



oVirt: Open Your Virtual Data Center

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Agenda

- Who am I
- What is oVirt
- oVirt Anatomy
- Getting oVirt
- Extending oVirt
- What's missing
- Get involved

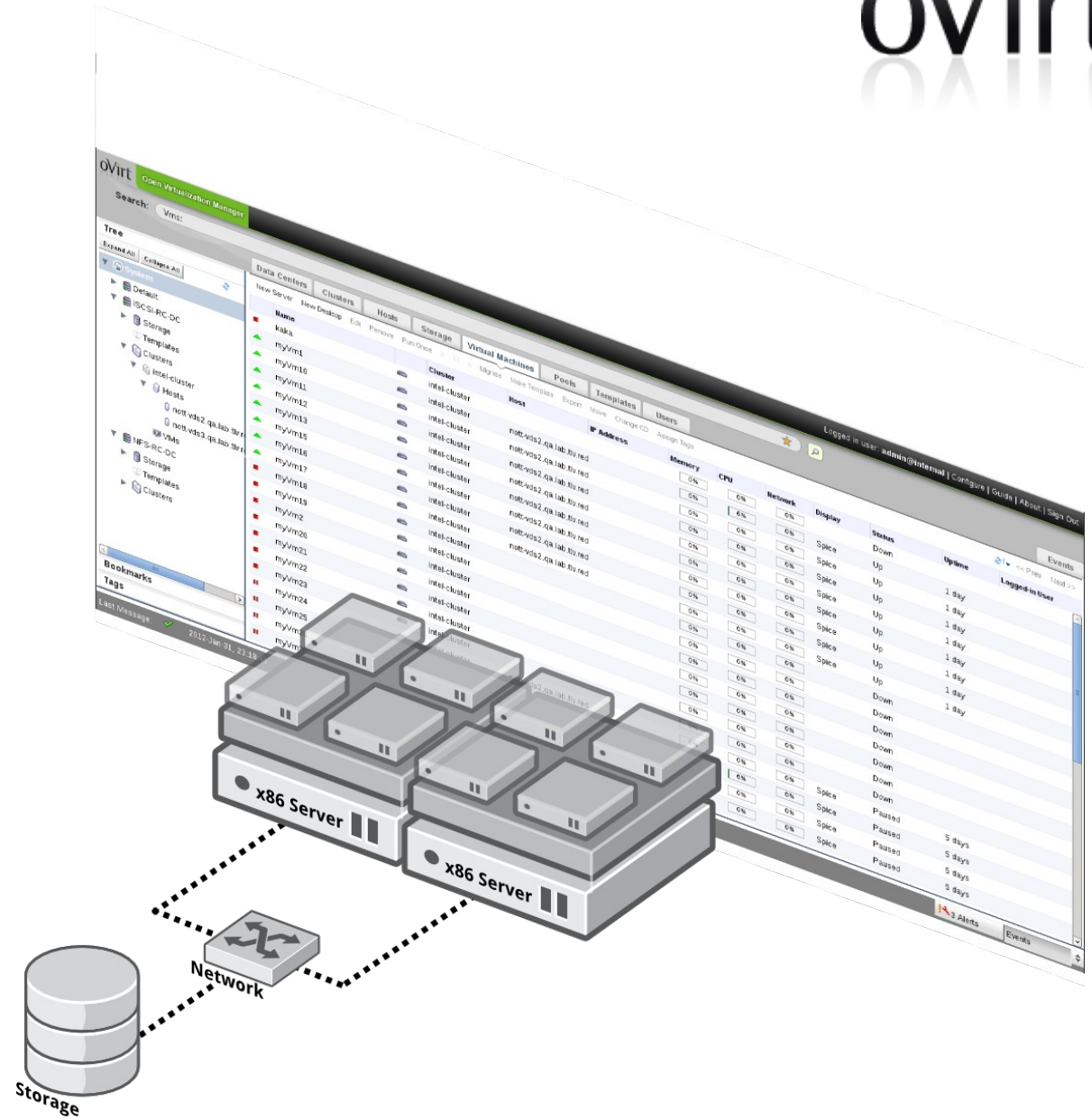
Who am I?

- Tech journalist (until last year)
- Red Hat OSAS (since last year)
- Testing products & projects
- Fan of Virtualization
- Fan of Open Source



In a nutshell

- Large scale, centralized management for server and desktop virtualization
- Provides an open source alternative to vCenter/vSphere
- Upstream for RHEV



Feature highlights

- Small footprint, bare metal hypervisor
- Optimized drivers for Linux and Windows guests
- Memory overcommit & page sharing
- High availability
- Live migration: VM & Storage
- Remote console
- iSCSI, NFS, FC, Gluster, local storage support
- CPU, storage & memory quotas
- Enterprise Directory integration
- Thin provisioning
- Live VM snapshots
- VM conversion tools
- OVF import/export
- VM templates
- Web-based admin & user portals

Roots



- **Feb 2007:** Qumranet's KVM becomes part of mainline Linux kernel
- **Sept 2007:** Qumranet's KVM-based Windows VDI product, Solid ICE, ships
- **Oct 2007:** First commit in old oVirt repo (git.et.redhat.com)
- **Feb 2008:** oVirt project emerges publicly (for the 1st time)
- **Sept 2008:** Red Hat acquires Qumranet, Inc.
- **Nov 2009:** RHEV 2.1 ships w/ .NET-based management server
- **Nov 2011:** oVirt Project re-launches w/ Java-based management server
- **Jan 2012:** RHEV 3.0 ships w/ new engine in tech preview
- **Feb 2012:** oVirt 3.0 release (first community release)
- **Aug 2012:** oVirt 3.1 release
- **Feb 2013:** oVirt 3.2 release

Admin Console



oVirt Open Virtualization Manager Logged in user: vdcadmin | Configure | Guide | About | Sign Out

Search: Vms:

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

[New Server](#)
[New Desktop](#)
[Edit](#)
[Remove](#)
[Run Once](#)
[Migrate](#)
[Cancel Migration](#)
[Make Template](#)
[Export](#)
[Change CD](#)
[Assign Tags](#)
[Guide Me](#)
1-13

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
demo-vm-2			Default	Default	0%	0%	0%		Down
linux-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
nw-filter-vm-1			cluster-31	dc-31	0%	0%	0%		Down
nwfilter-vm-32-1	zeus02		cluster-32	demo-dc-32	0%	0%	0%	Spice	Up
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-various-cl	0%	0%	0%		Down

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

Name: demo-vm **Defined Memory:** 512 MB **Origin:** oVirt
Description: **Physical Memory Guaranteed:** 512 MB **Run On:** Any Host in Cl
Template: Blank **Number of CPU Cores:** 1 (1 Socket(s)) **Custom Properties:** Not-Configurec
Operating System: Other Linux **Number of Monitors:** 1 **Cluster Compatibility Version:** 3.2
Default Display Type: Spice **USB Policy:** Disabled

Bookmarks
Tags

Last Message: ✓ 2012-Oct-30, 10:54:53 VM nwfilter-vm-32-1 started on Host zeus02

[Alerts \(1\)](#)
[Events](#)
[Tasks \(0\)](#)

CLI

AVAILABLE COMMANDS

* action	execute an action on an object
* cd	change directory
* clear	clear the screen
* connect	connect to a RHEV manager
* console	open a console to a VM
* create	create a new object
* delete	delete an object
* disconnect	disconnect from RHEV manager
* exit	quit this interactive terminal
* getkey	dump private ssh key
* help	show help
* list	list or search objects
* ping	test the connection
* pwd	print working directory
* save	save configuration variables
* set	set a configuration variable
* show	show one object
* status	show status
* update	update an object

```
(oVirt cli) > help connect
```

USAGE

```
connect
connect <url> <username> <password>
```

DESCRIPTION

Connect to a RHEV manager. This command has two forms. In the first form, no arguments are provided, and the connection details are read from their respective configuration variables (see 'show'). In the second form, the connection details are provided as arguments.

The arguments are:

- * url - The URL to connect to.
- * username - The user to connect as. Important: this needs to be in the user@domain format.
- * password - The password to use.



REST API



```
Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://10.35.1.171/rhev-api
http://10.35.1.171/rhev-api
- <api>
  <link rel="capabilities" href="/rhev-api/capabilities"/>
  <link rel="clusters" href="/rhev-api/clusters"/>
  <link rel="clusters/search" href="/rhev-api/clusters?search={query}"/>
  <link rel="datacenters" href="/rhev-api/datacenters"/>
  <link rel="datacenters/search" href="/rhev-api/datacenters?search={query}"/>
  <link rel="events" href="/rhev-api/events"/>
  <link rel="events/search" href="/rhev-api/events?search={query}"/>
  <link rel="hosts" href="/rhev-api/hosts"/>
  <link rel="hosts/search" href="/rhev-api/hosts?search={query}"/>
  <link rel="networks" href="/rhev-api/networks"/>
  <link rel="roles" href="/rhev-api/roles"/>
  <link rel="storagedomains" href="/rhev-api/storagedomains"/>
  <link rel="storagedomains/search" href="/rhev-api/storagedomains?search={query}"/>
  <link rel="tags" href="/rhev-api/tags"/>
  <link rel="templates" href="/rhev-api/templates"/>
  <link rel="templates/search" href="/rhev-api/templates?search={query}"/>
  <link rel="users" href="/rhev-api/users"/>
  <link rel="groups" href="/rhev-api/groups"/>
  <link rel="domains" href="/rhev-api/domains"/>
  <link rel="vmpools" href="/rhev-api/vmpools"/>
  <link rel="vmpools/search" href="/rhev-api/vmpools?search={query}"/>
  <link rel="vms" href="/rhev-api/vms"/>
  <link rel="vms/search" href="/rhev-api/vms?search={query}"/>
  <system_version revision="428" build="0" minor="6" major="4"/>
- <summary>
  - <vms>
    <total>22</total>
    <active>5</active>
  </vms>
  - <hosts>
    <total>6</total>
    <active>5</active>
  </hosts>
  - <users>
    <total>2</total>
  </users>
Done
```

Python SDK



```
#create proxy
api = API(url='http://localhost:8080', username='user@domain', password='password')
```

```
api.
```

```
  vms
  __init__(url, username, password, key_file, cert_file, port, s
```

```
api.vms.
```

```
  add(vm)
  get(name)
  list(query)
```

```
#list by query
vms = api.vms.list(query = 'name=python_vm')
```

```
#search vms by property constraint
vms = api.vms.list(memory=1073741824)
```

```
#get by constraints
vm = api.vms.get(id = '02f0f4a4-9738-4731-83c4-293f3f734782')
```

```
vm.st
```

```
  start()
  start_time
  stateless ce
```

Virtual Machines: 0%

Defined VMs: 2
Running VMs: 0

Virtual CPUs: 0%

Defined vCPUs: 2
Used vCPUs: 0

Memory: 0%

Defined Memory: 2012MB
Memory Usage: 0MB

Storage:

Total Size: 32GB
Number of Snapshots: 2
Total Size: <1GB

Description	Disks	Virtual Size	Actual Size	Snapshots
⊕ demo-vm	1	2GB	0GB	1
⊖ linux-vm	1	30GB	0GB	1
linux-vm_Disk1	linux-vm_Disk1	30GB	0GB	1

Create VM From Template



oVirt Open Virtualization Manager

Logged in user: vdcadmin | Configure | Guide | About | Sign Out

Search: Vms:

New Server Virtual Machine

General

Data Center: demo-dc-32

Host Cluster: cluster-32

Name: rhel63_demo_vm

Description: Demo VM

Based on Template: rhel63_demo

Memory Size: 512 MB

Total Virtual CPUs: 2

Advanced Parameters

Cores per Virtual Socket: 1

Virtual Sockets: 2

Operating System: Red Hat Enterprise Linux 6.x x64

OK Cancel

CPU	Network	Display	Status
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down
0%	0%		Down

Last Message: ✓ 2012-Oct-30, 10:45:18 Creation of Template rhel63_demo from VM demo-vm has been completed.

Alerts (1) Events Tasks (0)

Run a VM



oVirt Open Virtualization Manager Logged in user: **vdadmin** | [Configure](#) | [Guide](#) | [About](#) | [Sign Out](#)

Search: Vms: x ☆ 🔍

Data Centers Clusters Hosts **Storage** Disks **Virtual Machines** Pools Templates Volumes Users Events

New Server New Desktop Edit Remove Run Once ▶ ⏸ ⏹ Migrate Cancel Migration Make Template Export Change CD Assign Tags Guide Me 1-13 < >

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
demo-vm-2			Default	Default	0%	0%	0%		Down
linux-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
nw-filter-vm-1			cluster-31	dc-31	0%	0%	0%		Down
nwfilter-vm-32-1	zeus02		cluster-32	demo-dc-32	0%	0%	0%	Spice	Up
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-various-cl	0%	0%	0%		Down

General **Network Interfaces** Disks Snapshots Applications Permissions Events

New Edit Remove Activate Deactivate

Name	Network Name	Type	MAC	Speed (Mbps)	Rx (Mbps)	Tx (Mbps)	Drops (Pkts)	Port Mirro
nic1	ovirtmgmt	Red Hat VirtIO	00:1a:4a:16:01:52	1000	< 1	< 1	0	
nic3	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:aa	1000	< 1	< 1	0	
nic5	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:ab	1000	< 1	< 1	0	
nic4	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:ac	1000	< 1	< 1	0	
nic2	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:af	1000	< 1	< 1	0	

Bookmarks
Tags

Last Message: ✔ 2012-Oct-30, 10:54:53 VM nwfilter-vm-32-1 started on Host zeus02 🚨 Alerts (1) 📄 Events 📁 Tasks (0)

Connect To Guest



oVirt Engine

Logged in user: masayag | Sign Out | Guide | About

Basic

Extended

Virtual Machines

Templates

Resources

New Server | New Desktop | Edit | Remove | Run Once | Change CD | Make Template



rhev-backend-gerrit



sonar (sonar.eng.lab.tlv.redhat.com)



```
sonar:0 - Press shift+f12 to Release Cursor

Red Hat Enterprise Linux Server release 6.2 (Santiago)
Kernel 2.6.32-220.el6.x86_64 on an x86_64

sonar login: _
```

General

Network Interfaces

Virtual Disks

Snapshots

Permissions

Events

Applications

Monitor

Name:	sonar	Defined Memory:	4096 MB	Origin:	RHEV
Description:	sonar.eng.lab.tlv.redhat.com	Physical Memory Guaranteed:	1024 MB	Run On:	Any Host in Cluster
Template:	Blank	Number of CPU Cores:	4 (4 Socket(s), 1 Core(s) per Socket)	Custom Properties:	Not-Configured
Operating System:	Red Hat Enterprise Linux 6.x x64	Highly Available:	false		
Default Display Type:	Spice	USB Policy:	Enabled		
Priority:	Low	Resides on Storage Domain:	RHEV-TLV-STORAGE-FC		

VM Migration



The screenshot displays the oVirt Open Virtualization Manager interface. The top navigation bar includes tabs for Data Centers, Clusters, Hosts, Storage, Disks, Virtual Machines, Pools, Templates, Volumes, Users, and Events. The 'Virtual Machines' tab is active, showing a table of VMs. A red circle highlights the 'Migrate' button in the toolbar. A modal dialog titled 'Migrate Virtual Machine(s)' is open, with 'Select Host Automatically' selected. The 'Host' dropdown menu is set to 'modi04'. The background table lists VMs such as 'demo-vm', 'demo-vm-2', 'linux-vm', 'nw-filter-vm-1', 'nwfilter-vm-32-1', and 'vm-1-dc-30-cluster'. The status of 'nwfilter-vm-32-1' is 'Power' with 64% CPU usage. The bottom status bar shows a message: '2012-Oct-30, 10:53:51 VM nwfilter-vm-32-1 was started by vdcadmin (Host: zeus02)'. There are also icons for Alerts (1), Events, and Tasks (1).

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
demo-vm-2				demo-dc-32	0%	0%	0%		Down
linux-vm				demo-dc-32	0%	0%	0%		Down
nw-filter-vm-1				demo-dc-32	0%	0%	0%		Down
nwfilter-vm-32-1				demo-dc-32	0%	64%	0%	Spice	Power
vm-1-dc-30-cluster				demo-dc-32	0%	0%	0%		Down

Network

Setup Host Networks

Drag to make changes

Interfaces	Assigned Logical Networks	Unassigned Logical Networks
<ul style="list-style-type: none">bond0eth1eth2	<ul style="list-style-type: none">NOVM_VLAN_MTU_5 (VLAN 500)VLAN_MTU_5000 (VLAN 222)VLAN_MTU_5000_2 (VLAN 52)	Required <ul style="list-style-type: none">NON_VM_MTU_5000 Non Required <ul style="list-style-type: none">NON_VM_MTU_9000NOVM_VLAN_MTU_9 (VLAN 900)VLAN_MTU_9000 (VLAN 9)VLAN_MTU_9000_2 (VLAN 92)
<ul style="list-style-type: none">bond1eth3eth4	no network assigned	
<ul style="list-style-type: none">eth0	<ul style="list-style-type: none">ovirtmgmt	

Verify connectivity between Host and Engine

Save network configuration

OK Cancel

Reports



Red Hat Enterprise Virtualization Reports

Dec 5, 2011

Active Virtual Machines by OS in Clusters of Data Center DC_30_IC136_tiger

Criteria: **Datacenter:** DC_30_IC136_tiger **Date Range:** 2011-08-01 - 2011-10-31 **VM Type:** All
Cluster: All **Period:** Quarterly **Show Deleted Virtual Machines:** Yes

Active Virtual Machines by OS (BR18)

* Show Deleted Entities? Yes No

* Data Center: DC_30_IC136_tiger

* Cluster: All

* VM Type: All

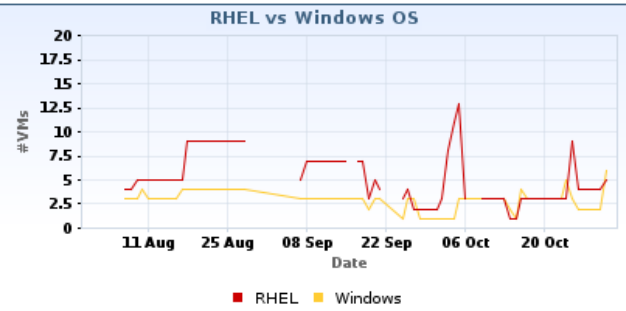
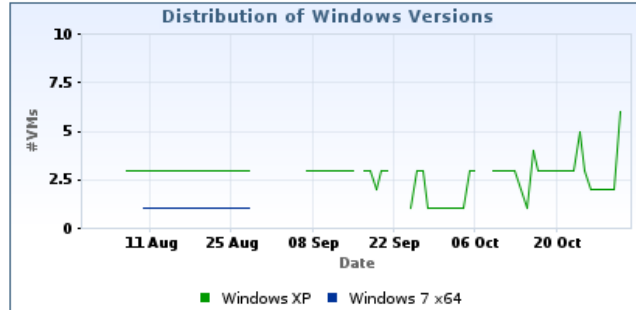
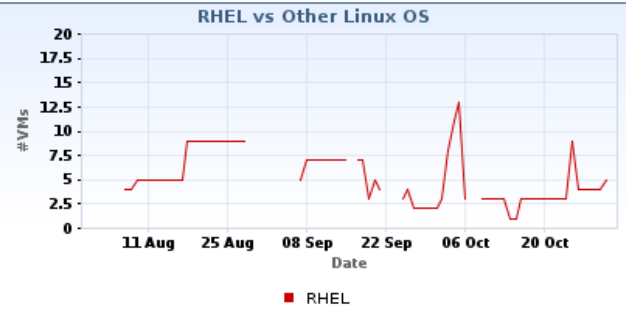
* Period Range: Quarterly

* Select Month: August 2011

* Start Date: 2011-08-01

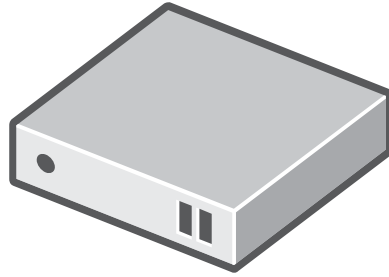
* End Date: 2011-10-31

Reset

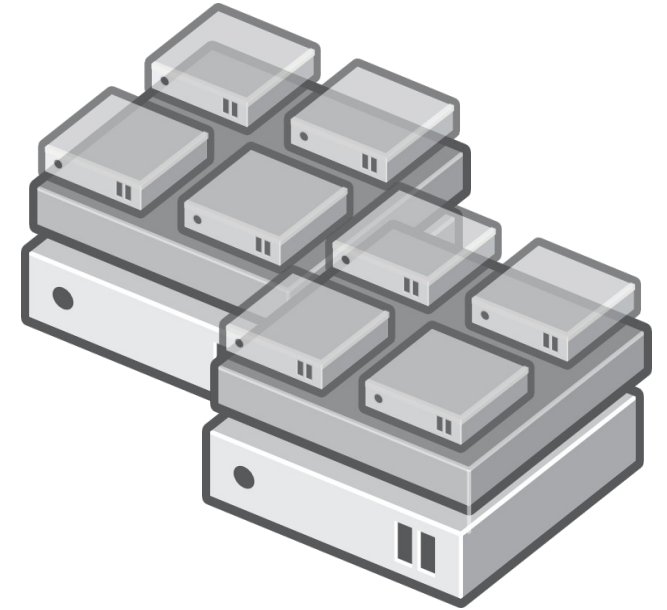
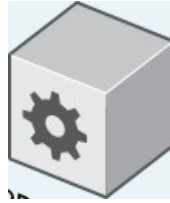


Anatomy

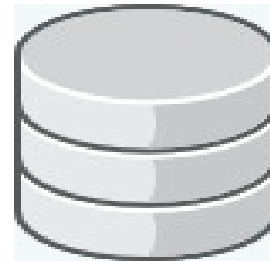
Engine



DB



Client



Storage

oVirt Engine



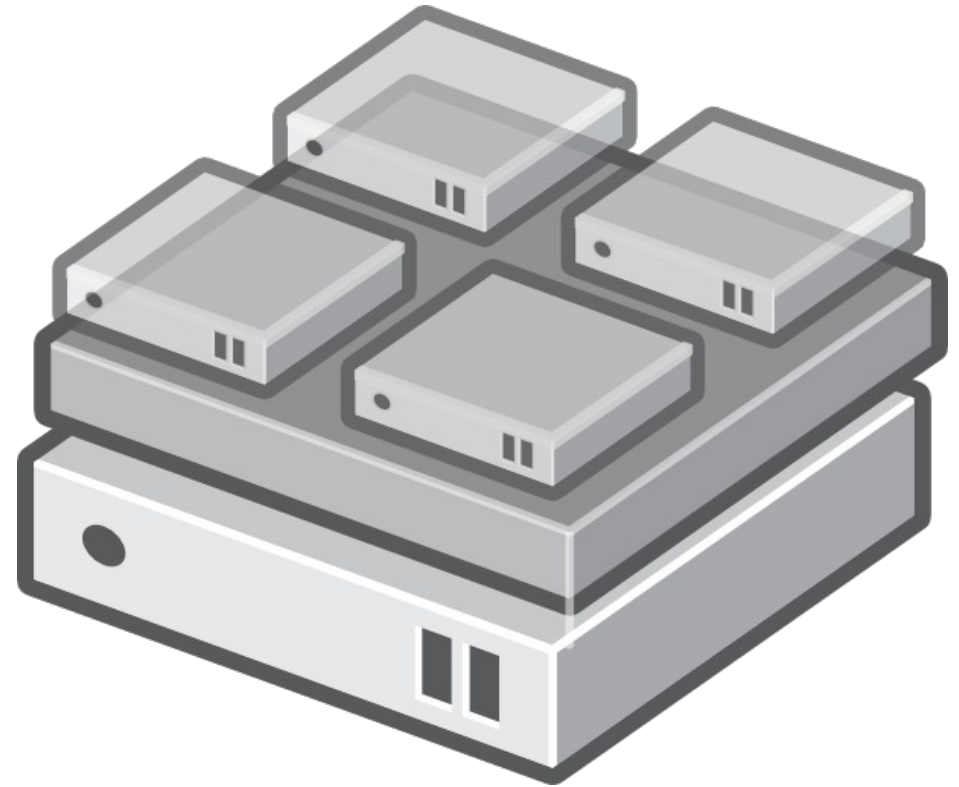
- JBoss-based Java application
- Communicates with hypervisor nodes
- Manages VM lifecycle
- Controlled with:
 - Admin Portal
 - User Portal
 - REST API
 - Python SDK
 - Command Line Shell

The screenshot shows the oVirt Open Virtualization Manager interface. The top navigation bar includes tabs for Data Centers, Clusters, Hosts, Networks, Storage, Disks, and Virtual Machines. A search bar is present with the text "Vms:". Below the navigation bar is a table of virtual machines. The table has columns for Name, Host, IP Address, Cluster, and Data Center. The first row shows a VM named "demo-vm" on host "zeus02" in cluster "cluster-32" and data center "demo-dc-32". Other VMs include "demo-vm-2", "linux-vm", "nw-filter-vm-1", "nwfilter-vm-32-rhel-6", "rhel63-vm", "vm-1-dc-30-cluster-3", "vm-del-net-2", "vm-del-net-bug", "vm-tempalte-test-1" through "vm-tempalte-test-4", and "win2008". Below the table, the "General" tab is selected, showing details for the "demo-vm", including its name and defined memory of 1024 MB.

Name	Host	IP Address	Cluster	Data Center
demo-vm	zeus02		cluster-32	demo-dc-32
demo-vm-2			Default	Default
linux-vm			cluster-32	demo-dc-32
nw-filter-vm-1			cluster-31	dc-31
nwfilter-vm-32-rhel-6	zeus02	10.35.18.154	cluster-32	demo-dc-32
rhel63-vm	zeus02		cluster-32	demo-dc-32
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-various-cl
vm-del-net-2			cluster-30	dc-30
vm-del-net-bug			cluster-30	dc-30
vm-tempalte-test-1			Default	Default
vm-tempalte-test-2			Default	Default
vm-tempalte-test-3			Default	Default
vm-tempalte-test-4			Default	Default
win2008			cluster-31	dc-31

Virtualization Host

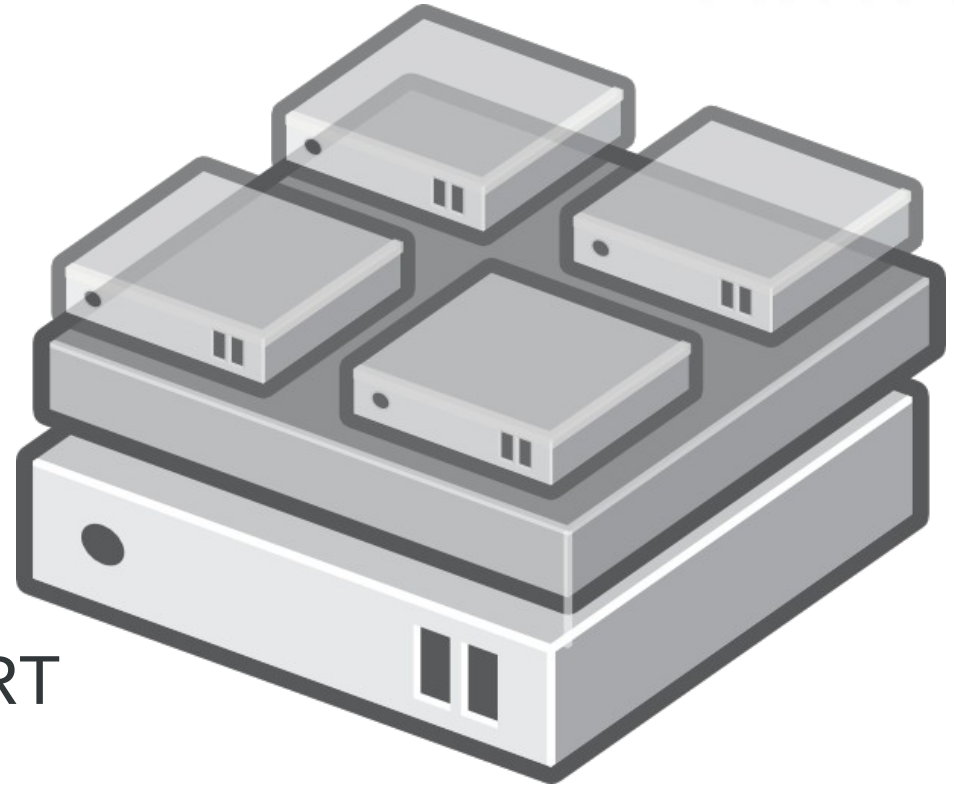
- Machine w/ Intel VT/AMD-V CPUs
- Linux OS – bits for network, storage, etc.
- KVM – hypervisor, part of Linux kernel
- libvirt – virtualization API
- **vdsm – virtualization node management**



oVirt Node



- Dedicated hypervisor
- JEOS
- Built on Fedora
- Firmware
 - Install and forget about it
 - Similar to ESXi or OpenWRT
- Small Footprint (< 200MB)

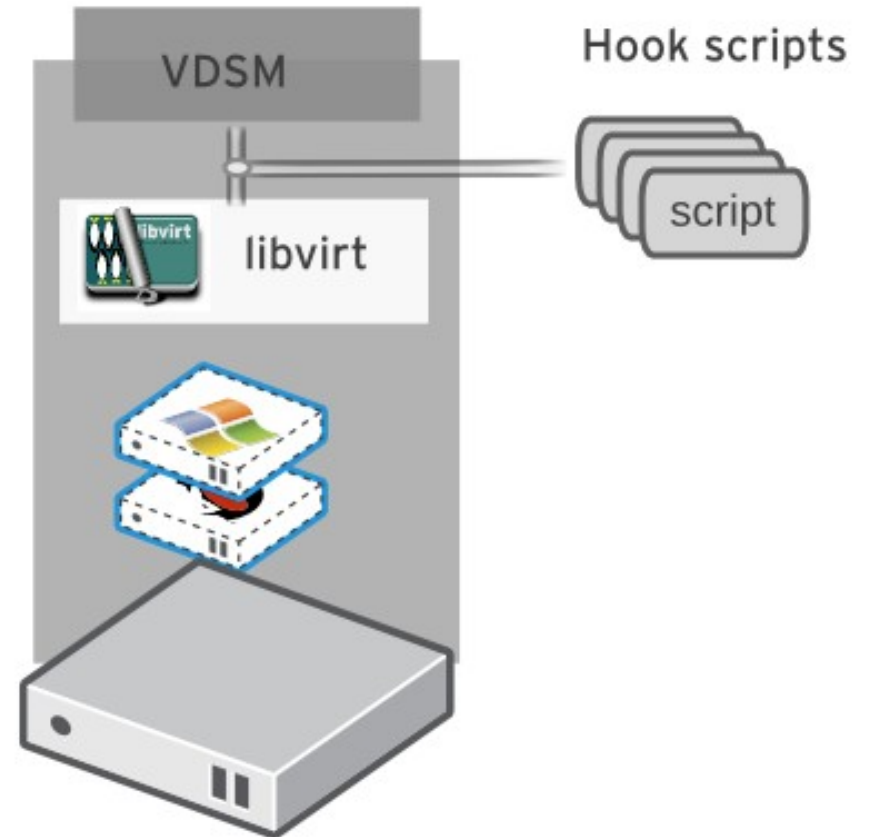


Getting oVirt

- oVirt Live: http://wiki.ovirt.org/wiki/OVirt_Live
 - All in One: `ovirt-engine-setup-plugin-allinone`
 - Engine + oVirt Node(s)
-
- Packaged releases target latest Fedora
 - Community-provided packages for CentOS
 - oVirt 3.1 in F18 and F17 repos
 - Build from source

Vdsm hooks

- A mechanism for customization
- Allows the administrator to manipulate the VM life cycle
- Points of manipulation
 - Before / after VM start
 - Before / after VM migration in/out
 - On VM stop
 - Etc.



Nested KVM hook



```
import hooking

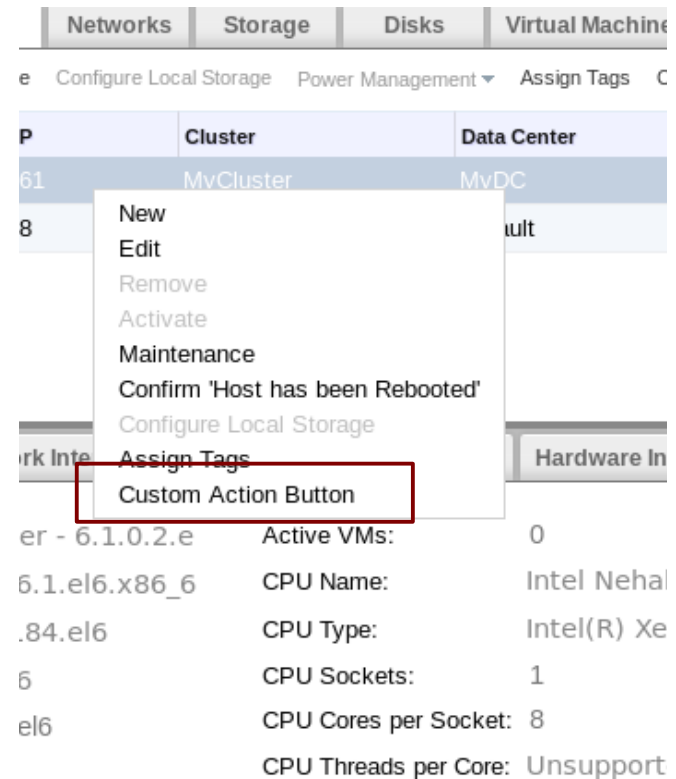
cpu_nested_features = {
    "kvm_intel": "vmx",
    "kvm_amd": "svm",
}

for kvm_mod in ("kvm_intel", "kvm_amd"):
    kvm_mod_path = "/sys/module/%s/parameters/nested" % kvm_mod
    try:
        with file(kvm_mod_path) as f:
            if f.readline().strip() == "Y":
                break
    except IOError:
        pass
else:
    kvm_mod = None

if kvm_mod:
    domxml = hooking.read_domxml()
    feature_vmx = domxml.createElement("feature")
    feature_vmx.setAttribute("name", cpu_nested_features[kvm_mod])
    feature_vmx.setAttribute("policy", "require")
    domxml.getElementsByTagName("cpu")[0].appendChild(feature_vmx)
    hooking.write_domxml(domxml)
```


UI Plugins

- New in oVirt 3.2
- Extend or customize oVirt Engine functionality by adding UI components to the Admin Portal (Webadmin)
- Plugins integrate with the Admin Portal on the client side using JavaScript
- Plugins can be packaged and distributed for use with the oVirt Engine



Shell-in-a-Box



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

Search: Host:

System

Expand All Collapse All

Hosts

Name	Hostname/IP	Cluster	Data Center	Status	Virtual Machines	Memory	CPU	Network	SPM
Host-1	10.3	c2	dc2	Up	0	6%	0%	1%	Normal
Host-1	10.3	c2	dc2	Up	0	25%	2%	0%	SPM

Shell Box

```
dhcp-1- login: root
root@dhcp-1- password:
Last login: Thu Jan 17 13:22:41 2013 from dhcp-1-
[root@dhcp-1- ~]# service shellinaboxd status
shellinaboxd (pid 30628) is running...
[root@dhcp-1- ~]# service vdsm status
VDS daemon server is running
[root@dhcp-1- ~]#
```

Foreman plugin



Logged in user: admin@internal

Hosts Networks Storage Disks Virtual Machines Pools Templates Volumes Users **Foreman Dashboard**

Generated at 20 Dec 13:41

Description	Data
Hosts that had performed modifications without error	0
Hosts in Error State	0
Good Host Reports in the last 35 minutes	0 / 4 hosts (0%)
Hosts that had pending changes	0
Out Of Sync Hosts	0
Hosts With No Reports	4
Hosts With Alerts Disabled	0

Puppet Clients Activity Overview

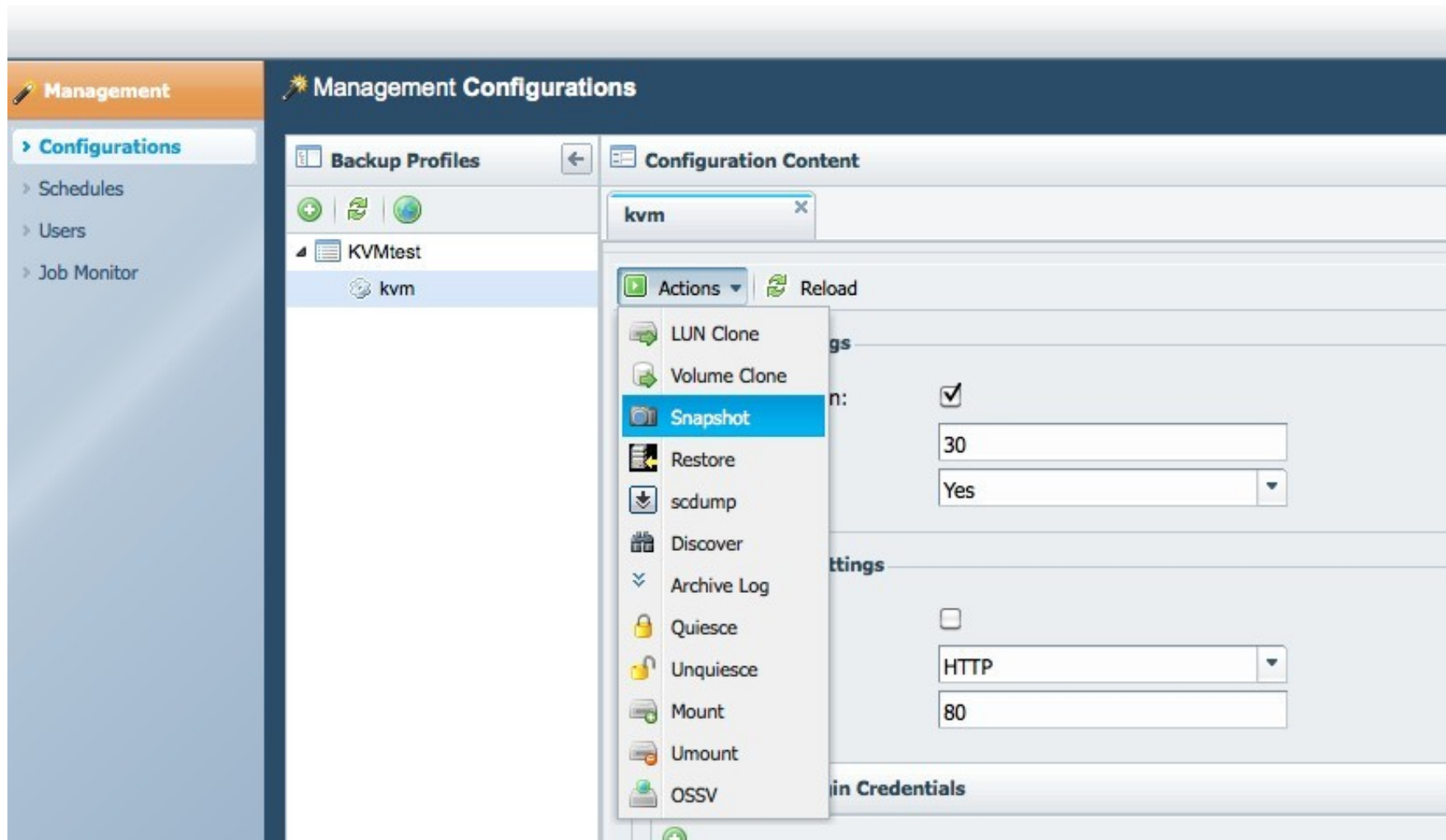
Category	Count
No report	4
Notification disabled	0
Active	0
Error	0
OK	0
Pending changes	0
Out of sync	0

Run Distribution in the last 30 Minutes

Time Ago	Number Of Clients
30 Minutes ago	0
27 Minutes ago	0
24 Minutes ago	0
21 Minutes ago	0
18 Minutes ago	0
15 Minutes ago	0
12 Minutes ago	0
9 Minutes ago	0
6 Minutes ago	0
3 Minutes ago	0

logged in.

NetApp Virtual Storage Console



Nagios monitoring



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

Search: Vms:

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[New Server](#)
[New Desktop](#)
[Edit](#)
[Remove](#)
[Run Once](#)
[Migrate](#)
[Cancel Migration](#)
[Make Template](#)
[Export](#)
[Change CD](#)
[Assign Tags](#)
[Guide Me](#)

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status	Uptime
debian6	centos-hyp01.lab.ovi		ovido-local	ovido-local	0%	0%	0%	SPICE	Up	4 days
f18-beta			ovido-local	ovido-local	0%	0%	0%		Down	
rhel6	centos-hyp01.lab.ovi	10.0.100.200	ovido-local	ovido-local	28%	1%	0%	SPICE	Up	20 days
solaris10-compile			ovido-local	ovido-local	0%	0%	0%		Down	
ubuntu-12.04	centos-hyp01.lab.ovi	10.0.100.187	ovido-local	ovido-local	0%	2%	0%	SPICE	Up	3 days
ubuntu-12.04-deskto	centos-hyp01.lab.ovi	10.0.100.189	ovido-local	ovido-local	0%	3%	0%	SPICE	Up	3 days

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

[Acknowledge](#)
[Comment](#)
[Downtime](#)
[Notifications](#)
[Schedule](#)

Service	Output
Check_MK	OK - Agent version 1.2.0p4, execution time C
CPU load	OK - 15min load 0.05 at 1 CPUs
CPU utilization	OK - user: 0.0%, system: 0.0%, wait: 0.0%
Disk IO SUMMARY	OK - 0.00B/sec read, 341.33B/sec write, IOs
fs_/_	OK - 21.5% used (3.00 of 14.0 GB), (levels a
fs_/_boot	OK - 16.8% used (0.04 of 0.2 GB), (levels at
Interface 1	OK - [eth0] (up) speed unknown, in: 195.21I
Kernel Context Switches	OK - 10/s in last 60 secs

Name	Value
last_state_change	2013-02-18 12:41:04
lastcheck	2013-02-18 17:57:04
latency	0.172
long_plugin_output	
next_check	2013-02-18 17:58:04
notifications_enabled	1
output	OK - Agent version 1.2.0p4, execution time 0.1 sec
perf_data	execution_time=0.055

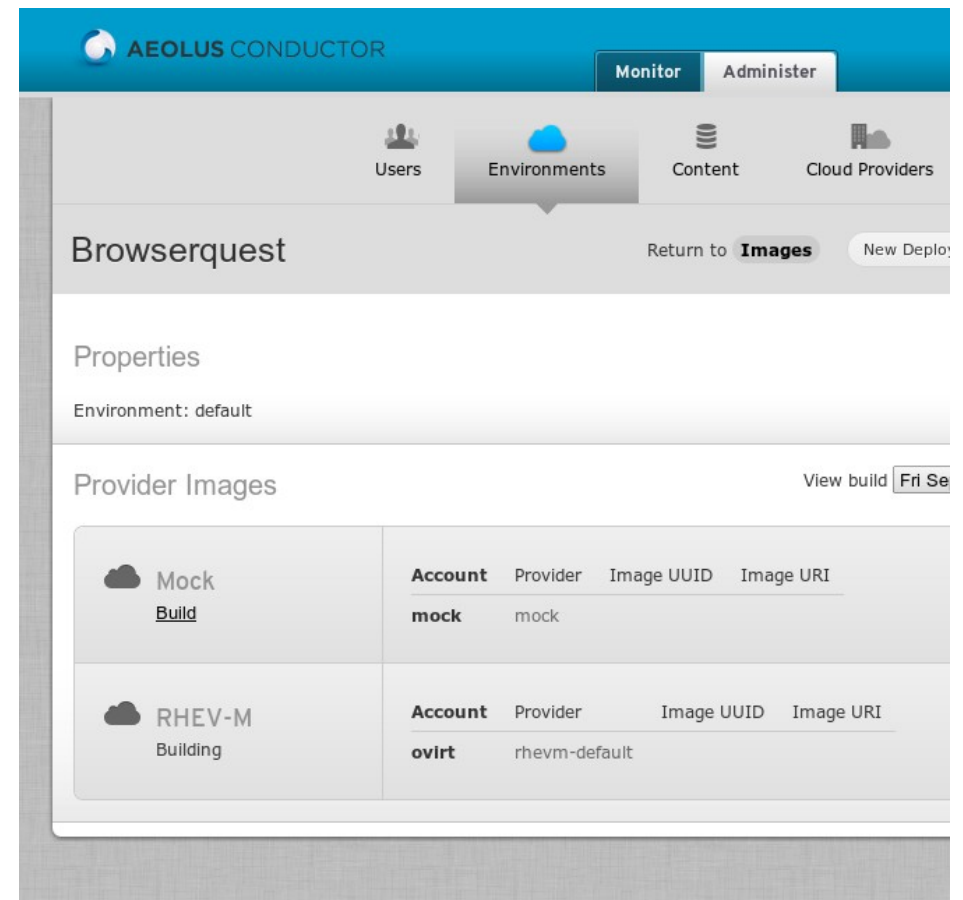
[Details](#)
[Graphs](#)

Last Message: ✔ 2013-Feb-18, 17:58 User admin@internal logged out. Alerts (0) Events Tasks (0)

Deltacloud & Aeolus



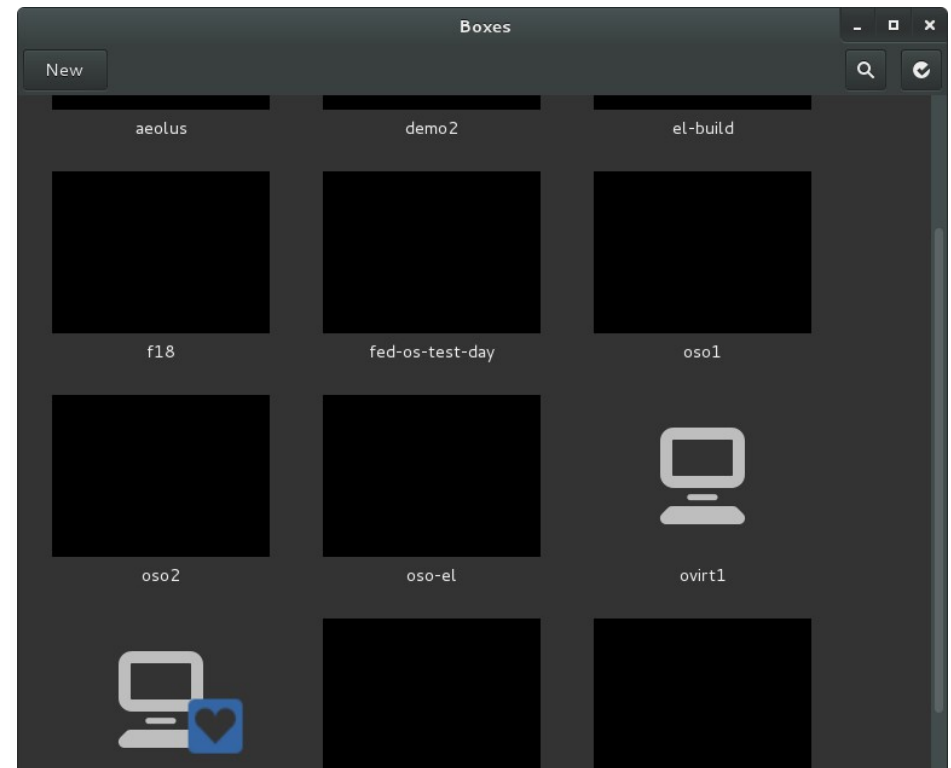
- Deploy Deltacloud server
- Manipulate oVirt via:
 - EC2 API
 - CIMI API
 - Deltacloud API
- Aeolus Project
 - Create & manage cloud resources across multiple providers...
 - ... including oVirt



govirt & GNOME Boxes



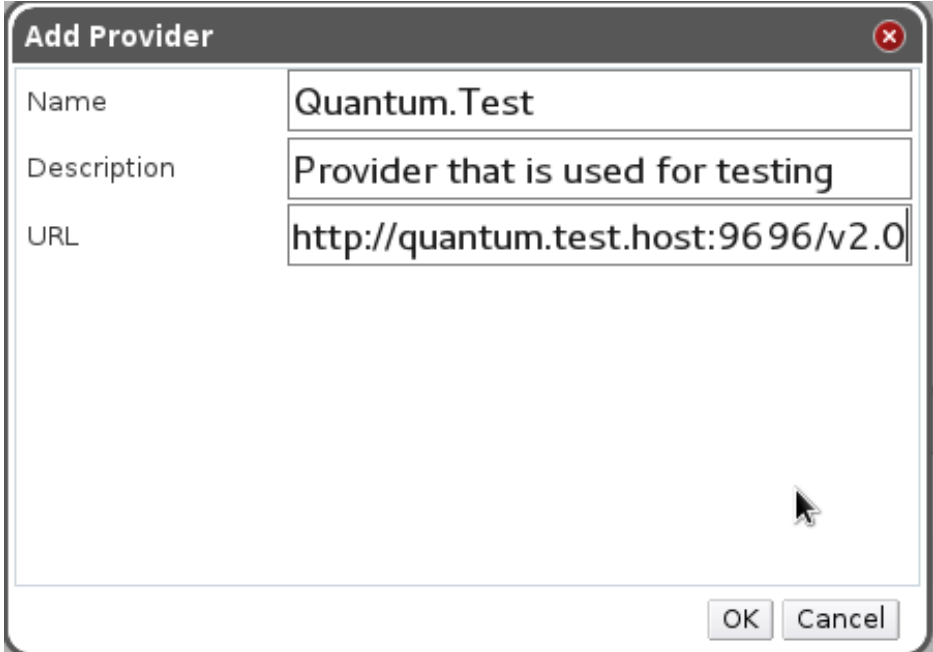
- govirt: C library to access the oVirt REST API
- Boxes: A simple GNOME 3 application to access remote or virtual systems
 - Creates and manages local KVM virtual machines using libvirt
 - Remote machine access through SPICE or VNC



OpenStack Quantum integration



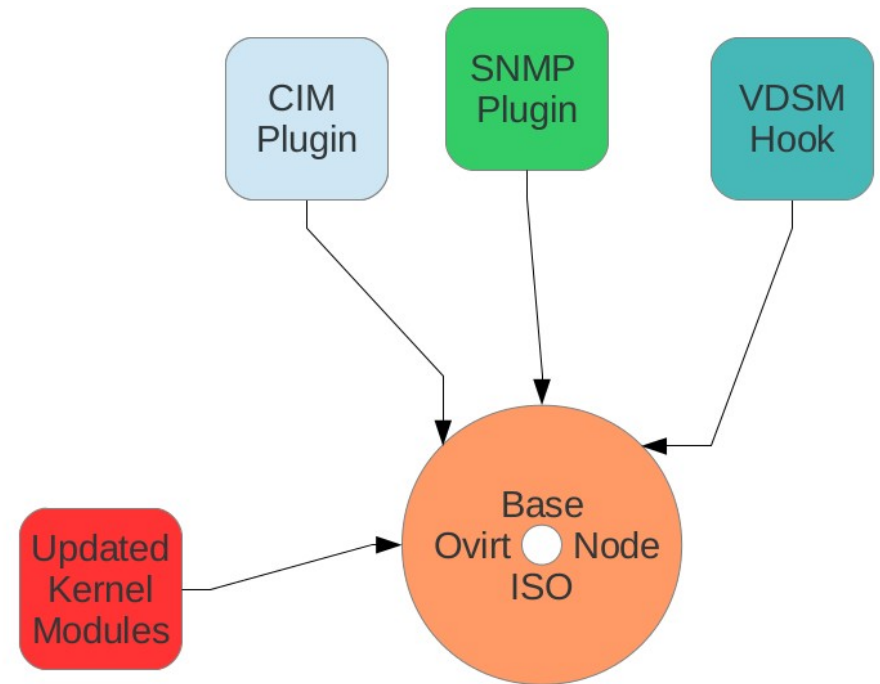
- Early stage work
- Quantum provides network connectivity-as-a-service
 - Quantum for managing VM networks
 - oVirt for managing infrastructure networks (Migration network, storage network etc.)
- External networks can be discovered in oVirt and then can be used within oVirt for example in VMs.

A screenshot of a 'Add Provider' dialog box. The dialog has a title bar with a close button (red X). It contains three text input fields: 'Name' with the value 'Quantum.Test', 'Description' with the value 'Provider that is used for testing', and 'URL' with the value 'http://quantum.test.host:9696/v2.0'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Field	Value
Name	Quantum.Test
Description	Provider that is used for testing
URL	http://quantum.test.host:9696/v2.0

Node plugins

- Adds functionality not included in the base image
 - Install or update packages
 - Install new kernel modules
 - Add vdsms hooks
- Non-oVirt uses
 - OpenStack POC
 - YOUR PROJECT HERE



Engine, sans oVirt



Red Hat Storage Logged in user: admin@internal | [Configure](#) | [Guide](#) | [About](#) | [Sign Out](#)

Search: Volumes: x ☆ 🔍

Clusters Servers **Volumes** Users Events

Tree

- Expand All Collapse All
- System
 - Clusters
 - Default
 - Servers
 - Volumes
 - data
 - Servers
 - server1
 - server2
 - Volumes
 - music
 - video

Bookmarks

Tags

Create Volume Remove Start Stop ↻ 1-2

Name	Volume Type	Number of Bricks	Transport Type	Status
music	Distribute	2	TCP	Up
video	Replicate	2	TCP	Up

Summary **Bricks** Volume Options Permissions Events

Add Bricks Remove Bricks

Server	Brick Directory	Status
10.16.159.159	/tmp/music-brick1	Up
10.16.159.161	/tmp/music-brick2	Up

Last Message: ✔ 2012-Jun-05, 13:51:33 Gluster Volume video started. 🚨 2 Alerts 📄 Events 📁 Tasks (0)

Top feature requests

1. Allow disk resize
2. Integrate Nagios/Zabbix monitoring
3. Highly Available engine
4. Open vSwitch integration
5. Allow cloning VMs without template
6. Enable hypervisor upgrade/updates through engine
7. Allow engine on an oVirt hosted VM
8. Enable guest configuration (root password, SSH keys, network) via guest agent in engine
9. Integrate v2v into engine
10. Bond/extend ovirtmgmt with a second network for HA/increased bandwidth
11. Integrate scheduling of snapshots and VM export for backups in engine
12. Spice Support in Chrome

Get Involved!

- Wiki
 - <http://www.ovirt.org>
- Mailing lists
 - users@ovirt.org — oVirt user list
 - announce@ovirt.org — oVirt announce list
 - engine-devel@ovirt.org — oVirt engine devel list
 - node-devel@ovirt.org — oVirt node devel list
- IRC
 - [#ovirt](https://irc.oftc.net/#ovirt) on irc.oftc.net



THANK YOU !

twitter:	@jasonbrooks
google+:	superlongURL
email:	jbrooks@redhat.com
irc:	jbrooks on #ovirt
blog:	blog.jebpages.com

<http://www.ovirt.org>



oVirt: Open Your Virtual Data Center

Jason Brooks
jbrooks@redhat.com

Agenda

- Who am I
- What is oVirt
- oVirt Anatomy
- Getting oVirt
- Extending oVirt
- What's missing
- Get involved

Who am I?

- Tech journalist (until last year)
- Red Hat OSAS (since last year)
- Testing products & projects
- Fan of Virtualization
- Fan of Open Source

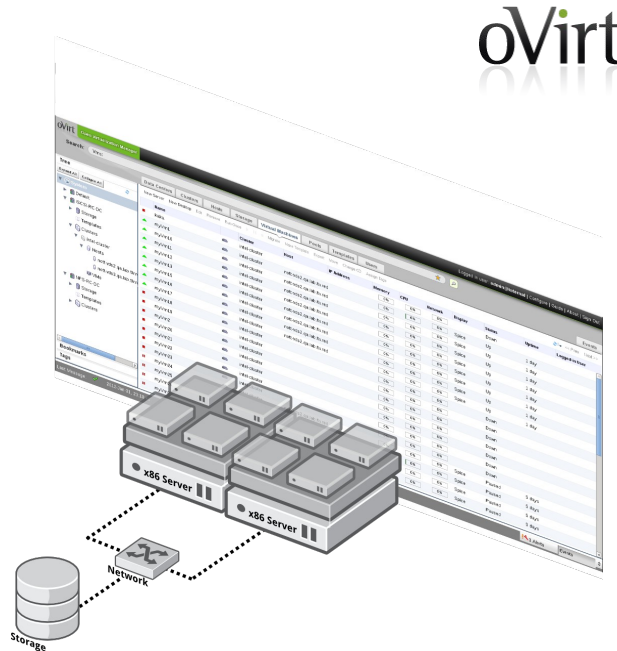


image credit:

<http://www.flickr.com/photos/oxygeon/238163317/>

In a nutshell

- Large scale, centralized management for server and desktop virtualization
- Provides an open source alternative to vCenter/vSphere
- Upstream for RHEV



oVirt Overview -- SCALE11x

4

Cloud is of course cloudy, and oVirt can be part of a cloud, but the primary focus here is the VMware-style, virtual infrastructure-type deal – IT people familiar w/ vSphere will feel comfy

Cloud style is the new hotness, why pay attn to virtual infrastructure

Less sexy, perhaps, but the community of VMware users is HUGE, and they need free software, too!

Feature highlights



- Small footprint, bare metal hypervisor
- Optimized drivers for Linux and Windows guests
- Memory overcommit & page sharing
- High availability
- Live migration: VM & Storage
- Remote console
- iSCSI, NFS, FC, Gluster, local storage support
- CPU, storage & memory quotas
- Enterprise Directory integration
- Thin provisioning
- Live VM snapshots
- VM conversion tools
- OVF import/export
- VM templates
- Web-based admin & user portals

wall of text, selected items from a Versus vSphere/Hyper-V doc for RHEV 3.1

from:

<http://www.redhat.com/rhecm/rest-rhecm/jcr/repository/collaboration/jcr:system/jcr:versionStorage/cd52a6990a070d54046a777e73fd41d5/58/jcr:frozenNode/rh:resourceFile>

Roots



- **Feb 2007:** Qumranet's KVM becomes part of mainline Linux kernel
- **Sept 2007:** Qumranet's KVM-based Windows VDI product, Solid ICE, ships
- **Oct 2007:** First commit in old oVirt repo (git.et.redhat.com)
- **Feb 2008:** oVirt project emerges publicly (for the 1st time)
- **Sept 2008:** Red Hat acquires Qumranet, Inc.
- **Nov 2009:** RHEV 2.1 ships w/ .NET-based management server
- **Nov 2011:** oVirt Project re-launches w/ Java-based management server
- **Jan 2012:** RHEV 3.0 ships w/ new engine in tech preview
- **Feb 2012:** oVirt 3.0 release (first community release)
- **Aug 2012:** oVirt 3.1 release
- **Feb 2013:** oVirt 3.2 release

- **June 2010:** RHEV 2.2 (still .NET)
- **Dec 2012:** RHEV 3.1 ships w/ new engine as default

Another wall of text, some back story to the hows and whys of oVirt, for instance, why is oVirt (a new project) mature-looking (solely my view from the outside, BTW)

more interesting background on SolidICE to RHEV:

<http://nthadani.wordpress.com/2012/02/02/a-retrospective-analysis-on-the-road-to-red-hat/>

.NET to Java management server background:

<http://lpeer.blogspot.com/2010/04/switching-from-c-to-java.html>

Admin Console



oVirt Open Virtualization Manager Logged in user: vdcadmin | Configure | Guide | About | Sign Out

Search: Vms:

Virtual Machines | Data Centers | Clusters | Hosts | Storage | Disks | Pools | Templates | Volumes | Users | Events

Tree: System

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
demo-vm-2			Default	Default	0%	0%	0%		Down
linux-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
nw-filter-vm-1			cluster-31	dc-31	0%	0%	0%		Down
nwfilter-vm-32-1	zeus02		cluster-32	demo-dc-32	0%	0%	0%	Spice	Up
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-various-cl	0%	0%	0%		Down

demo-vm | General | Network Interfaces | Disks | Snapshots | Applications | Permissions | Events

Name: demo-vm Defined Memory: 512 MB Origin: oVirt
Description: Physical Memory Guaranteed: 512 MB Run On: Any Host in Cl
Template: Blank Number of CPU Cores: 1 (1 Socket(s)) Custom Properties: Not-Configured
Operating System: Other Linux Number of Monitors: 1 Cluster Compatibility Version: 3.2
Default Display Type: Spice USB Policy: Disabled

Bookmarks
Tags

Last Message: ✓ 2012-Oct-30, 10:54:53 VM nwfilter-vm-32-1 started on Host zeus02 ! Alerts (1) Events Tasks (0)

oVirt Overview -- SCALE11x 7

UI made w/ Google Web Toolkit

CLI

AVAILABLE COMMANDS

* action	execute an action on an object
* cd	change directory
* clear	clear the screen
* connect	connect to a RHEV manager
* console	open a console to a VM
* create	create a new object
* delete	delete an object
* disconnect	disconnect from RHEV manager
* exit	quit this interactive terminal
* getkey	dump private ssh key
* help	show help
* list	list or search objects
* ping	test the connection
* pwd	print working directory
* save	save configuration variables
* set	set a configuration variable
* show	show one object
* status	show status
* update	update an object

```
(oVirt cli) > help connect
```

USAGE

```
connect  
connect <url> <username> <password>
```

DESCRIPTION

Connect to a RHEV manager. This command has two forms. In the first form, no arguments are provided, and the connection details are read from their respective configuration variables (see 'show'). In the second form, the connection details are provided as arguments.

The arguments are:

* url	- The URL to connect to.
* username	- The user to connect as. Important: this needs to be in the user@domain format.
* password	- The password to use.

REST API



```

Mozilla Firefox
http://10.35.1.171/rhev-api
http://10.35.1.171/rhev-api
- <api>
  <link rel="capabilities" href="/rhev-api/capabilities"/>
  <link rel="clusters" href="/rhev-api/clusters"/>
  <link rel="clusters/search" href="/rhev-api/clusters?search={query}"/>
  <link rel="datacenters" href="/rhev-api/datacenters"/>
  <link rel="datacenters/search" href="/rhev-api/datacenters?search={query}"/>
  <link rel="events" href="/rhev-api/events"/>
  <link rel="events/search" href="/rhev-api/events?search={query}"/>
  <link rel="hosts" href="/rhev-api/hosts"/>
  <link rel="hosts/search" href="/rhev-api/hosts?search={query}"/>
  <link rel="networks" href="/rhev-api/networks"/>
  <link rel="roles" href="/rhev-api/roles"/>
  <link rel="storagedomains" href="/rhev-api/storagedomains"/>
  <link rel="storagedomains/search" href="/rhev-api/storagedomains?search={query}"/>
  <link rel="tags" href="/rhev-api/tags"/>
  <link rel="templates" href="/rhev-api/templates"/>
  <link rel="templates/search" href="/rhev-api/templates?search={query}"/>
  <link rel="users" href="/rhev-api/users"/>
  <link rel="groups" href="/rhev-api/groups"/>
  <link rel="domains" href="/rhev-api/domains"/>
  <link rel="vmpools" href="/rhev-api/vmpools"/>
  <link rel="vmpools/search" href="/rhev-api/vmpools?search={query}"/>
  <link rel="vms" href="/rhev-api/vms"/>
  <link rel="vms/search" href="/rhev-api/vms?search={query}"/>
  <system_version revision="428" build="0" minor="6" major="4"/>
- <summary>
  - <vms>
    <total>22</total>
    <active>5</active>
  </vms>
  - <hosts>
    <total>6</total>
    <active>5</active>
  </hosts>
  - <users>
    <total>3</total>
    <active>3</active>
  </users>

```

Python SDK



```
#create proxy
api = API(url='http://localhost:8080', username='user@domain', password='password')

api.
  vms
    __init__(url, username, password, key_file, cert_file, port, s

api.vms.
  add(vm)
  get(name)
  list(query)

#list by query
vms = api.vms.list(query = 'name=python_vm')

#search vms by property constraint
vms = api.vms.list(memory=1073741824)

#get by constraints
vm = api.vms.get(id = '02f0f4a4-9738-4731-83c4-293f3f734782')

vm.start()
  start_time
  stateless ce

#update
```

Virtual Machines

Templates

Resources

Virtual Machines: 0%
Defined VMs: 2
Running VMs: 0

Virtual CPUs: 0%
Defined vCPUs: 2
Used vCPUs: 0

Memory: 0%
Defined Memory: 2012MB
Memory Usage: 0MB

Storage:
Total Size: 32GB
Number of Snapshots: 2
Total Size: <1GB

Description	Disks	Virtual Size	Actual Size	Snapshots
demo-vm	1	2GB	0GB	1
linux-vm	1	30GB	0GB	1
linux-vm_Disk1	linux-vm_Disk1	30GB	0GB	1

Create VM From Template



The screenshot shows the oVirt Open Virtualization Manager interface. A modal dialog titled "New Server Virtual Machine" is open, displaying configuration options for a new VM. The "General" tab is selected, showing fields for Data Center (demo-dc-32), Host Cluster (cluster-32), Name (rhel63_demo_vm), Description (Demo VM), Based on Template (rhel63_demo), Memory Size (512 MB), Total Virtual CPUs (2), Cores per Virtual Socket (1), Virtual Sockets (2), and Operating System (Red Hat Enterprise Linux 6.x x64). The background shows a tree view of the system and a table of VMs with columns for CPU, Network, Display, and Status.

VM Name	CPU	Network	Display	Status
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down
rhel63_demo_vm	0%	0%	0%	Down


Run a VM



oVirt Open Virtualization Manager Logged in user: vdcadmin | Configure | Guide | About | Sign Out

Search: Vms:

Virtual Machines | Data Centers | Clusters | Hosts | Storage | Disks | Pools | Templates | Volumes | Users | Events

New Server | New Desktop | Edit | Remove | Run Once |  | Migrate | Cancel Migration | Make Template | Export | Change CD | Assign Tags | Guide Me | 1.13

Name	Host	IP Address	Cluster	Data Center	Memory	CPUs	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Up
demo-vm-2			Default	Default					Down
linux-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
nw-filter-vm-1			cluster-31	dc-31	0%	0%	0%		Down
nwfilter-vm-32-1	zeus02		cluster-32	demo-dc-32	0%	0%	0%	Spice	Up
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-various-cl	0%	0%	0%		Down





General | Network Interfaces | Disks | Snapshots | Applications | Permissions | Events

New | Edit | Remove | Activate | Deactivate

Name	Network Name	Type	MAC	Speed (Mbps)	Rx (Mbps)	Tx (Mbps)	Drops (Pkts)	Port Mirro
nic1	ovirtmgmt	Red Hat VirtIO	00:1a:4a:16:01:52	1000	< 1	< 1	0	
nic3	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:aa	1000	< 1	< 1	0	
nic5	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:ab	1000	< 1	< 1	0	
nic4	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:ac	1000	< 1	< 1	0	
nic2	VLAN_MTU_9000	Red Hat VirtIO	00:1a:4a:16:01:ad	1000	< 1	< 1	0	

Bookmarks

Tags

Last Message:  2012-Oct-30, 10:54:53 VM nwfilter-vm-32-1 started on Host zeus02  Alerts (1)  Events  Tasks (0)

Connect To Guest



oVirt Engine
Logged in user: masayaq | Sign Out | Guide | About

Basic Extended

Virtual Machines

Templates

Resources

New Server | New Desktop | Edit | Remove | Run Once | Change CD | Make Template

rhev-backend-gerrit

sonar (sonar.eng.lab.tlv.redhat.com)

```
sonar:~ - Press shift+F12 to Release Cursor
Red Hat Enterprise Linux Server release 6.2 (Santiago)
Kernel 2.6.32-228.el6.x86_64 on an x86_64
sonar login: _
```

General | Network Interfaces | Virtual Disks | Snapshots | Permissions | Events | Applications | Monitor

Name:	sonar	Defined Memory:	4096 MB	Origin:	PHV
Description:	sonar.eng.lab.tlv.redhat.com	Physical Memory Guaranteed:	3224 MB	Run On:	Any Host in Cluster
Template:	Blank	Number of CPU Cores:	4 (4 Socket(s), 1 Core(s) per Socket)	Custom Properties:	Not-Configured
Operating System:	Red Hat Enterprise Linux 6 x x64	Highly Available:	false		
Default Display Type:	Spice	USB Policy:	Enabled		
Priority:	Low	Resides on Storage Domain:	PHV-TLV-STORAGE-FC		

VM Migration



The screenshot shows the oVirt Open Virtualization Manager interface. The 'Virtual Machines' tab is active, and a 'Migrate' button is circled in red. A dialog box titled 'Migrate Virtual Machine(s)' is open, showing options to 'Select Host Automatically' (selected) or 'Select Destination Host'. The 'Host' dropdown menu is set to 'modi04'. The background shows a table of virtual machines with columns for Name, Host, IP Address, Cluster, Data Center, Memory, CPU, Network, Display, and Status.

Name	Host	IP Address	Cluster	Data Center	Memory	CPU	Network	Display	Status
demo-vm			cluster-32	demo-dc-32	0%	0%	0%		Down
demo-vm-2					0%	0%	0%		Down
linux-vm					0%	0%	0%		Down
nw-filter-vm-1					0%	0%	0%		Down
nwfilter-vm-32-1					0%	64%	0%	Spice	Power
vm-1-dc-30-cluster					0%	0%	0%		Down

Network



Setup Host Networks
Drag to make changes

Interfaces	Assigned Logical Networks	Unassigned Logical Networks
bond0 eth1 eth2	NOVM_VLAN_MTU_5 (VLAN 500) VLAN_MTU_5000 (VLAN 222) VLAN_MTU_5000_2 (VLAN 52)	Required NOVM_VLAN_MTU_5000 Non Required NOVM_VLAN_MTU_9000 NOVM_VLAN_MTU_9 (VLAN 900) VLAN_MTU_9000 (VLAN 9) VLAN_MTU_9000_2 (VLAN 92)
bond1 eth3 eth4	no network assigned	
eth0	ovirtmgmt	

Verify connectivity between Host and Engine
 Save network configuration

OK Cancel

Reports



Red Hat Enterprise Virtualization Reports Dec 5, 2011

Active Virtual Machines by OS in Clusters of Data Center DC_30_IC136_tiger

Criteria: Datacenter: DC_30_IC136_tiger Date Range: 2011-08-01 - 2011-10-31 VM Type: All
Cluster: All Period: Quarterly Show Deleted Virtual Machines: Yes

Page 1 of 1

Active Virtual Machines by OS (BR18)

* Show Deleted Entries? Yes

* Data Center: DC_30_IC136_tiger

* Cluster: All

* VM Type: All

* Period Range: Quarterly

* Select Month: August 2011

* Start Date: 2011-08-01

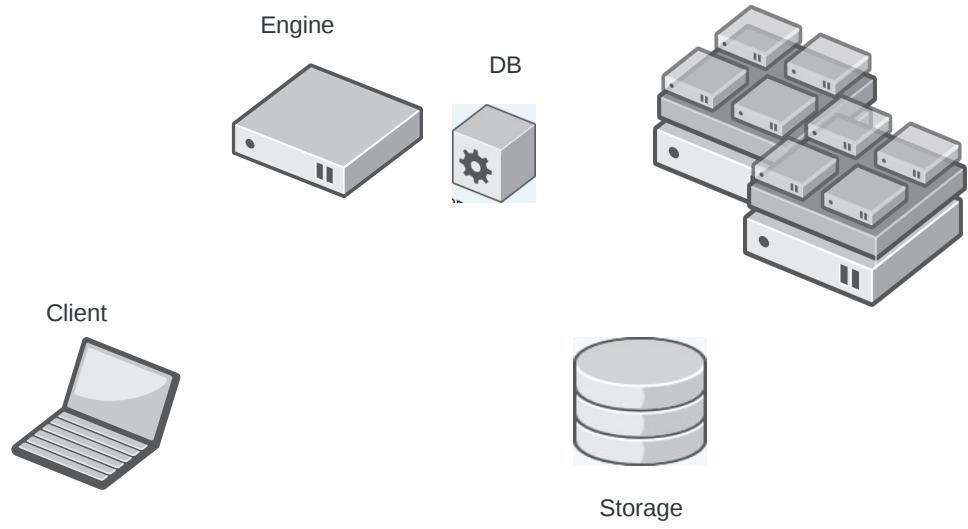
* End Date: 2011-10-31

Reset

oVirt Overview -- SCALE11x 17

based on jaspersoft reports – this screen shows RHEV, but reports are now part of oVirt, as of 3.2

Anatomy



oVirt Engine



- JBoss-based Java application
- Communicates with hypervisor nodes
- Manages VM lifecycle
- Controlled with:
 - Admin Portal
 - User Portal
 - REST API
 - Python SDK
 - Command Line Shell

The screenshot shows the oVirt Open Virtualization Manager interface. At the top, there is a search bar and navigation tabs for Data Centers, Clusters, Hosts, Networks, Storage, Disks, Virtual Machines, and Pools. Below this is a table listing various virtual machines. The table has columns for Name, Host, IP Address, Cluster, and Data Center. Below the table, there are tabs for General, Network Interfaces, Disks, Snapshots, Applications, and Permissions. The 'General' tab is active, showing details for a VM named 'demo-vm' with a defined memory of 1024 MiB.

Name	Host	IP Address	Cluster	Data Center
demo-vm-2			Default	Default
trux-vm			cluster-32	demo-dc-32
fw-filter-vm-1			cluster-31	dc-31
mwfilter-vm-32-rhel-6: zewa02	10.35.18.154		cluster-32	demo-dc-32
rhel63-vm	zewa02		cluster-32	demo-dc-32
vm-1-dc-30-cluster-3			cluster-30-on-dc-30	dc-30-with-variou-ct
vm-del-net-2			cluster-30	dc-30
vm-del-net-bug			cluster-30	dc-30
vm-template-test-1			Default	Default
vm-template-test-2			Default	Default
vm-template-test-3			Default	Default
vm-template-test-4			Default	Default
wiz2008			cluster-31	dc-31

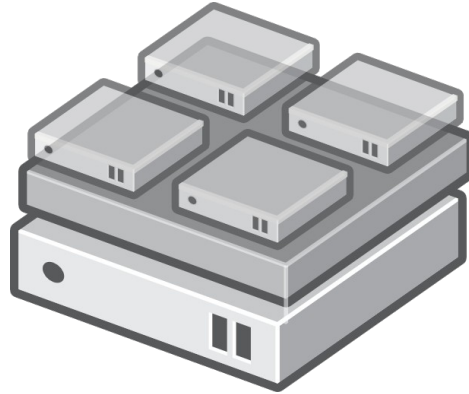
General | Network Interfaces | Disks | Snapshots | Applications | Permissions

Name: demo-vm | Defined Memory: 1024 MiB

Virtualization Host



- Machine w/ Intel VT/AMD-V CPUs
- Linux OS – bits for network, storage, etc.
- KVM – hypervisor, part of Linux kernel
- libvirt – virtualization API
- **vdsm – virtualization node management**



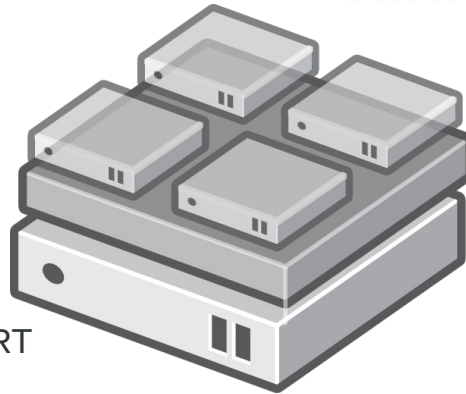
vdsm is the new bit in here – it's like a management agent for the engine, the engine talks to vsdm, vsdm controls VM lifecycle operations through libvirt, and it handles other configuration duties, like to network & storage

this last bit introduces some distro-specificity – it's the main reason that ovirt's attached to the RH family right now – work is underway to make these operations distro-agnostic – multi-distro is a priority for the project

oVirt Node



- Dedicated hypervisor
- JEOS
- Built on Fedora
- Firmware
 - Install and forget about it
 - Similar to ESXi or OpenWRT
- Small Footprint (< 200MB)



Getting oVirt



- oVirt Live: http://wiki.ovirt.org/wiki/OVirt_Live
- All in One: `ovirt-engine-setup-plugin-allinone`
- Engine + oVirt Node(s)

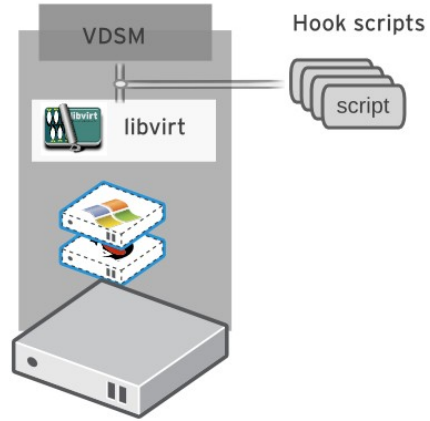
- Packaged releases target latest Fedora
- Community-provided packages for CentOS
- oVirt 3.1 in F18 and F17 repos
- Build from source

setting up all in one:

<http://blog.jebpages.com/archives/up-and-running-with-ovirt-3-2-edition>

Vdsm hooks

- A mechanism for customization
- Allows the administrator to manipulate the VM life cycle
- Points of manipulation
 - Before / after VM start
 - Before / after VM migration in/out
 - On VM stop
 - Etc.



<http://www.ovirt.org/VDSM-Hooks>

Nested KVM hook



```
import hooking

cpu_nested_features = {
    "kvm_intel": "vmx",
    "kvm_amd": "svm",
}

for kvm_mod in ("kvm_intel", "kvm_amd"):
    kvm_mod_path = "/sys/module/%s/parameters/nested" % kvm_mod
    try:
        with file(kvm_mod_path) as f:
            if f.readline().strip() == "Y":
                break
    except IOError:
        pass
    else:
        kvm_mod = None

if kvm_mod:
    domxml = hooking.read_domxml()
    feature_vmx = domxml.createElement("feature")
    feature_vmx.setAttribute("name", cpu_nested_features[kvm_mod])
    feature_vmx.setAttribute("policy", "Require")
    domxml.getElementsByTagName("cpu")[0].appendChild(feature_vmx)
    hooking.write_domxml(domxml)
```

Nested KVM is really cool – lets you host VMs on VMs, there's a performance hit, but it's not crazy-bad

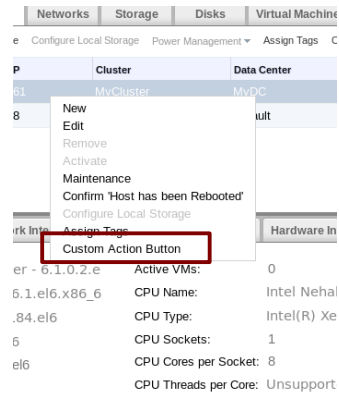
It's pretty simple, boils down to having your KVM module loaded w/ the nested option on, and on including a bit in the xml that defines the VM.

<http://blog.jebpages.com/archives/ovirt-on-ovirt-nested-kvm-fu/>

UI Plugins



- New in oVirt 3.2
- Extend or customize oVirt Engine functionality by adding UI components to the Admin Portal (Webadmin)
- Plugins integrate with the Admin Portal on the client side using JavaScript
- Plugins can be packaged and distributed for use with the oVirt Engine



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

Shell-in-a-Box



oVirt Open Virtualization Manager

Logged in user: admin@internal | Configure | Guide | About | Sign Out

Search: Host

Name	Hostname/IP	Cluster	Data Center	Status	Virtual Machines	Memory	CPU	Network	SPM
Host-1	10.3	c2	dc2	Up	0	2%	0%	0%	Normal
Host-1	10.3	c2	dc2	Up	0	23%	2%	0%	SPM

General | Virtual Machines | Network Interfaces | Host Hooks | Permissions | Hardware Information | Shell Box | Events

```
dhcp-1 login: root
root@dhcp-1- password:
Last login: Thu Jan 17 13:22:41 2013 from dhcp-1
[root@dhcp-1- ~]# service shellinaboxd status
shellinaboxd (pid 30620) is running...
[root@dhcp-1- ~]# service vdsmd status
VDS daemon server is running
[root@dhcp-1- ~]#
```

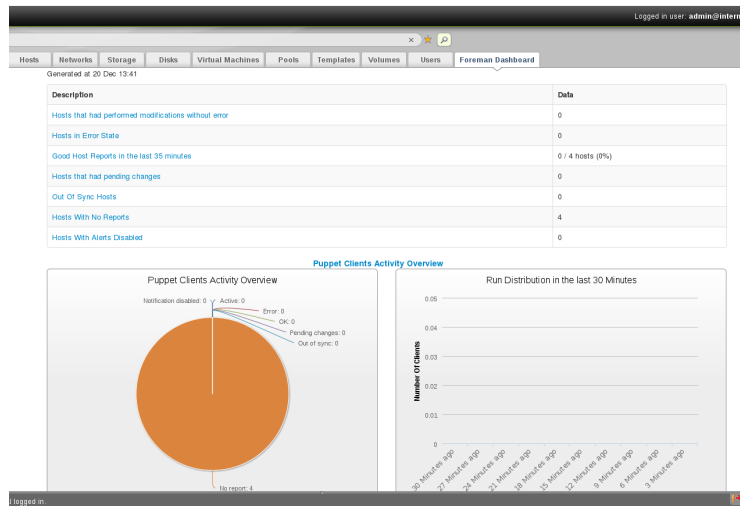
Bookmarks
Tags

oVirt Overview -- SCALE11x

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<http://derezvir.blogspot.com/2013/01/ovirt-webadmin-shellinabox-ui-plugin.html>

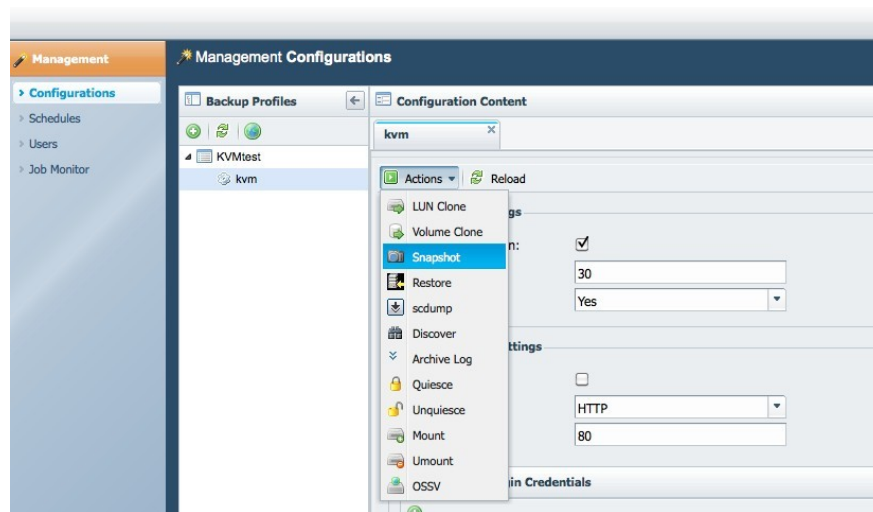
Foreman plugin



The Foreman is a complete lifecycle management tool for physical and virtual servers. Works with Puppet.

<http://ovedou.blogspot.com/2012/12/ovirt-foreman-ui-plugin.html>

NetApp Virtual Storage Console



Netapp working to integrate management of some of their NetApp-specific features into oVirt UI, like hardware-side clone offloading – relatively early stage – saw this demoed last month at an oVirt workshop at their campus.

www.ovirt.org/images/c/cd/VSC_on_oVirt.pdf

Nagios monitoring



The screenshot displays the oVirt Open Virtualization Manager interface. At the top, it shows 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, and Users. The 'Virtual Machines' tab is active, showing a list of VMs with columns for Name, Host, IP Address, Cluster, Data Center, Memory, CPU, Network, Display, Status, and Uptime. Below this, the 'Monitoring Details' tab is selected, showing a table of monitoring services and their outputs. The services listed include Check_MK, CPU load, CPU utilization, Disk IO SUMMARY, fs_/, fs_/boot, Interface 1, and Kernel Context Switches. The 'Monitoring Details' panel also shows a table of monitoring data with columns for Name and Value.

Service	Output
Check_MK	OK - Agent version 1.2.0p4, execution time 0.172
CPU load	OK - 15min load 0.05 at 1 CPUs
CPU utilization	OK - user: 0.0%, system: 0.0%, wait: 0.0%
Disk IO SUMMARY	OK - 0.00B/sec read, 341.33B/sec write, 10s
fs_/	OK - 21.5% used (3.00 of 14.0 GB), (levels a
fs_/boot	OK - 16.8% used (0.04 of 0.2 GB), (levels a
Interface 1	OK - [eth0] (up) speed unknown, in: 195.211
Kernel Context Switches	OK - 10/s in last 60 secs

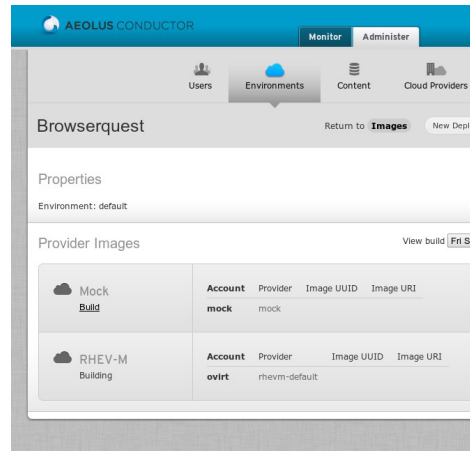
Name	Value
last_state_change	2013-02-18 12:41:04
lastcheck	2013-02-18 17:57:04
latency	0.172
long_plugin_output	
next_check	2013-02-18 17:58:04
notifications_enabled	1
output	OK - Agent version 1.2.0p4, execution time 0.1 sec
perf_data	execution_time=0.055

<https://labs.ovido.at/monitoring/wiki/ovirt-monitoring-ui-plugin>

Deltacloud & Aeolus



- Deploy Deltacloud server
- Manipulate oVirt via:
 - EC2 API
 - CIMI API
 - Deltacloud API
- Aeolus Project
 - Create & manage cloud resources across multiple providers...
 - ... including oVirt

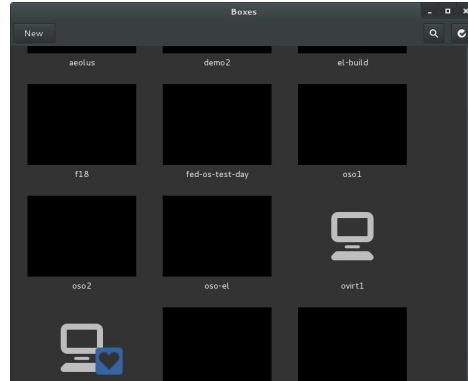


<http://ovedou.blogspot.com/2012/11/working-with-ovirt-via-ec2cimi-apis.html>

govirt & GNOME Boxes



- govirt: C library to access the oVirt REST API
- Boxes: A simple GNOME 3 application to access remote or virtual systems
 - Creates and manages local KVM virtual machines using libvirt
 - Remote machine access through SPICE or VNC



www.ovirt.org/images/6/6c/Fergeau-ovirt-boxes.pdf

<http://cgit.freedesktop.org/~teuf/gnome-boxes/log/?h=ovirt>

OpenStack Quantum integration



- Early stage work
- Quantum provides network connectivity-as-a-service
 - Quantum for managing VM networks
 - oVirt for managing infrastructure networks (Migration network, storage network etc.)
- External networks can be discovered in oVirt and then can be used within oVirt for example in VMs.

Add Provider	
Name	Quantum.Test
Description	Provider that is used for testing
URL	http://quantum.test.host:9696/v2.0

http://www.ovirt.org/Quantum_and_oVirt

demo screencast:

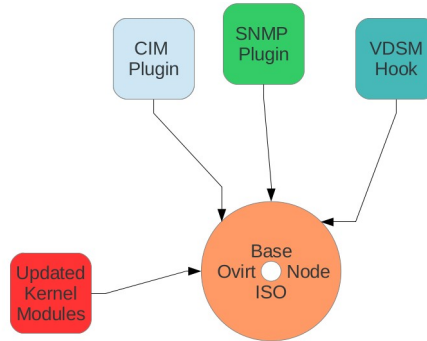
<http://www.youtube.com/watch?v=yXqN17KktjE>

<http://www.youtube.com/watch?v=uW3vrY2Y3xc>

Node plugins



- Adds functionality not included in the base image
 - Install or update packages
 - Install new kernel modules
 - Add vdsms hooks
- Non-oVirt uses
 - OpenStack POC
 - YOUR PROJECT HERE



http://www.ovirt.org/Node_plugins

<http://lists.ovirt.org/pipermail/node-devel/2012-October/000327.html>

<https://gitorious.org/ovirt/ovirt-node-openstack-plugin>

Engine, sans oVirt



The screenshot shows the Red Hat Storage web interface. The top navigation bar includes 'Clusters', 'Servers', 'Volumes', and 'Users'. The 'Volumes' tab is active, displaying a table of volumes:

Name	Volume Type	Number of Bricks	Transport Type	Status
music	Distribute	2	TCP	Up
video	Replicate	2	TCP	Up

Below the table, there are tabs for 'Summary', 'Bricks', 'Volume Options', and 'Permissions'. The 'Bricks' tab is selected, showing a table of bricks:

Server	Brick Directory	Status
10.16.159.159	/tmp/music-brick1	Up
10.16.159.161	/tmp/music-brick2	Up

The interface also features a left-hand tree view with categories like Clusters, Servers, and Volumes, and a bottom status bar with a message: 'Last Message: 2012-Jun-05, 13:51:33 Gluster Volume video started.'

Top feature requests

1. Allow disk resize
2. Integrate Nagios/Zabbix monitoring
3. Highly Available engine
4. Open vSwitch integration
5. Allow cloning VMs without template
6. Enable hypervisor upgrade/updates through engine
7. Allow engine on an oVirt hosted VM
8. Enable guest configuration (root password, SSH keys, network) via guest agent in engine
9. Integrate v2v into engine
10. Bond/extend ovirtmgmt with a second network for HA/increased bandwidth
11. Integrate scheduling of snapshots and VM export for backups in engine
12. Spice Support in Chrome

Get Involved!

- Wiki
 - <http://www.ovirt.org>
- Mailing lists
 - users@ovirt.org — oVirt user list
 - announce@ovirt.org — oVirt announce list
 - engine-devel@ovirt.org — oVirt engine devel list
 - node-devel@ovirt.org — oVirt node devel list
- IRC
 - [#ovirt](#) on [irc.oftc.net](#)



THANK YOU !

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google+:	superlongURL
email:	jbrooks@redhat.com
irc:	jbrooks on #ovirt
blog:	blog.jebpages.com

<http://www.ovirt.org>