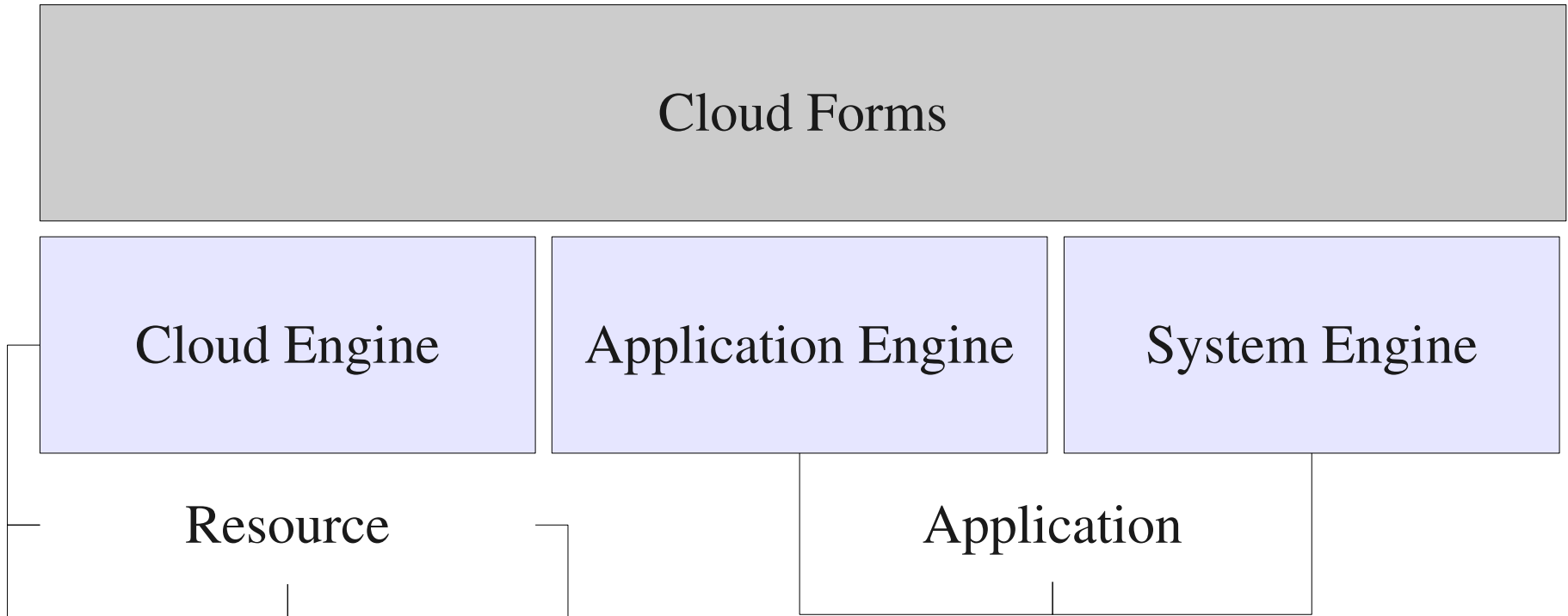
- Vendor Lockin
 - Many Providers = Many Interfaces
 - Images are not transferable between Vendors
- Deal with resources only
- No application management tools
- Difficult to manage Spending

CloudForms

- Create your own IaaS
 - Share Current Infrastructure
 - Utilise public providers
 - Provider agnostic
 - Define Environments for specific applications
 - 1 central management hub and API

- Application Life Cycle Management
 - Pre and post runtime

CloudForms



Cloud Engine: control

- Central Hub for managing, configuring personal IaaS
 - Web Application
 - Admin configures
 - Users to consume resources
- Cloud Providers and Accounts
 - Shared, controlled
- Quotaing
- Pooled Environments
- Policies around Access and Geography
- REST API

Cloud Engine: users

- Self-service
- Create their own images
- Deploy instances into specific environments
- User control instance life-cycle
- Access instances via SSH
- Resource usage logging for charge back

MONITOR

ADMINISTER

Users & Groups



Environments





Content

**Cloud Providers**

Settings

ec2-us-east-1

Choose a provider: **ec2-us-east-1**  ON**Alerts** 0**Settings** **Connectivity** 1Accounts 1Realms 0Users 1Provider Name: Provider URL: Provider Type: X-Deltacloud-Provider:

Save Changes

Test Connection

Delete Provider

Application Engine

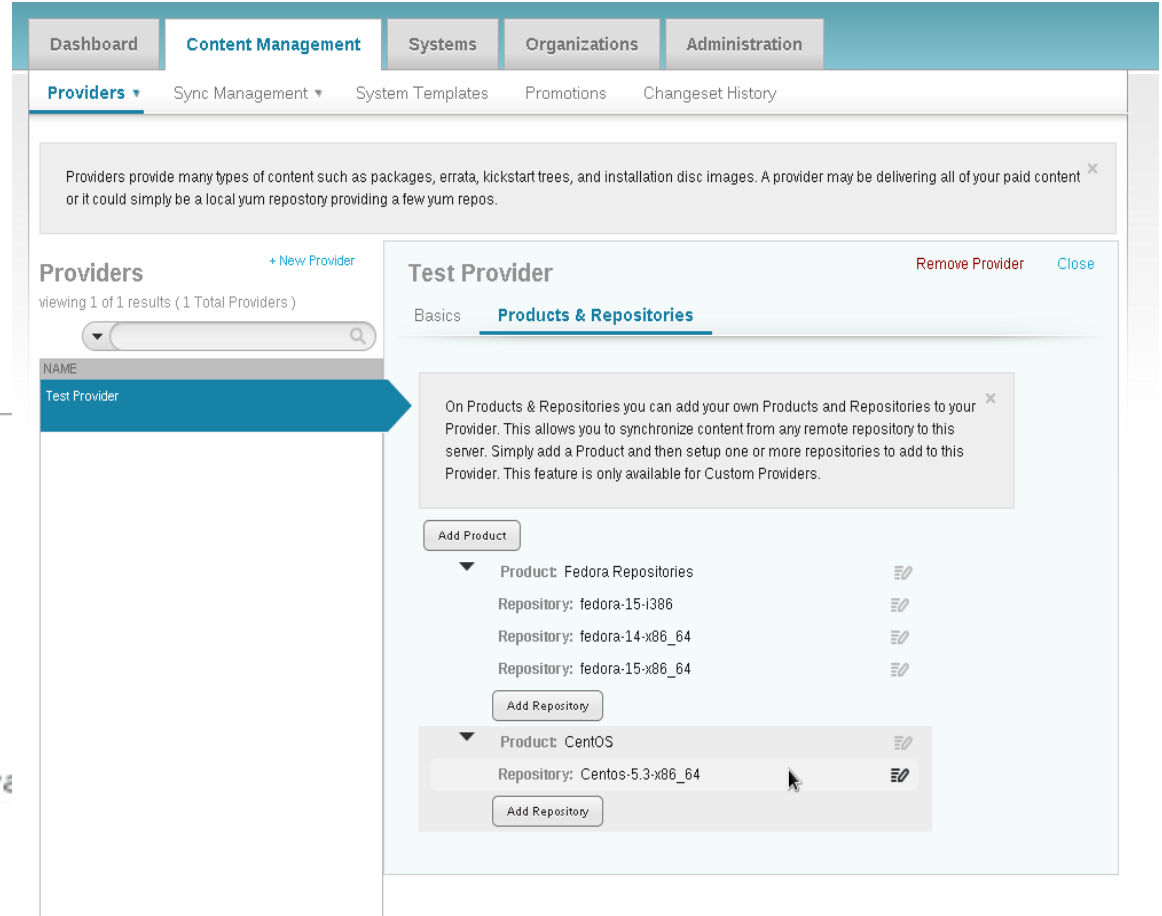
- Define application environments
- Image Builds
 - Build for multiple providers
 - Archives
- Post boot configuration
- Versioning
- Environment Tagging
- Access
- Image Uploads

System Engine

- Builds on top of the Application Engines
- Continuous Content and configuration
- Live updates
 - Template defined
 - Instance defined

Application/System Engine

```
<template>
  <name>tpl1</name>
  <description>foo</description>
  <os>
    <rootpw>password</rootpw>
    <name>Fedora</name>
    <arch>x86_64</arch>
    <version>14</version>
    <install type="url">
      <url>http://fedoraproject.org/fedora</url>
    </install>
  </os>
  <repositories>
    <repository name="custom">
      <url>http://fedorapeople.org/repos/aeolus/demo/webapp/</url>
      <signed>>false</signed>
    </repository>
  </repositories>
</template>
```



The screenshot displays the Red Hat Content Management interface. The top navigation bar includes 'Dashboard', 'Content Management', 'Systems', 'Organizations', and 'Administration'. The 'Content Management' section is active, showing a sub-menu with 'Providers', 'Sync Management', 'System Templates', 'Promotions', and 'Changeset History'. A notification box at the top explains that providers can deliver various content types, including packages, errata, and installation images. The main content area is titled 'Providers' and shows 'Test Provider' selected. The 'Test Provider' configuration page is open, with the 'Products & Repositories' tab active. A notification box explains that users can add their own products and repositories to the provider. The 'Add Product' button is visible, and a list of products is shown, including 'Fedora Repositories' and 'CentOS'. The 'CentOS' product is expanded, showing a repository 'Centos-5.3-x86_64' with an 'Add Repository' button.

CloudForms Summary

- Create your own IaaS
- Self-service
- Control access and usage of resource
- Define and build application environments
- Control where you applications are deployed
- Continuous content and configuration management
- Verbose logging for charge back

How do I get CloudForms?

- Beta registration has finished :(
- CloudForms is combination of RedHat projects
 - www.aeolus-project.org
 - Minor release every 3 weeks
 - Testing repositories
 - Naming is a little different!
 - www.katello.org

OpenShift

- Platform-as-a-service
- Java, Ruby, PHP, Perl and Python applications.
 - Express
 - Free
- Flex
 - Auto-scaling
 - performance monitoring
 - application management
- Power
 - Create you own PaaS
- www.openshift.redhat.com

Demo