



PUZZLE ITC
changing IT for the better

Convergence between oVirt/RHEV and OpenStack

Jürg Gerber
System Architect

- Short intro into oVirt/RHEV
- Convergence oVirt/RHEV ↔ OpenStack Today
- Convergence oVirt/RHEV ↔ OpenStack Future

Agenda



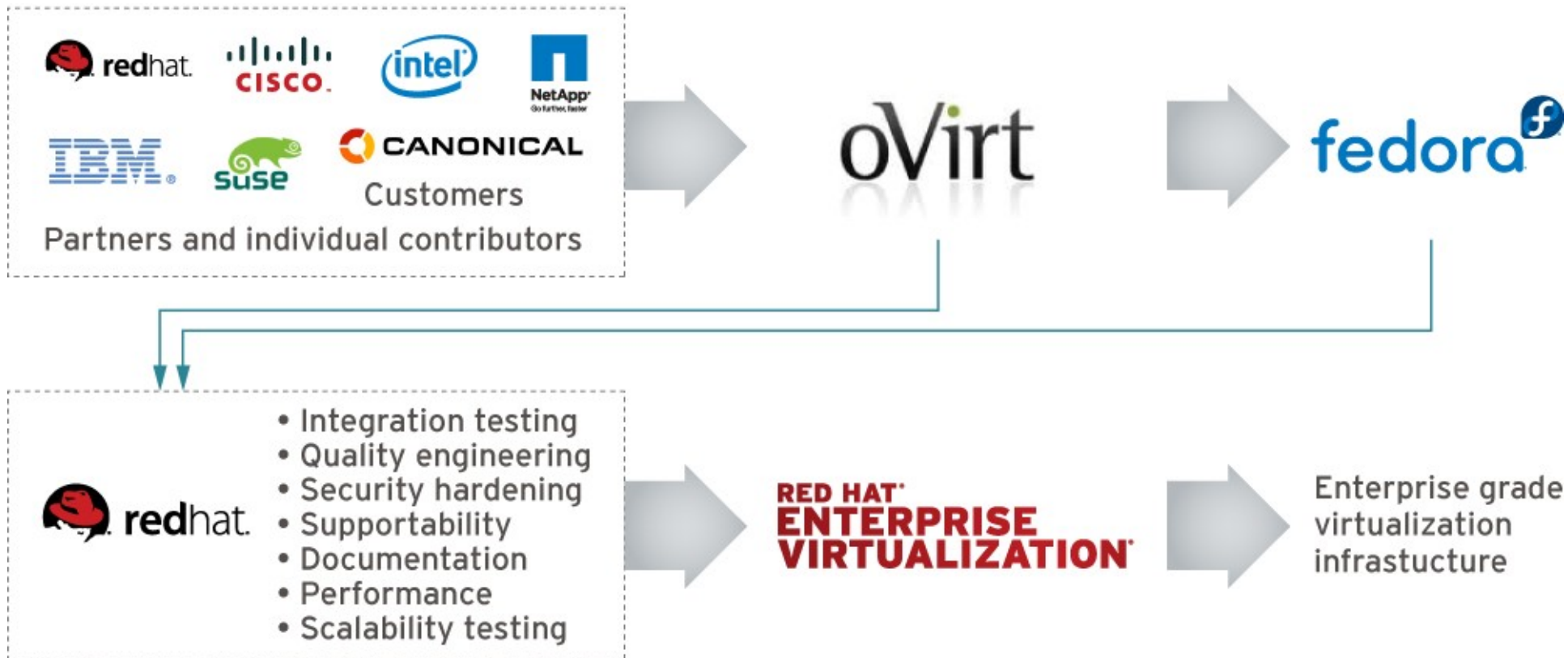
1

Overview

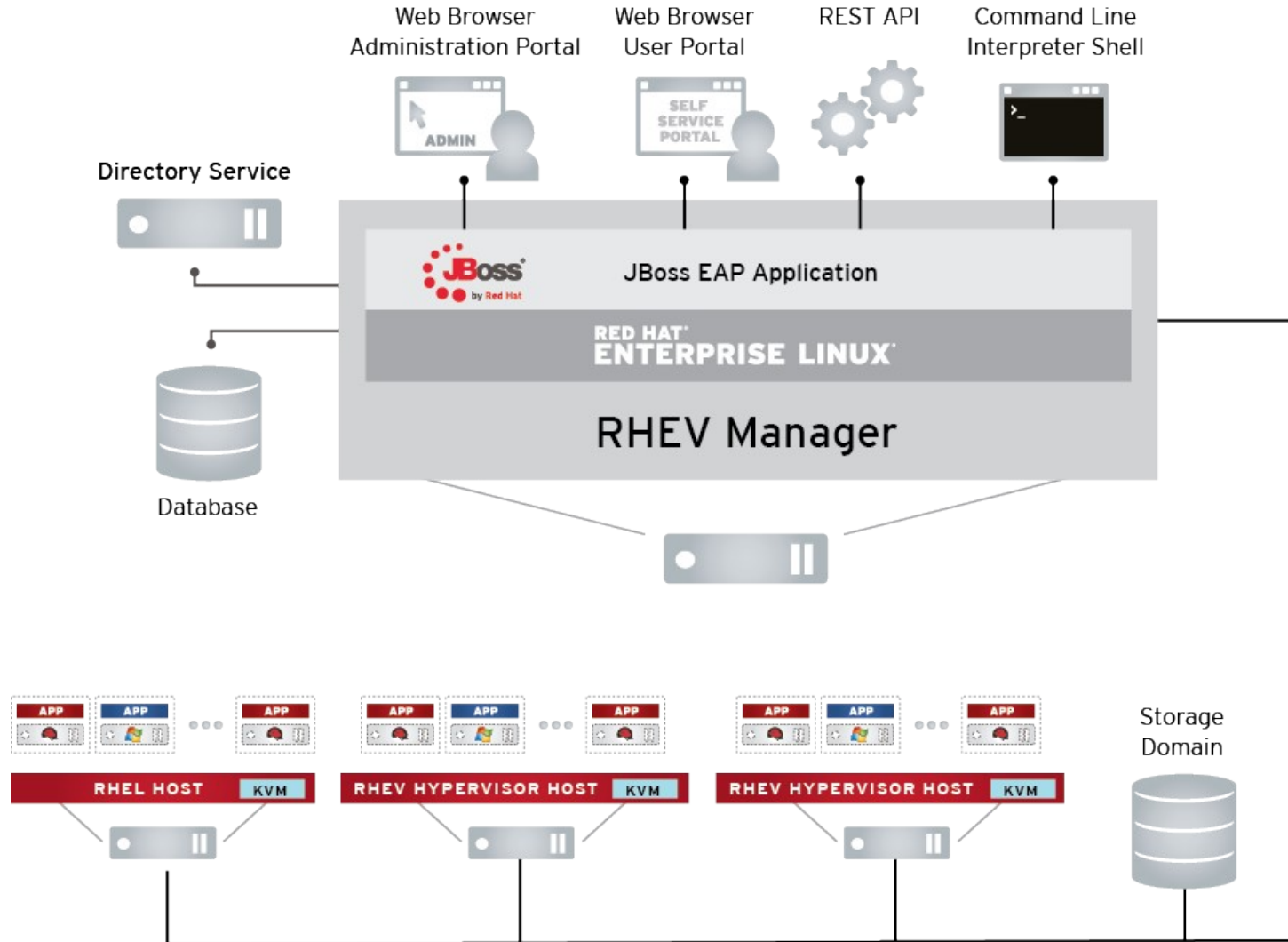
oVirt/RHEV Overview

- oVirt is a virtualization management application
- Manages hardware nodes, storage, network resources
- Free open source software, Apache License
- RHEV = Red Hat Enterprise Virtualization

oVirt → RHEV



oVirt/RHEV Architecture



Management Interface

Red Hat Enterprise Virtualization Logged in user: jjameson | [Configure](#) | [Guide](#) | [About](#) | [Sign Out](#) Market Place

Search: Vms:

[Data Centers](#) [Clusters](#) [Hosts](#) [Storage](#) [Disks](#) [Virtual Machines](#) [Pools](#) [Templates](#) [Users](#) [Dashboard](#) [Events](#)

Tree
Expand All Collapse All

- System
 - Production-ISCST
 - Storage
 - Storage2-ISO
 - Storage1-iscsi
 - Storage2-Export
 - Templates
 - Clusters
 - Production
 - Hosts
 - rhel-h1
 - rhel-h2
 - rhel-h3
 - rhel-h4
 - rhel-h5
 - rhel-h6

VMs

Bookmarks

New Server New Desktop Edit Remove Run Once Migrate Cancel Migration Make Template Export Change CD Assign Tags Show Report Guide Me

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status	Uptime	Logged-in User
USER-test									Down		
Demo-ConfigServer	rhel-h4	10.3.77.20	Production	Production-ISCST	19%	1%	0%	Spice	Up	1 day	
DEMO-JBossVM1	rhel-h3	10.3.77.17	Production	Production-ISCST	6%	0%	0%	Spice	Up	1 day	
DEMO-JBossVM2	rhel-h2	10.3.77.18	Production	Production-ISCST	46%	1%	0%	Spice	Up	1 day	
DEMO-JBossVM3	rhel-h6	10.3.77.19	Production	Production-ISCST	20%	0%	0%	Spice	Up	1 day	
DEMO-lamp	rhel-h4	10.3.77.42	Production	Production-ISCST	20%	0%	0%	Spice	Up	1 day	
DEMO-LoadBalance	rhel-h5		Production	Production-ISCST	0%	1%	0%	Spice	Up	1 day	
DEMO-luci	rhel-h4	10.3.77.10	Production	Production-ISCST	38%	1%	0%	Spice	Up	1 day	
DEMO-mrg-node0	rhel-h1	10.3.76.119	Production	Production-ISCST	31%	1%	0%	Spice	Up	1 day	
DEMO-mrg-node1	rhel-h3	10.3.76.150	Production	Production-ISCST	32%	1%	0%	Spice	Up	1 day	

General [Network Interfaces](#) [Disks](#) [Snapshots](#) [Applications](#) [Permissions](#) [Events](#)

Name:	DEMO-lamp	Defined Memory:	1024 MB	Origin:	RHEV
Description:		Physical Memory Guaranteed:	512 MB	Run On:	Any Host in Cluster
Template:	Blank	Number of CPU Cores:	2 (1 Socket(s), 2 Core(s) per Socket)	Custom Properties:	Not-Configured
Operating System:	Red Hat Enterprise Linux 6.x x64	Highly Available:	No	Cluster Compatibility Version:	3.1
Default Display Type:	Spice	USB Policy:	Disabled		
Priority:	Low				



2

Today

External Providers

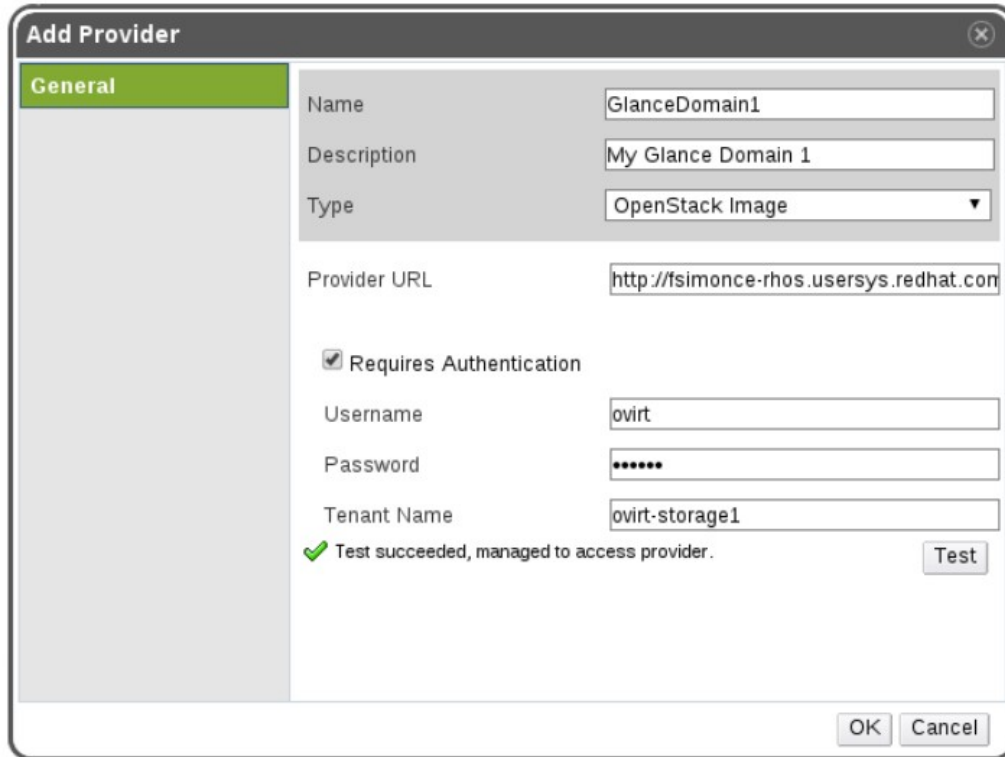
- External Providers add support for additional services

The screenshot displays a management interface for providers. On the left, a sidebar titled 'System' shows a tree view with 'External Providers' expanded, listing 'GlanceDomain1' and 'GlanceDomain2'. The main panel, titled 'Providers', features a table with columns 'Name' and 'Type'. The table contains two entries: 'GlanceDomain1' and 'GlanceDomain2', both of type 'OpenStack Image'. Above the table are buttons for 'Add', 'Edit', and 'Remove'.

Name	Type
GlanceDomain1	OpenStack Image
GlanceDomain2	OpenStack Image

Glance

- Glance is the « OpenStack Image » External Provider



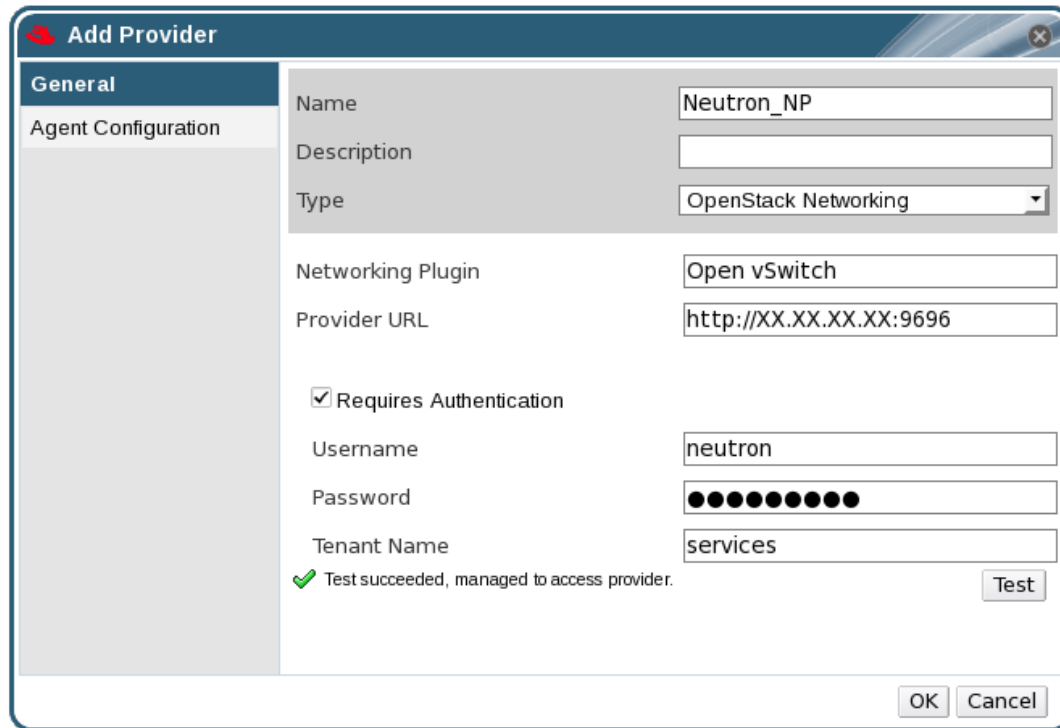
The screenshot shows a dialog box titled "Add Provider" with a close button (X) in the top right corner. The "General" tab is selected and highlighted in green. The form contains the following fields and options:

- Name:** GlanceDomain1
- Description:** My Glance Domain 1
- Type:** OpenStack Image (dropdown menu)
- Provider URL:** http://fsimonce-rhos.usersys.redhat.com
- Requires Authentication**
- Username:** ovirt
- Password:** *****
- Tenant Name:** ovirt-storage1
- Test:** A green checkmark icon followed by the text "Test succeeded, managed to access provider." and a "Test" button.

At the bottom right of the dialog, there are "OK" and "Cancel" buttons.

Neutron

- Neutron is the « OpenStack Network» External Provider



Add Provider

General

Agent Configuration

Name: Neutron_NP

Description:

Type: OpenStack Networking

Networking Plugin: Open vSwitch

Provider URL: http://XX.XX.XX.XX:9696

Requires Authentication

Username: neutron

Password: ●●●●●●●●

Tenant Name: services

Test succeeded, managed to access provider.

Test

OK Cancel

Discover Networks

The screenshot displays the oVirt Open Virtualization Manager interface. At the top, the user is logged in as `admin@internal`. The main navigation bar includes tabs for Data Centers, Clusters, Hosts, Networks, Storage, Disks, Virtual Machines, Pools, Templates, Volumes, Providers, Users, and Events. The 'Providers' tab is currently active, showing a search bar and a table with columns for Name and External ID. A 'Discover Networks' dialog box is open in the center, allowing the user to select a Data Center (currently 'Default') and a list of discovered networks. The dialog table has columns for Name, ID, and Public Network status.

<input checked="" type="checkbox"/>	Name	ID	<input type="checkbox"/> All Networks Public
<input checked="" type="checkbox"/>	bar	cd1ac011-b144-4306-8975-b4481b0c5f2d	<input type="checkbox"/> Public Network

At the bottom of the dialog, there are 'Import' and 'Cancel' buttons. The background interface also shows a 'System' tree on the left and a 'Bookmarks' section at the bottom left. The status bar at the bottom indicates the last message: '2013-May-02, 09:30 User admin@internal logged in.' and shows 'Alerts (1)', 'Events', and 'Tasks (0)'.

Add Network

The screenshot displays the oVirt Open Virtualization Manager interface. At the top, the user is logged in as 'admin@internal'. The main content area shows the 'Networks' tab with a list of networks. A modal dialog titled 'New Logical Network' is open, allowing the user to create a new network. The dialog includes fields for 'Data Center' (set to 'Default'), 'Name', 'Description', and 'Network Label'. It also has checkboxes for 'Enable VLAN tagging', 'VM network' (checked), and 'Override MTU'. Below these are options to 'Attach/Detach Network to/from Cluster(s)', with 'Attach All' and 'Attach' checkboxes. At the bottom of the dialog, there is a checkbox for 'Allow all users to use this Network' and 'OK' and 'Cancel' buttons.

oVirt Open Virtualization Manager | Logged in user: admin@internal | Configure | Guide | About | Sign Out

Search: Provider: name = foo

System

- Expand All | Collapse All
- System
 - Data Centers
 - Default
 - Storage
 - mydata
 - Networks
 - ovirtmgmt
 - bar
 - Templates
 - Clusters
 - Default
 - Hosts
 - myhost
 - VMs
- Providers
 - foo

Networks | Add | Edit | Remove

Name
foo

General | **Networks**

Discover | Add | Remove

Name	External ID
bar	93125288-2618-44df-b

New Logical Network

Network Parameters

Data Center: Default

Name: []

Description: []

Network Label: []

Enable VLAN tagging []

VM network

Override MTU []

Attach/Detach Network to/from Cluster(s)

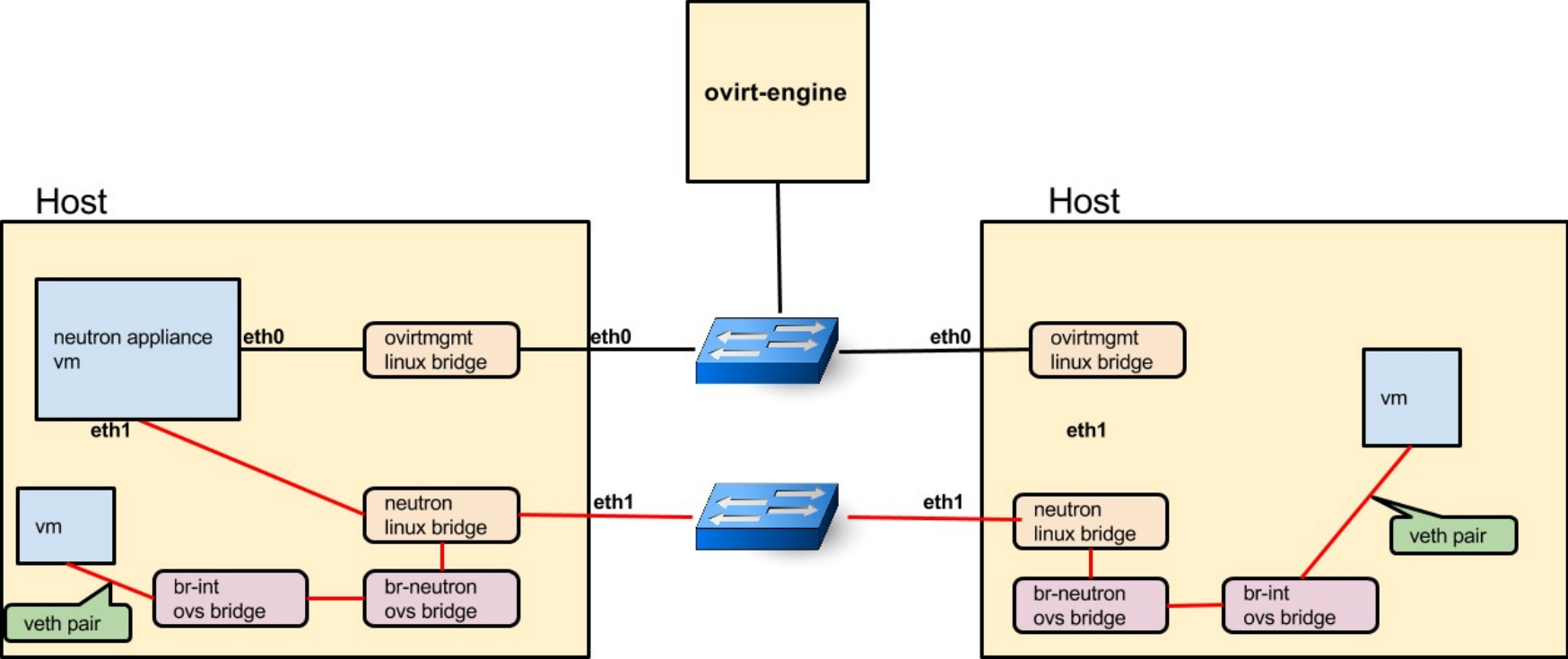
Name	Attach
Default	<input type="checkbox"/> Attach

Allow all users to use this Network

OK | Cancel

Last Message: 2013-May-02, 09:38 | User admin@internal logged in. | Alerts (1) | Events | Tasks (0)

Neutron Virtual Appliance



Others

- Keystone for authentication
- Cloud-init for VM metadata
- (Foreman Compute Resource)

The screenshot shows the 'New Virtual Machine' configuration window. The 'Initial Run' tab is active, displaying the following settings:

Property	Value
Cluster	cluster_01/Puzzle
Based on Template	Blank
Template Sub Version	base template (1)
Operating System	Windows 2012 x64
Instance Type	Custom
Optimized for	Server
Use Cloud-Init/Sysprep	<input checked="" type="checkbox"/>
VM Hostname	<input type="text"/>
Domain	<input type="text"/>
Organization Name	<input type="text"/>
Active Directory OU	<input type="text"/>
Configure Time Zone	<input type="checkbox"/>
Time Zone	(GMT) Greenwich Standard Time
Admin Password	<input type="password"/>
Custom Locale	<input type="text"/>
Sysprep	<input type="text"/>

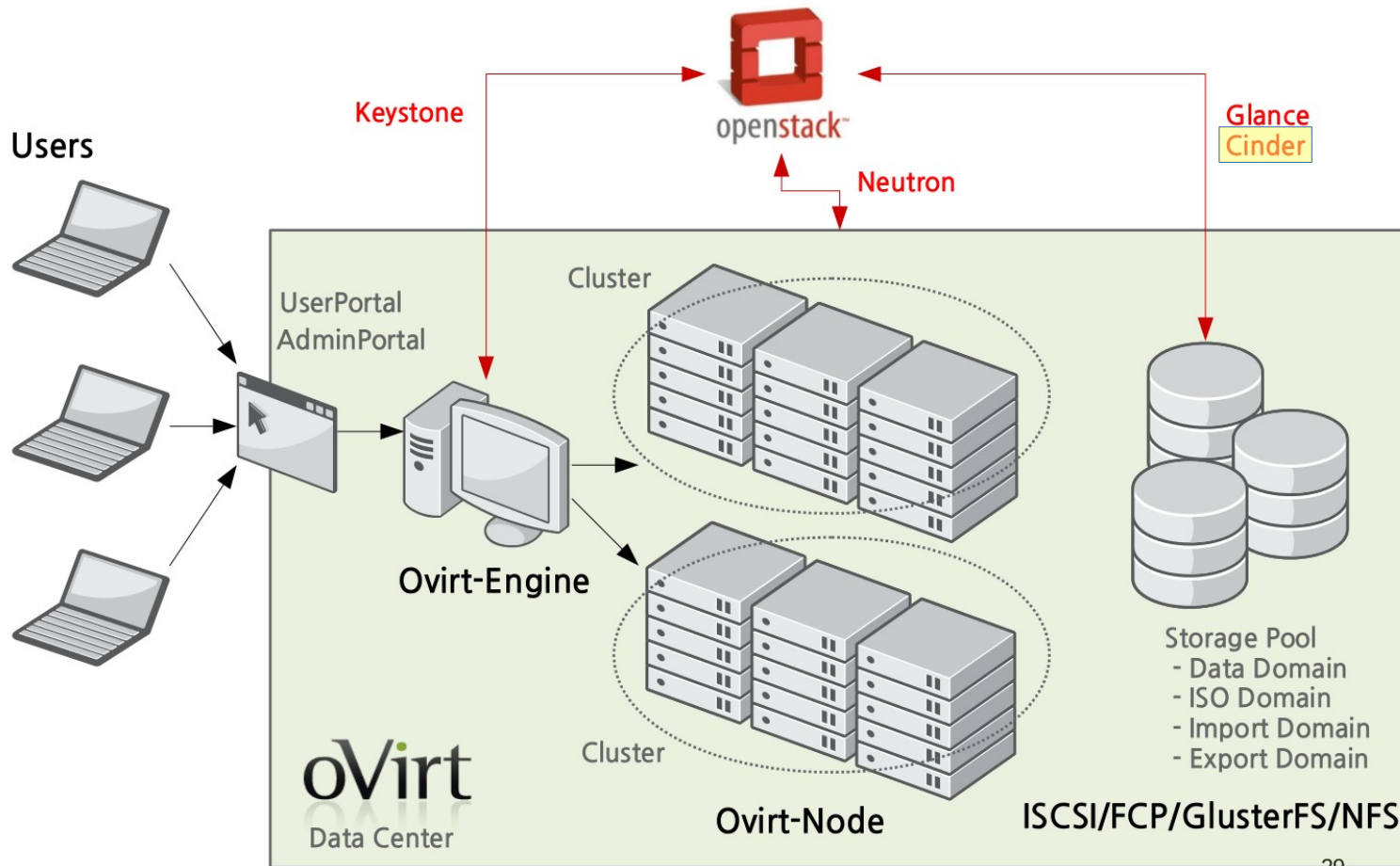
At the bottom of the window, there is a 'Hide Advanced Options' button and 'OK' and 'Cancel' buttons.



3

Future

oVirt Architecture (near future)



Cinder

- Use ceph, DRBD, etc. in oVirt
- Import/Export Images from and to Cinder
- Share Cinder Volumes
- Leverage the Cinder Volume drivers for the supported storage appliances (IBM, NetApp, Dell, EMC)
- Gain storage offloading capabilities (Cinder Volumes)
- Unify snapshots and backup strategies in your data centers

Pets and cows

- oVirt/RHEV → Pet style VMs
- OpenStack → Elastic Cloud ready applications
- Share storage, network between legacy and cloud apps

Links

<http://www.ovirt.org>

<http://www.redhat.com/en/technologies/virtualization>

<http://www.ovirt.org/Features/NeutronVirtualAppliance>

http://www.ovirt.org/Features/Cinder_Integration

<http://de.slideshare.net/nearyd/o-virt-andopenstack>

<http://de.slideshare.net/rogan/20140208-ovirtkorea-01>

Thank you!

...for not having slept during the presentation

