



Virtualization Management the **oVirt way**

Alan Pevec
Red Hat
devconf.cz February 2012

- What is oVirt?
- Where did it come from?
- What does it do?
- Architecture
- Roadmap
- What's next?

What is oVirt?

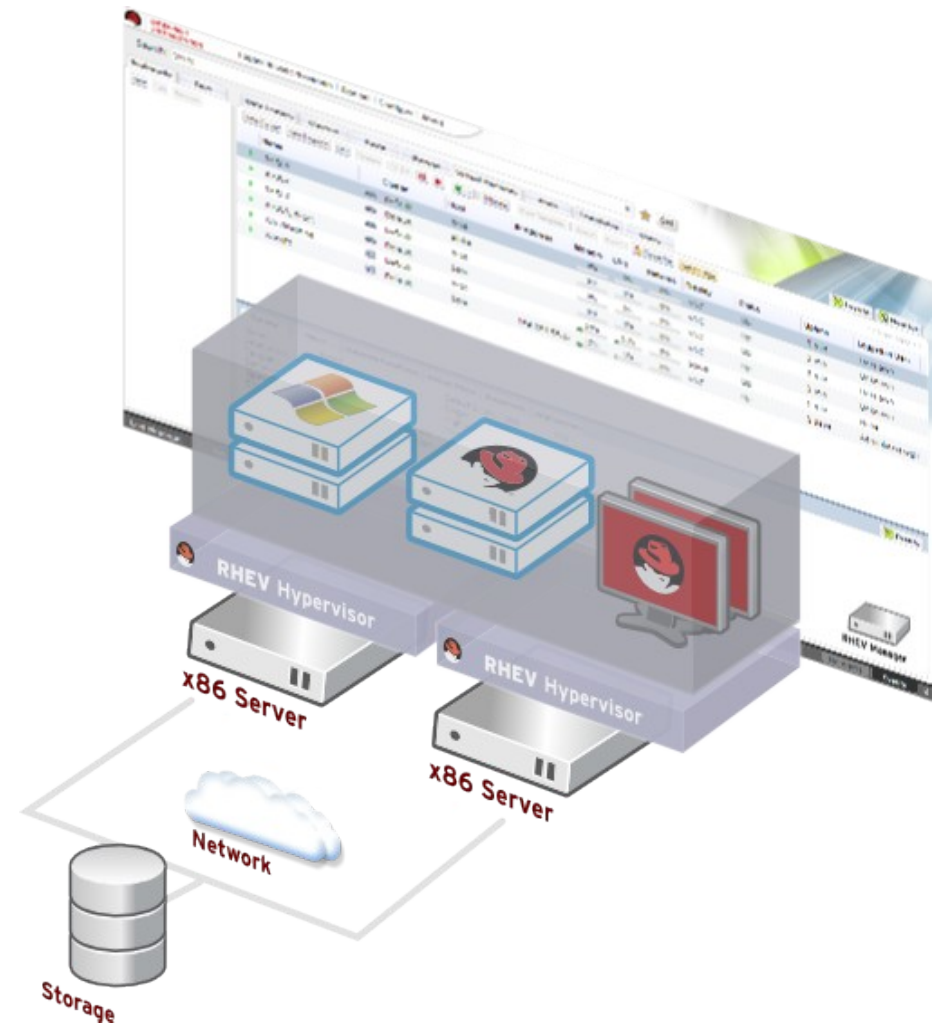
Large scale, centralized management for server and desktop virtualization

Based on leading performance, scalability and security infrastructure technologies

Provide an open source alternative to vCenter/vSphere

Focus on KVM for best integration/performance

Focus on ease of use/deployment



How Does It Look?



Search: Vms:

Data Centers Clusters Hosts Storage Virtual Machines Pools Templates Users

Events

Tree

Expand All Collapse All

- System
 - Default
 - ISCSI-RC-DC
 - Storage
 - Templates
 - Clusters
 - intel-cluster
 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - VMs
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Bookmarks

Tags

New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Name	Cluster	Host	IP Address	Memory	CPU	Network	Display	Status	Uptime	Logged-in User
kaka	intel-cluster			0%	0%	0%		Down		
myVm1	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Up	1 day	
myVm10	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm11	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm12	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm13	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm15	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm16	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm17	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm18	intel-cluster			0%	0%	0%		Down		
myVm19	intel-cluster			0%	0%	0%		Down		
myVm2	intel-cluster			0%	0%	0%		Down		
myVm20	intel-cluster			0%	0%	0%		Down		
myVm21	intel-cluster			0%	0%	0%		Down		
myVm22	intel-cluster			0%	0%	0%		Down		
myVm23	intel-cluster			0%	0%	0%		Down		
myVm24	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	
myVm25	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Paused	5 days	
myVm26	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	
myVm27	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	

Goals of the oVirt project

- Build a community around all levels of the virtualization stack – hypervisor, manager, GUI, API, etc.
- To deliver both a cohesive complete stack and discretely reusable components for open virtualization management
- Provide a release of the project on a well defined schedule
- Focus on management of the KVM hypervisor, with exceptional guest support beyond Linux
- Provide a venue for user and developer communication and coordination

Governance

- Merit based, open governance model
- Built using the best concepts taken from Apache and Eclipse Foundations
- Governance split between board and projects
 - oVirt Board
 - Multiple projects under the oVirt brand

Governance (oVirt Board)

- Initial board
 - Red Hat, IBM, NetApp, Cisco, SUSE, Intel
 - A few domain leaders from sub-projects
 - Mentors
 - There is no limit to the number of board seats
 - Additional seats are voted based on merit

How to Start?

- Build from source
- Or, just install pre-packaged
 - yum install ovirt-engine
 - engine-setup
- Add managed hosts
 - from engine
 - use ovirt-node registration/approve flow

Administration Console



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New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Name	Cluster	Host	IP Address	Memory	CPU	Network	Display	Status	Uptime	Logged-in User
kaka	intel-cluster			0%	0%	0%		Down		
myVm1	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Up	1 day	
myVm10	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm11	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm12	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm13	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm15	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm16	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm17	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm18	intel-cluster			0%	0%	0%		Down		
myVm19	intel-cluster			0%	0%	0%		Down		
myVm2	intel-cluster			0%	0%	0%		Down		
myVm20	intel-cluster			0%	0%	0%		Down		
myVm21	intel-cluster			0%	0%	0%		Down		
myVm22	intel-cluster			0%	0%	0%		Down		
myVm23	intel-cluster			0%	0%	0%		Down		
myVm24	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	
myVm25	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Paused	5 days	
myVm26	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	
myVm27	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Paused	5 days	

Search Auto Complete



Search: Vms: name = my* and status =

- Vms: name = my* and status = unassigned
- Vms: name = my* and status = down
- Vms: name = my* and status = up
- Vms: name = my* and status = poweringup
- Vms: name = my* and status = powereddown
- Vms: name = my* and status = paused
- Vms: name = my* and status = migratingfrom
- Vms: name = my* and status = migratingto
- Vms: name = my* and status = unknown
- Vms: name = my* and status = notresponding
- Vms: name = my* and status = waitforlaunch
- Vms: name = my* and status = rebootinprogress

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Work	Display	Status	Uptime	Logged-in User
0%		Down		
0%	Spice	Up	1 day	
0%	Spice	Up	1 day	
0%	Spice	Up	1 day	
0%	Spice	Up	1 day	
0%	Spice	Up	1 day	
0%	Spice	Up	1 day	

General Network Interfaces Virtual Disks Snapshots Applications Permissions Events

Installed Applications

Search Results



Search: Vms: name = my* and status = up

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New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

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myVm1	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm10	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm11	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Up	1 day	
myVm12	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	6%	0%	Spice	Up	1 day	
myVm13	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm15	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm16	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	
myVm17	intel-cluster	nott-vds2.qa.lab.tlv.red		0%	0%	0%	Spice	Up	1 day	

Add Host As Simple As



Search: Host:

Data Centers Clusters **Hosts** Storage Virtual Machines Pools Templates Users

Events

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 - VMs
 - NFS-RC-DC
 - Storage
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 - Clusters

- Name
- nott-vds2.qa.lab.tlv.redhat.com
- nott-vds3.qa.lab.tlv.redhat.com
- nott-vdsa.qa.lab.tlv.redhat.com

New Host

General

Data Center: Default

Host Cluster: Default

Name:

Address:

Root Password:

Override IP tables:

OK Cancel

	Memory	CPU	Network	SpmStatus
8 VMs	25%	0%	0%	SPM
0 VMs	0%	0%	0%	None
0 VMs	0%	0%	0%	None

Power Management



Search: Host:

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Name
nott-vds2.qa.lab.tlv.redhat.com
nott-vds3.qa.lab.tlv.redhat.com
nott-vdsa.qa.lab.tlv.redhat.com

New Host

Enable Power Management

Power Management

Address:

User Name:

Password:

Type:

Port:

Slot:

Options:

Please use a comma-separated list of 'key=value' or 'key'

Secure:

	Memory	CPU	Network	SpmStatus
8 VMs	25%	0%	0%	SPM
0 VMs	0%	0%	0%	None
0 VMs	0%	0%	0%	None

Configure Networks



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 - Clusters

New Edit Remove Activate Maintenance Configure Local Storage Assign Tags

Name	Host/IP	Cluster	Status	Load	Memory	CPU	Network	SpmStatus
nott-vds2.qa.lab.tlv.redhat.com	nott-vds2.qa.lab.tlv.redhat.com	intel-cluster	Up	8 VMs	25%	0%	0%	SPM
nott-vds3.qa.lab.tlv.redhat.com	nott-vds3.qa.lab.tlv.redhat.com	intel-cluster	Non Responsive	0 VMs	0%	0%	0%	None
nott-vdsa.qa.lab.tlv.redhat.com	nott-vdsa.qa.lab.tlv.redhat.com	NFS-intel	Maintenance	0 VMs	0%	0%	0%	None

- General
- Virtual Machines
- Network Interfaces**
- Host Hooks
- Permissions

Events

Add / Edit Edit Management Network Bond Detach Save Network Configuration

Name	Address	MAC	Speed (Mbps)	Rx (Mbps)	Tx (Mbps)	Drops (Pkts)	Bond	Vlan	Network Name
em2		78:E7:D1:E4:89:FB	1000	< 1	< 1	0			
em1	10.35.64.69	78:E7:D1:E4:89:FA	1000	< 1	< 1	0			ovirtmgmt

Or Bonds

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 - nott-vds3.qa.lab.tlv.r
 - VMs
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

New Edit Remove Activate Maintenance Configure Local Storage Assign Tags

Name	Host/MP	Cluster	Status	Load	Memory	CPU	Network	SpmStatus
nott-vds2.qa.lab.tlv.redhat.com	nott-vds2.qa.lab.tlv.redhat.com	intel-cluster	Up	8 VMs	25%	0%	0%	SPM
nott-vds3.qa.lab.tlv.redhat.com	nott-vds3.qa.lab.tlv.redhat.com	intel-cluster	Non Responsive	0 VMs	0%	0%	0%	None
nott-vdsa.qa.lab.tlv.redhat.com	nott-vdsa.qa.lab.tlv.redhat.com	NFS-intel	Maintenance	0 VMs	0%	0%	0%	None

- General
- Virtual Machines
- Network Interfaces**
- Host Hooks
- Permissions

Add / Edit Edit Management Network **Bond** Detach Save Network Configuration

	Name	IP Address	MAC	Speed (Mbps)	Rx (Mbps)	Tx (Mbps)	Drops (Pkts)	Bond	Vlan	Network Name
<input checked="" type="checkbox"/>	em1	10.35.115.11	78:E7:D1:E4:8C:58	1000	< 1	< 1	0			ovirtmgmt
<input checked="" type="checkbox"/>	em2		78:E7:D1:E4:8C:59	0	< 1	< 1	0			

Bookmarks

Tags

Without Scripts or Config Files



Search: Host:

Data Centers Clusters Hosts Storage

Bond Network Interfaces

Bond Name:

Network:

Bonding Mode:

None
 DHCP
 Static

IP:

Subnet Mask:

Save network configuration

OK Cancel

Name	Host/UP
nott-vds2.qa.lab.tlv.redhat.com	nott-vds2.qa.lab.tlv.r
nott-vds3.qa.lab.tlv.redhat.com	nott-vds3.qa.lab.tlv.r
nott-vdsa.qa.lab.tlv.redhat.com	nott-vdsa.qa.lab.tlv.r

General Virtual Machines Network Interfaces

Name	Address
<input checked="" type="checkbox"/> em1	10.35.115.11
<input checked="" type="checkbox"/> em2	

Load	Memory	CPU	Network	SpmStatus
8 VMs	25%	0%	0%	SPM
0 VMs	0%	0%	0%	None
0 VMs	0%	0%	0%	None

Drops (Pkts)	Bond	Vlan	Network Name
0			ovirtmgmt
0			

Configure Storage Once for Entire Cluster

Activities Firefox Fri 22:18 en Itamar Heim

oVirt Enterprise Virtualization Engine Web Administration - Mozilla Firefox

File Edit View History Bookmarks Tools Help

oVirt Enterprise Virtualization E... +

hateya-fed16.qa.lab.tlv.redhat.com:8080/webadmin/webadmin/WebAdmin.html#storage-general

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

Search: Storage:

Data Centers Clusters

Tree

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Domain Name

- export_test
- hateya-ovirt-rc-1
- hateya-ovirt-rc-2
- nfs-ovirt-rc-2
- nfs-ovirt-rc-4
- OvirtSharelso

General Data Center Vir

Size: 74 GB
Available: 18 GB
Used: 56 GB
Over Allocation Ratio: 2100%

Edit Domain

Name: hateya-ovirt-rc-1

Domain Function / Storage Type: Data / iSCSI

Use Host: nott-vds2.qa.lab.tlv.redhat.com

<input type="checkbox"/>	LUN ID	Dev Size	#path	Vendor ID	Product ID	Serial
<input checked="" type="checkbox"/>	1hateya-ovirt-rc11	75GB	0	IET	VIRTUAL-C SIET_VIRTUAL-DISK	
<input type="checkbox"/>	1hateya-ovirt-rc31	75GB	1	IET	VIRTUAL-C SIET_VIRTUAL-DISK	
<input type="checkbox"/>	1hateya-ovirt-rc41	75GB	1	IET	VIRTUAL-C SIET_VIRTUAL-DISK	

OK Cancel

Cross Data-Center Status Free Space

Cross Data-Center Status	Free Space
Active	326 GB
Active	18 GB
Active	20 GB
Inactive	357 GB
Unattached	< 1 GB
Active	29 GB

Events

Extend with More LUNs as Needed



Activities Firefox Fri 22:18 oVirt Enterprise Virtualization Engine Web Administration - Mozilla Firefox

File Edit View History Bookmarks Tools Help

oVirt Enterprise Virtualization E... +

hateya-fed16.qa.lab.tlv.redhat.com:8080/webadmin/webadmin/WebAdmin.html#storage-general

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

Search: Storage:

Edit Domain

Name: hateya-ovirt-rc-1

Domain Function / Storage Type: Data / iSCSI

Use Host: nott-vds2.qa.lab.tlv.redhat.com

Discover Targets

Address: User Authentication:

Port: 3260 CHAP username: CHAP password:

Discover Login All

Target Name	Address	Port	
<input checked="" type="checkbox"/> hateya-ovirt-rc1	10.35.64.81	3260	Login
<input type="checkbox"/> LUN ID	Dev. Size	#path	Vendor ID
<input checked="" type="checkbox"/> 1hateya-ovirt-rc	75GB	0	IET
<input type="checkbox"/> hateya-ovirt-rc3	10.35.64.81	3260	Login
<input type="checkbox"/> hateya-ovirt-rc4	10.35.64.81	3260	Login

OK Cancel

Tree: System > ISCSI-RC-DC > Storage > Clusters > intel-cluster > Hosts > nott-vds2.qa.lab.tlv.r... > VMs > NFS-RC-DC > Storage > Clusters

Domain Name: export_test, hateya-ovirt-rc-1, hateya-ovirt-rc-2, nfs-ovirt-rc-2, nfs-ovirt-rc-4, OvirtSharelso

General Data Center Vir... Size: 74 GB Available: 18 GB Used: 56 GB Over Allocation Ratio: 2100%

Cross Data-Center Status Free Space: Active 326 GB, Active 18 GB, Active 20 GB, Inactive 357 GB, Unattached < 1 GB, Active 29 GB

Bookmarks Tags

Last Message: 2012-Jan-31, 23:18:41 User admin@internal logged in.

3 Alerts Events

Add Servers or Desktops



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Name	Host	Work	Display	Status	Uptime	Logged-in User
kaka		0%		Down		
myVm1		0%	Spice	Up	1 day	
myVm10		0%	Spice	Up	1 day	
myVm11		0%	Spice	Up	1 day	
myVm12		0%	Spice	Up	1 day	
myVm13		0%	Spice	Up	1 day	
myVm15		0%	Spice	Up	1 day	
myVm16		0%	Spice	Up	1 day	
myVm17		0%	Spice	Up	1 day	
myVm18		0%		Down		
myVm19		0%		Down		
myVm2		0%		Down		
myVm20		0%		Down		
myVm21		0%		Down		
myVm22		0%		Down		
myVm23		0%		Down		
myVm24		0%	Spice	Paused	5 days	
myVm25	intel-cluster	0%	0%	0%	Spice	Paused 5 days
myVm26	intel-cluster	0%	0%	0%	Spice	Paused 5 days
myVm27	intel-cluster	0%	0%	0%	Spice	Paused 5 days

New Server Virtual Machine

General

Data Center: iSCSI-RC-DC

Host Cluster: intel-cluster

Name:

Description:

Based on Template: Blank

Memory Size: 512 MB

Total Cores: 2

CPU Sockets: 1

Operating System: Windows 2008 R2

OK Cancel

Even Windows via Sysprep



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New Server Virtual Machine

General	Domain	
Windows Sysprep	Time Zone	(GMT) GMT Standard Time
Console		
Host		
High Availability		
Resource Allocation		
Boot Options		
Custom Properties		

OK Cancel

Name	Work	Display	Status	Uptime	Logged-in User
kaka	0%		Down		
myVm1	0%	Spice	Up	1 day	
myVm10	0%	Spice	Up	1 day	
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myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

SPICE or VNC



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- New Server
- New Desktop
- Edit
- Remove
- Run Once
- Migrate
- Make Template
- Export
- Move
- Change CD
- Assign Tags

New Server Virtual Machine

General	Protocol	Spice
Windows Sysprep	USB Policy	Enabled
Console		
Host		
High Availability		
Resource Allocation		
Boot Options		
Custom Properties		

OK Cancel

Name	Work	Display	Status	Uptime	Logged-in User
kaka	0%		Down		
myVm1	0%	Spice	Up	1 day	
myVm10	0%	Spice	Up	1 day	
myVm11	0%	Spice	Up	1 day	
myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

Migratable or Not



Search: Vms:

Data Centers Clusters Hosts Storage Virtual Machines Pools Templates Users

New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Tree Expand All Collapse All

- System
 - Default
 - ISCSI-RC-DC
 - Storage
 - Templates
 - Clusters
 - intel-cluster
 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Name	Work	Display	Status	Uptime	Logged-in User
kaka			Down		
myVm1	0%		Up	1 day	
myVm10	0%	Spice	Up	1 day	
myVm11	0%	Spice	Up	1 day	
myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

New Server Virtual Machine

General

Windows Sysprep

Console

Host

High Availability

Resource Allocation

Boot Options

Custom Properties

Run On:

Any Host in Cluster Specific

nott-vds2.qa.lab.tlv.redhat.com

Run/Migration Options:

Run VM on the selected host (no migration allowed)

Allow VM migration only upon Administrator specific request (system will not trigger automatic migration of this VM)

OK Cancel

Highly Available?

Search: Vms:

Data Centers Clusters Hosts Storage Virtual Machines Pools Templates Users

New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Tree Expand All Collapse All

- System
 - Default
 - iSCSI-RC-DC
 - Storage
 - Templates
 - Clusters
 - intel-cluster
 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - VMs
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Name	Host	Work	Display	Status	Uptime	Logged-in User
kaka		0%		Down		
myVm1		0%	Spice	Up	1 day	
myVm10		0%	Spice	Up	1 day	
myVm11		0%	Spice	Up	1 day	
myVm12		0%	Spice	Up	1 day	
myVm13		0%	Spice	Up	1 day	
myVm15		0%	Spice	Up	1 day	
myVm16		0%	Spice	Up	1 day	
myVm17		0%	Spice	Up	1 day	
myVm18		0%		Down		
myVm19		0%		Down		
myVm2		0%		Down		
myVm20		0%		Down		
myVm21		0%		Down		
myVm22		0%		Down		
myVm23		0%		Down		
myVm24		0%	Spice	Paused	5 days	
myVm25	intel-cluster	0%	0%	0%	Spice	Paused 5 days
myVm26	intel-cluster	0%	0%	0%	Spice	Paused 5 days
myVm27	intel-cluster	0%	0%	0%	Spice	Paused 5 days

New Server Virtual Machine

Highly Available

Priority for Run/Migration queue:

Low
 Medium
 High

OK Cancel

Control Allocated Resources (Disk, Memory)



Tree

Expand All Collapse All

- System
 - Default
 - iSCSI-RC-DC
 - Storage
 - Templates
 - Clusters
 - intel-cluster
 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - VMs
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Name	Work	Display	Status	Uptime	Logged-in User
kaka			Down		
myVm1	0%	Spice	Up	1 day	
myVm10	0%	Spice	Up	1 day	
myVm11	0%	Spice	Up	1 day	
myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

New Server Virtual Machine

General

Storage Allocation: *(Available only when a template is selected)*

Storage Domain: [dropdown]

Provisioning: [dropdown: Clone]

Host

High Availability

Resource Allocation

Memory Allocation:

Physical Memory Guaranteed: 256 MB

Boot Options

Custom Properties

OK Cancel

Boot Devices



Search: Vms:

Data Centers Clusters Hosts Storage Virtual Machines Pools Templates Users

New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Tree

Expand All Collapse All

System

Default

iSCSI-RC-DC

Storage

Templates

Clusters

intel-cluster

Hosts

nott-vds2.qa.lab.tlv.r

nott-vds3.qa.lab.tlv.r

VMs

NFS-RC-DC

Storage

Templates

Clusters

Bookmarks

Tags

Name	Work	Display	Status	Uptime	Logged-in User
kaka			Down		
myVm1	0%	Spice	Up	1 day	
myVm10	0%	Spice	Up	1 day	
myVm11	0%	Spice	Up	1 day	
myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

New Server Virtual Machine

General

Windows Sysprep

Console

Host

High Availability

Resource Allocation

Boot Options

Custom Properties

Boot Sequence:

First Device: Hard Disk

Second Device: [None]

Attach CD

OK Cancel

Advanced Options via Custom Properties



Search: Vms:

Data Centers Clusters Hosts Storage Virtual Machines Pools Templates Users

New Server New Desktop Edit Remove Run Once Migrate Make Template Export Move Change CD Assign Tags

Tree Expand All Collapse All

- System
 - Default
 - iSCSI-RC-DC
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 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Name	Work	Display	Status	Uptime	Logged-in User
kaka			Down		
myVm1	0%	Spice	Up	1 day	
myVm10	0%	Spice	Up	1 day	
myVm11	0%	Spice	Up	1 day	
myVm12	0%	Spice	Up	1 day	
myVm13	0%	Spice	Up	1 day	
myVm15	0%	Spice	Up	1 day	
myVm16	0%	Spice	Up	1 day	
myVm17	0%	Spice	Up	1 day	
myVm18	0%		Down		
myVm19	0%		Down		
myVm2	0%		Down		
myVm20	0%		Down		
myVm21	0%		Down		
myVm22	0%		Down		
myVm23	0%		Down		
myVm24	0%	Spice	Paused	5 days	
myVm25	0%	Spice	Paused	5 days	
myVm26	0%	Spice	Paused	5 days	
myVm27	0%	Spice	Paused	5 days	

New Server Virtual Machine

General	Custom Properties
Windows Sysprep	
Console	
Host	
High Availability	
Resource Allocation	
Boot Options	
Custom Properties	

OK Cancel

Assign Permissions to Objects by Roles



Search: Vms:

Tree

Expand All Collapse All

- System
 - Default
 - ISCSI-RC-DC
 - Storage
 - Templates
 - Clusters
 - intel-cluster
 - Hosts
 - nott-vds2.qa.lab.tlv.r
 - nott-vds3.qa.lab.tlv.r
 - VMS
 - NFS-RC-DC
 - Storage
 - Templates
 - Clusters

Configure

Roles

Show All Roles Administrator Roles User Roles

New Edit Copy Remove

Name	Description
UserRole	Standard User Role
PowerUserRole	User Role, allowed to create/manage Vms and Templates
UserVmManager	User Role, with permission for any operation on Vms
TemplateAdmin	Administrator Role, permission for all operations on a specific Template
UserTemplateBasedVm	User Role, with permissions only to use Templates
SuperUser	System Administrators with permission for all operations
ClusterAdmin	Administrator Role, permission for all the objects underneath a specific Cluster
DataCenterAdmin	Administrator Role, permission for all the objects underneath a specific Data Center
StorageAdmin	Administrator Role, permission for all operations on a specific Storage Domain
HostAdmin	Administrator Role, permission for all operations on a specific Host
NetworkAdmin	Administrator Role, permission for all operations on a specific Logical Network
VmPoolAdmin	Administrator Role, permission for all operations on a specific VM Pool

Close

Events

Uptime	Logged-in User
1 day	
1 day	
1 day	
1 day	
1 day	
1 day	
1 day	

Events

Define Your Own Roles



Activities Firefox Fri 22:21 en Itamar Heim

oVirt Enterprise Virtualization Engine Web Administration - Mozilla Firefox

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oVirt Enterprise Virtualization E... +

hateya-fed16.qa.lab.tlv.redhat.com:8080/webadmin/webadmin/WebAdmin.html#vms-application Google

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

Search: Vms: ☆ 🔍

Configure

Roles Show All Roles Administrator Roles User Roles

System Permissions

New Role

Name Description

Account Type: User Admin

Check Boxes to Allow Action

Expand All Collapse All

- System
 - Configure System
 - Manipulate Users
 - Manipulate Permissions
 - Manipulate Roles
 - Generic Configuration
 - Data Center
 - Configure Data Center
 - Storage Domain
 - Configure Storage Domain
 - Cluster

OK Reset Cancel

Close

User Portal



Activities Firefox Sat 11:27 en Itamar Heim

oVirt User Portal - Mozilla Firefox

File Edit View History Bookmarks Tools Help

oVirt User Portal

redhat.com https://hateya-fed16.qa.lab.tlv.redhat.com:8443/UserPortal/org.ovirt.engine.ui.userportal.UserPortal/UserPortal.html Google

oVirt User: admin@internal | Sign out | Guide | About Basic Extended

kaka myVm1 repro up-vm2

Machine is Down Machine is Ready Machine is Down Machine is Down

kaka

Operating System : Unassigned

Defined Memory : 1GB

Number of Cores : 1 (1 Socket(s), 1 Core(s) per Socket)

Drives :

Disk 1: 10GB

Console : Spice (Edit)

Self Provisioning Portal



	kaka		
	myVm1		
	repro		
	up-vm2		

General	Network Interfaces	Virtual Disks	Snapshots	Permissions	Events	Applications	Monitor
Name:	kaka	Defined Memory:	1024 MB	Origin:	RHEV		
Description:		Physical Memory Guaranteed:	512 MB	Run On:	Any Host in Cluster		
Template:	fed16	Number of CPU Cores:	1 (1 Socket(s), 1 Core(s) per Socket)	Custom Properties:	Not-Configured		
Operating System:	Unassigned	Highly Available:	false				
Default Display Type:	Spice	USB Policy:	Enabled				
Priority:	Low	Resides on Storage Domain:	hateya-ovirt-rc-1				

User Resource View



Virtual Machines: 25%
Defined VMs: 4
Running VMs: 1

Virtual CPUs: 25%
Defined vCPUs: 4
Used vCPUs: 1

Memory: 7%
Defined Memory: 3328MB
Memory Usage: 256MB

Storage:
Total Size: 70GB
Number of Snapshots: 5
Total Size of Snapshots: 15GB

Virtual Machine	Disks	Virtual Size	Actual Size	Snapshots
[-] kaka	1	10GB	1GB	1
Disk1		10GB	1GB	1
[-] myVm1	2	40GB	3GB	1
Disk1		10GB	2GB	1
Disk2		30GB	1GB	1
[-] repro	1	10GB	10GB	1
Disk1		10GB	10GB	1
[-] up-vm2	1	10GB	1GB	1
Disk1		10GB	1GB	1

Management Features

Feature	Description
High Availability	Restart guest VMs from failed hosts automatically on other hosts
Live Migration	Move running VM between hosts with zero downtime
System Scheduler	Continuously load balance VMs based on resource usage/policies
Power Saver	Concentrate virtual machines on fewer servers during off-peak hours
Maintenance Manager	No downtime for virtual machines during planned maintenance windows. Hypervisor patching
Image Management	Template based provisioning, thin provisioning and snapshots
Monitoring & Reporting	For all objects in system – VM guests, hosts, networking, storage etc.
OVF Import/Export	Import and export VMs and templates using OVF files
V2V	Convert VMs from VMware and RHEL/Xen to oVirt

Virtual Desktop Infrastructure (VDI)

Centralized management,
security and policy enforcement

Virtual desktops with user
experience of a physical PC

Multiple monitors

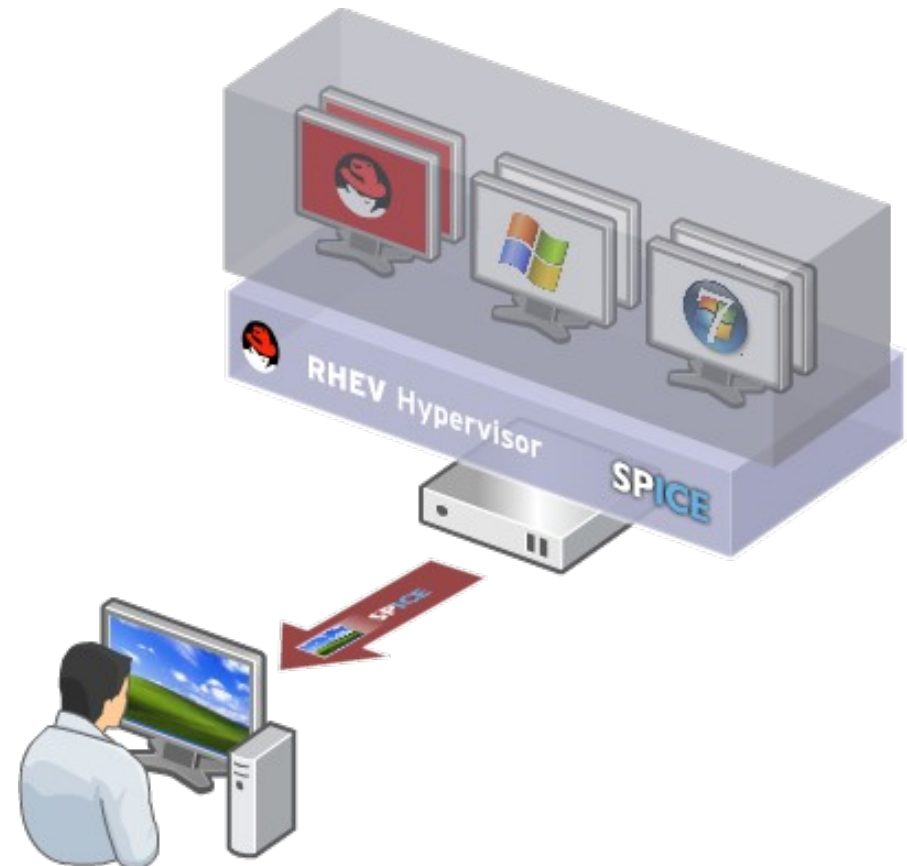
HD quality video

Bi-directional audio/video for
VoIP or video-conferencing

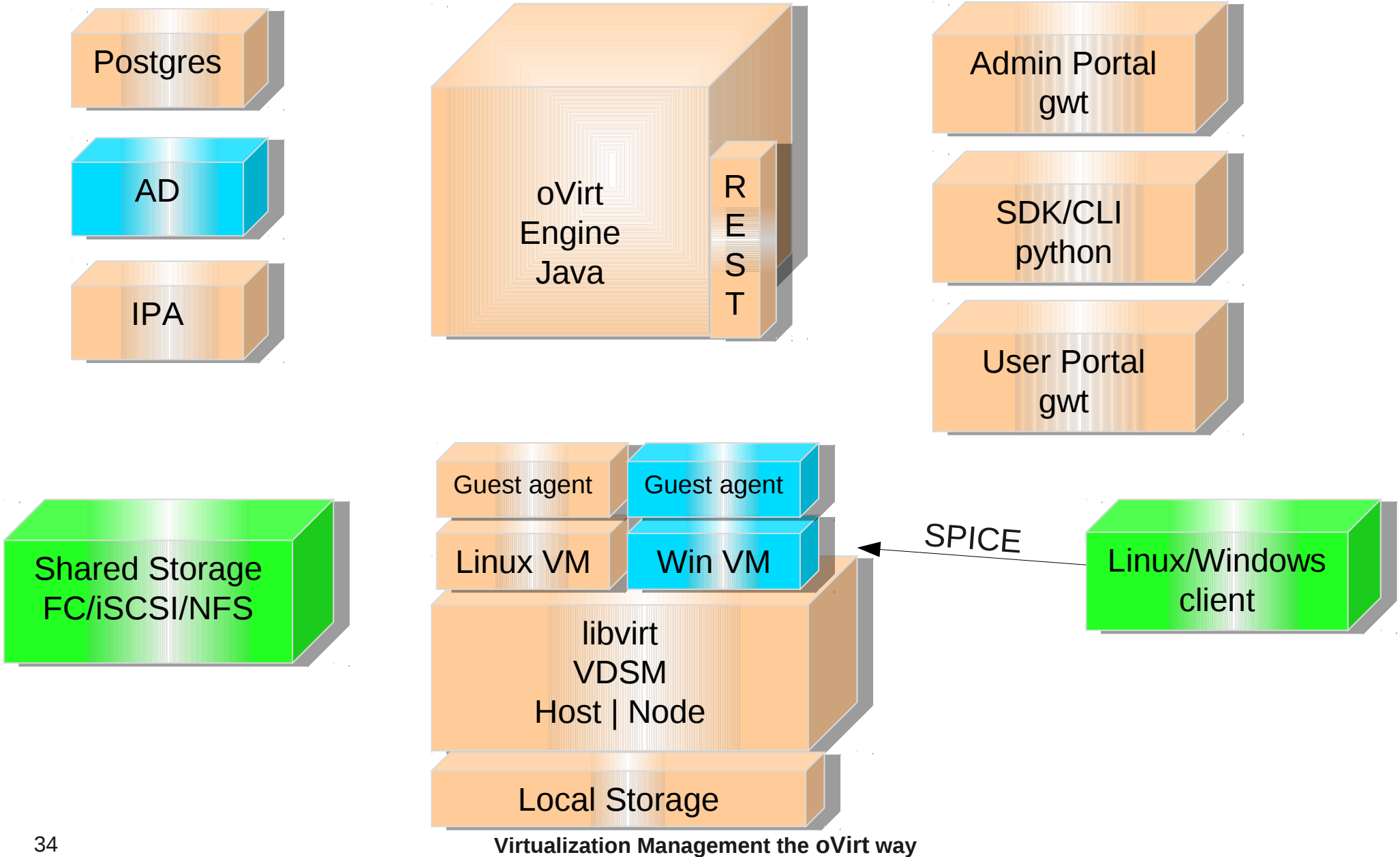
Smartcard support

USB support

Industry leading density of virtual
desktops/server



oVirt High Level Architecture



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>
```

Done

Hosts Collection

```
Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://10.35.1.171/rhev-api/hosts
http://10.35.1.171/rhev-api/hosts
- <hosts>
- <host id="15896dce-edd0-415c-a524-c9b02f278895" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895">
  <name>nari11</name>
  - <actions>
    <link rel="install" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/install"/>
    <link rel="activate" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/activate"/>
    <link rel="fence" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/fence"/>
    <link rel="deactivate" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/deactivate"/>
    <link rel="approve" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/approve"/>
    <link rel="iscsilogin" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/iscsilogin"/>
    <link rel="iscsidiscover" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/iscsidiscover"/>
    <link rel="commitnetconfig" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/commitnetconfig"/>
  </actions>
  <link rel="storage" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/storage"/>
  <link rel="nics" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics"/>
  <link rel="tags" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/tags"/>
  <link rel="permissions" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/permissions"/>
  <link rel="statistics" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/statistics"/>
  <address>nari11.eng.lab.tlv.redhat.com</address>
  <status>UP</status>
  <cluster id="4a5baf0e-7c6d-4d75-9aba-d60f3a188d0b" href="/rhev-api/clusters/4a5baf0e-7c6d-4d75-9aba-d60f3a188d0b"/>
  <port>54321</port>
  <storage_manager>>false</storage_manager>
- <power_management>
  <enabled>>false</enabled>
  <options/>
</power_management>
- <ksm>
  <enabled>>false</enabled>
</ksm>
- <transparent_hugepages>
  <enabled>>true</enabled>
</transparent_hugepages>
- <iscsi>
  <initiator>iqn.1994-05.com.redhat:a7afc41a35b0</initiator>
  <target/>
</iscsi>
</host>
</hosts>
```

Host networks collection



Firefox browser window showing the URL `http://10.35.1.171/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics`. The page content is an XML document tree representing host network information.

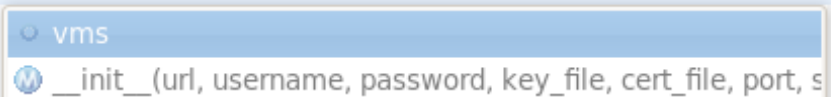
```
-<host_nics>
- <host_nic id="dbb39d06-3aef-468c-83e6-88eae0a3f346" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/dbb39d06-3aef-468c-83e6-88eae0a3f346">
  <name>eth0</name>
  -<actions>
    <link rel="attach" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/dbb39d06-3aef-468c-83e6-88eae0a3f346/attach"/>
    <link rel="detach" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/dbb39d06-3aef-468c-83e6-88eae0a3f346/detach"/>
  </actions>
  <link rel="statistics" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/dbb39d06-3aef-468c-83e6-88eae0a3f346/statistics"/>
  <host id="15896dce-edd0-415c-a524-c9b02f278895" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895"/>
  -<network>
    <name>rhev</name>
  </network>
  <mac address="78:E7:D1:E4:8E:92"/>
  <ip netmask="255.255.252.0" address="10.35.16.151"/>
</host_nic>
- <host_nic id="0d98b08c-9b42-45a4-a226-b7dd3f0854cf" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/0d98b08c-9b42-45a4-a226-b7dd3f0854cf">
  <name>eth1</name>
  -<actions>
    <link rel="attach" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/0d98b08c-9b42-45a4-a226-b7dd3f0854cf/attach"/>
    <link rel="detach" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/0d98b08c-9b42-45a4-a226-b7dd3f0854cf/detach"/>
  </actions>
  <link rel="statistics" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895/nics/0d98b08c-9b42-45a4-a226-b7dd3f0854cf/statistics"/>
  <host id="15896dce-edd0-415c-a524-c9b02f278895" href="/rhev-api/hosts/15896dce-edd0-415c-a524-c9b02f278895"/>
  <mac address="78:E7:D1:E4:8E:93"/>
  <ip netmask="" address=""/>
</host_nic>
</host_nics>
```

Done

- Creating the proxy
- Listing all collections
- Listing collection's methods.
- Querying collection with oVirt search engine.
- Querying collection by custom constraint.
- Querying collection for specific resource.
- Accessing resource methods and properties.

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

```
api.
```



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

```
api.vms.
```



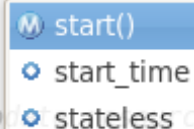
```
M add(vm)
M get(name)
M list(query)
```

```
#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
```



```
M start()
o start_time
o stateless ce
```

- Accessing resource properties and sub-collections.
- Accessing sub-collection methods.
- Querying sub-collection by custom constraint.
- Retrieving sub-collection resource.
- Accessing sub-collection resource properties and methods.

```
vm.n
├── name
└── nics
    #update resource

vm.nics.
├── add(nic)
├── ...
├── ...
├── ...

nics = vm.nics.list(interface='e1000')

nic = vm.nics.get(name='eth0')

nic.u
├── update()
```


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.

Data Warehouse based on Talend ETL

The screenshot displays the Talend Studio interface for a job named "Job HistoryETL 3.0". The main workspace shows a complex data pipeline with various components like "tRowGenerator", "tFileDelete", "tFileInputProperties", "tContextLoad", "tJava", "tLogRow", "tDBCConnection", and "tPostjob". The interface includes a "Repository" sidebar on the left with "Business Models" and "Job Designs" sections. At the bottom, there is a "Designer Code" tab and a "Problems" panel showing "0 errors, 0 warnings, 0 infos".

Job Designs List:

- AggregationToDaily 3.0
- AggregationToHourly 3.0
- ConfigurationSync 3.0
- DailyTimeKeepingJob 3.0
- DeleteTimeKeepingJob 3.0
- HistoryDelete 3.0
- HistoryETL 3.0
- HostConfigCheck 3.0
- HourlyTimeKeepingJob 3.0
- MinimalVersionCheck 3.0
- ParallelRun 3.0
- SampleRunJobs 3.0
- SampleTimeKeepingJob 3.0

Job Design Details:

- Job: Job HistoryETL 3.0
- Contexts: Job Histor
- Component: Component
- Run: Run (Job HistoryETL)
- Talend Exchange: Talend Exchange
- Problems: Problems
- Job Hierarchy: Job Hierarchy
- Progress: Progress

Problems Panel:

Description	Resource
Errors (0 items)	
Warnings (0 items)	
Infos (0 items)	

oVirt Reports



View Manage

Folders

- root
 - Organizations
 - oVirt Reports
 - Reports
 - Executive**
 - Inventory
 - Service Level
 - Trend
 - Resources
 - temp
 - Themes
 - default
 - ovirt-reports-them

Repository

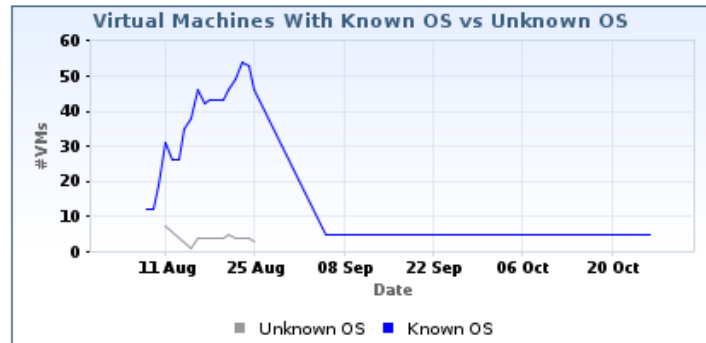
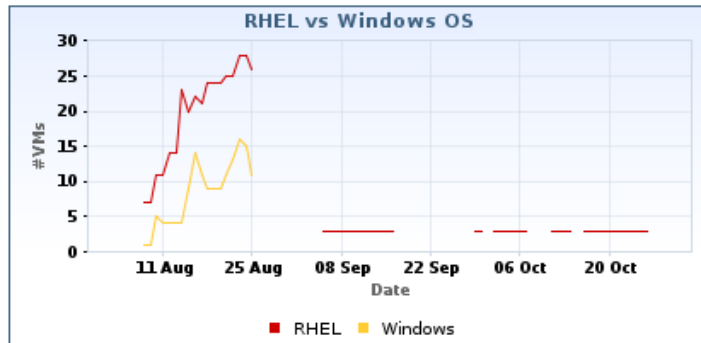
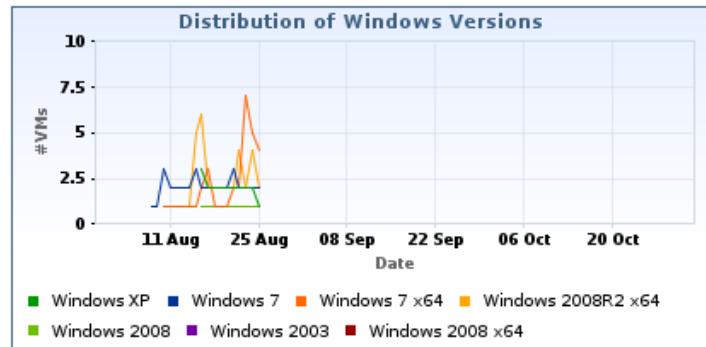
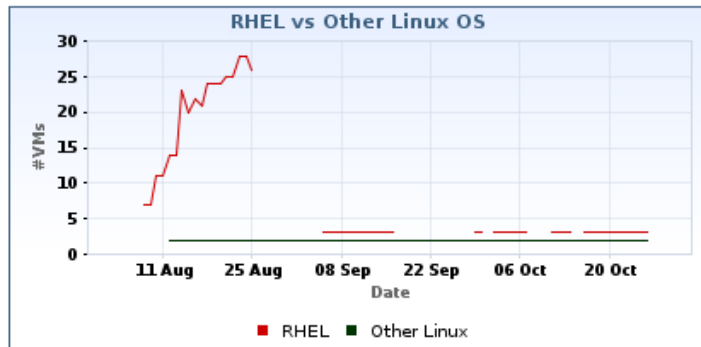
Sort By: **Name** | Modified Date

Run Edit Open Copy Cut Paste Delete

Active Virtual Machines by OS (BR18) /organizations/ovirtreports/Reports/Executive/active_vms_by_os_br18	The report contains comparative measurements number of running virtual machines and OS usage in for a selected cluster and a selected virtual machine's type within the requested period.	Report	October 18
Cluster Capacity Vs Usage (BR19) /organizations/ovirtreports/Reports/Executive/cluster_capacity_vs_usage_br19	This report contains charts displaying host's resources usage measurements (CPU core; physical Memory) and charts displaying virtual machine's resources usage measurements (virtual machine's total vCPU; Virtual Memory size) for a selected cluster.	Report	October 18
Host OS Break Down (BR22) /organizations/ovirtreports/Reports/Executive/host_os_break_down_BR22	This report contains a table and a chart displaying the number of hosts for each OS version for a selected cluster within a requested period.	Report	October 18
Summary of Host Usage Resources (BR17) /organizations/ovirtreports/Reports/Executive/summary_of_host_usage_resources_br17	The report contains a scattered chart of CPU and memory usage data within a requested period and for a selected cluster.	Report	October 18

Active Virtual Machines by OS in Clusters of Data Center Default

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



Input Controls

* Show Deleted Entities?: Yes

* Data Center: RHEVM-3

* Cluster: RHEVM-3

* VM Type: Server

* Period Range: Monthly

* Select Month: August 2011

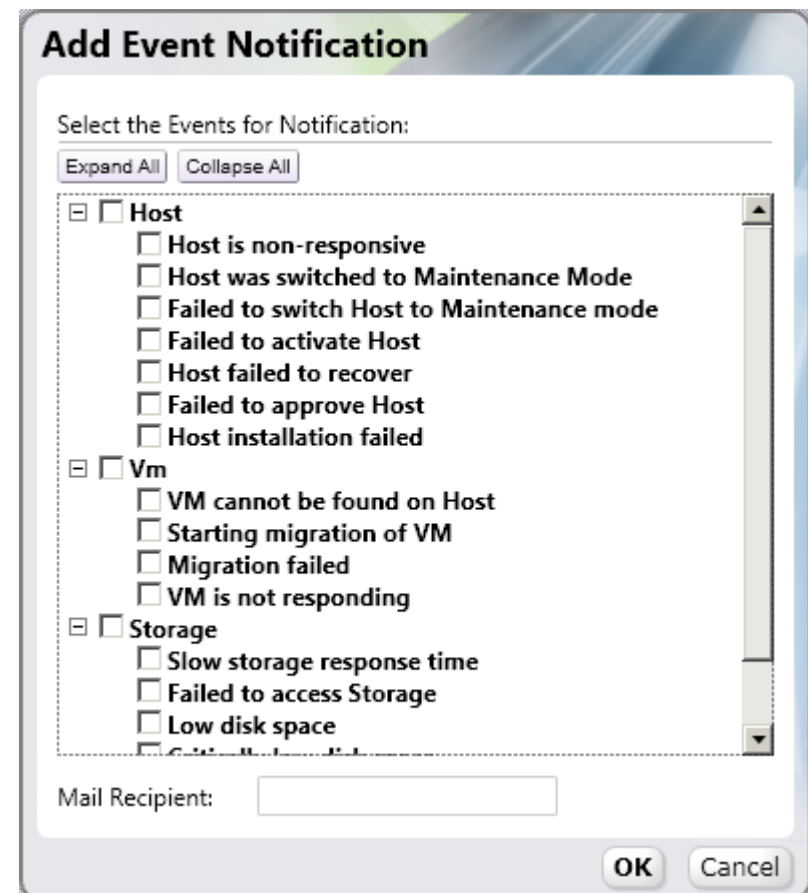
* Start Date: 2011-08-01

* End Date: 2011-08-31

Apply OK Reset Cancel

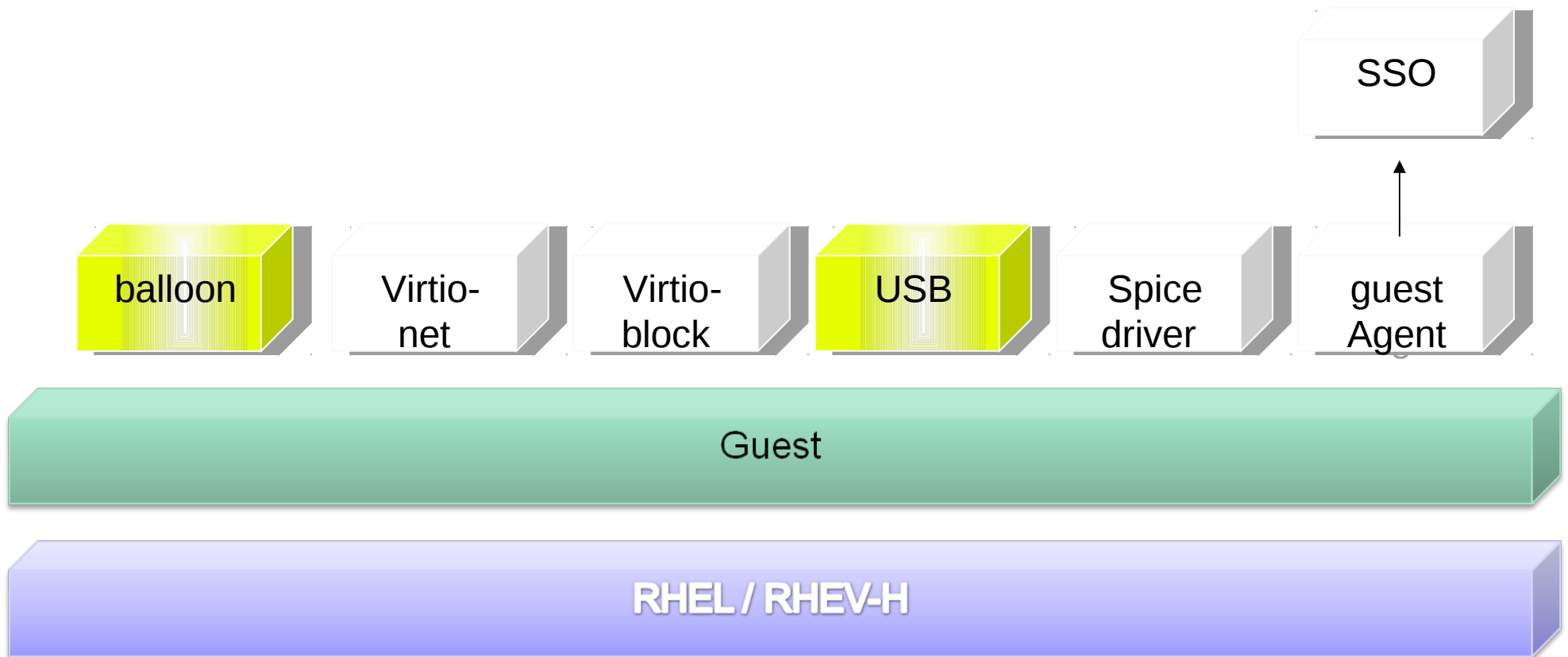
Notification Service

- oVirt allows registration to certain audit events
- The notification service sends emails per audit message to relevant users
- Also monitors engine itself

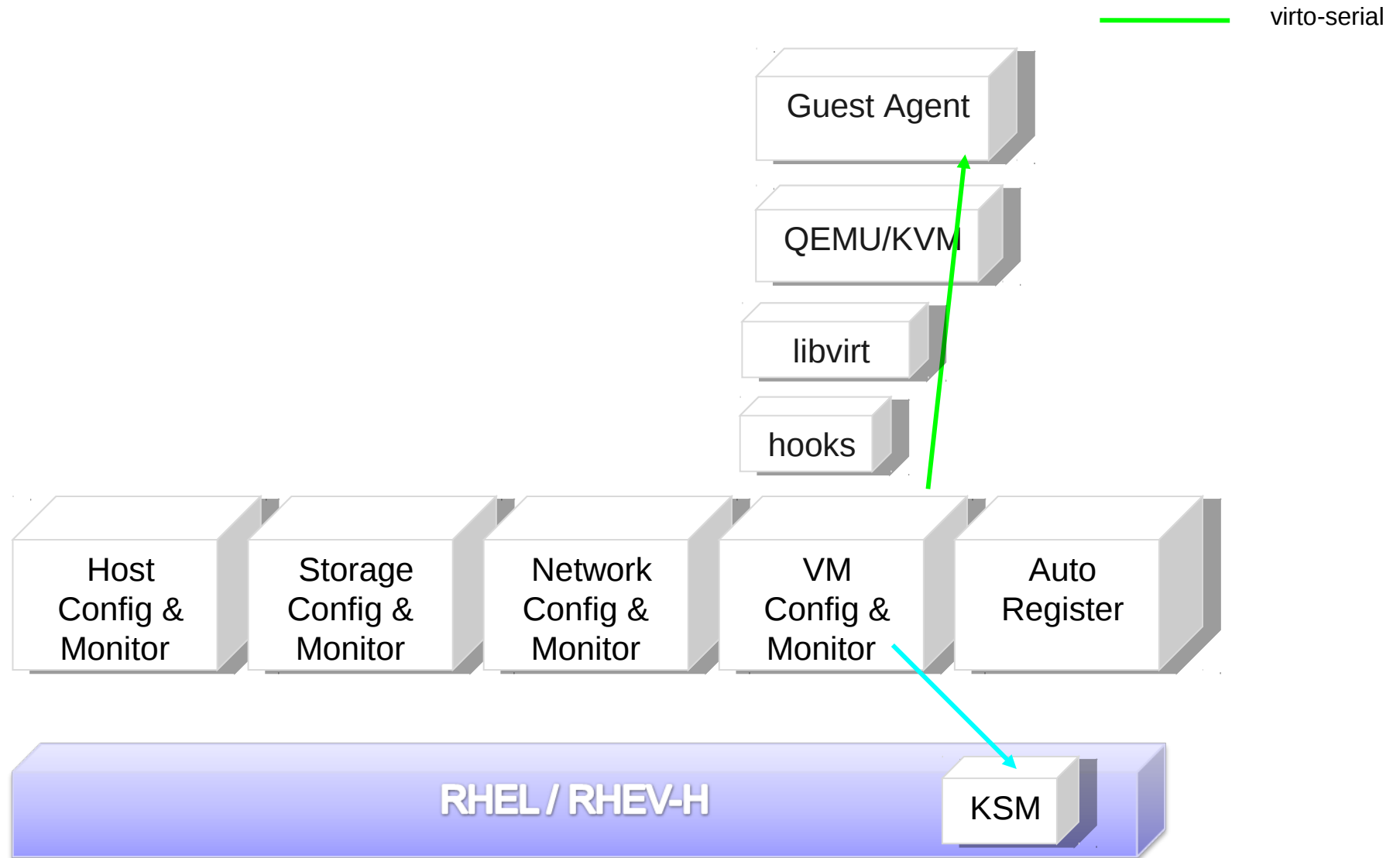


oVirt Guest Agent

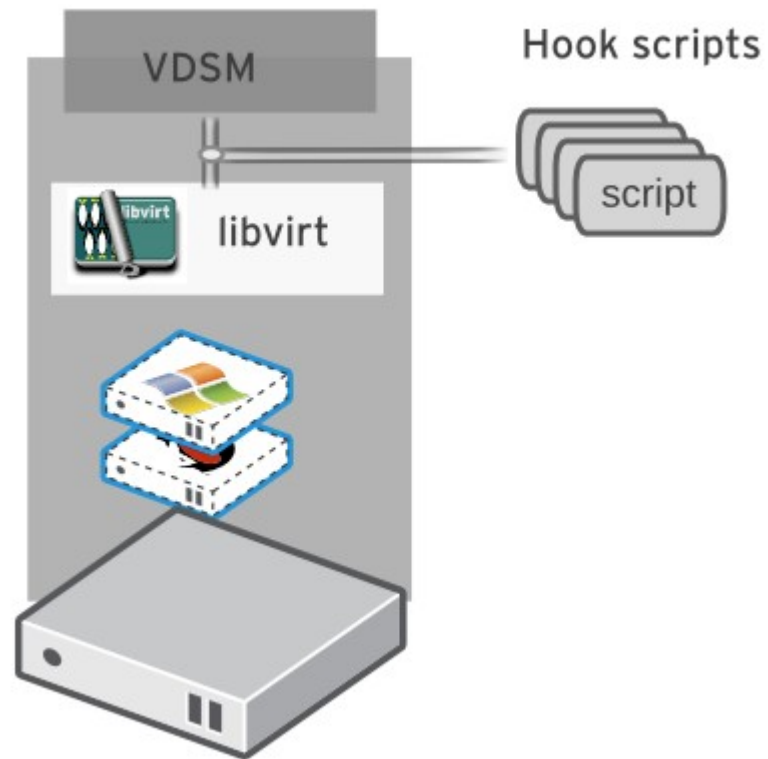
- The guest agent provides additional information to oVirt Engine, such as guest memory usage, guest ip address, installed applications and sso.
- Python code, available for both linux and windows guests
- Communication is done over virtio-serial
- SSO for windows is based on a gina module for XP and a credential provider for windows 7
- SSO for RHEL 6 is based on a PAM module with support for both KDE and Gnome



oVirt Host Agent - VDSM



- “Hook” mechanism for customization
 - Allows administrator to define scripts to modify VM operation
 - eg. Add extra options such as CPU pinning, watchdog device, direct LUN access, etc
 - Allows oVirt to be extended for new KVM features before full integration is done
 - An easy way to test a new kvm/libvirt/linux feature



- Hook scripts are called at specific VM lifecycle events
 - VDSM (management agent) Start
 - Before VM start
 - After VM start
 - Before VM migration in/out
 - After VM migration in/out
 - Before and After VM Pause
 - Before and After VM Continue
 - Before and After VM Hibernate
 - Before and After VM resume from hibernate
 - On VM stop
 - On VDSM Stop
- Hooks can modify a virtual machines XML definition before VM start
- Hooks can run system commands – eg. Apply firewall rule to VM

Sample Hooks

- CPU pinning
- SR/IOV
- Smart card
- Direct LUN
- Hugepages
- Promiscuous mode network interface
- Cisco VN-Link
- Fileinject
- Floppy
- Hostusb
- Isolatedprivatevlan
- Numa
- Qos
- Scratchpad
- smbios

In the works (engine-devel@ovirt.org)

- Live snapshots
- Live storage migration
- Quotas
- Hot plug
- Multiple storage domains
- Shared disks
- iScsi disk
- Shared file system support
- Storage array integration
- Gluster support
- Qbg/Qbh
- virt-resize, pv-resize
- libguestfs integration
- Stable device addresses
- Network types
- Backup API
- SLA
- SDM
- Many many more...

How To Contribute or Download

- **Website and Repository:**
 - <http://www.ovirt.org>
 - <http://www.ovirt.org/wiki>
 - <http://www.ovirt.org/project/subprojects/>
- **Mailing lists:**
 - <http://lists.ovirt.org/mailman/listinfo>
- **IRC:**
 - #ovirt on OFTC

- Version 3.0
 - Released last week
- Next Workshop
 - Beijing – March 21st
 - Hosted by IBM in their Campus
 - <http://www.ovirt.org/news-and-events/workshop/>

oVirt

THANK YOU !

<http://www.ovirt.org>

Over-Commitment is a storage function which allows RHEV-M to logically allocate more storage than is physically available

- Generally, Virtual Machines use less storage than what has been allocated to them
- Virtual Machine to operate completely unaware of the resources that are actually available
- QEMU identifies the highest offset written onto the logical volume
- VDSM monitors the highest offset marked by QEMU
- VDSM requests to the SPM to extend the logical volume when needed

