



RED HAT ENTERPRISE VIRTUALIZATION 3.0

**YOUR STRATEGIC
VIRTUALIZATION ALTERNATIVE**

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Senior Solution Architect
7th February 2012



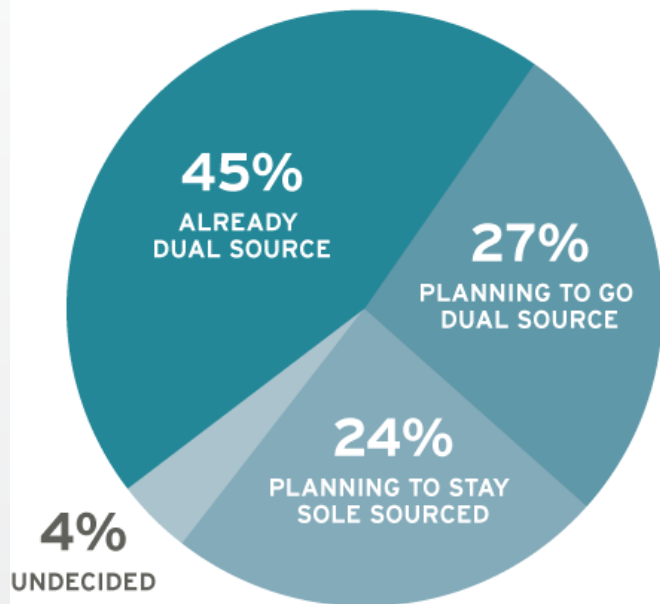
AGENDA

- **RHEV Background/Market Dynamics**
- Components of RHEV
- Advantages/Benefits of RHEV
- Real World/RHEV Use-Cases
- Next Steps



VIRTUALIZATION DIVERSIFICATION: DUAL SOURCE REALITY...

Do you plan to utilize more than one virtualization vendor for your virtualization initiatives?



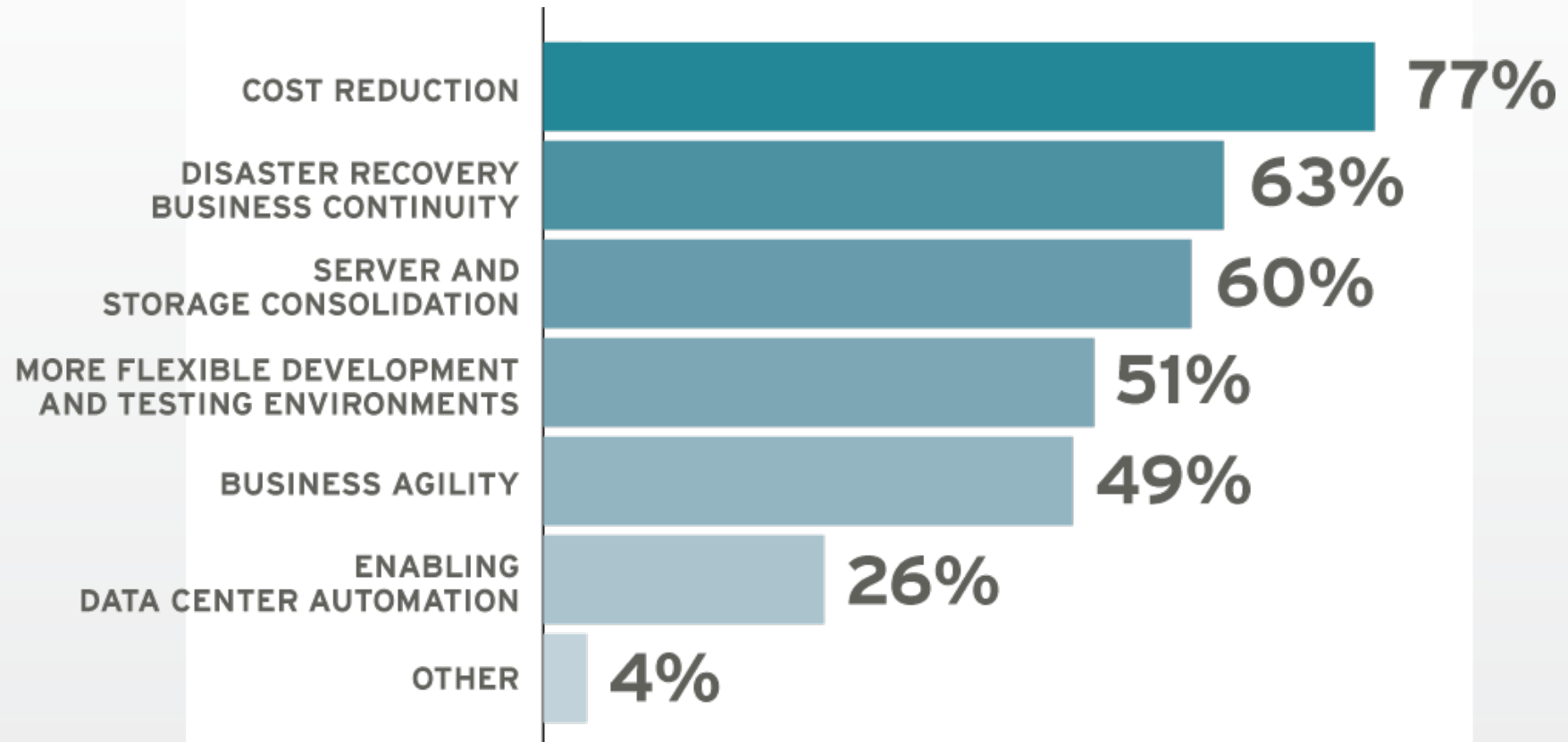
SOURCE: 2011 IDG Research study for Red Hat based on 78 qualified CIO Peer2Peer Research Panel members.

- Server virtualization is a mature technology – competition, innovation, choice...
- Over 70% of customers surveyed are either already deploying a dual virtualization vendor strategy, or have concrete plans to do so

A MAJORITY OF ENTERPRISES ARE LOOKING FOR ALTERNATIVES TO VMWARE



WHAT'S DRIVING VIRTUALIZATION TODAY?



SOURCE: 2011 IDG Research study for Red Hat based on 78 qualified CIO Peer2Peer Research Panel members



YOU HAVE A CHOICE IN VIRTUALIZATION



“Don’t just find a vendor, find a solution; **42% of organizations use multiple hypervisors** to maximize features & minimize cost”

— InfoTech Research Group, July 2011



“VMware vSphere still leads the pack... but the gap is closing fast. If there’s one obvious result of this test, it’s that **there’s never been a better time to shop for a virtualization solution.**”

— *Virtualization Shoot-out: Citrix, Microsoft, Red Hat and VMware*, InfoWorld, April 2011



“**If I were VMware**, I wouldn’t worry most about Microsoft, with its tendency to subsume low-end, small business markets by including everything in the Windows operating system. That’s so 1990s. Rather, **I’d worry that Red Hat and KVM already have a foot in the cloud.**”

— *VMware Should Worry More About Red Hat*, InformationWeek, September 2011



YOU HAVE A CHOICE IN VIRTUALIZATION



“As industry leaders focus on [a] multivendor approach to virtualization, **RHEV 3.0 is emerging as the first choice in terms of scalability, functionality, interoperability and performance.**”

— CIO Quick Pulse, December 2011



“RHEV is an emerging force in the virtualization market, that builds on the open source projects KVM and oVirt. **Red Hat's history of commercializing Linux and other open source software, positions it to be the leader in bringing KVM to enterprises.** Broad industry support and a growing ecosystem are evident in the early growth of the Open Virtualization Alliance. ”

— Red Hat Enterprise Virtualization Whitepaper, IDC, December 2011



RHEV: STRATEGIC ALTERNATIVE TO VMWARE AND NATURAL CHOICE FOR LINUX VMS

RHEV COMPLETE VIRTUAL INFRASTRUCTURE SOLUTION



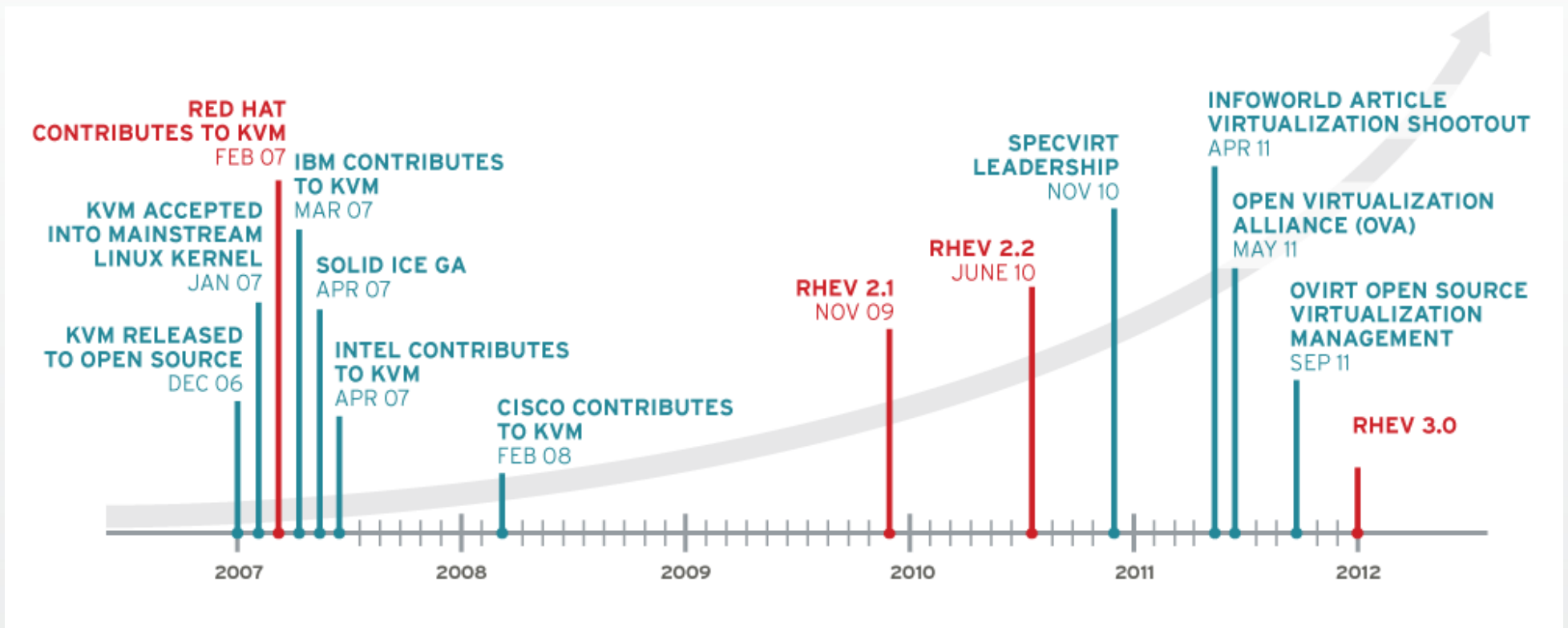
RED HAT ENTERPRISE VIRTUALIZATION



- Server consolidation
- Hardware abstraction
- Private cloud substrate
- Unix to Linux migration
- Big Data development/ hybrid mode
- Virtual Desktop Infrastructure (VDI)



RHEV IS MATURE AND READY FOR LARGE SCALE VIRTUALIZATION DEPLOYMENTS...



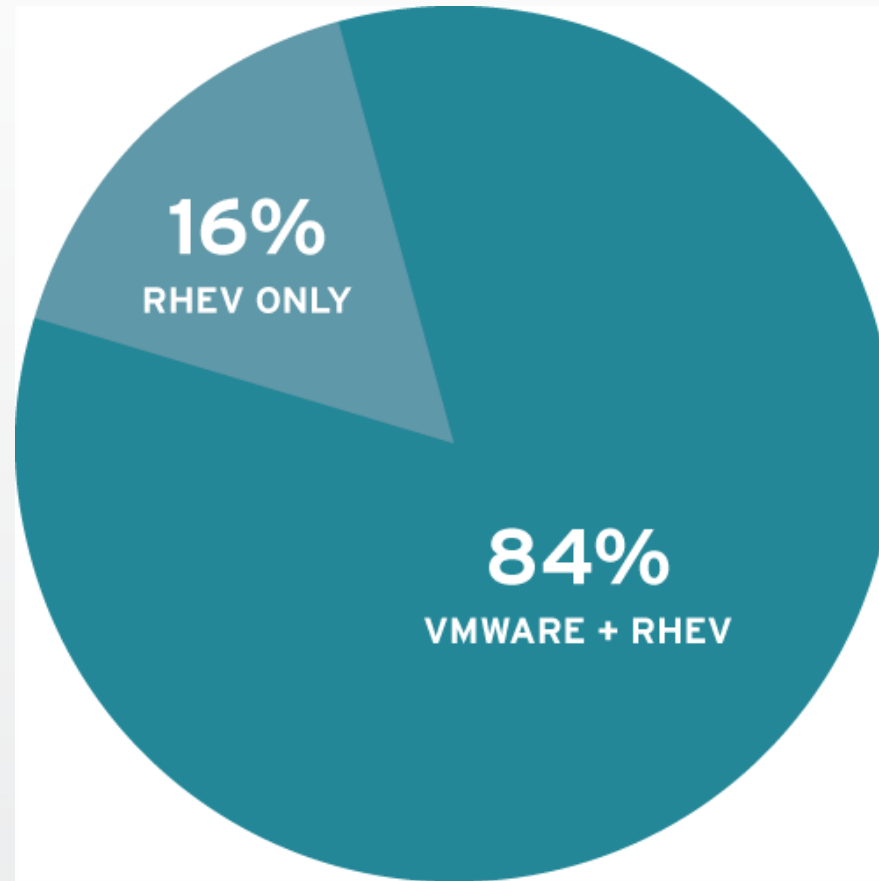
THOUSANDS OF CUSTOMERS WORLDWIDE DEPLOY RHEV IN PRODUCTION TODAY



T1/ MISSION CRITICAL BUSINESS APPLICATIONS ARE
POWERED BY RHEV



A SIGNIFICANT MAJORITY OF RHEV CUSTOMERS ARE ALSO VMWARE CUSTOMERS



RHEV IS BEING DEPLOYED AS A STRATEGIC ALTERNATIVE TO VMWARE



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NEW IN RHEV 3.0: OVER 1,000 FEATURES AND FEATURE ENHANCEMENTS

RHEV HYPERVISOR

- RHEL 6.2 based hypervisor - performance and scalability enhancements
- Kernel/Scheduler
- Memory management
- Block IO
- Networking
- SPICE enhanced WAN performance

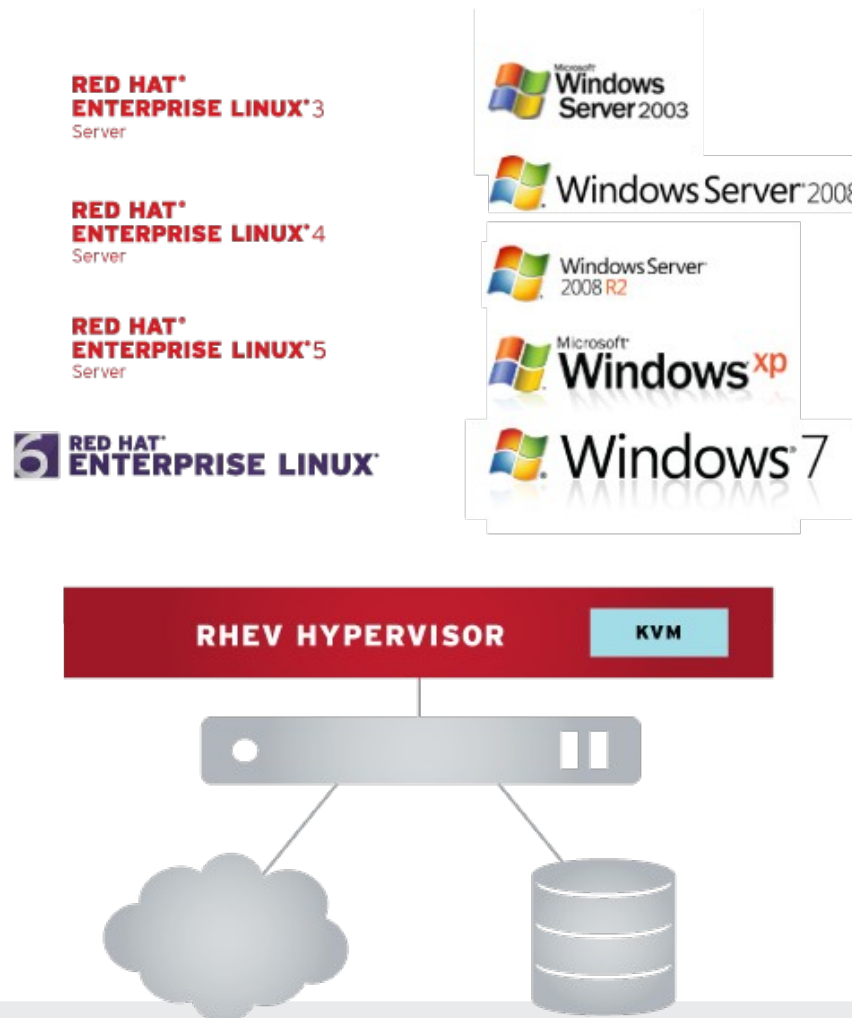
RHEV MANAGER

- RHEV-M runs on RHEL
- RESTful API
- Power User Portal
- Granular Multi-level Admin
- Marketplace
- Embedded Reports
- Local Disk Support
- And more...



RHEV HYPERVISOR/KVM OVERVIEW

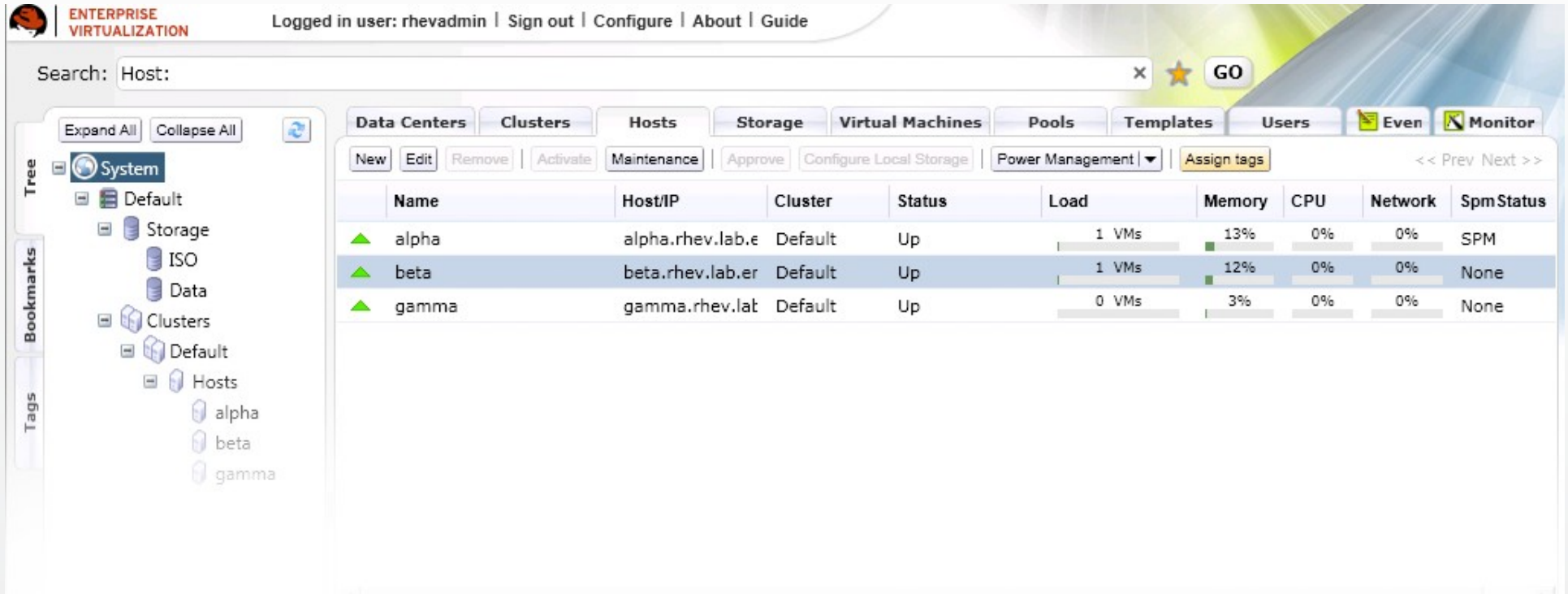
SMALL FORM FACTOR, SCALABLE,
HIGH PERFORMANCE



- Host: 160 logical CPU (4,096 theoretical max), 2 TB RAM (64TB theoretical max)
- Guest: 64 vCPU, 512 GB RAM
- Supports latest silicon virtualization technology
- Based on the latest RHEL 6 kernel
- Microsoft SVVP certified



RHEV MANAGER OVERVIEW



ENTERPRISE VIRTUALIZATION | Logged in user: rhevadmin | Sign out | Configure | About | Guide

Search: Host: [x] [★] [GO]

Expand All | Collapse All

Tree: System

- Default
 - Storage
 - ISO
 - Data
 - Clusters
 - Default
 - Hosts
 - alpha
 - beta
 - gamma

Bookmarks

Tags

Data Centers | Clusters | Hosts | Storage | Virtual Machines | Pools | Templates | Users | Even | Monitor

New | Edit | Remove | Activate | Maintenance | Approve | Configure Local Storage | Power Management | Assign tags | << Prev Next >>

Name	Host/IP	Cluster	Status	Load	Memory	CPU	Network	Spm Status
alpha	alpha.rhev.lab.e	Default	Up	1 VMs	13%	0%	0%	SPM
beta	beta.rhev.lab.er	Default	Up	1 VMs	12%	0%	0%	None
gamma	gamma.rhev.lab	Default	Up	0 VMs	3%	0%	0%	None

- Centralized virtual infrastructure management (hosts, virtual machines, networking, storage, templates etc.)
- Designed for large scale – 500+ hosts and 10,000+ virtual machines
- Administrative interfaces: GUI, RESTful API



RHEV MANAGER FEATURES

The screenshot shows the RHEV Manager web interface. The top navigation bar includes "Data Centers", "Clusters", "Hosts", "Storage", "Virtual Machines", "Pools", "Templates", "Users", "Even", and "Monitor". The "Hosts" tab is active, displaying a table of hosts:

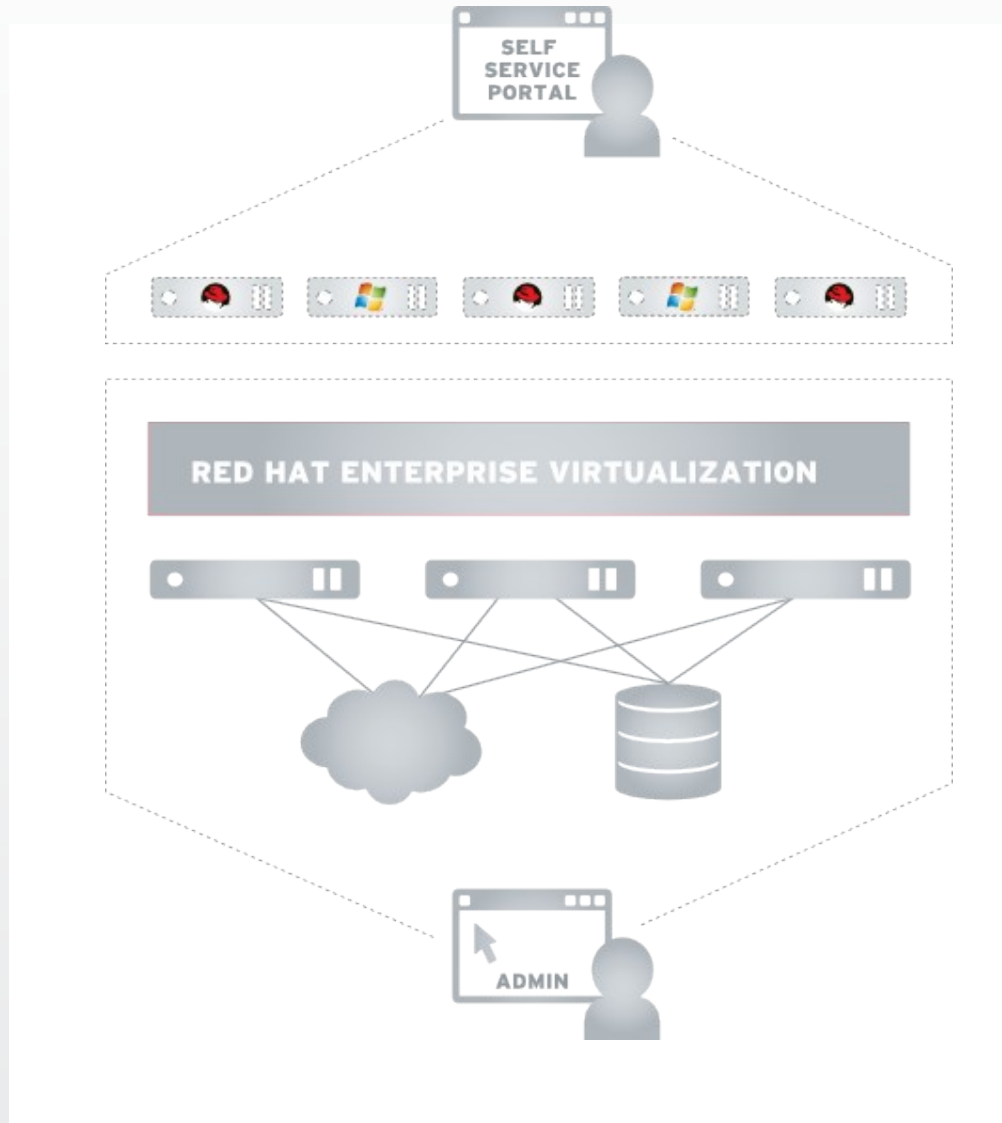
Name	Host/IP	Cluster	Status	Load	Memory	CPU	Network	Spm Status
alpha	alpha.rhev.lab.e	Default	Up	1 VMs	13%	0%	0%	SPM
beta	beta.rhev.lab.er	Default	Up	1 VMs	12%	0%	0%	None
gamma	gamma.rhev.lat	Default	Up	0 VMs	3%	0%	0%	None

Below the table, there are five application icons labeled "APP" with various operating system logos (Red Hat, Windows, Linux). A red banner below the icons reads "RED HAT ENTERPRISE VIRTUALIZATION". At the bottom, a diagram shows three server racks connected to a cloud and a database cylinder, representing the underlying infrastructure.

- High Availability
- Live Migration
- Self Service Portal
- Load Balancing (DRS)
- Power Saver (DPM)
- Templates, thin provisioning, snapshots
- Centralized storage and networking management
- Eco-system marketplace



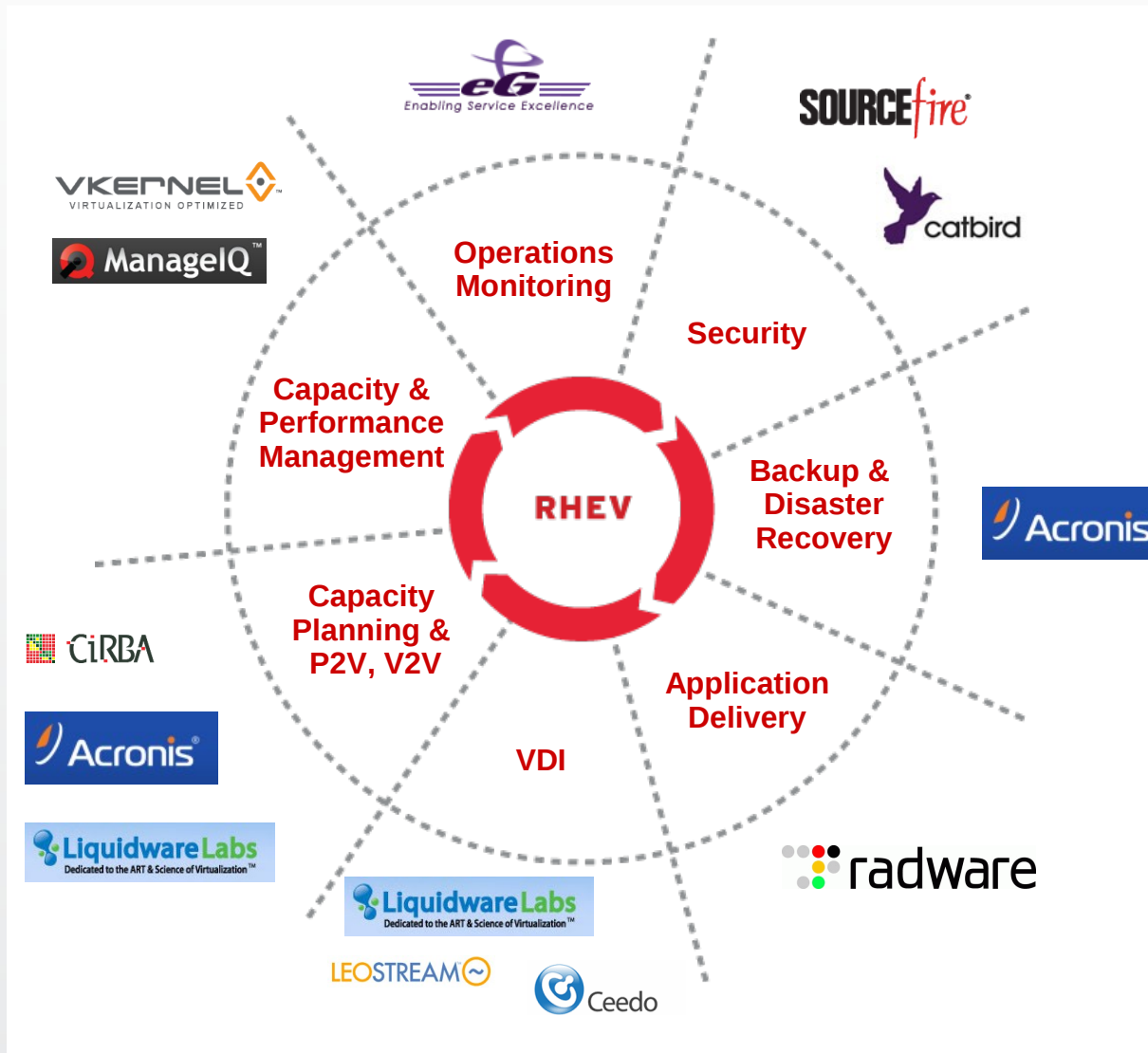
RHEV USER PORTAL



- Tied to Microsoft Active Directory or Red Hat Identity Management (LDAP) users and groups
- Role and object based security delegation
- Complete VM lifecycle management



RHEV ECOSYSTEM: PARTNERS THROUGH YOUR DEPLOYMENT LIFECYCLE



- Integrate through the RHEV API
- Certified by Red Hat to work with RHEV
- Free trials available via the RHEV Marketplace

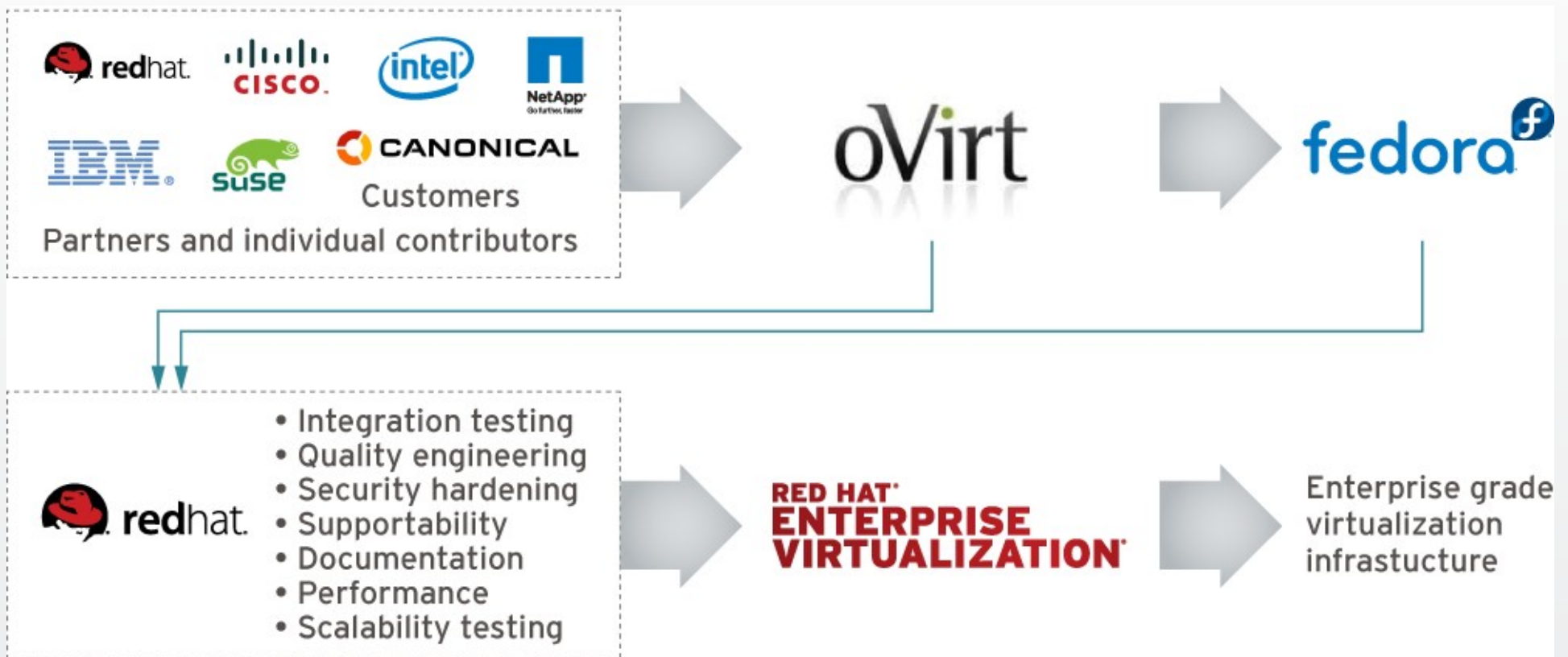


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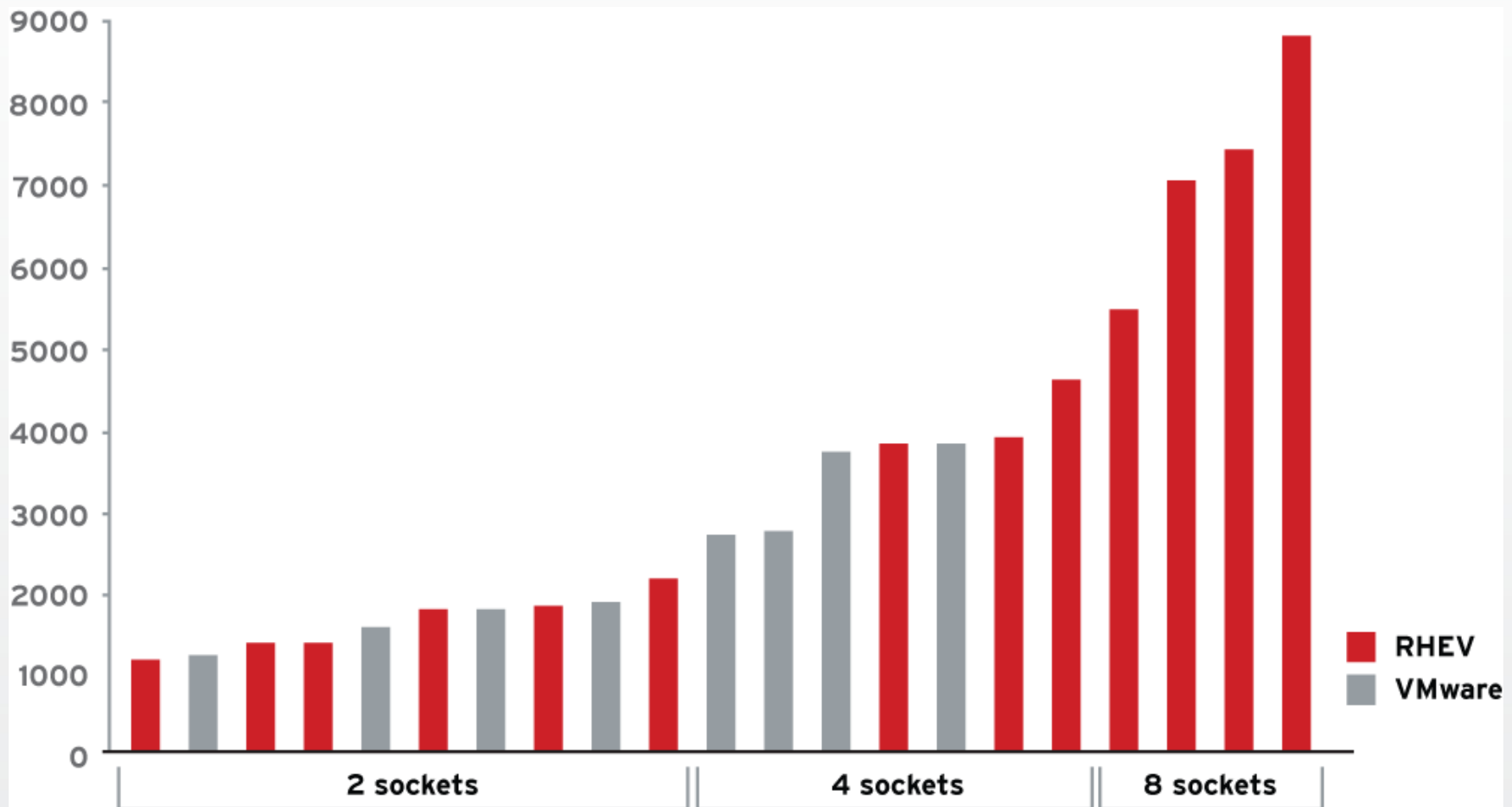
INDUSTRY LEADERSHIP: THE ONLY END-TO-END OPEN VIRTUALIZATION INFRASTRUCTURE



INDUSTRY LEADERS IN INFRASTRUCTURE,
NETWORKING, STORAGE ARE BACKING RHEV



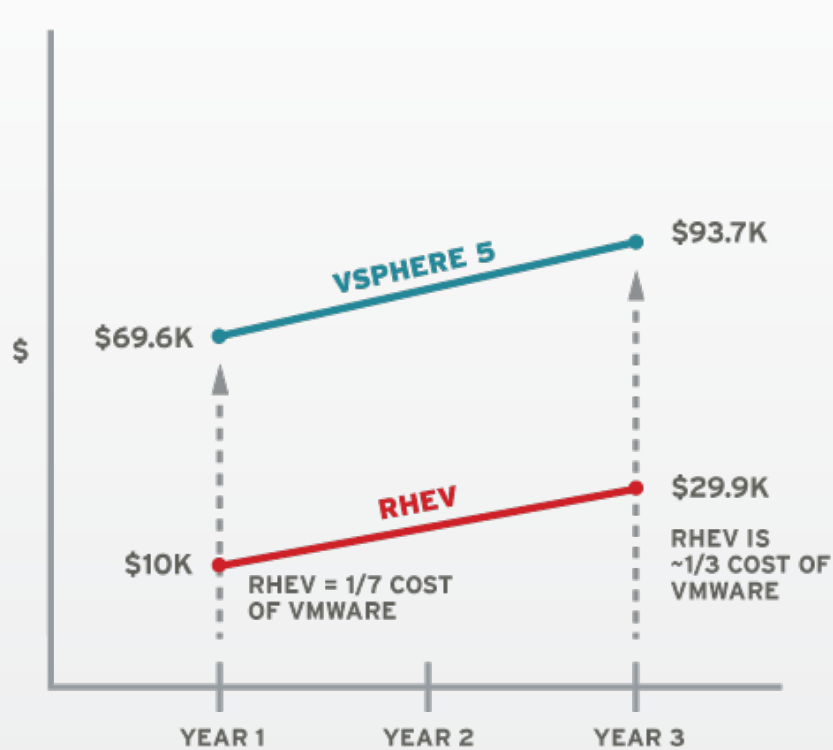
INDUSTRY LEADING VIRTUALIZATION PERFORMANCE



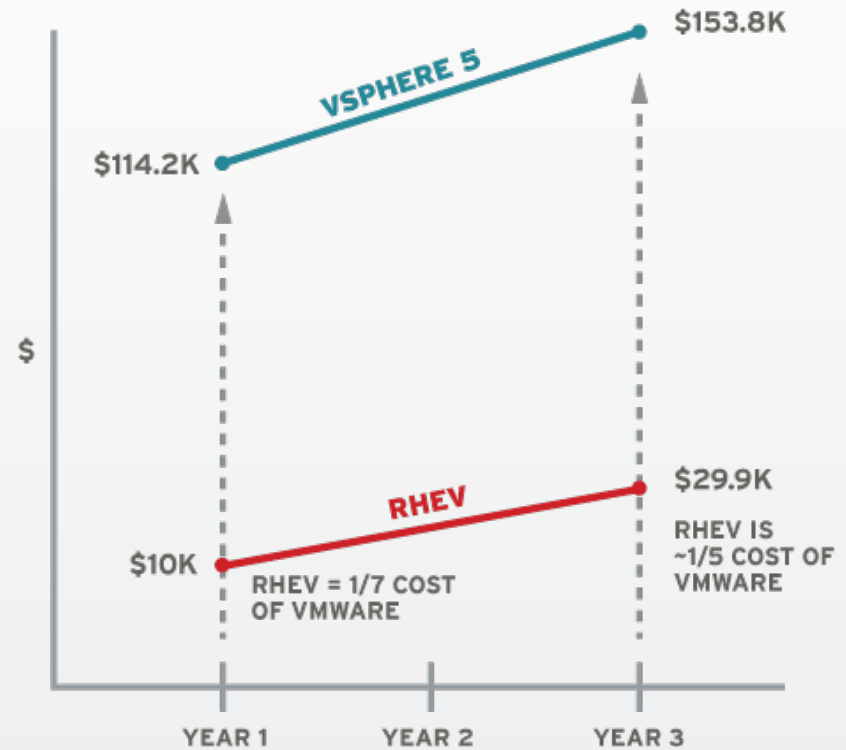
- **SPECvirt_sc2010:** As of January 1, 2012, RHEV claims top 6 results and the only 8 socket server scores



INDUSTRY LEADERSHIP: SIGNIFICANT COST ADVANTAGE



- 10 physical hosts (2x4HT, 64GB)
- Same density across both



- 10 physical hosts (2x8HT, 256GB)
- Same density across both

RHEV COSTS 1/7th VS. VMWARE AND 1/3rd OVER 3 YEARS. SCALE UP COST ADVANTAGE EVEN MORE



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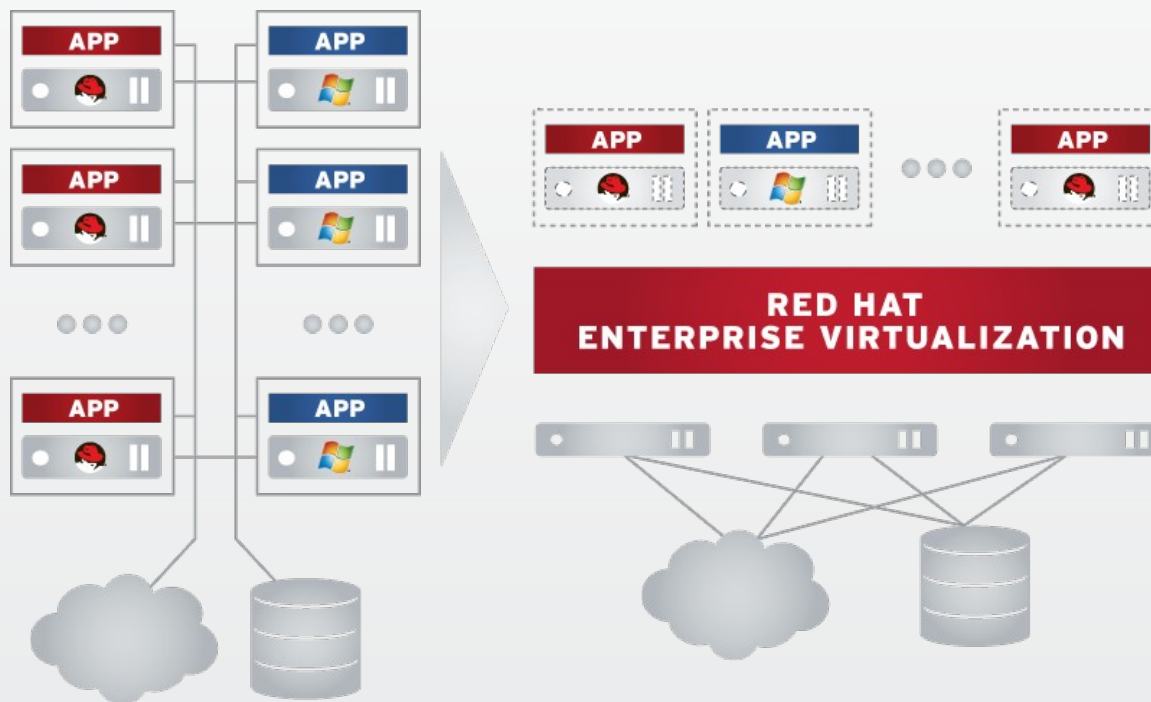
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USE CASE: SERVER CONSOLIDATION



Consolidation of Oracle Financials, database and other mission critical applications on RHEV



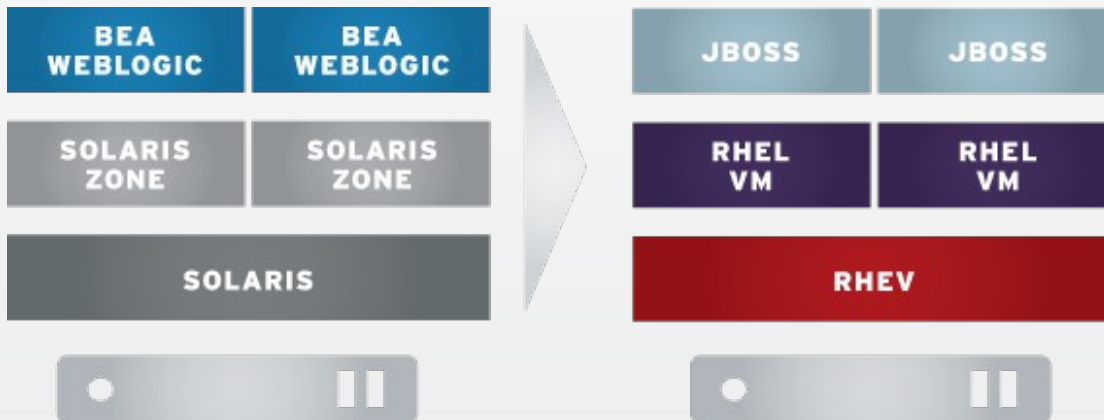
- Power, cooling and space savings
- Infrastructure uptime advantage
- Flexibility (live migration, load balancing etc.)
- Move towards private/hybrid cloud deployment



USE CASE: UNIX TO LINUX MIGRATION

**Major
European Bank**

Financial trading/ on-line banking
system that supports 1 million
customers per day



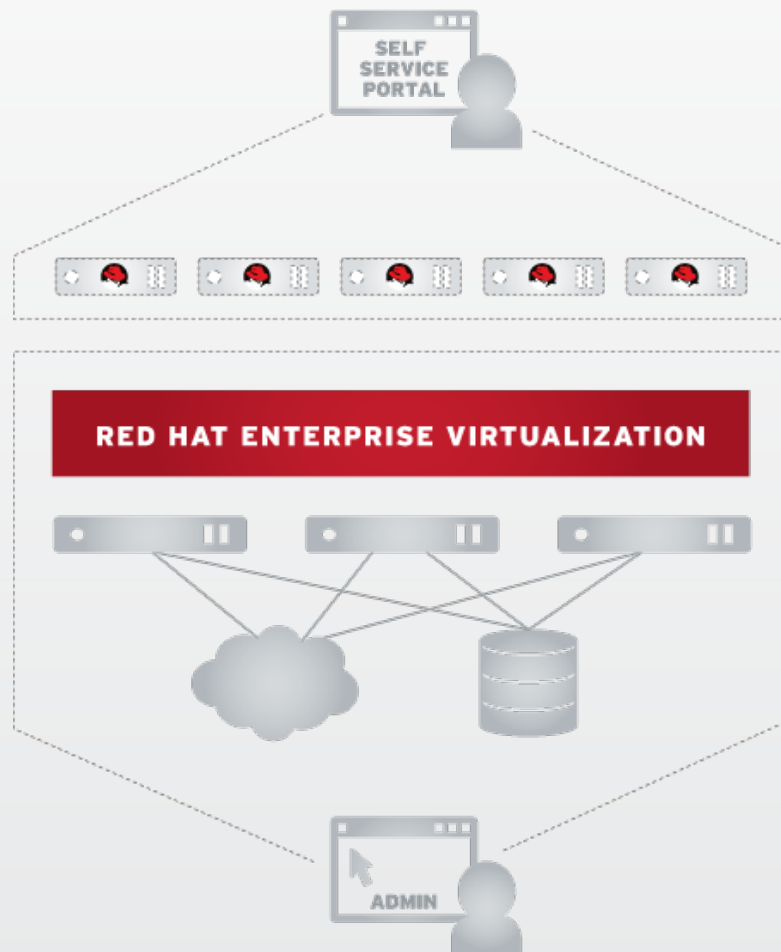
- Improve performance relative to old legacy UNIX hardware
- Tremendous cost savings by moving from proprietary stack to commodity/x86 based RHEL/RHEV stack
- Improved isolation, manageability and flexibility



USE CASE: PRIVATE CLOUD SUBSTRATE



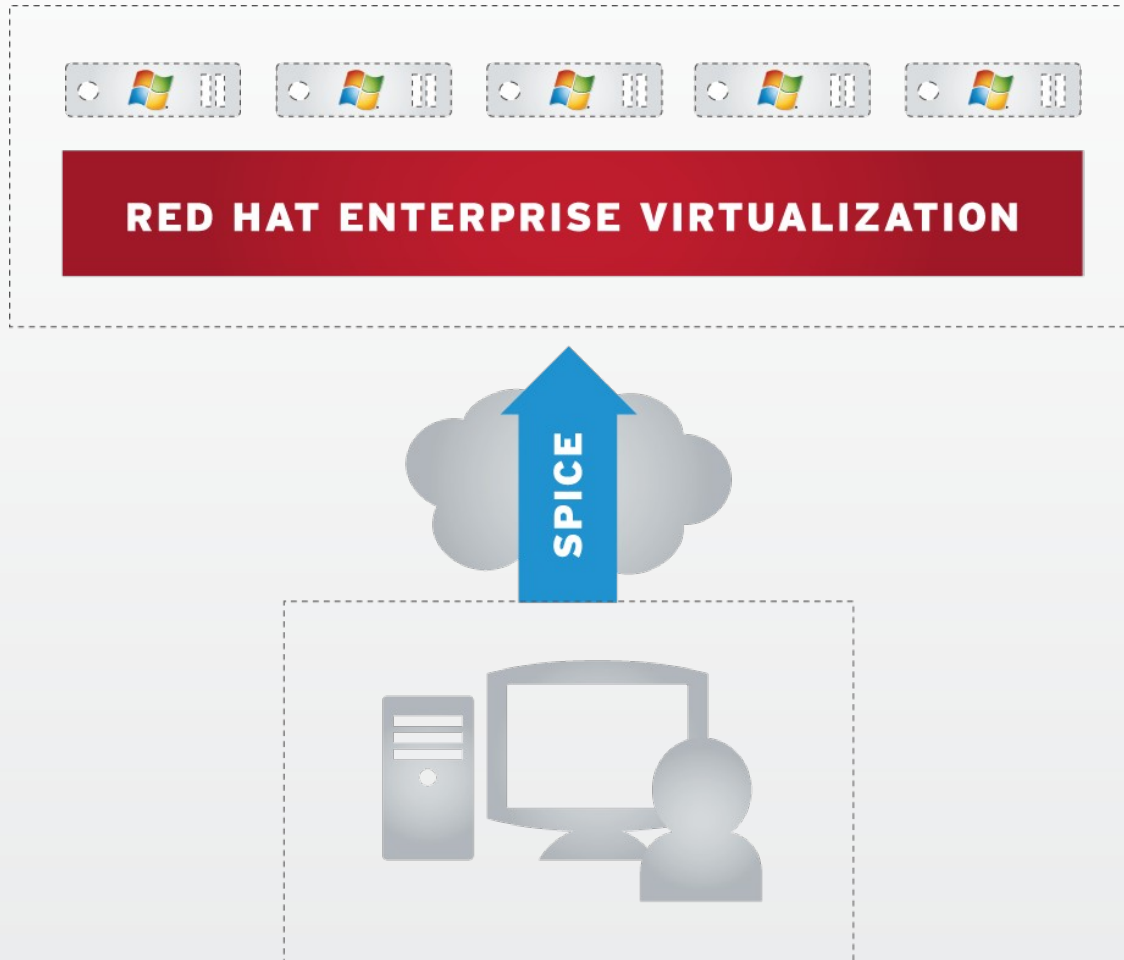
Private cloud for Linux application development and hosting



- Cut server provisioning time by 99% and increase productivity
- Decrease application development time, and time to business value
- Improve infrastructure uptime
- Flexibility



USE CASE: VDI



- User experience indistinguishable from that of physical PC (multi-monitor, HD, VoIP, Video-conferencing etc.)
- Centralized management (security, policy enforcement, decreased downtime, provisioning time etc.)



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- Advantages of RHEV/Benefits
- RHEV Use-cases (REM World)
- **Next Steps**



Further Information

- Internet
 - <http://www.redhat.com/virtualization/rhev/>
 - <http://www.redhat.com/webinars/virtualization/>
 - <http://www/virtualization/rhev/server/cost/>
- Training
 - RH318 Red Hat Enterprise Virtualization training
 - EX318 Exam
 - RHCVA (Red Hat Certified Virtualization Administrator) Certification





THANK YOU

