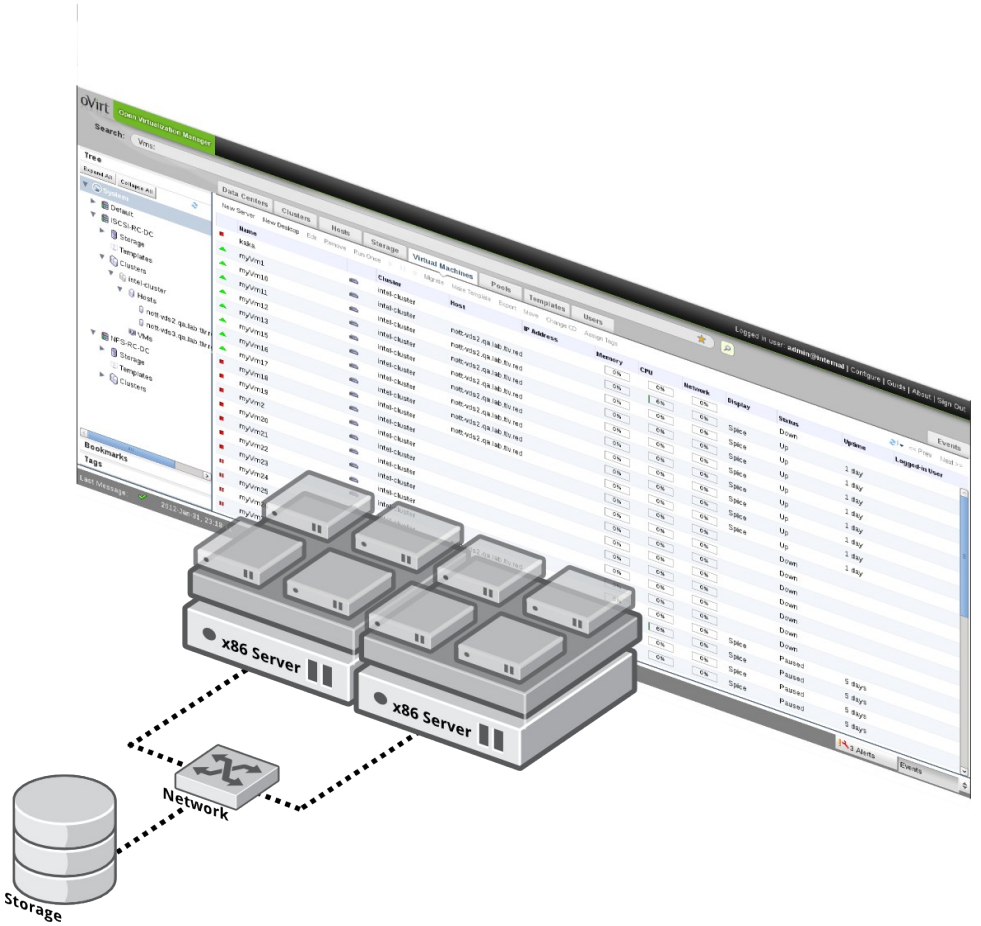
oVirt Introduction

August 2013

Livnat Peer
Red Hat

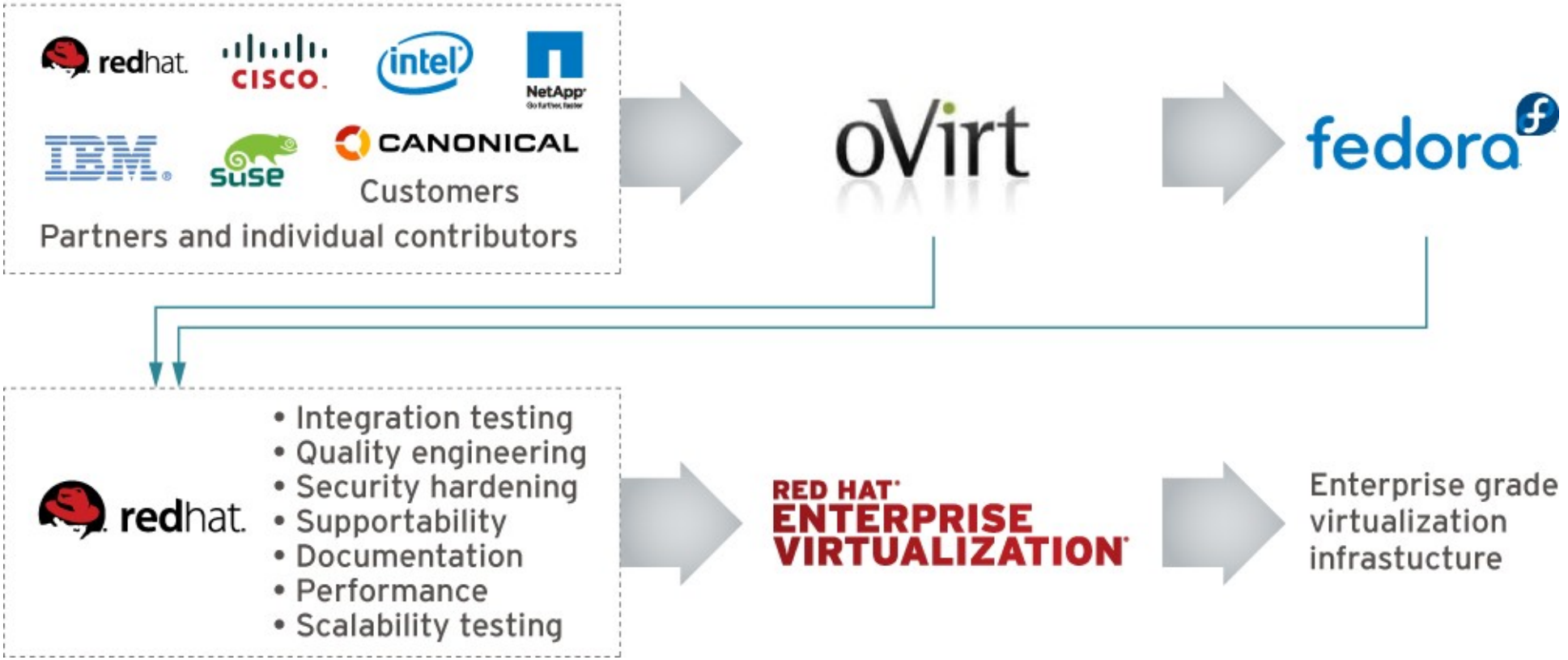
What is oVirt?

- Large scale, centralized management for server and desktop virtualization
- Based on leading performance, scalability and security infrastructure technologies
- Focus on KVM for best integration/performance
- Provides an open source alternative to vCenter/vSphere



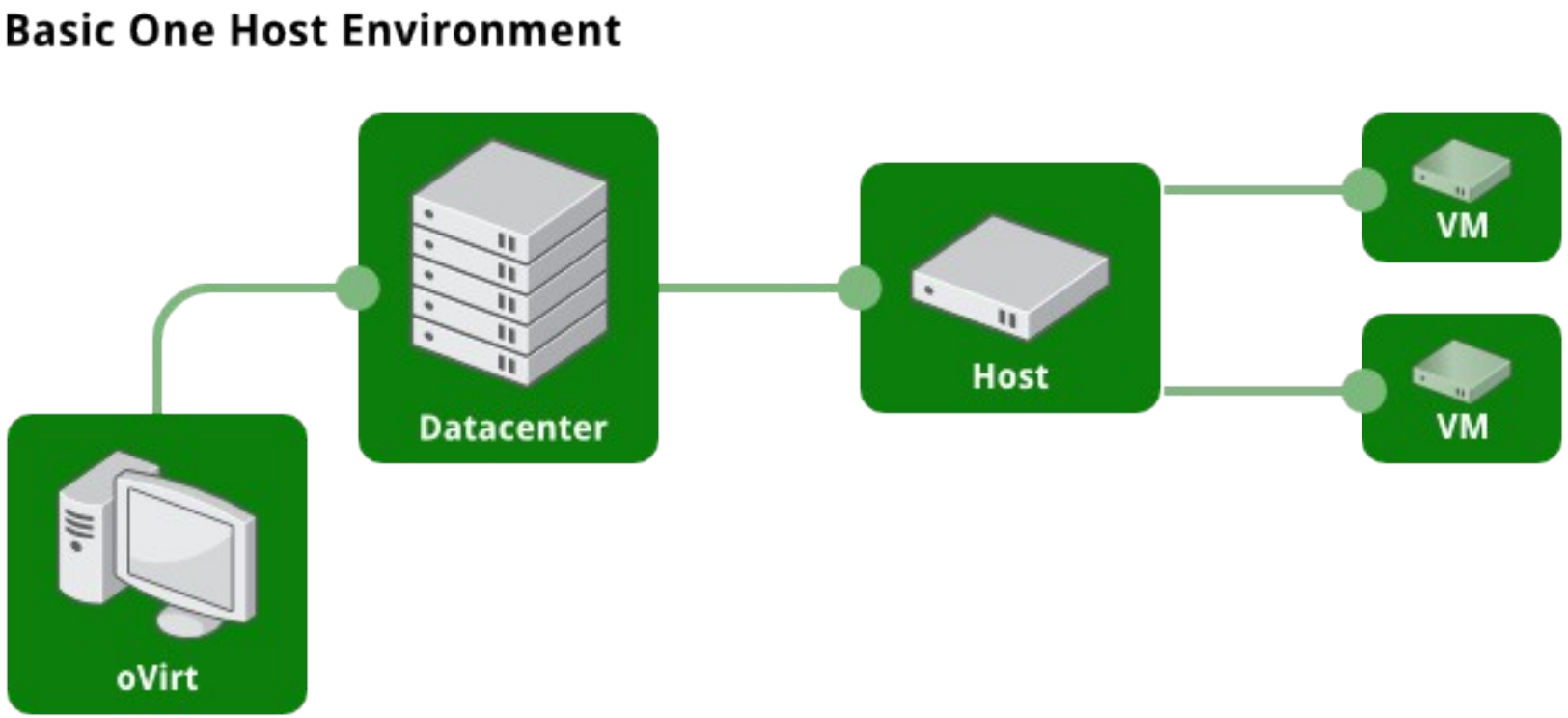
OPEN VIRTUALIZATION MANAGEMENT

oVirt

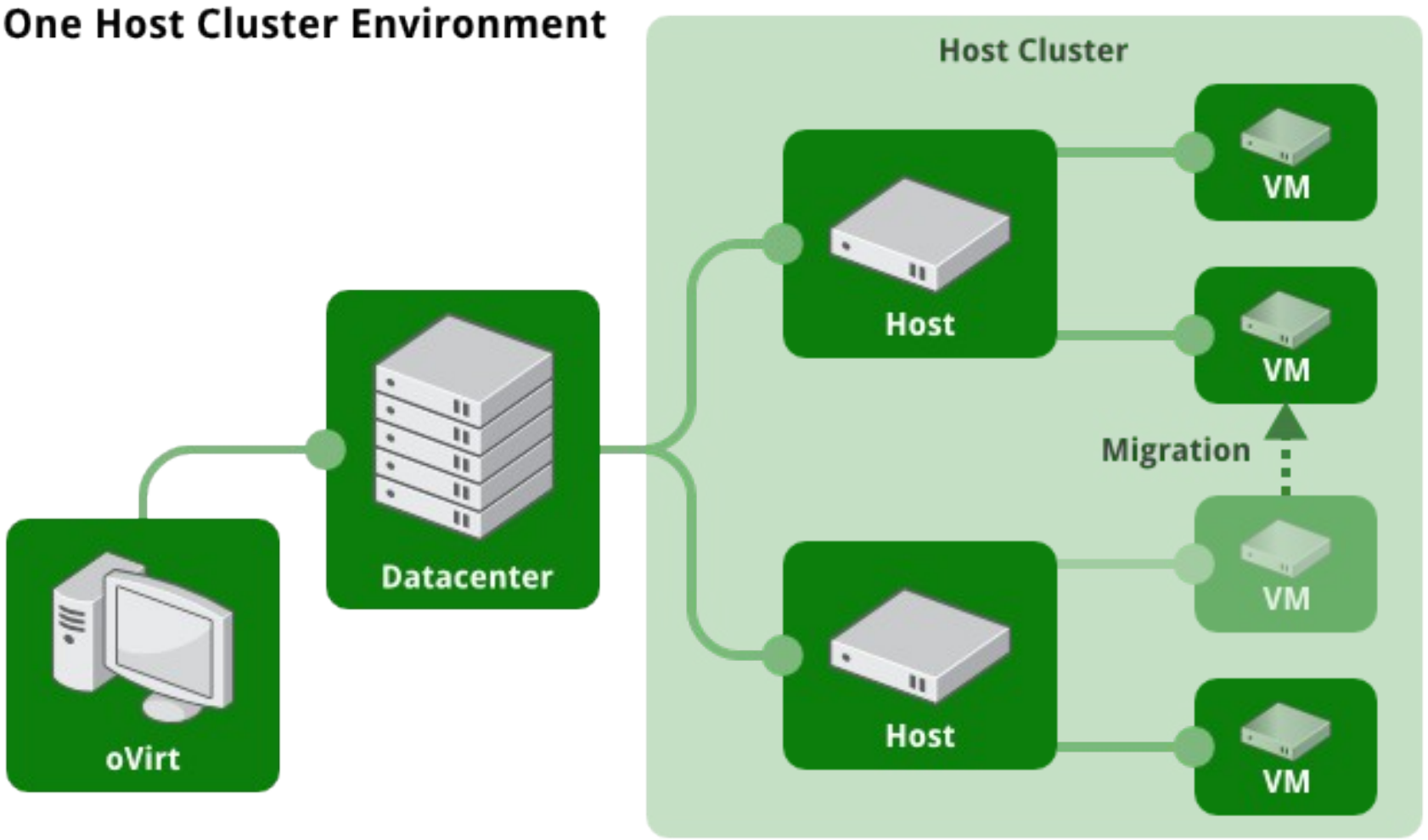


Virtualization Management the oVirt way

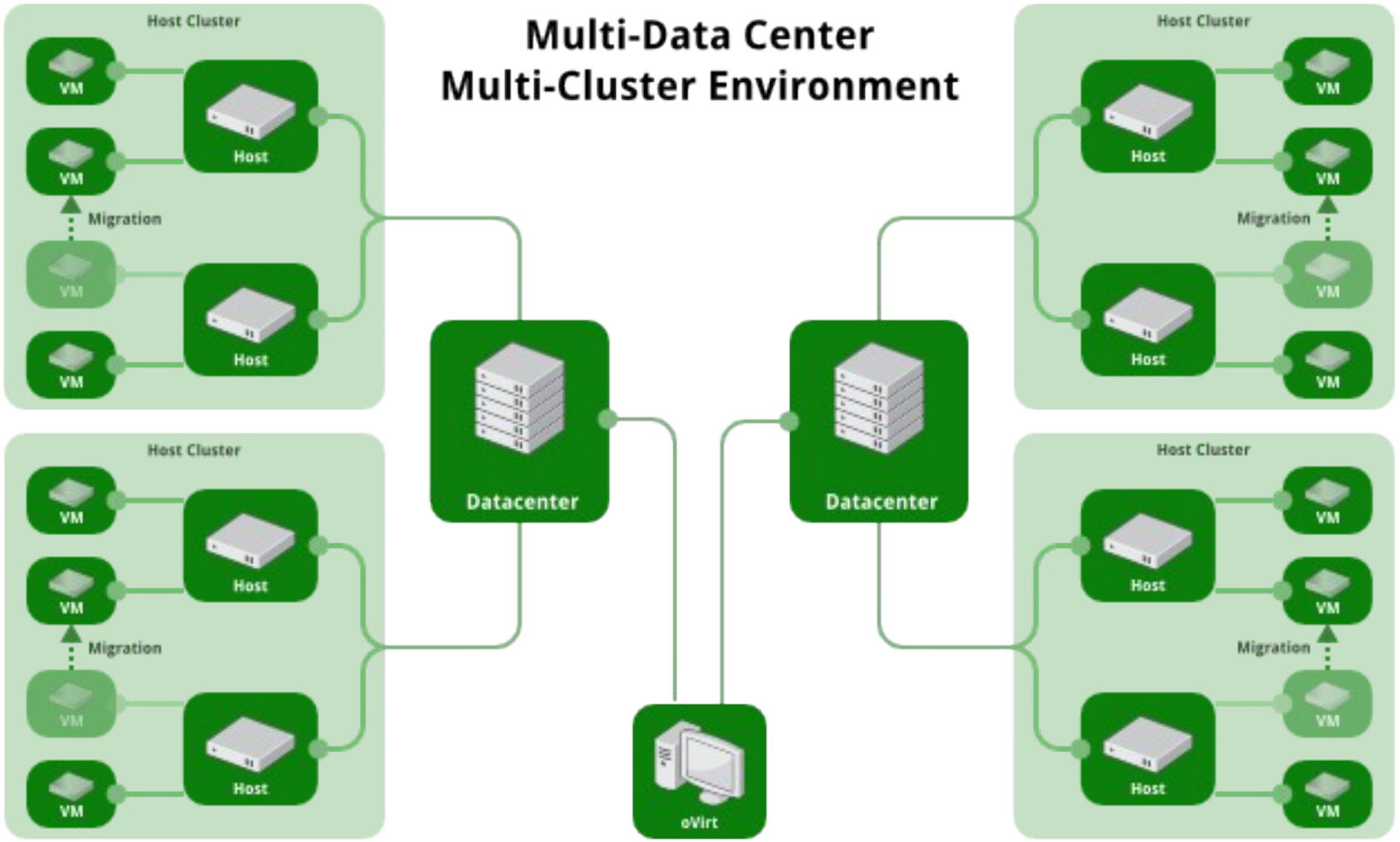
One Host Environment



Multiple hosts

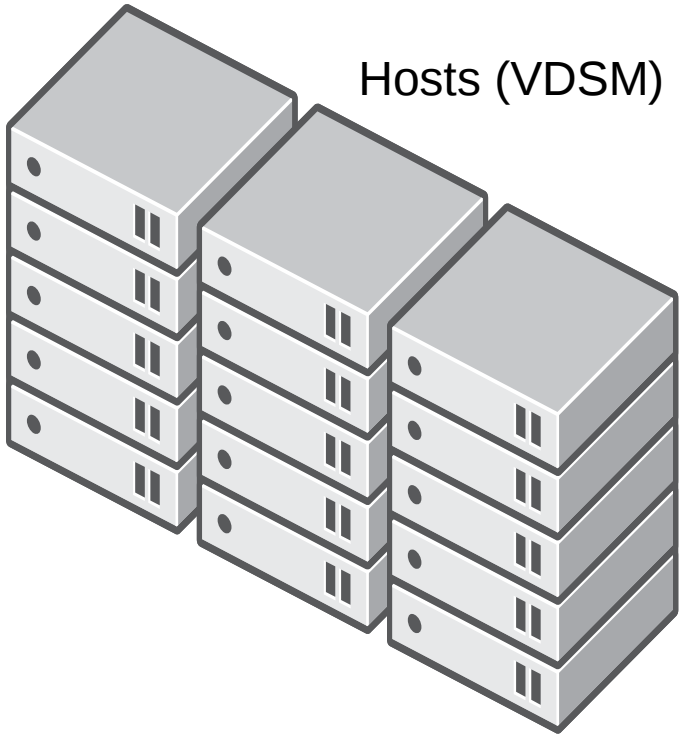


Multi-Datacenter/Multi-Host

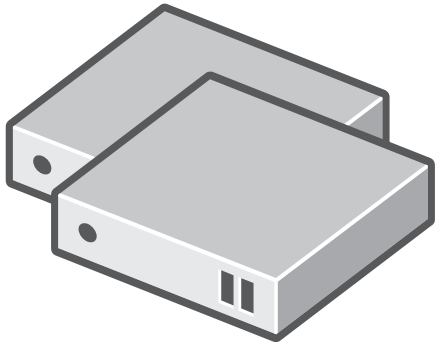


Architecture From 30,000 Feet

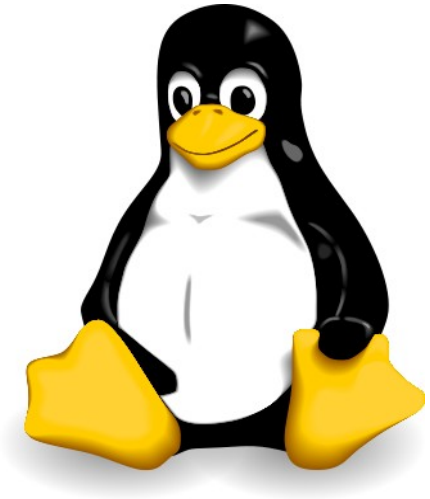
Hosts (VDSM)



Engine

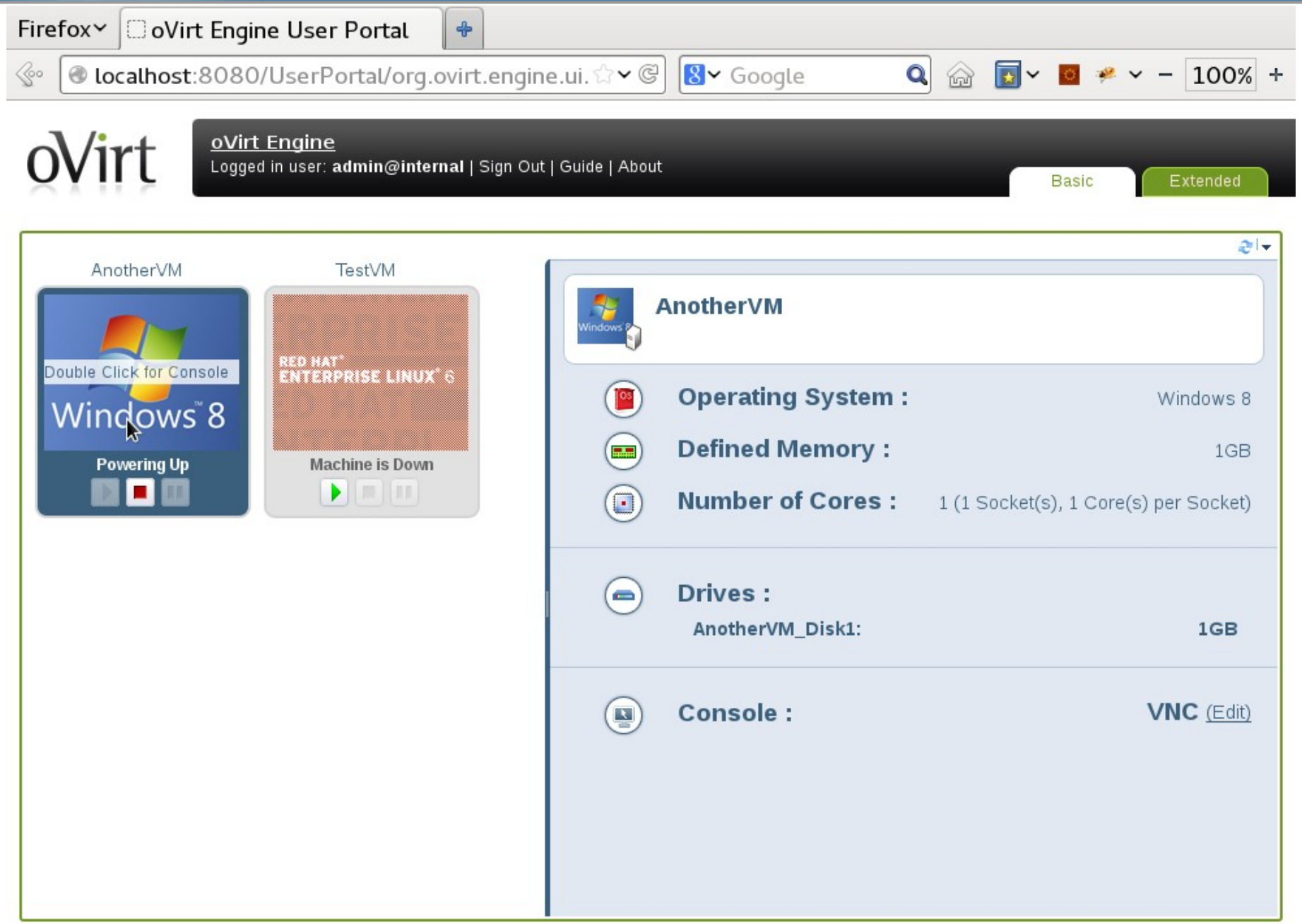


Client (web portals)

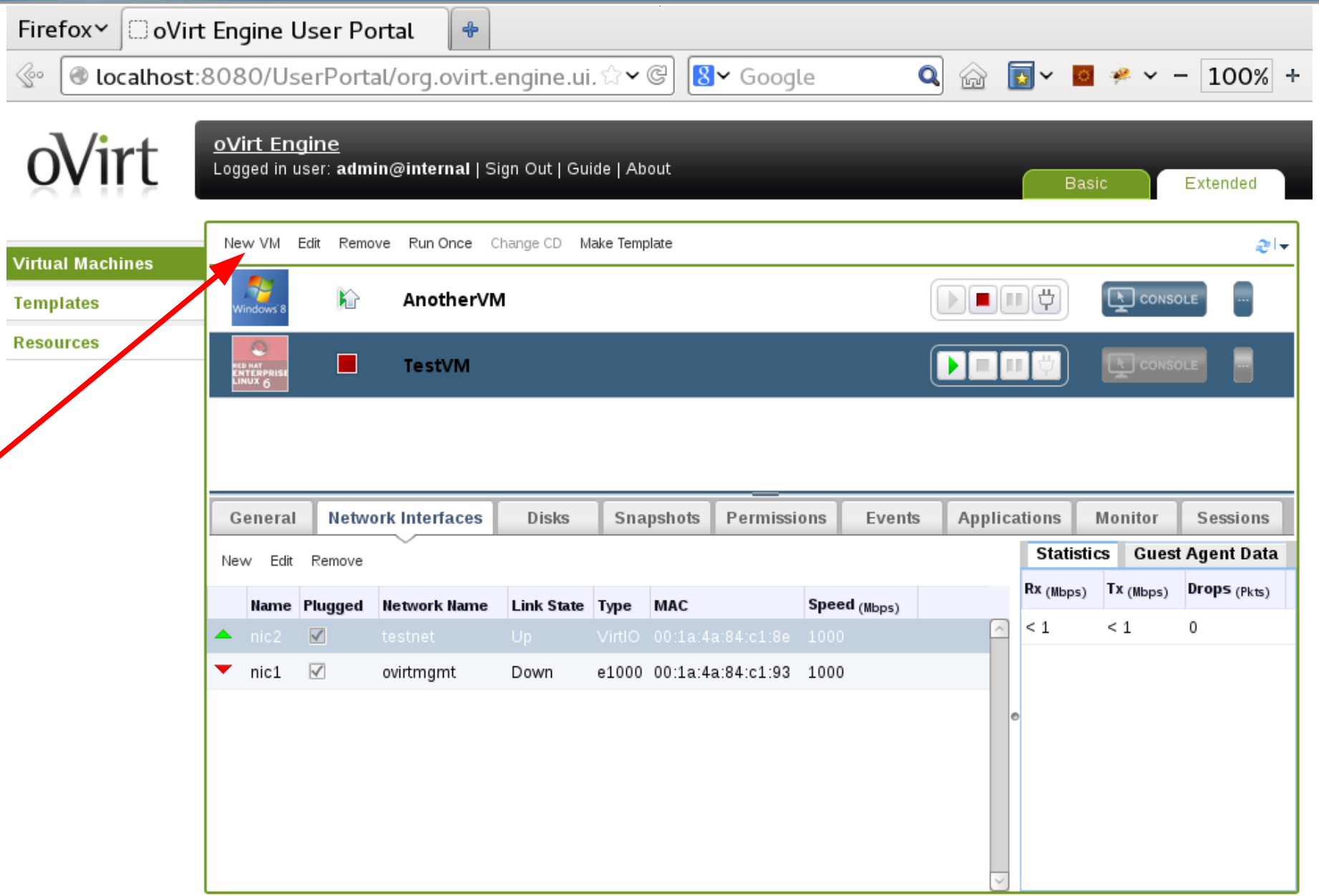


oVirt Users

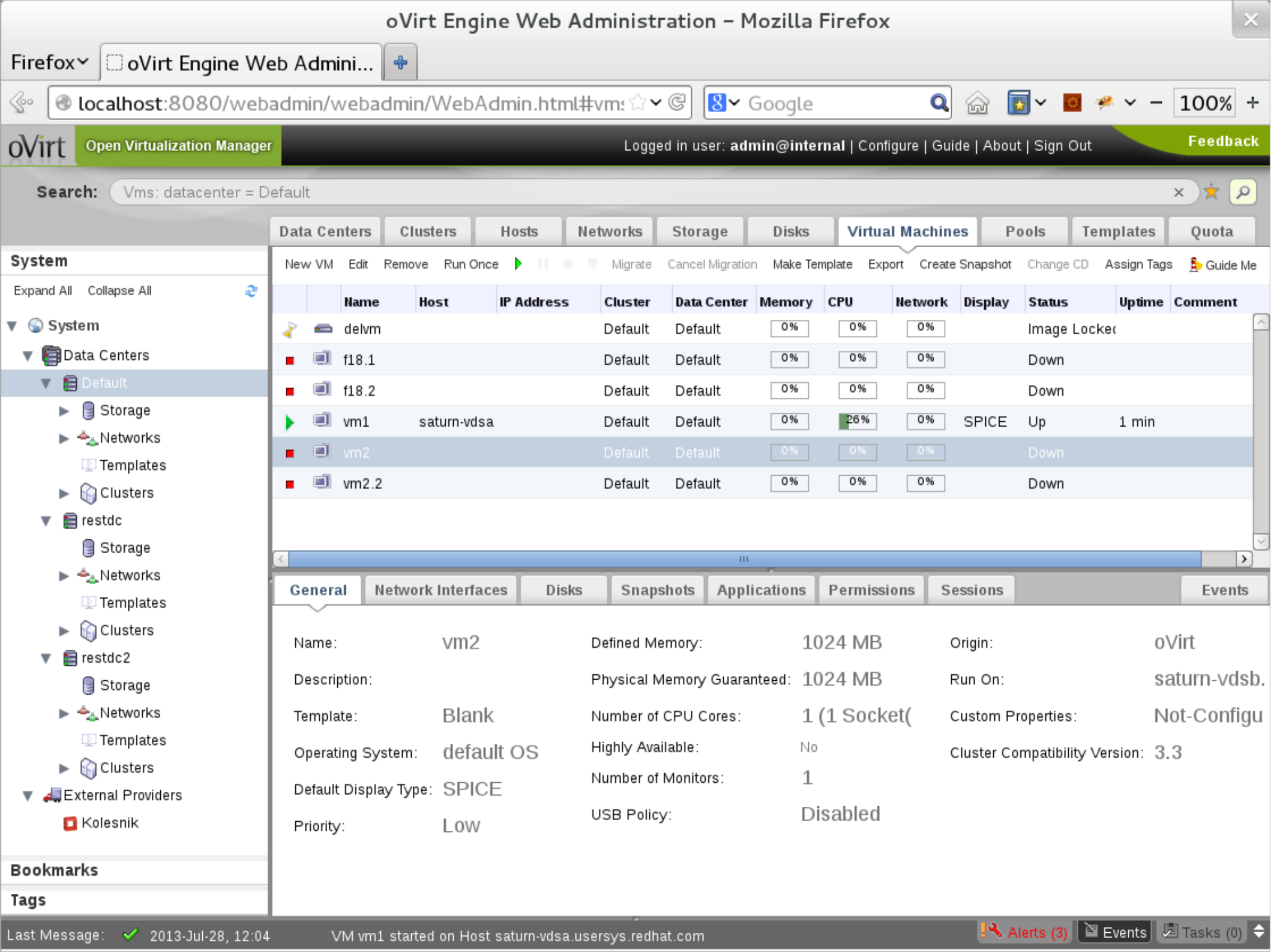
User Portal


Firefox
oVirt Engine User Portal
localhost:8080/UserPortal/org.ovirt.engine.ui.
Google
100%
oVirt
oVirt Engine
Logged in user: admin@internal | Sign Out | Guide | About
Basic
Extended
AnotherVM
TestVM
Double Click for Console
Windows 8
Powering Up
RED HAT ENTERPRISE LINUX 6
Machine is Down
AnotherVM
Operating System :
Windows 8
Defined Memory :
1GB
Number of Cores :
1 (1 Socket(s), 1 Core(s) per Socket)
Drives :
AnotherVM_Disk1:
1GB
Console :
VNC (Edit)

Self Provisioning Portal



Virtualization Management the oVirt way

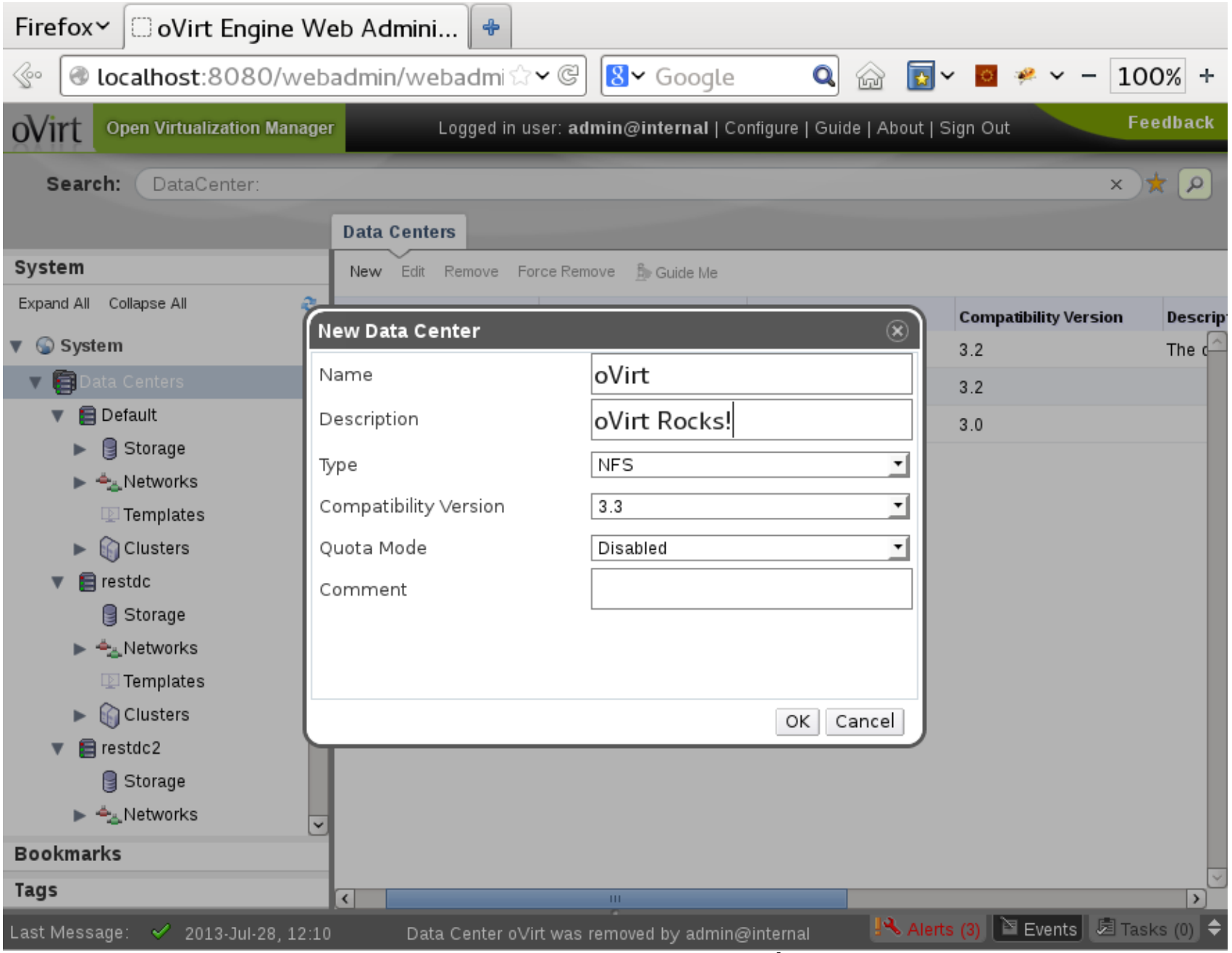

oVirt Engine Web Administration – Mozilla Firefox
Firefox
oVirt Engine Web Admini...
localhost:8080/webadmin/webadmin/WebAdmin.html#vms
Google
100%
oVirt
Open Virtualization Manager
Logged in user: admin@internal | Configure | Guide | About | Sign Out
Feedback
Search:
Vms: datacenter = Default
Data Centers
Clusters
Hosts
Networks
Storage
Disks
Virtual Machines
Pools
Templates
Quota
System
Expand All
Collapse All
System
Data Centers
Default
Storage
Networks
Templates
Clusters
restdc
Storage
Networks
Templates
Clusters
restdc2
Storage
Networks
Templates
Clusters
External Providers
Kolesnik
Bookmarks
Tags
New VM
Edit
Remove
Run Once
Migrate
Cancel Migration
Make Template
Export
Create Snapshot
Change CD
Assign Tags
Guide Me
Name
Host
IP Address
Cluster
Data Center
Memory
CPU
Network
Display
Status
Uptime
Comment
delvm
Default
Default
0%
0%
0%
Image Locke
f18.1
Default
Default
0%
0%
0%
Down
f18.2
Default
Default
0%
0%
0%
Down
vm1
saturn-vdsa
Default
Default
0%
26%
0%
SPICE
Up
1 min
vm2
Default
Default
0%
0%
0%
Down
vm2.2
Default
Default
0%
0%
0%
Down
General
Network Interfaces
Disks
Snapshots
Applications
Permissions
Sessions
Events
Name:
vm2
Description:
Template:
Blank
Operating System:
default OS
Default Display Type:
SPICE
Priority:
Low
Defined Memory:
1024 MB
Physical Memory Guaranteed:
1024 MB
Number of CPU Cores:
1 (1 Socket(
Highly Available:
No
Number of Monitors:
1
USB Policy:
Disabled
Origin:
oVirt
Run On:
saturn-vdsb.
Custom Properties:
Not-Configu
Cluster Compatibility Version:
3.3
Last Message:
2013-Jul-28, 12:04
VM vm1 started on Host saturn-vdsa.usersys.redhat.com
Alerts (3)
Events
Tasks (0)

From clean setup to VM

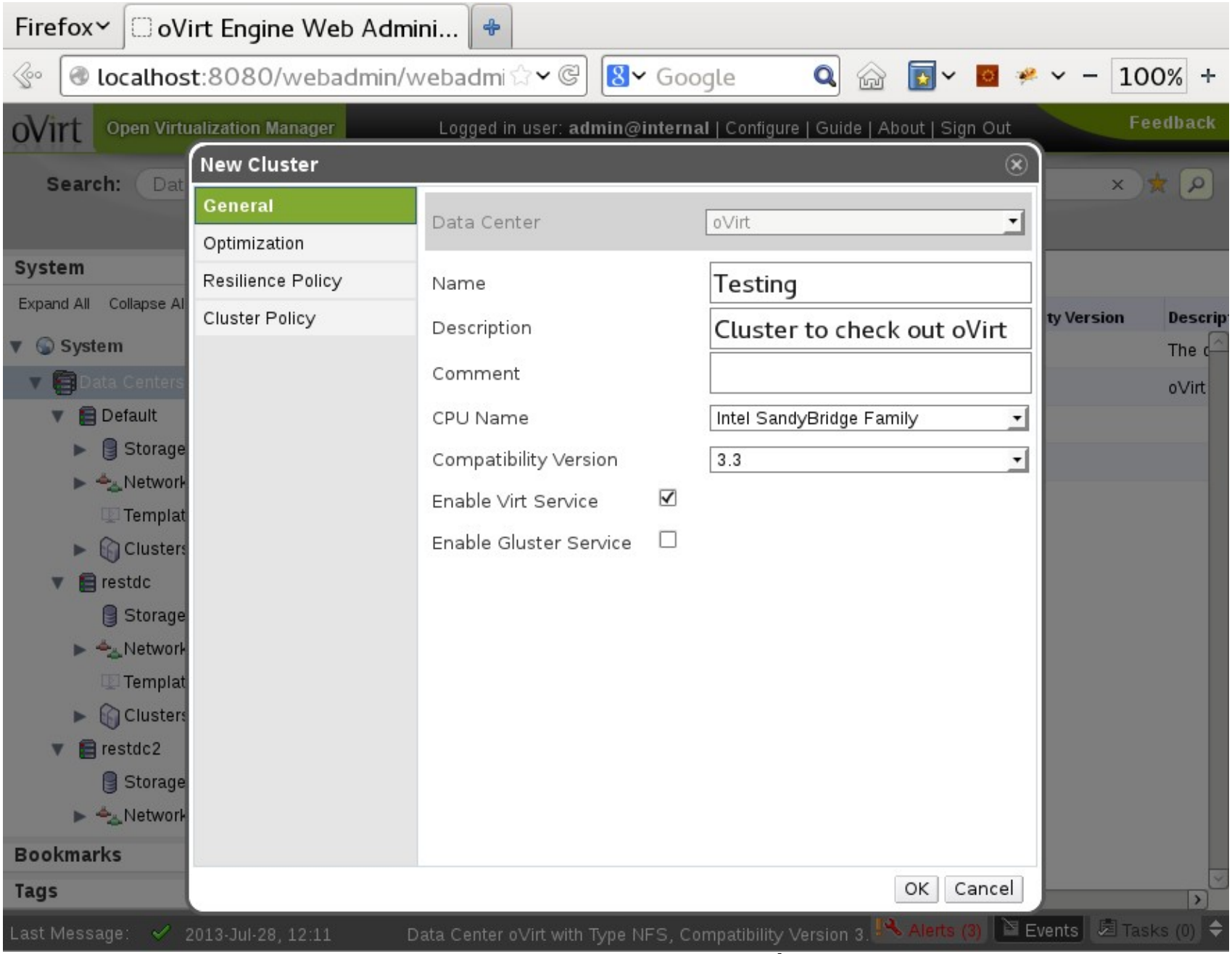
From clean setup to VM

- Create a DC
- Create a Cluster
- Add a Host
- Configure Storage
- Configure Network
- Create a VM
  - From Blank
  - From Template
  - From Snapshot
  - Import VM

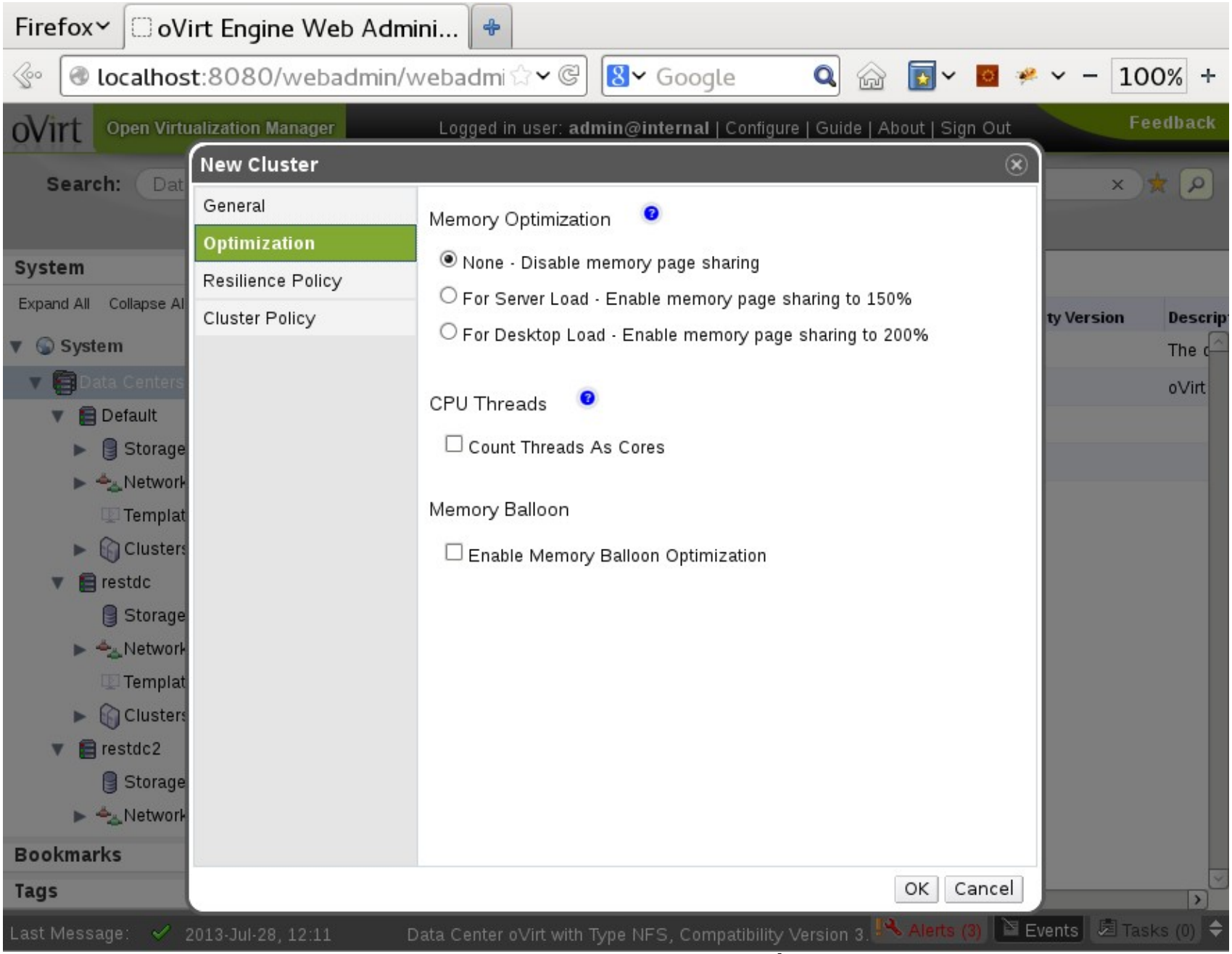
Add Data Center



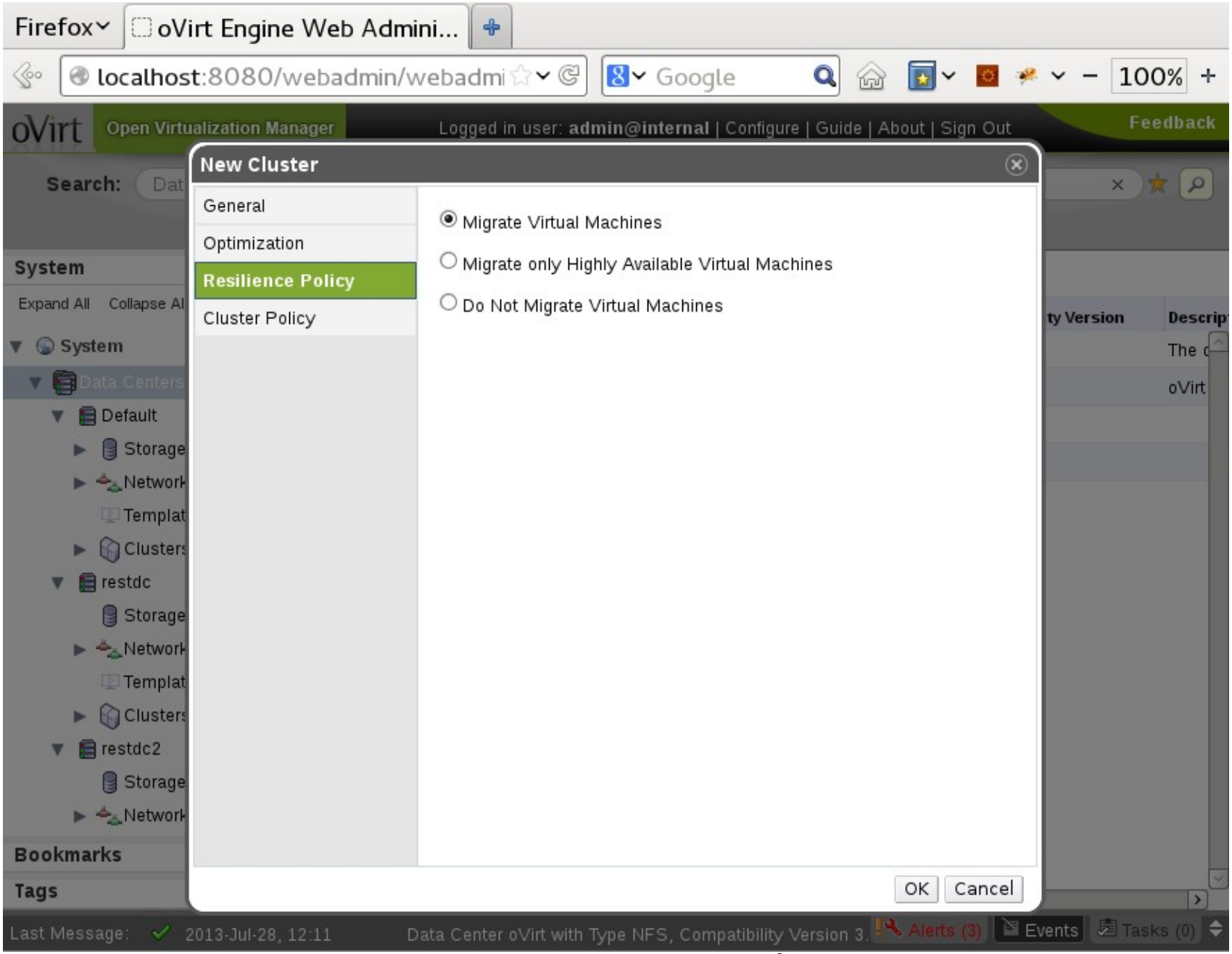
Add Cluster


Firefox
oVirt Engine Web Admini...
localhost:8080/webadmin/webadmi
Google
100%
oVirt
Open Virtualization Manager
Logged in user: admin@internal | Configure | Guide | About | Sign Out
Feedback
Search:
System
Expand All
Collapse Al
System
Data Centers
Default
Storage
Network
Templat
Clusters
restdc
Storage
Network
Templat
Clusters
restdc2
Storage
Network
Bookmarks
Tags
New Cluster
General
Optimization
Resilience Policy
Cluster Policy
Data Center
oVirt
Name
Testing
Description
Cluster to check out oVirt
Comment
CPU Name
Intel SandyBridge Family
Compatibility Version
3.3
Enable Virt Service
Enable Gluster Service
OK
Cancel
Last Message:
2013-Jul-28, 12:11
Data Center oVirt with Type NFS, Compatibility Version 3.
Alerts (3)
Events
Tasks (0)

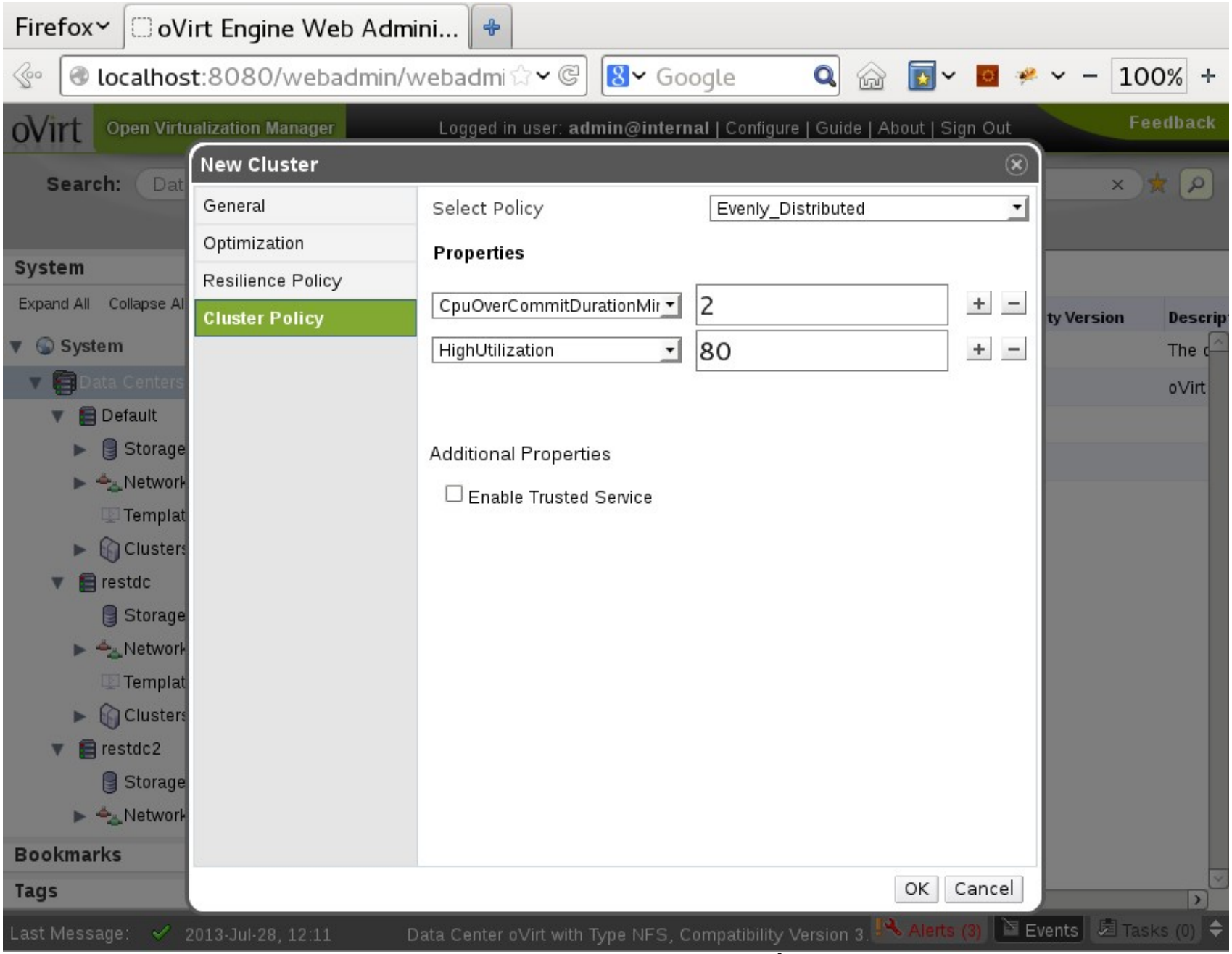
Add Cluster


Firefox
oVirt Engine Web Admini...
localhost:8080/webadmin/webadmi
Google
100%
oVirt
Open Virtualization Manager
Logged in user: admin@internal | Configure | Guide | About | Sign Out
Feedback
Search:
System
Expand All
Collapse Al
System
Data Centers
Default
Storage
Network
Templat
Clusters
restdc
Storage
Network
Templat
Clusters
restdc2
Storage
Network
Bookmarks
Tags
New Cluster
General
Optimization
Resilience Policy
Cluster Policy
Memory Optimization
None - Disable memory page sharing
For Server Load - Enable memory page sharing to 150%
For Desktop Load - Enable memory page sharing to 200%
CPU Threads
Count Threads As Cores
Memory Balloon
Enable Memory Balloon Optimization
OK
Cancel
ty Version
Descrip
The
oVirt
Last Message:
2013-Jul-28, 12:11
Data Center oVirt with Type NFS, Compatibility Version 3.
Alerts (3)
Events
Tasks (0)

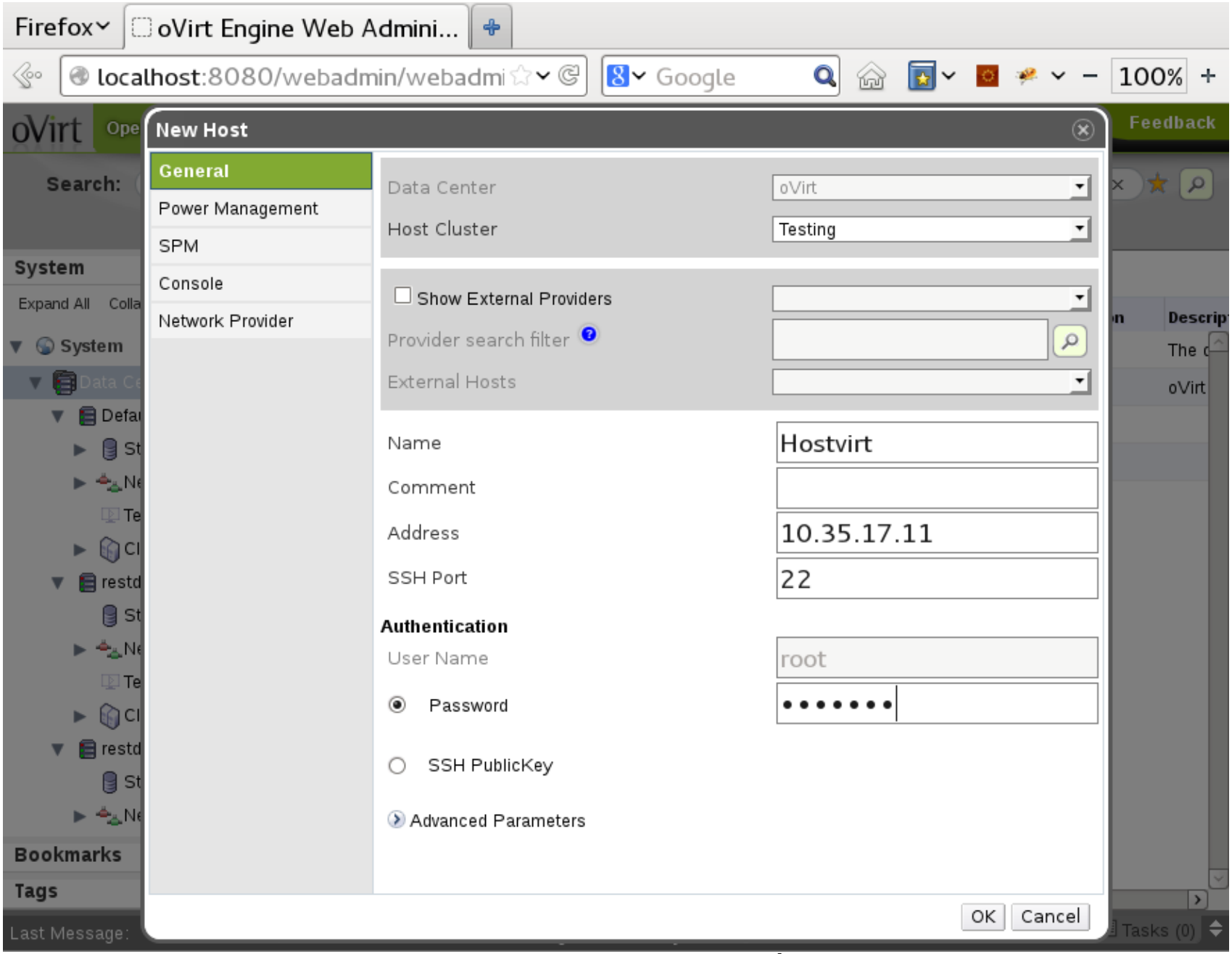
Cluster Resilience Policy



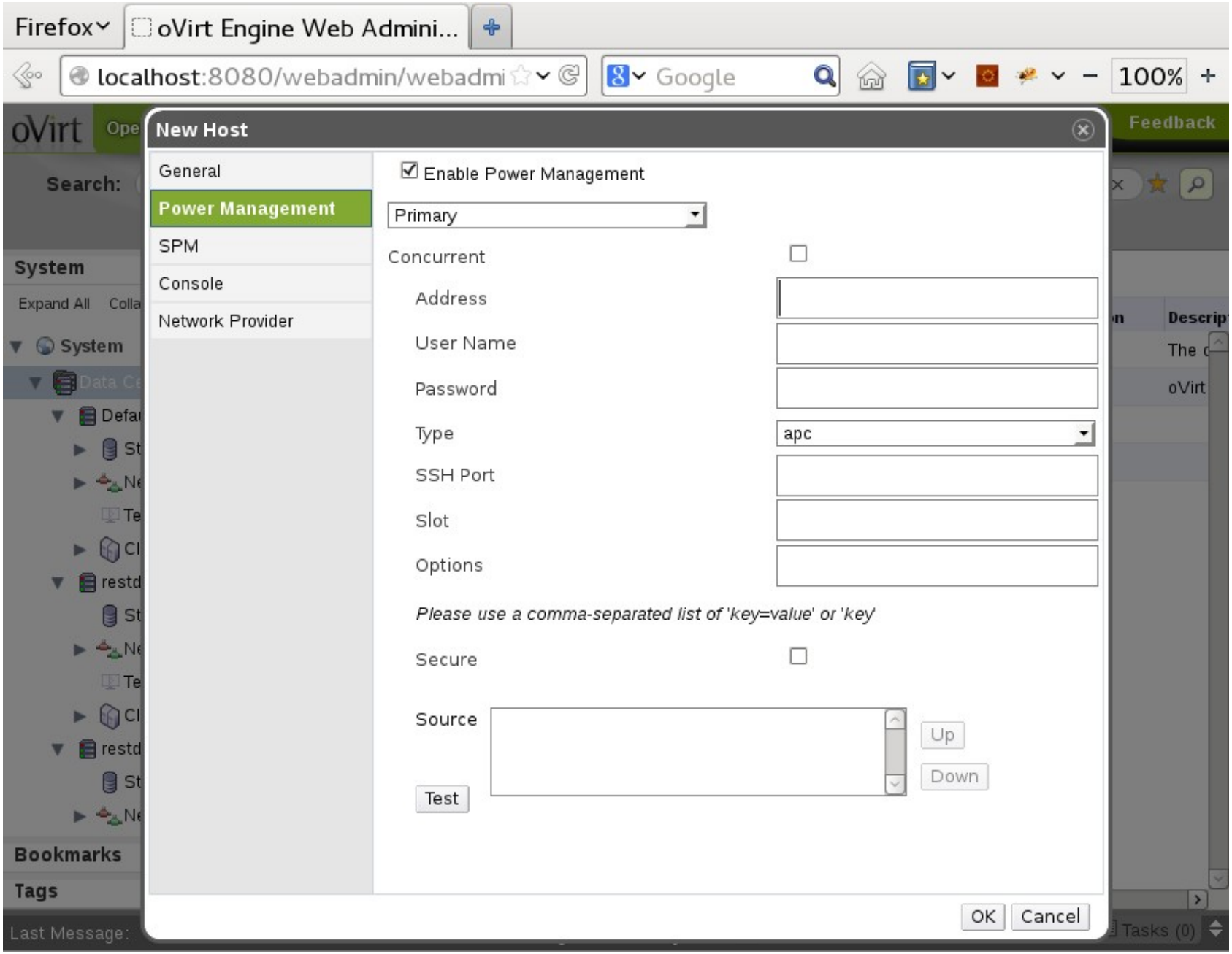
Cluster Load-Balancing Policy



Add Host


Firefox
oVirt Engine Web Admini...
localhost:8080/webadmin/webadmi
Google
100%
oVirt
Feedback
Search:
System
Expand All
Bookmarks
Tags
Last Message:
Tasks (0)
New Host
General
Power Management
SPM
Console
Network Provider
Data Center
oVirt
Host Cluster
Testing
Show External Providers
Provider search filter
External Hosts
Name
Hostvirt
Comment
Address
10.35.17.11
SSH Port
22
Authentication
User Name
root
Password
SSH PublicKey
Advanced Parameters
OK
Cancel

Power Management

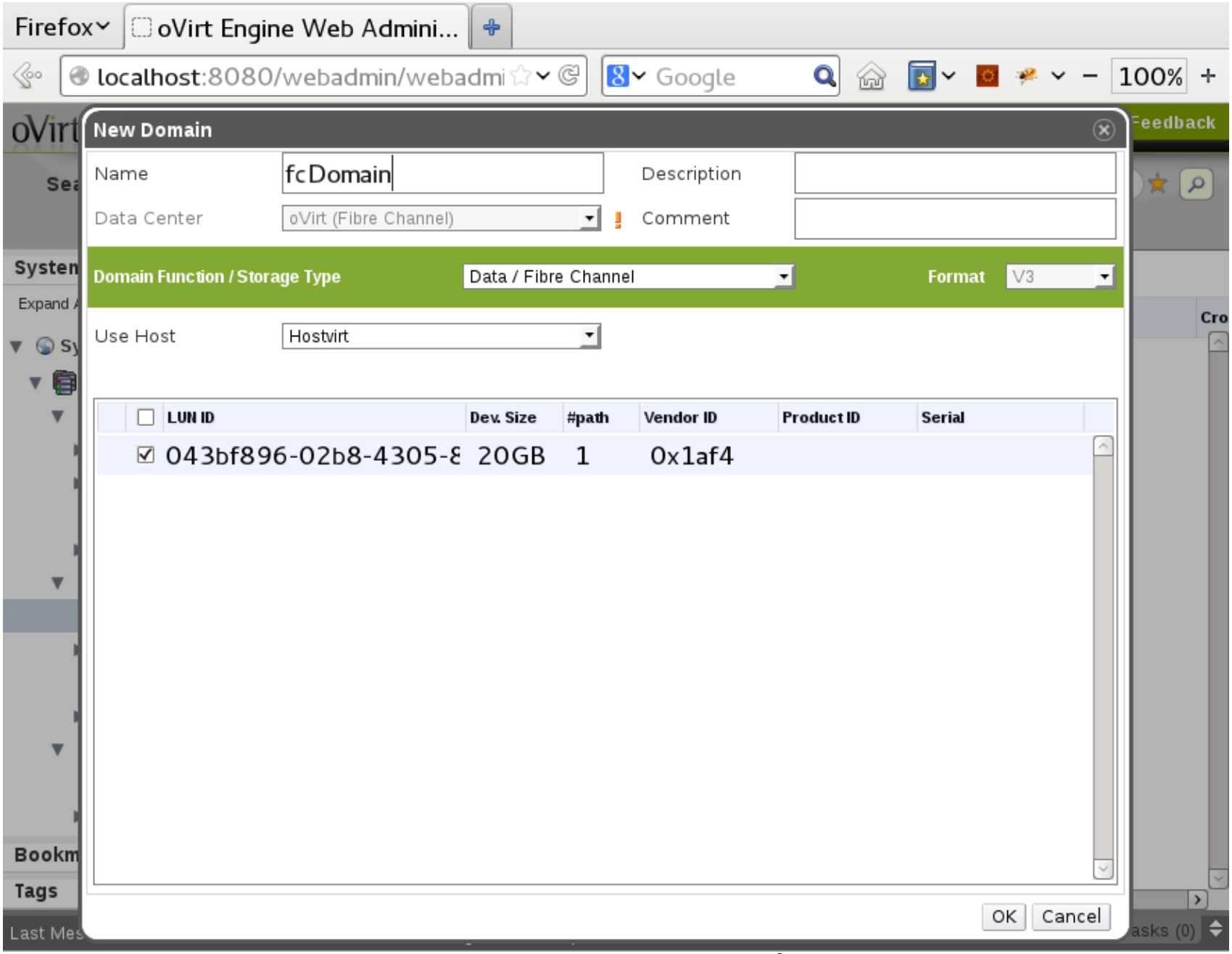


Virtualization Management the oVirt way

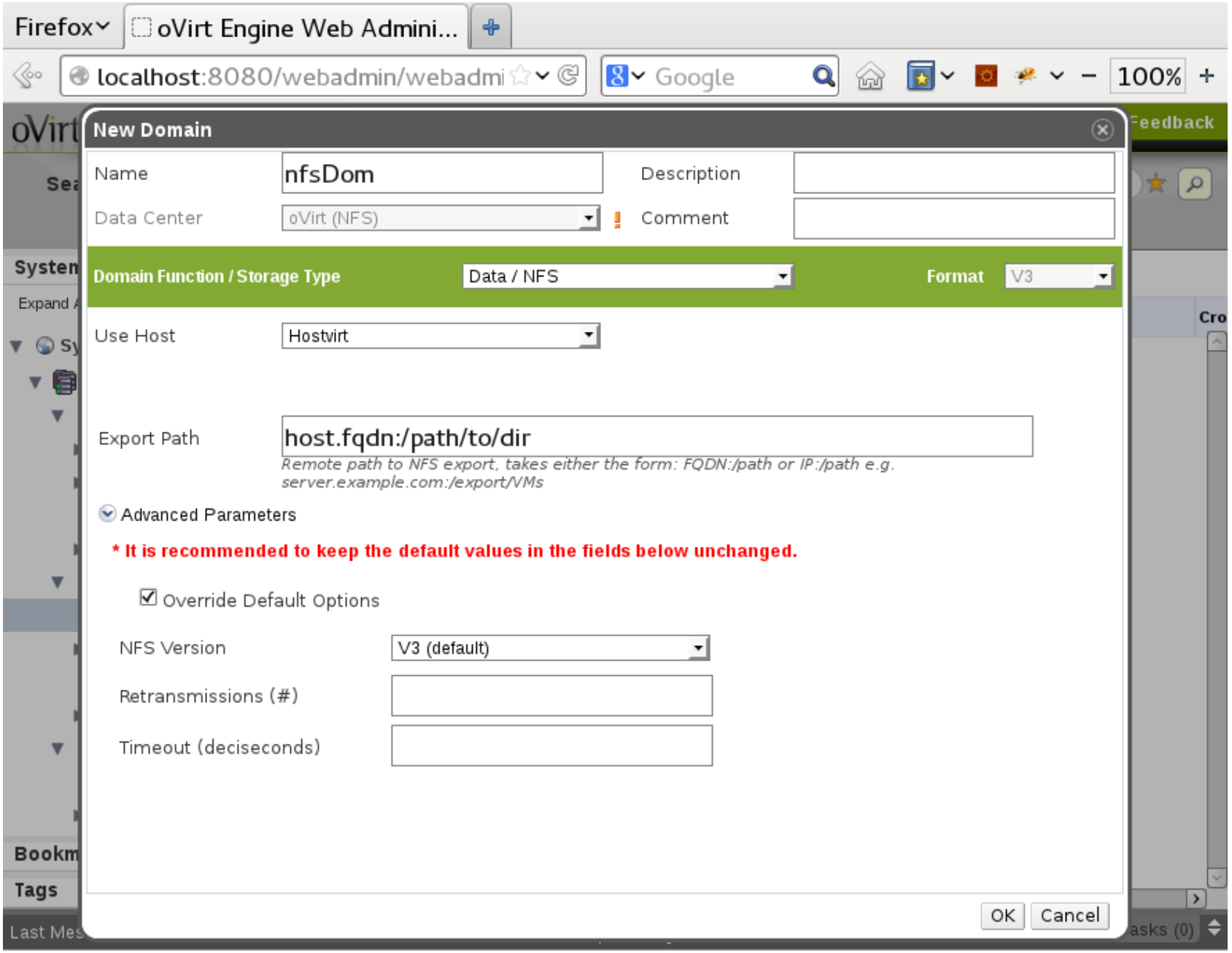
Configure Storage

- Shared Storage
  - NFS
  - POSIX
  - ISCSI
  - FC
  - Gluster
- Local Storage
- Data/Export/ISO

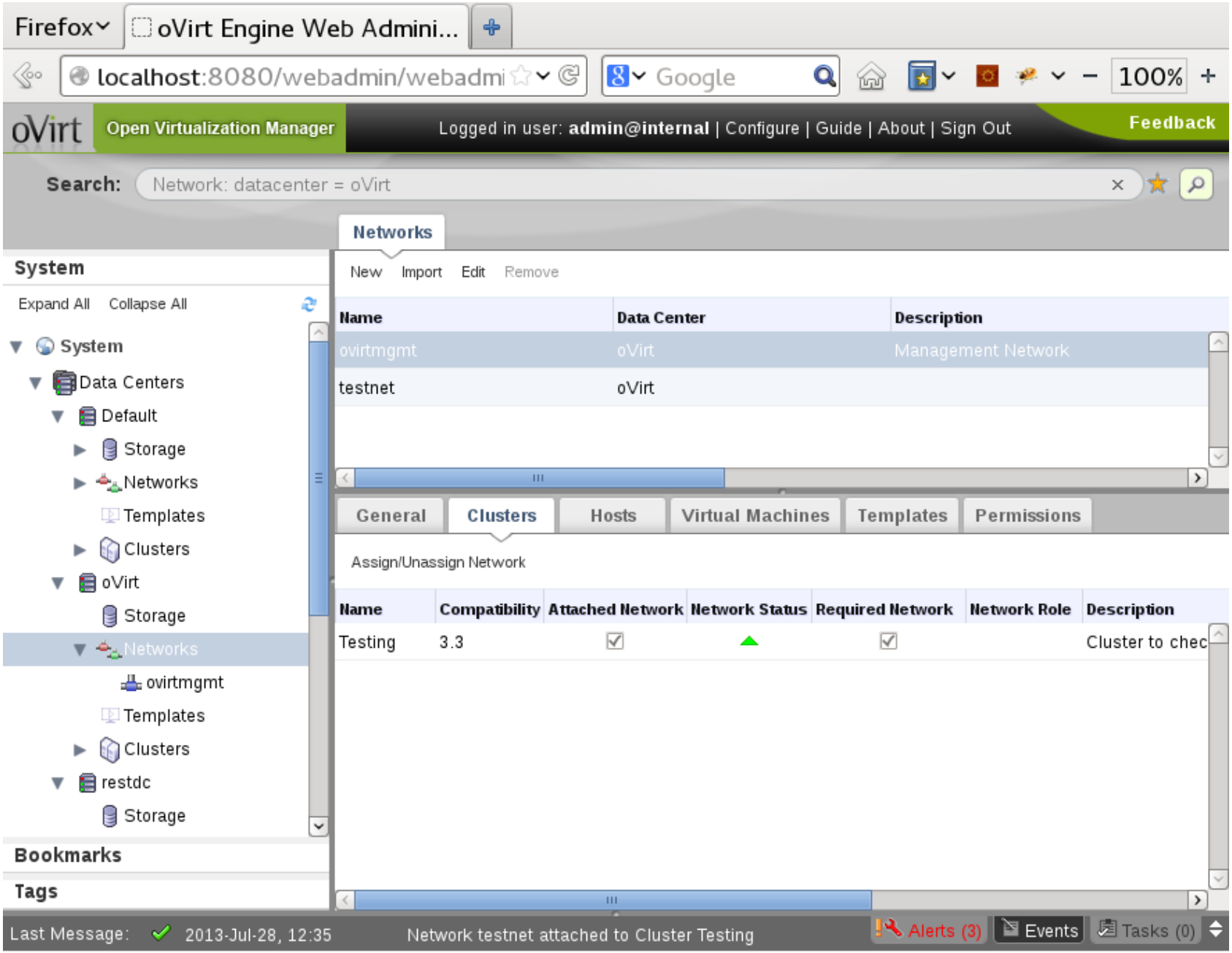
FC Storage Domain



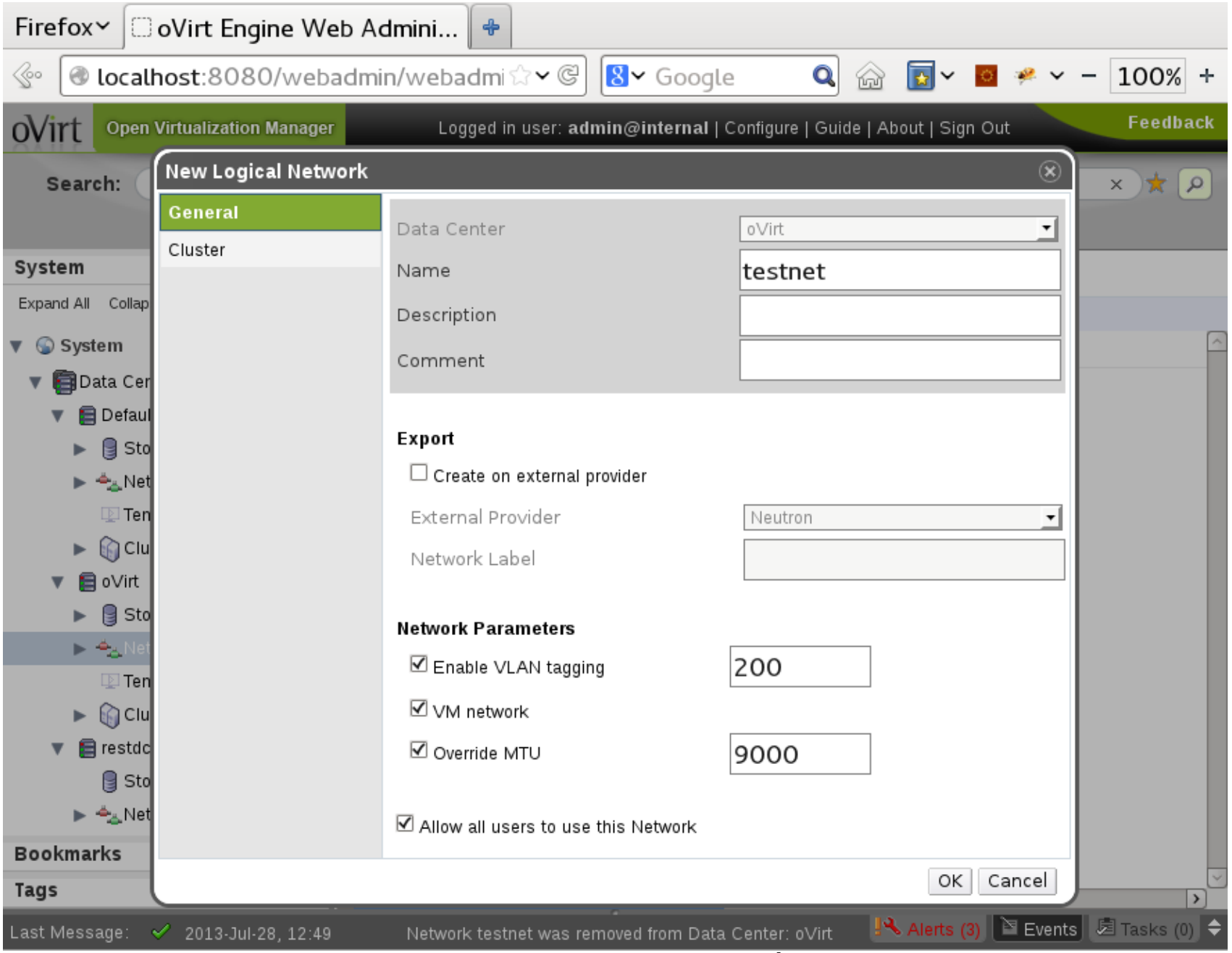
NFS Storage Domain



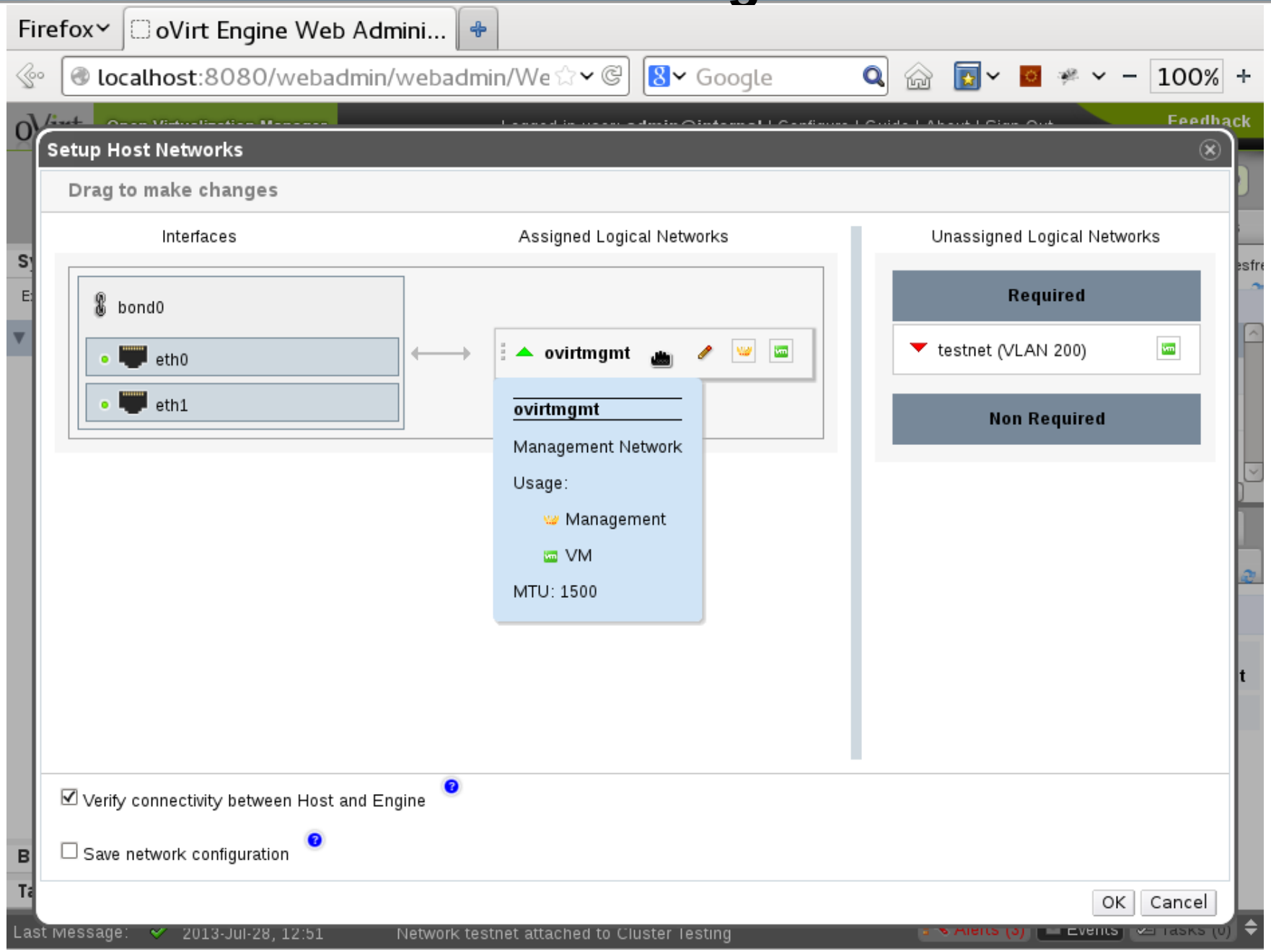
Networks Main Tab



Add a Network



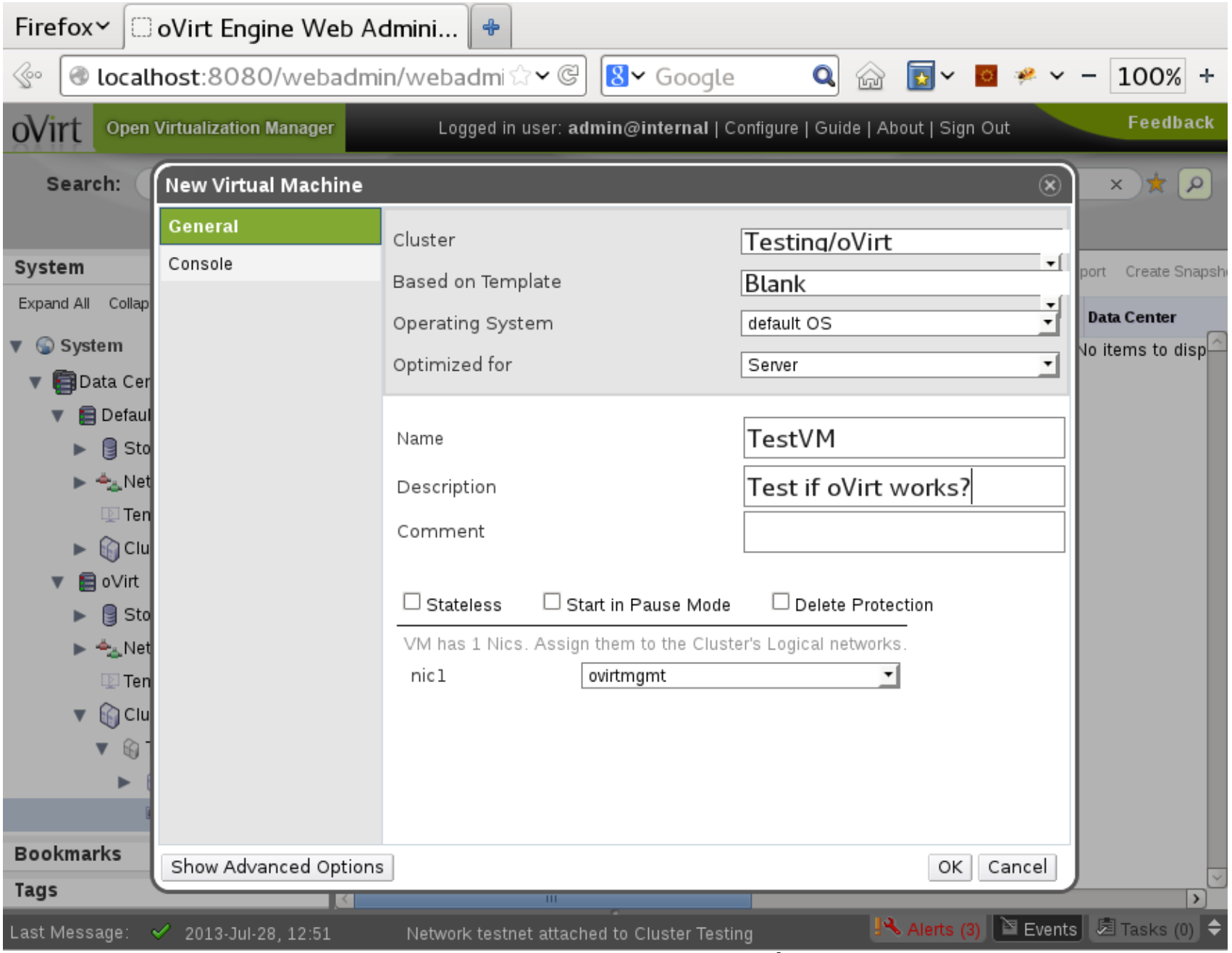
Networks – Host Level Configuration



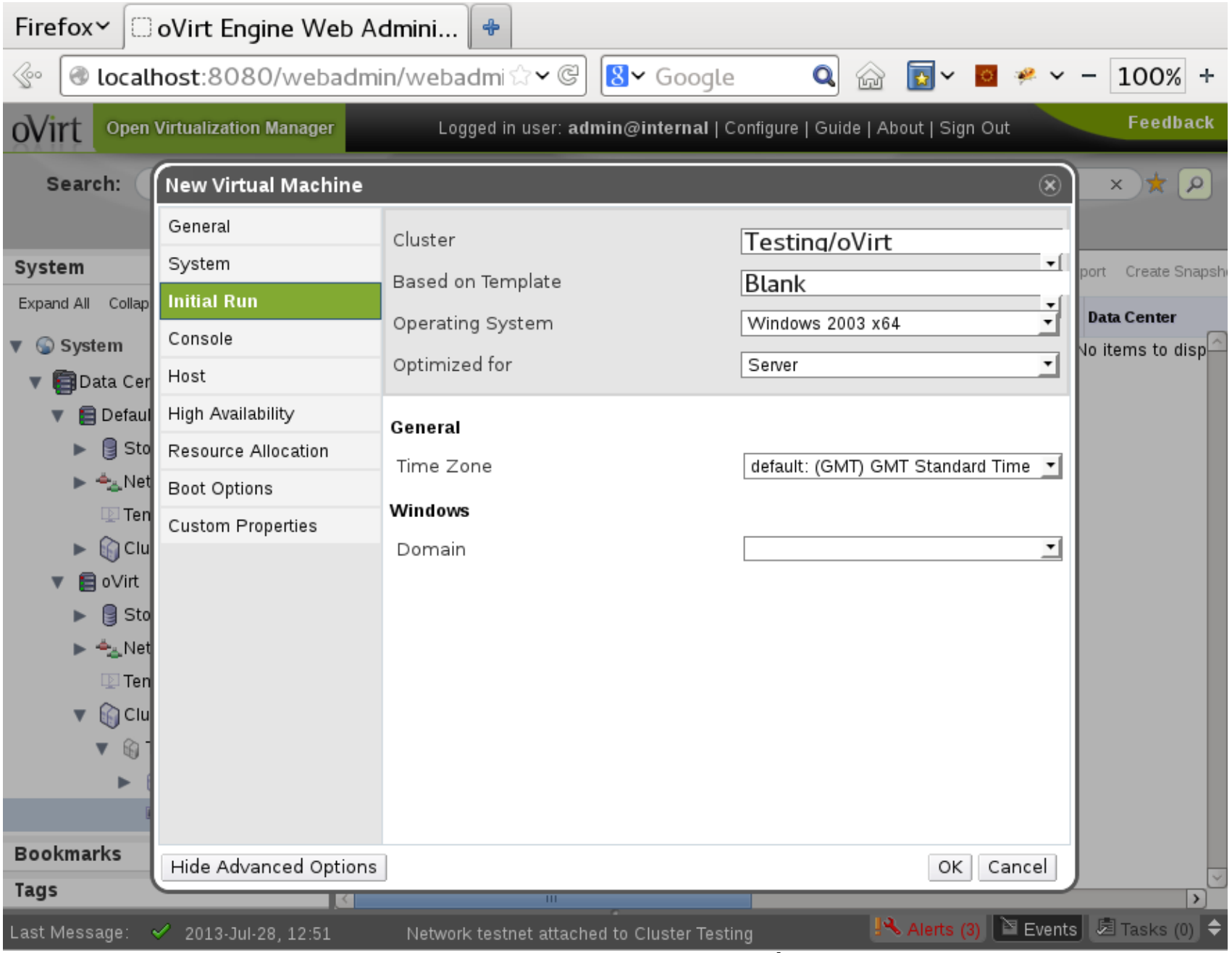
Add VM

- From Blank
- From Template
- From a VM Snapshot
- Import a VM

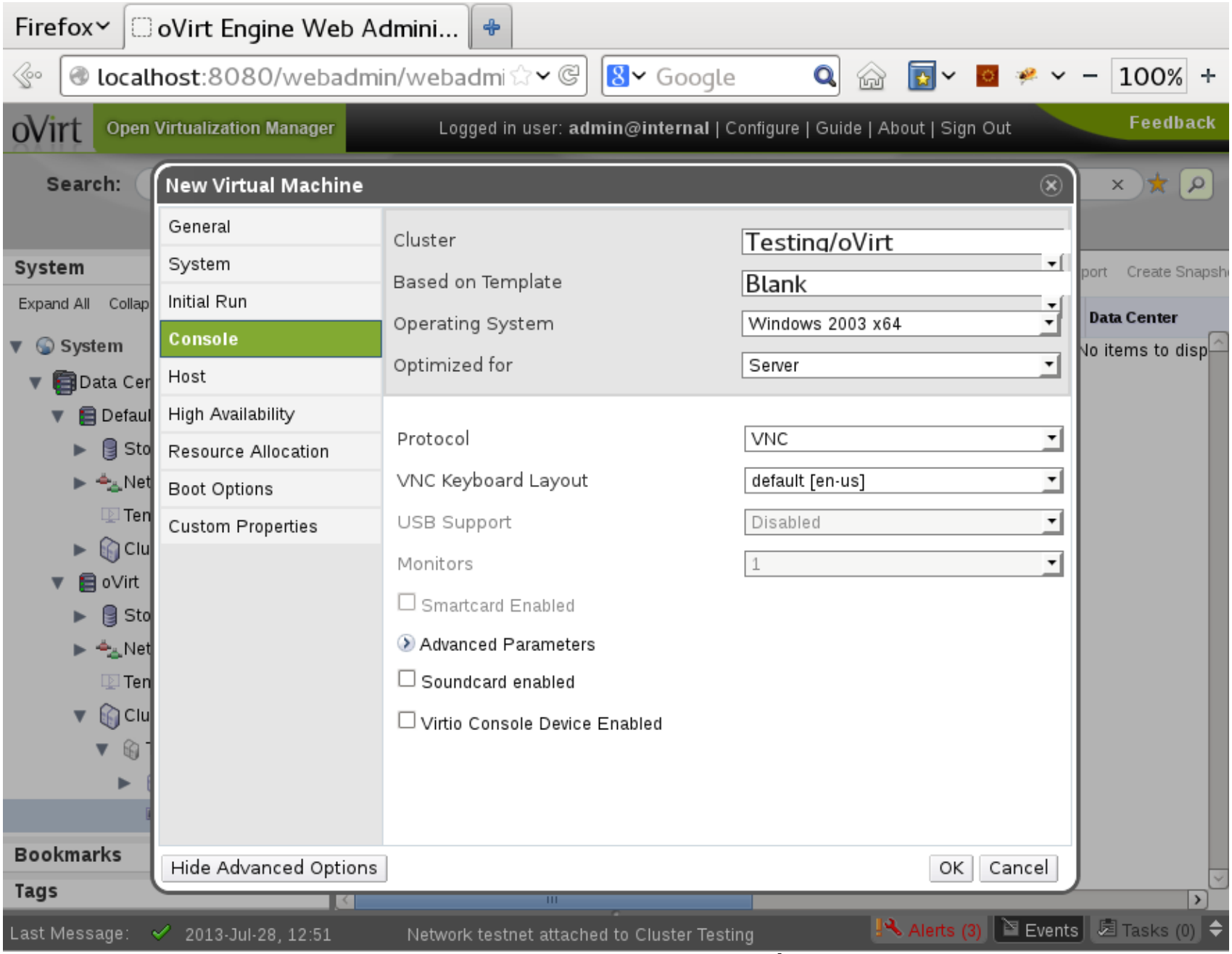
Add Virtual Machines



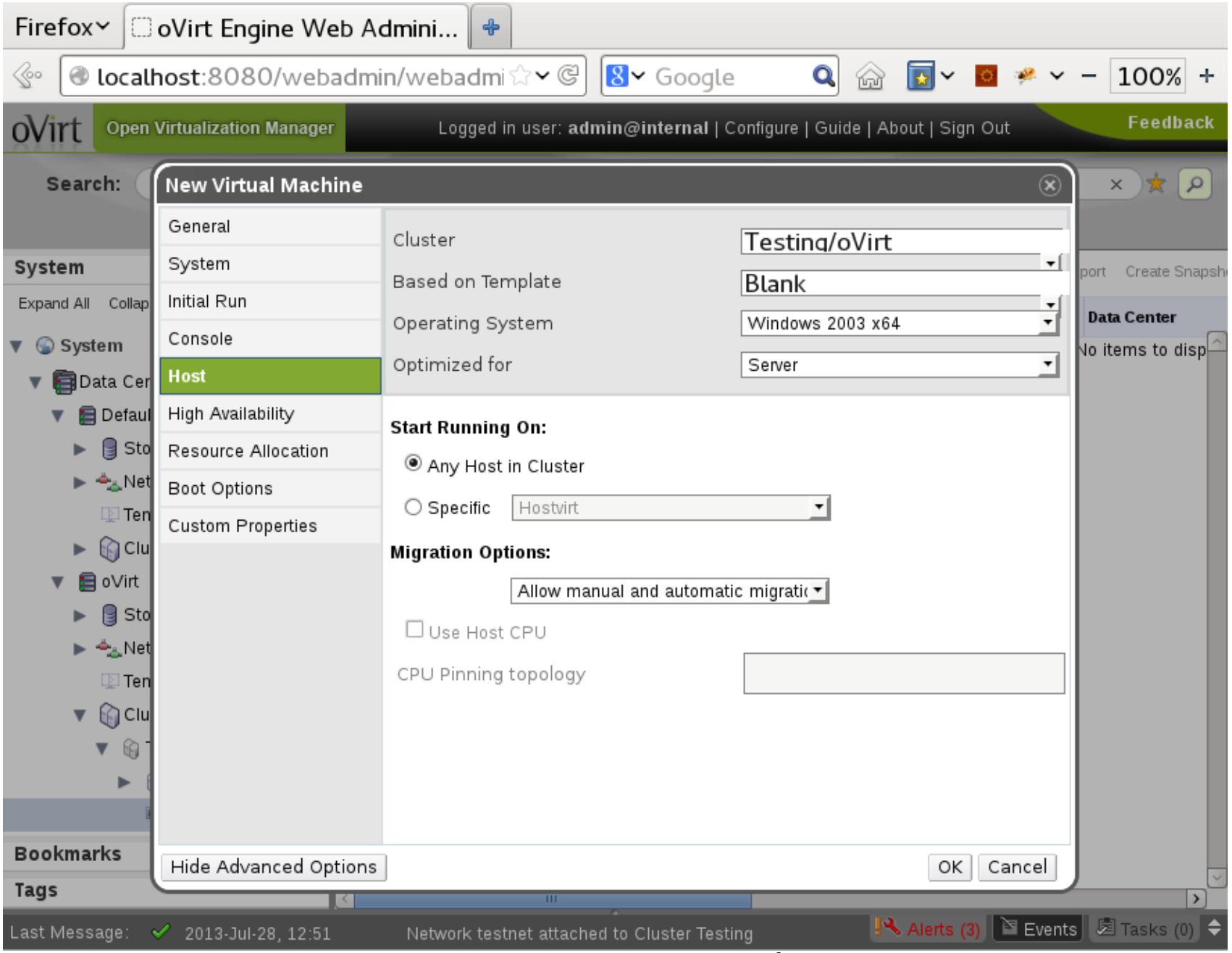
Windows Machine via Sysprep



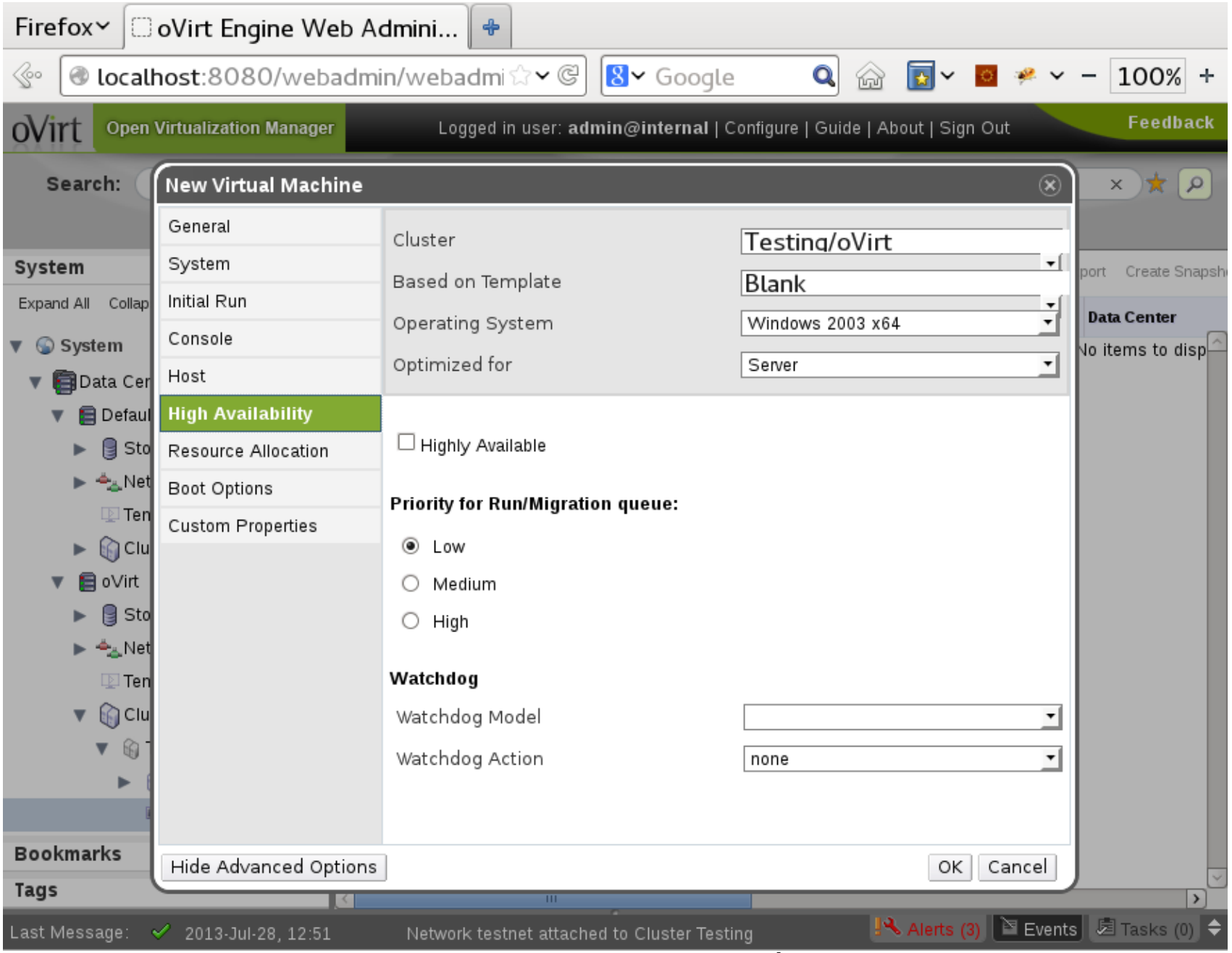
Console Details (SPICE or VNC)



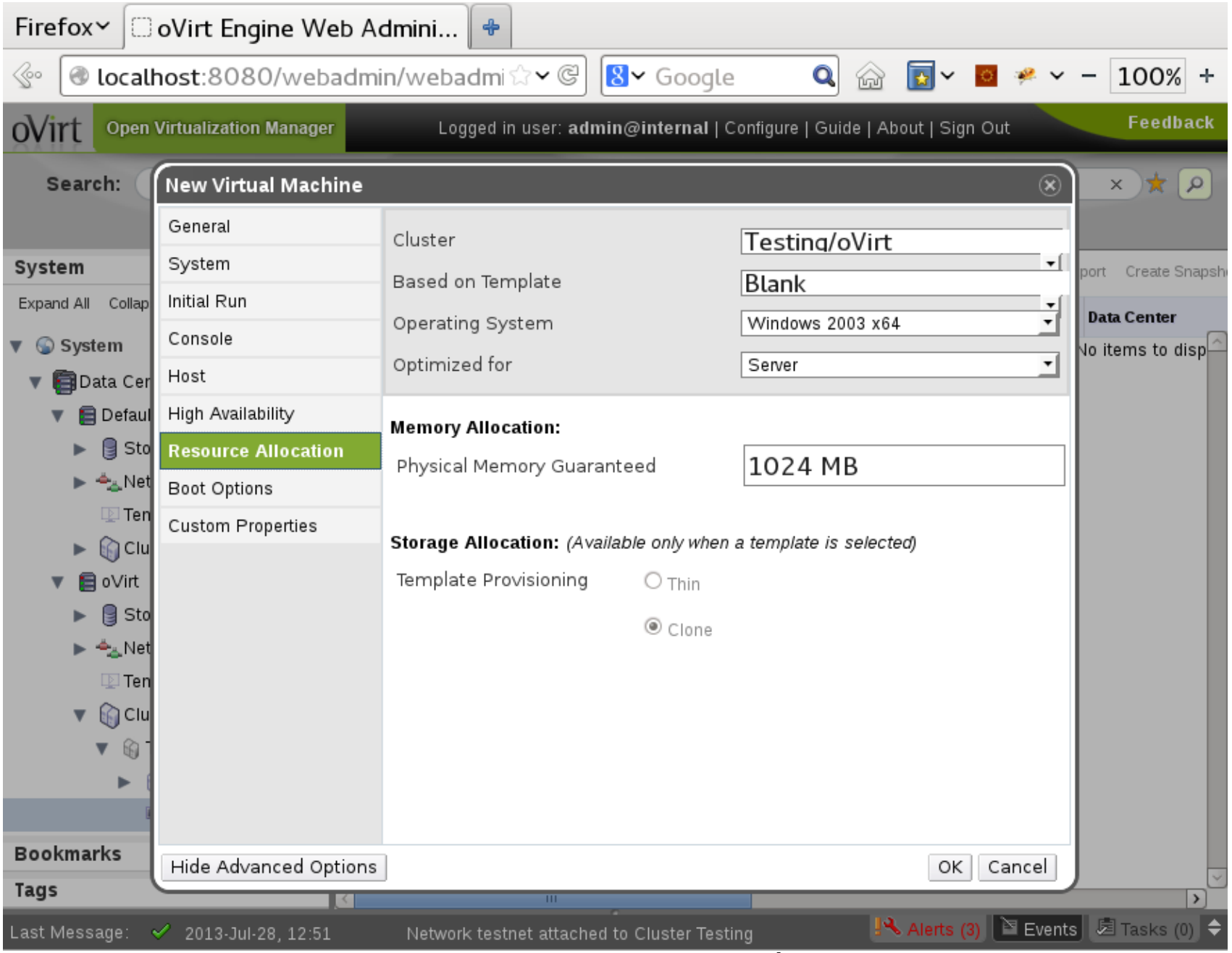
Host Aspects



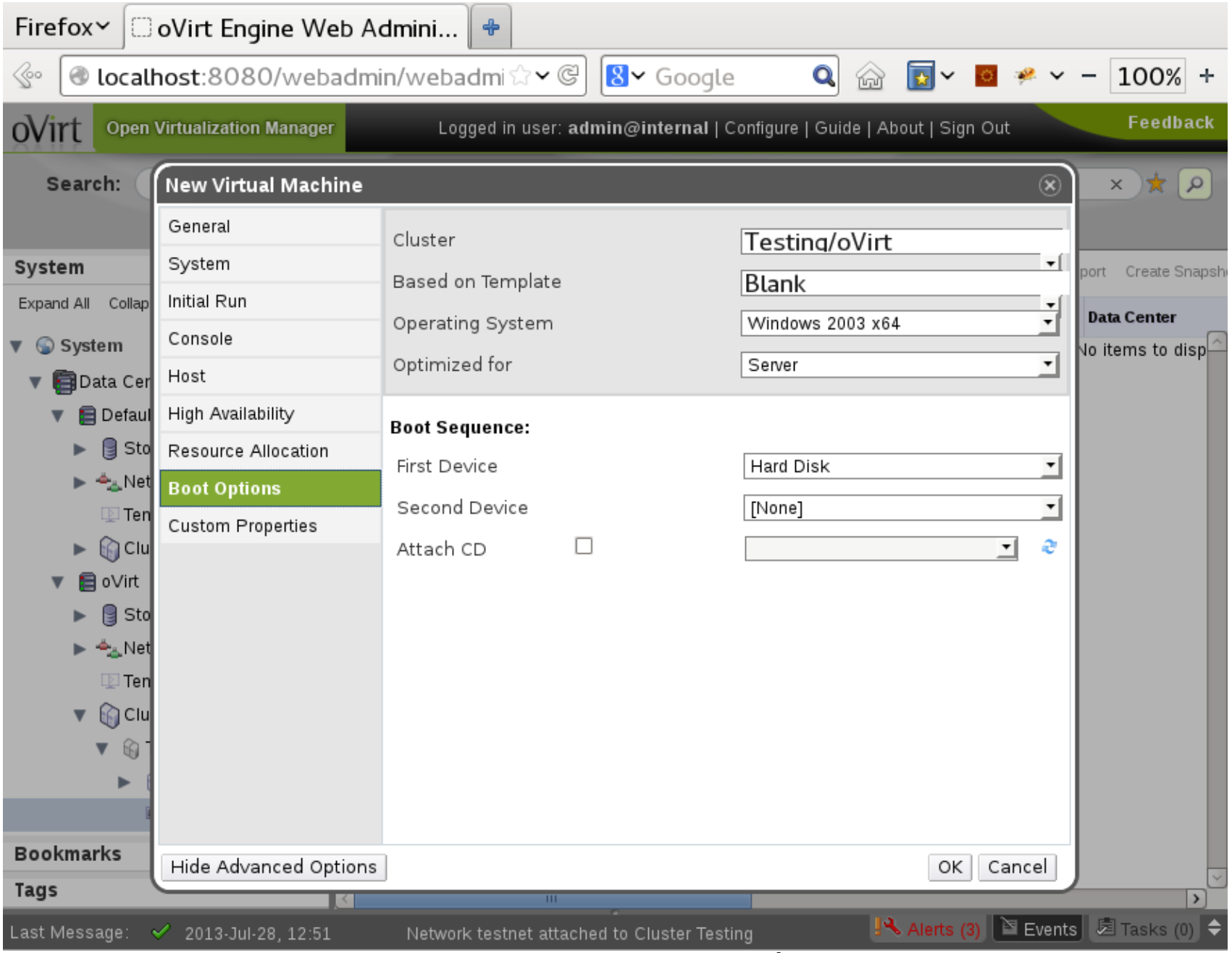
High Availability



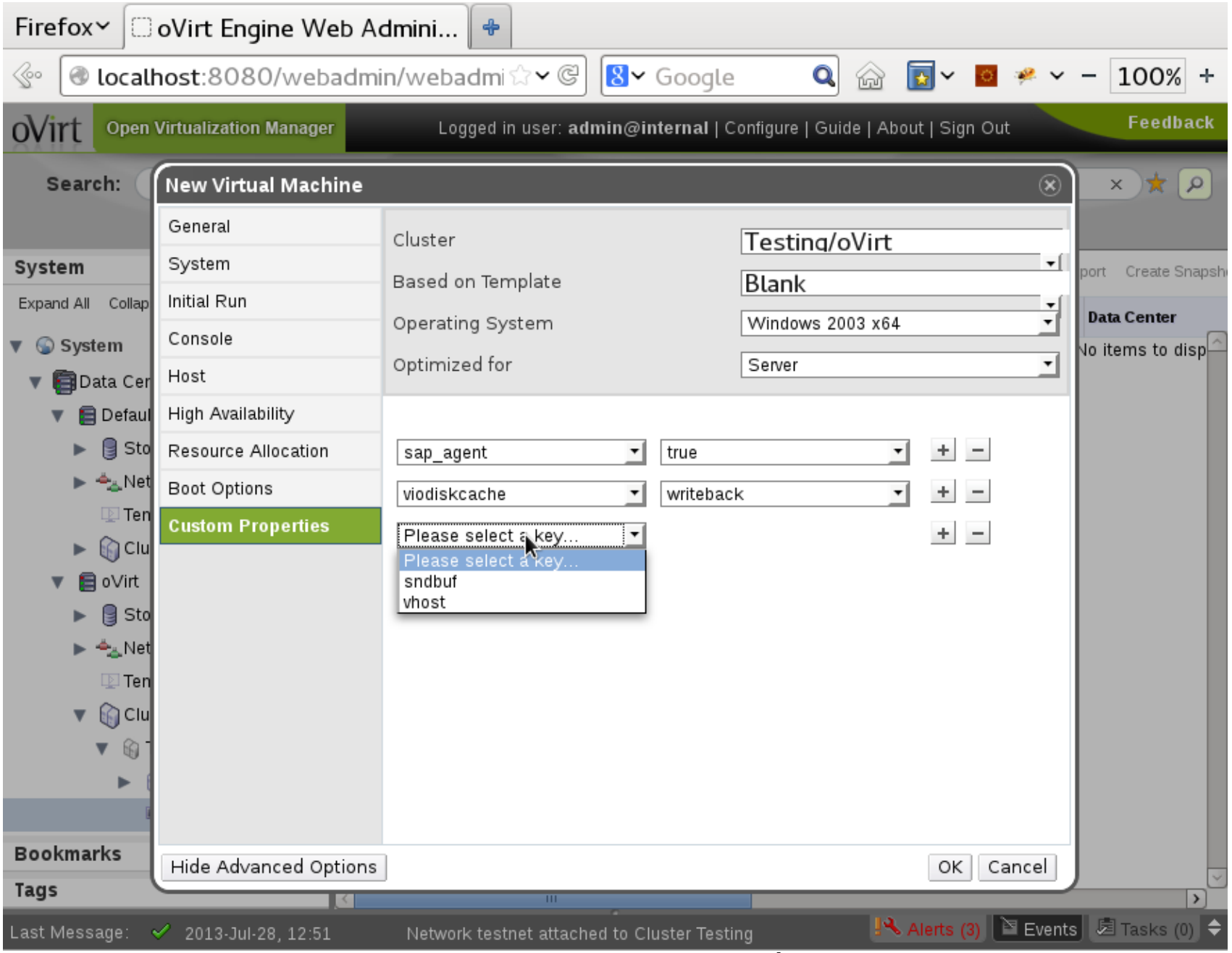
Control Allocated Resources (Disk, Memory)



Boot Devices



Advanced Options via Custom Properties



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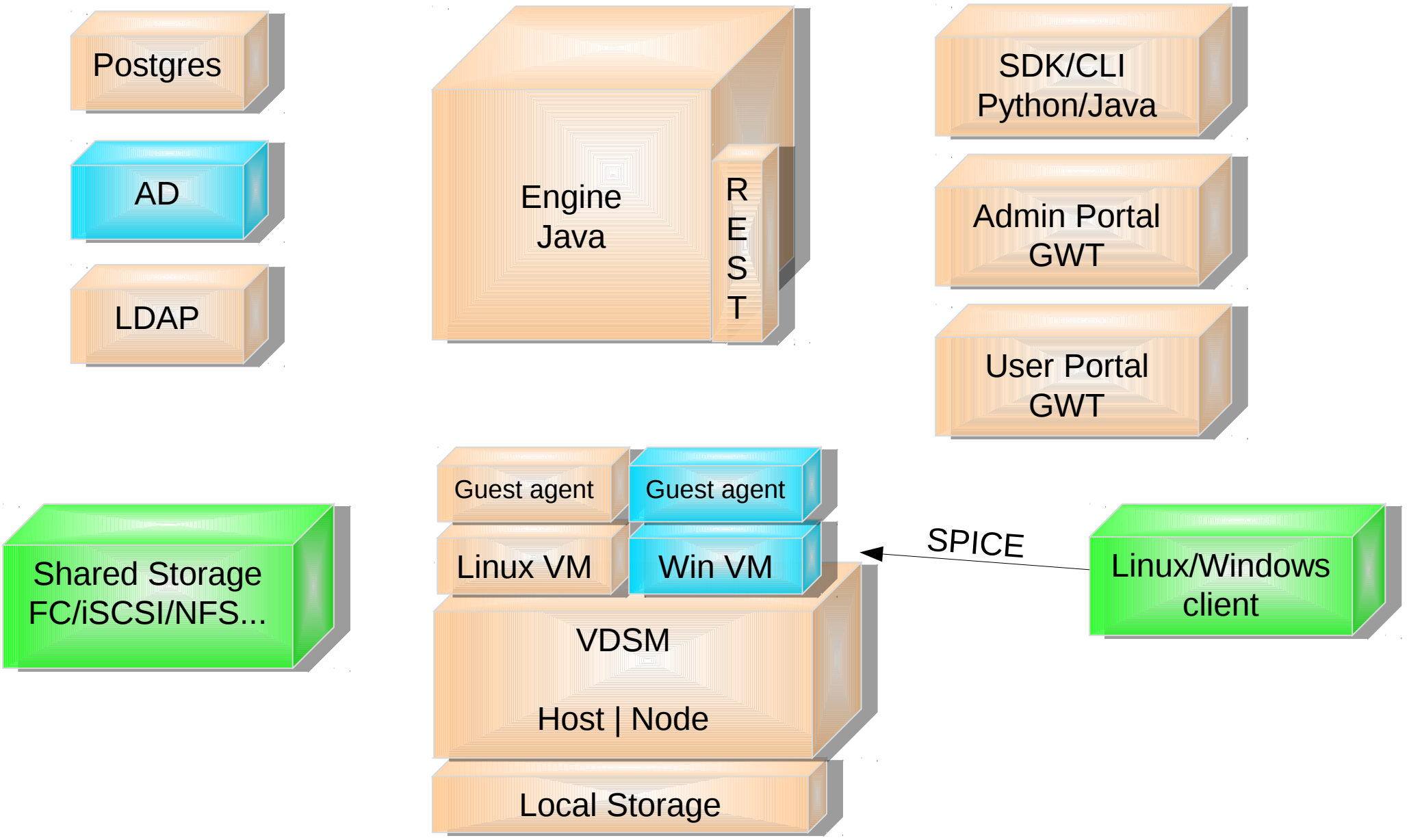
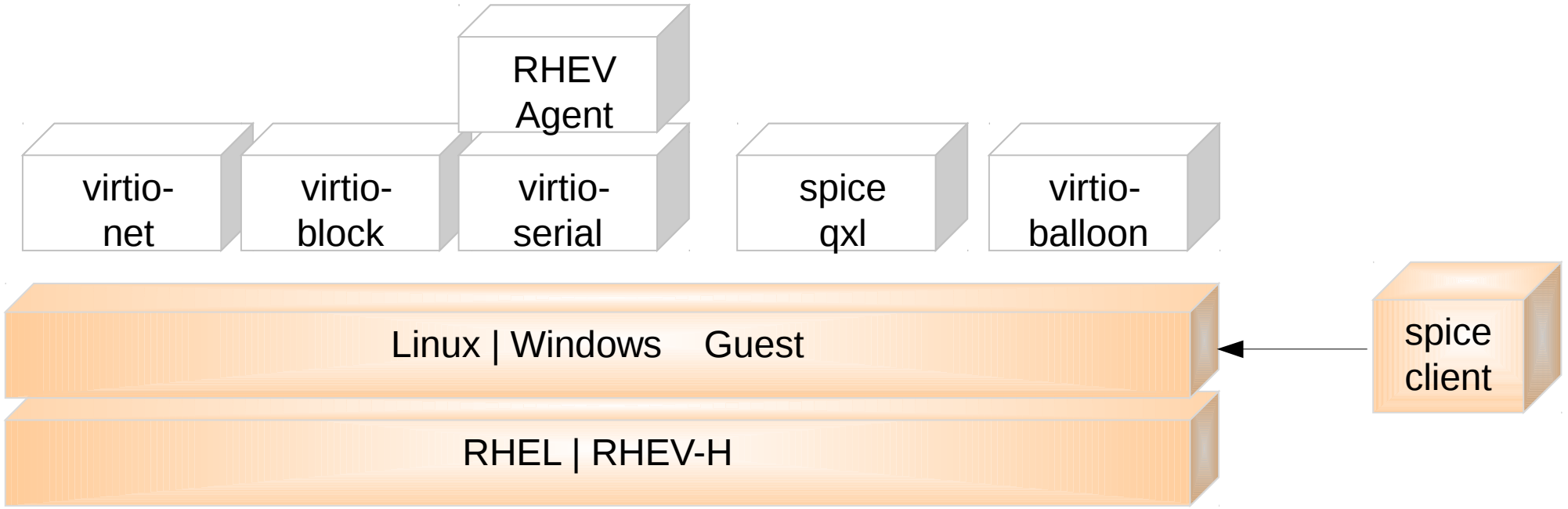
- Create a VM
  - From Blank
  - From Template
  - From Snapshot
  - Import VM

Architecture

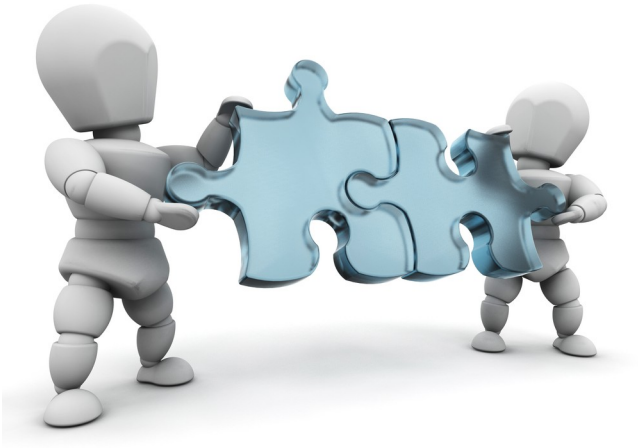
Components Overview



The Guest

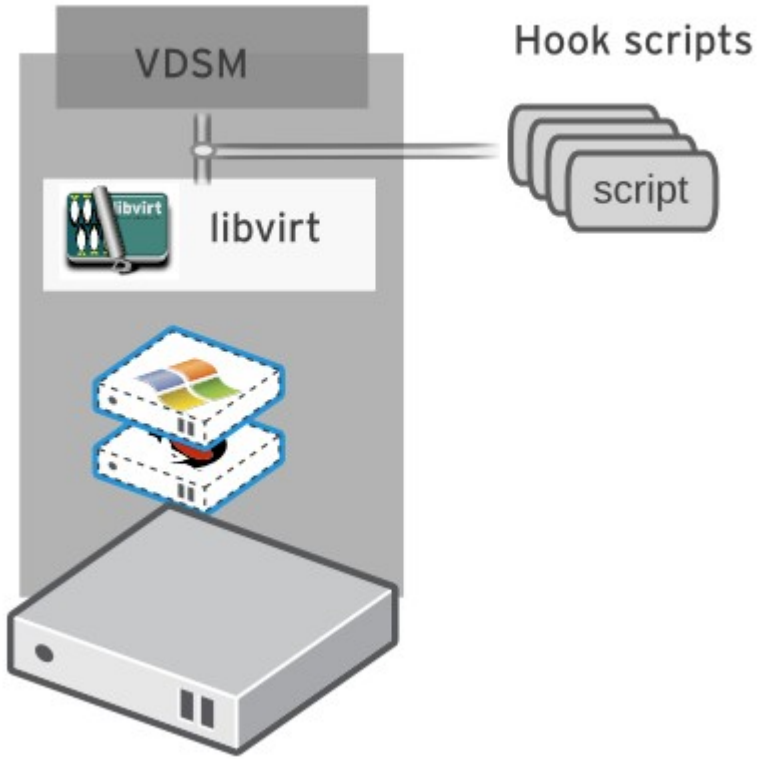

RHEV Agent
virtio-net
virtio-block
virtio-serial
spice qxl
virtio-balloon
Linux | Windows Guest
RHEL | RHEV-H
spice client

Customization Options

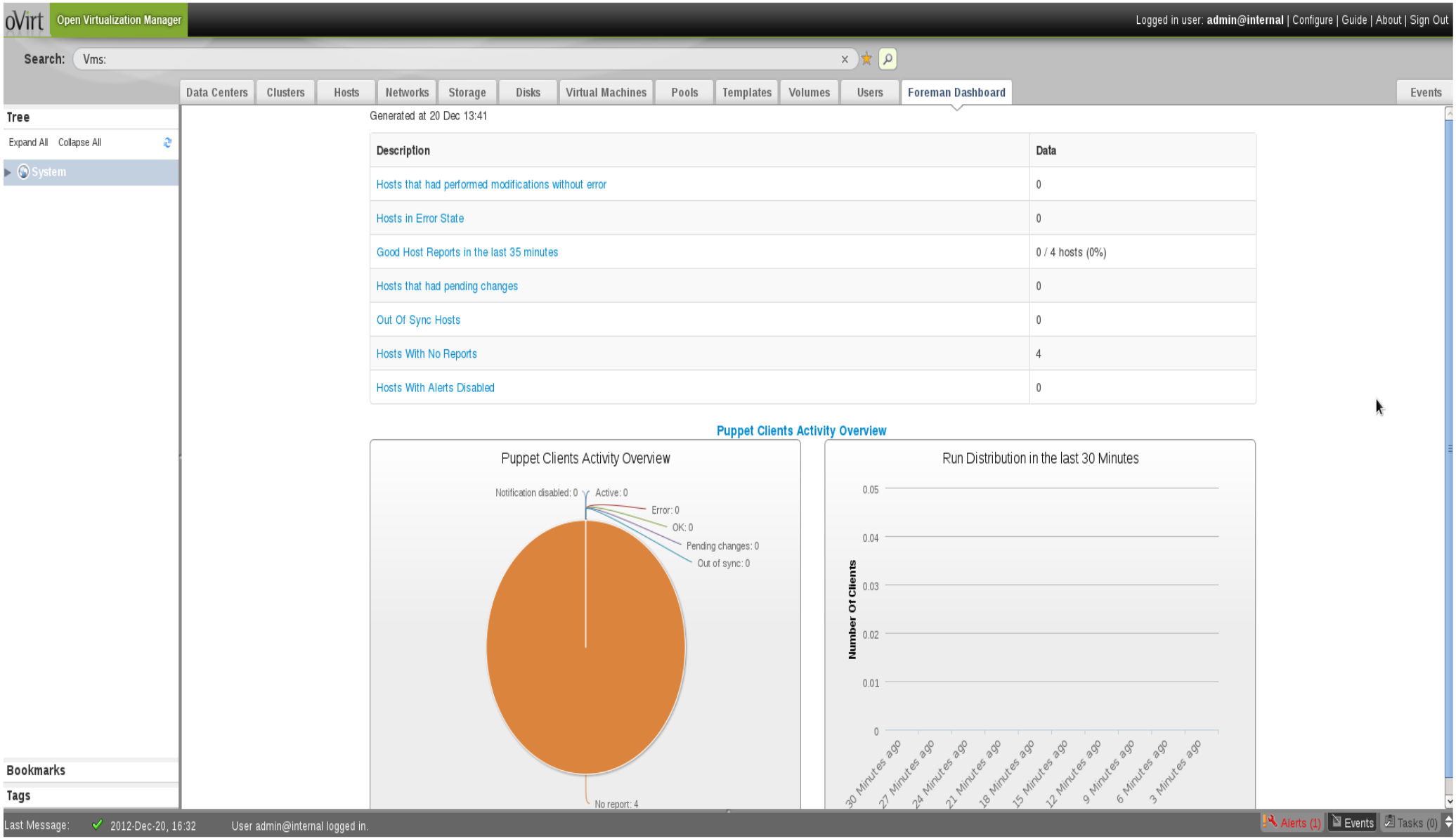


Hooks

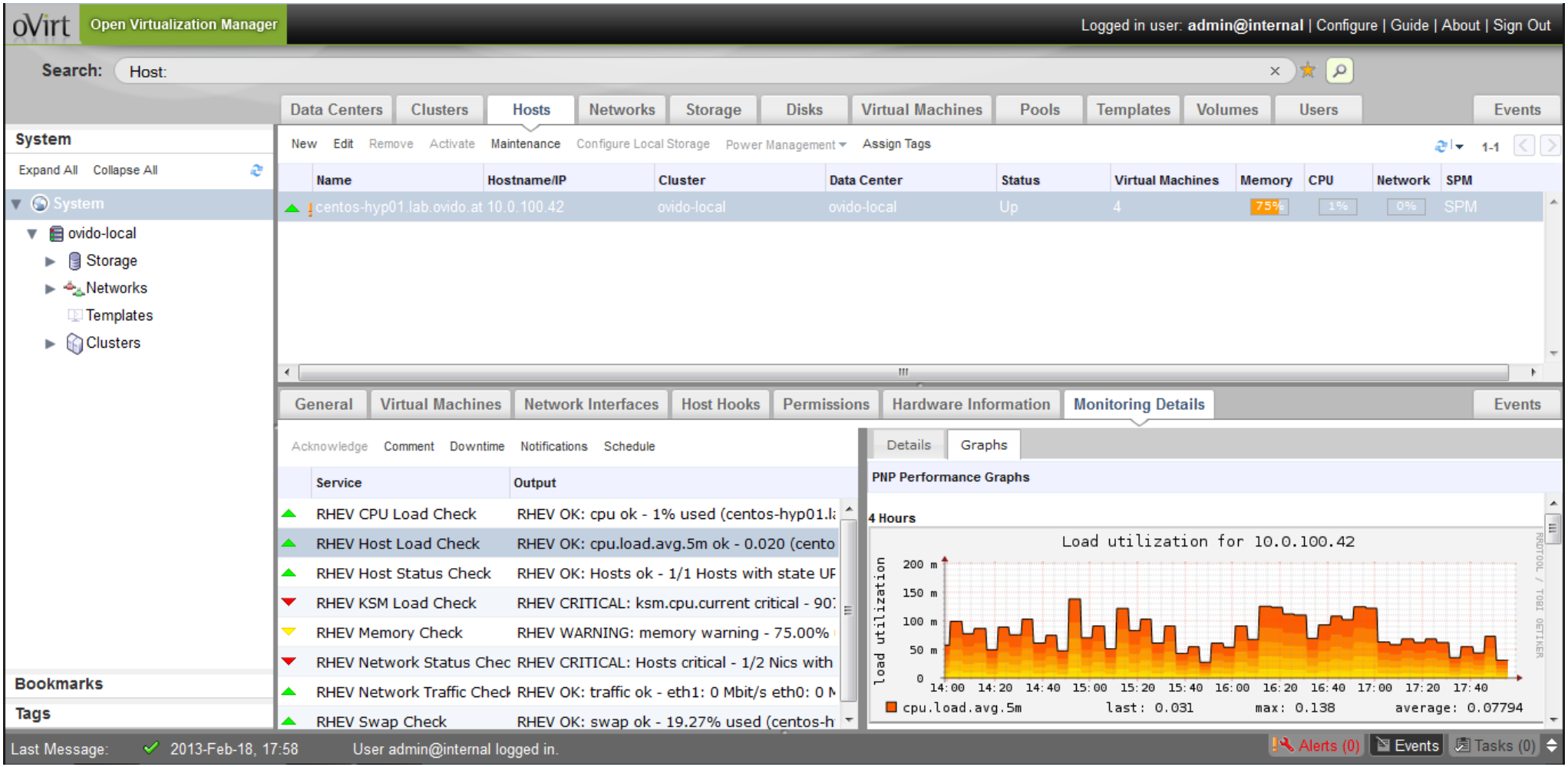
- “Hook” mechanism for customization
  - Allows administrator to define scripts to modify VM operation
    - eg. Extend or modify VM configuration



UI-Plugin: Foreman main tab



UI-Plugin: oVirt Monitoring sub-tab



More info at: https://labs.ovido.at/monitoring/wiki/ovirt-monitoring-ui-plugin


SUMMARY

Getting oVirt

- Obtain from oVirt website
- Live USB - http://wiki.ovirt.org/wiki/OVirt_Live
- Build from source
- Fedora repositories
  - yum install ovirt-engine
  - engine-setup
  - Add managed hosts

How To Contribute

Join the community

- Find bugs, File Them, Fix Them.
- Translate, Write Documentation.
- Design Interfaces, Develop new features
- Share your experiences.

Everyone can make a difference.

- **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

oVirt

THANK YOU !

http://www.ovirt.org