Optimize Your Data Center
With Red Hat Virtualization

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AGENDA

- Red Hat Virtualization Overview
- RHV Architecture
- RHV Core Features
Red Hat Virtualization Overview
History of RHV

- **2009**: QUMRANET ACQUISITION
- **2010**: RHEV BEATS VMWARE on the SPECvirt_sc2010 benchmark on both speed and scale
- **2012**: RHEV 3.0
  - More solution partners
  - RESTful API
  - Memory overcommit
- **2013**: RHEV 3.1, 3.2
  - Windows guests
  - NUMA collaboration with HP
- **2014**: RHEV 3.3, 3.4
  - OpenStack Neutron integration
  - Hot Plug CPU
  - Affinity management
  - IBM Power support
- **2015**: RHEV 3.6
  - V-2-V migration tool
- **2016**: RHV 4.0
  - 10th product release
Red Hat Virtualization at a glance

- Centralized Management of the Open Source KVM Hypervisor
- Reduced Infrastructure Cost
- Automated Workload Management, Scalability, sVirt & SELinux
- Unmatched Performance
How is RHV Developed?

RED HAT ENTERPRISE LINUX
RED HAT VIRTUALIZATION
RED HAT OPENSTACK PLATFORM
RED HAT ENTERPRISE LINUX ATOMIC HOST
RED HAT STORAGE
RED HAT SATELLITE

1,000,000+ PROJECTS

fedora
oVirt
RDO
ATOMIC
GLUSTER
ceph
FOREMAN
CentOS
openstack

JBoss Community
FuseSource
FEEDHENRY
origin
ManageIQ

RED HAT JBOSS MIDDLEWARE
RED HAT MOBILE
RED HAT OPENSHIFT
RED HAT CLOUDFORMS
ANSIBLE
ANSIBLE

red hat forum
Europe, Middle East & Africa
RHV Architecture
RHV Architecture

RHEL + KVM
- Basic support for KVM hypervisor
- No enterprise virtualization management features
- Limited number of VMs allowed
- RHV is built on RHEL+KVM

Red Hat Virtualization
- Centralized Management for the KVM hypervisor as well as compute, network, and storage resources
- Enterprise features to support mission critical applications
RHV Architecture

Directory Service
- Active Directory
- IPA
- Red Hat Directory Server
- IBM Tivoli Directory Server

PostgreSQL

Backend

Web Browser Administrator Portal
Web Service

Rest API / Python SDK / Java SDK
Web App

Web Browser User Portal
Web App

Storage Domain

Console Access

SPICE or VNC

Red Hat Virtualization Hypervisor
Red Hat Hypervisor Overview

- **RHEL Co-Engineering** - inherits performance, scalability, security, and supportability of Red Hat Enterprise Linux
- **Ecosystem**: Shares Red Hat Enterprise Linux hardware and software ecosystem
- **Host**: 288 logical CPU, 12TB RAM
- **Guest**: 240 vCPU, 4TB RAM
- **Technology**: Supports latest silicon virtualization technology
- **Cross-Platform**: Microsoft certified for Windows guests
RHV Manager Overview

- Centralized virtual infrastructure management (e.g., hosts, virtual machines (VMs), networking, storage, templates)
- Designed for large scale (500+ hosts and 5,000+ VMs)
- Administrative interfaces include: GUI, RESTful API with session support, Linux CLI,
- Python SDK, Java SDK,
- Intuitive dashboard with detailed information
RHV Self Service Portal

- Enables users to self-provision VMs
- Create, edit, or remove VMs
- Manage and monitor virtual infrastructure
- Tied to Microsoft Active Directory, Red Hat Identity Management, and other LDAP
- Resource management with quotas and object/role security
- Essential internal cloud capability
RHV - Technical Workstations

- Technical workstations included in the Red Hat Virtualization subscription
- Ideal for resource-intensive high computing workloads that need to render graphics
- User experience comparable to a local desktop PC
- Integrated connection broker
- Pooling, templating
- SPICE intelligent protocol
- SmartCard support
- SPICE proxy server
Red Hat Virtualization Key Use Cases

MISSION CRITICAL VIRTUALIZATION
Unmatched scale and performance for enterprise workloads, including SAP and Oracle, on x86 and Power

CLOUD TRANSITION
Co-engineered with Red Hat OpenStack for a smooth transition into Private and Public clouds

DEV/TEST
Simple, inexpensive self-serve infrastructure for enterprise development

TECHNICAL WORKSTATIONS
Gain performance and reduce cost of resource intensive Linux workstations (e.g. CAD/CAM)
RHV Core Features
## RHV Core Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live Migration</td>
<td>HA Virtual Machines</td>
</tr>
<tr>
<td>Automated Resource Load Balancing</td>
<td>Storage Live Migration</td>
</tr>
<tr>
<td>RBAC &amp; Tiered Access</td>
<td>Hot Add Memory &amp; CPU</td>
</tr>
<tr>
<td>Power Management</td>
<td>PCI Passthrough</td>
</tr>
<tr>
<td>VM Templates</td>
<td>NUMA Support</td>
</tr>
<tr>
<td>Firewall/SELinux</td>
<td>REST API</td>
</tr>
<tr>
<td>iSCSI, NFS, FC, POSIX, GlusterFS</td>
<td>VMware to RHV migration</td>
</tr>
</tbody>
</table>
Additional Documents

• Red Hat Virtualization – Trial:
  https://access.redhat.com/products/red-hat-virtualization/evaluation

• RHV 4.0 Technical Reference:

• All Red Hat Virtualization Related Documents:
  https://access.redhat.com/documentation/en/red-hat-virtualization/