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**LEARN. NETWORK.
EXPERIENCE OPEN SOURCE.**



SIMPLIFIED VDI WITH RED HAT ENTERPRISE VIRTUALIZATION FOR DESKTOPS

Jeff Jameson, Product Marketing Manager

Dave Simmons, Prin. Solutions Architect

6.27.12

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AGENDA

- RHEV in the Virtualization Market
- What is RHEV for Desktops?
- Partner & ISV Ecosystem
- Feature overview
 - The KVM Hypervisor
 - Desktop Management
 - SPICE
- Stacking up against the competition
 - Competitive & Pricing

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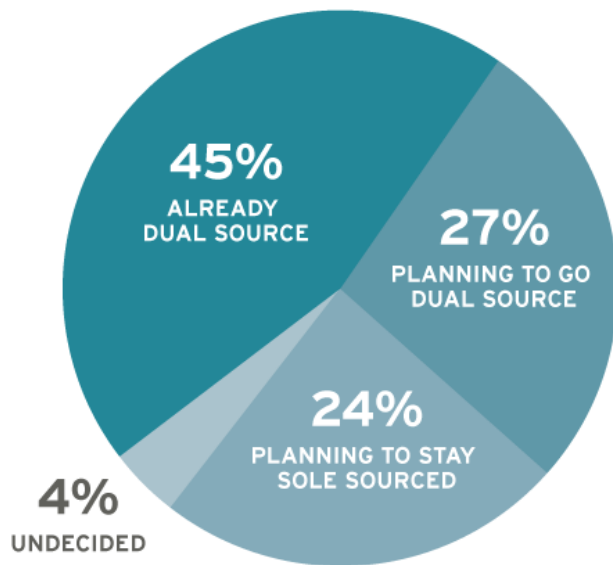
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VIRTUALIZATION DIVERSIFICATION: DUAL SOURCE REALITY...

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



- x86 Virtualization is now 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

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

A MAJORITY OF ENTERPRISES ARE LOOKING FOR ALTERNATIVES TO VMWARE

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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 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

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RED HAT ENTERPRISE VIRTUALIZATION FOR DESKTOPS

COMPLETE VIRTUAL DESKTOP INFRASTRUCTURE SOLUTION



RED HAT ENTERPRISE VIRTUALIZATION



- Centralized, enterprise management
- Full featured: connection broker, pooling, templates, thin provisioning, memory overcommit, & more...
- Industry leading performance
- Desktops & Server virtualization
- Windows & Linux desktops
- 50-70% lower cost

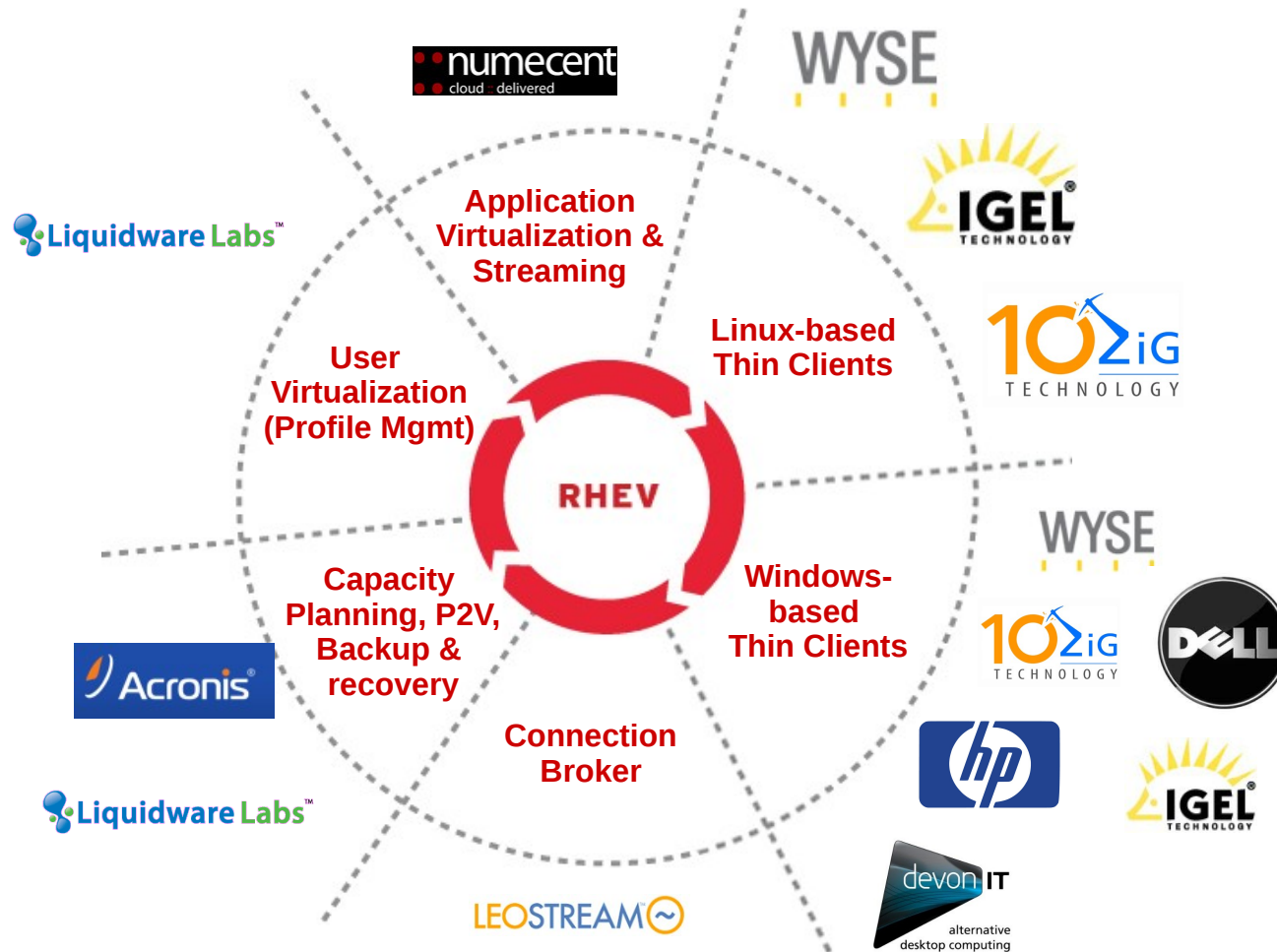
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RHEV FOR DESKTOPS ECOSYSTEM PARTNERS



- Integrated through the RHEV API
- Certified by Red Hat to work with RHEV for Desktops & SPICE
- Free ISV software trials available via the RHEV Marketplace

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RED HAT ENTERPRISE VIRTUALIZATION FOR DESKTOPS:

Feature Overview

Dave Simmons, Prin. Solutions Architect

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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

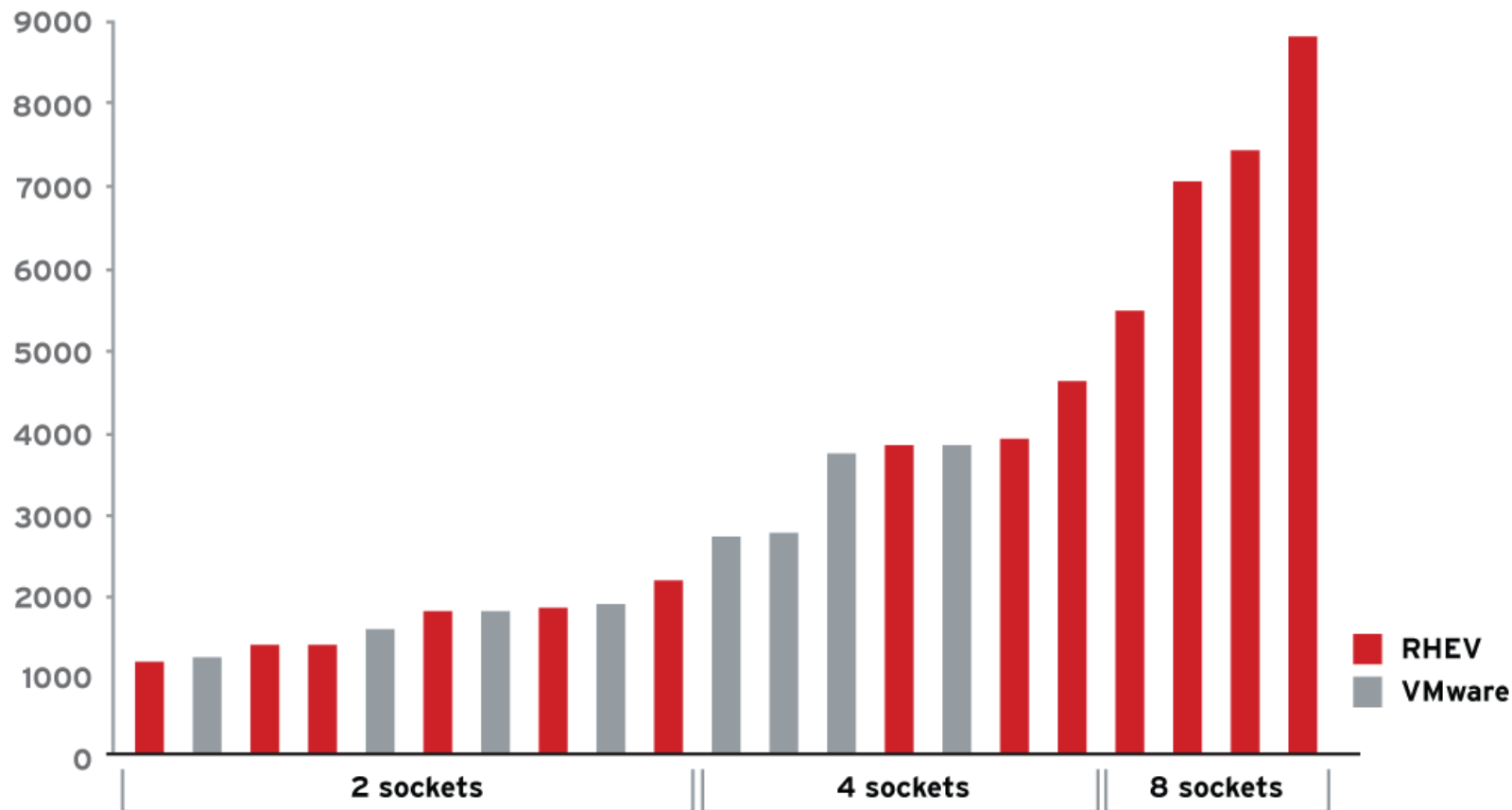
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INDUSTRY LEADING VIRTUALIZATION PERFORMANCE



- **SPECvirt_sc2010:** As of June 18, 2012, RHEV claims top 6 results and the only 8 socket server scores

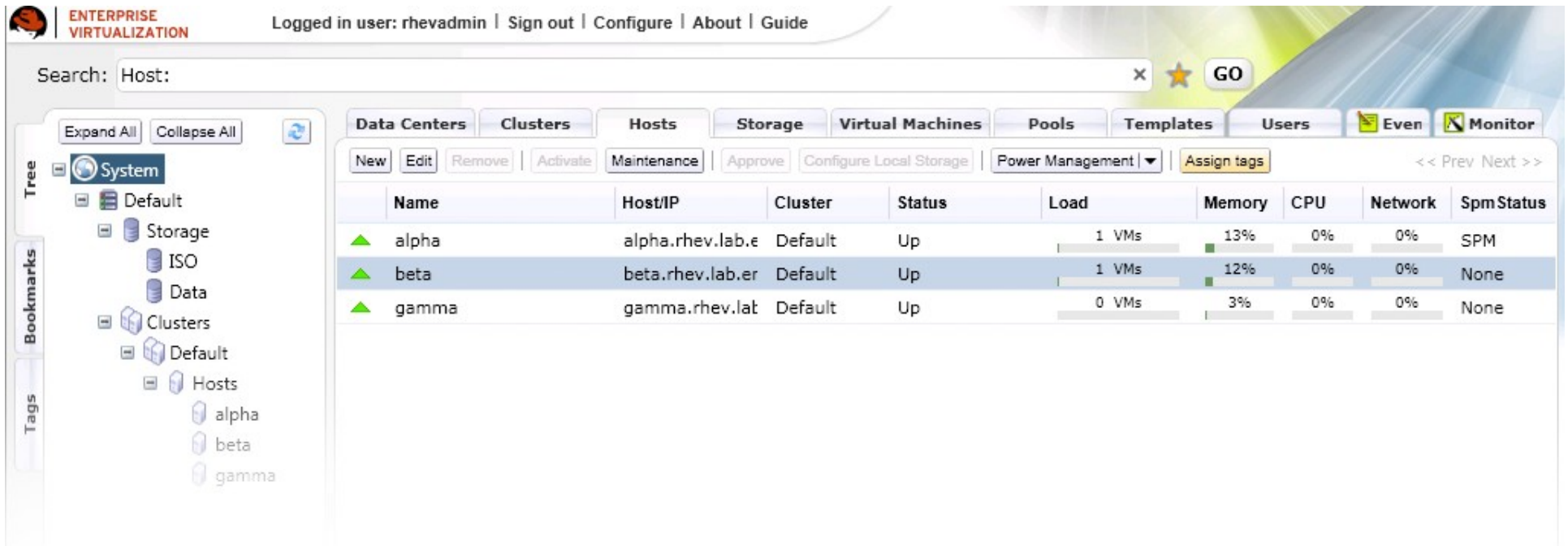
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RHEV MANAGER OVERVIEW



The screenshot displays the RHEV Manager web interface. At the top, it shows the user is logged in as 'rhevaadmin' with links for 'Sign out', 'Configure', 'About', and 'Guide'. A search bar is present with the text 'Host:'. The left sidebar contains a tree view with 'System' expanded, showing 'Default' storage, 'ISO', 'Data', 'Clusters', and 'Hosts' (with sub-items 'alpha', 'beta', and 'gamma'). The main content area has tabs for 'Data Centers', 'Clusters', 'Hosts', 'Storage', 'Virtual Machines', 'Pools', 'Templates', 'Users', 'Even', and 'Monitor'. The 'Hosts' tab is active, showing a table of hosts. The table has columns for Name, Host/IP, Cluster, Status, Load, Memory, CPU, Network, and Spm Status. Three hosts are listed: 'alpha' (Up, 1 VMs, 13% Memory), 'beta' (Up, 1 VMs, 12% Memory), and 'gamma' (Up, 0 VMs, 3% Memory).

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, Linux CLI

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RHEV MANAGER OVERVIEW

ENTERPRISE VIRTUALIZATION

Logged in user: rhvadmin | Sign out | Configure | About | Guide

Search: Host: [GO]

Expand All Collapse All

Tree

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

Tags

Name	Host/IP	Cluster	Status	Load	Memory	CPU	Network	SpmStatus
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

APP APP APP APP APP

RED HAT ENTERPRISE VIRTUALIZATION

Diagram showing three hosts connected to a cloud and a database.

- Live Migration
- Automated Load Balancing
- Self Service Portal
- Integrated Connection Broker/policy management
- Pools, Templates, thin provisioning, snapshots
- Centralized storage and networking management
- *Eco-system marketplace*

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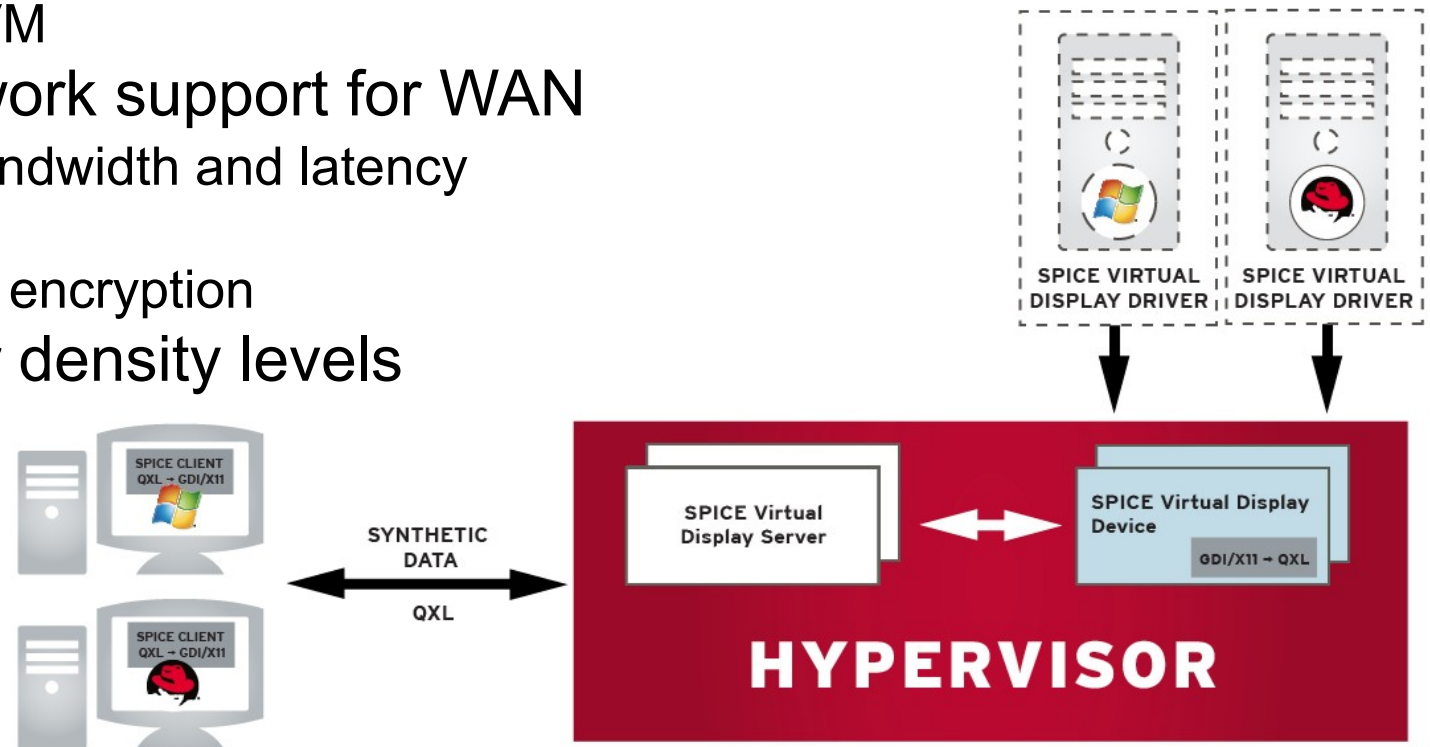
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SPICE: BUILT FOR VIRTUAL DESKTOPS

- Adaptive Protocol
 - Dynamically chooses optimal point to process graphics
 - Renders locally on client or falls back to server or VM
- Improved network support for WAN
 - Enhanced bandwidth and latency tolerance
 - Optional SSL encryption
- Highest server density levels



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SPICE: MULTIMEDIA

- Delivers multimedia with local appearance
 - Sends native drawing/graphics commands to client for any combination of Win/Linux
- Unlike competing protocols, does not use MMR (MultiMedia Redirection)
 - No installation of codecs on client
 - No restrictions on codec format or playback (browser/stand-alone)
 - Supports anything the VM supports
 - WMV, Quicktime, Flash, H.264, MPEG-2, MPEG-4, etc.

hulu

F FANDANGO

You Tube

NETFLIX



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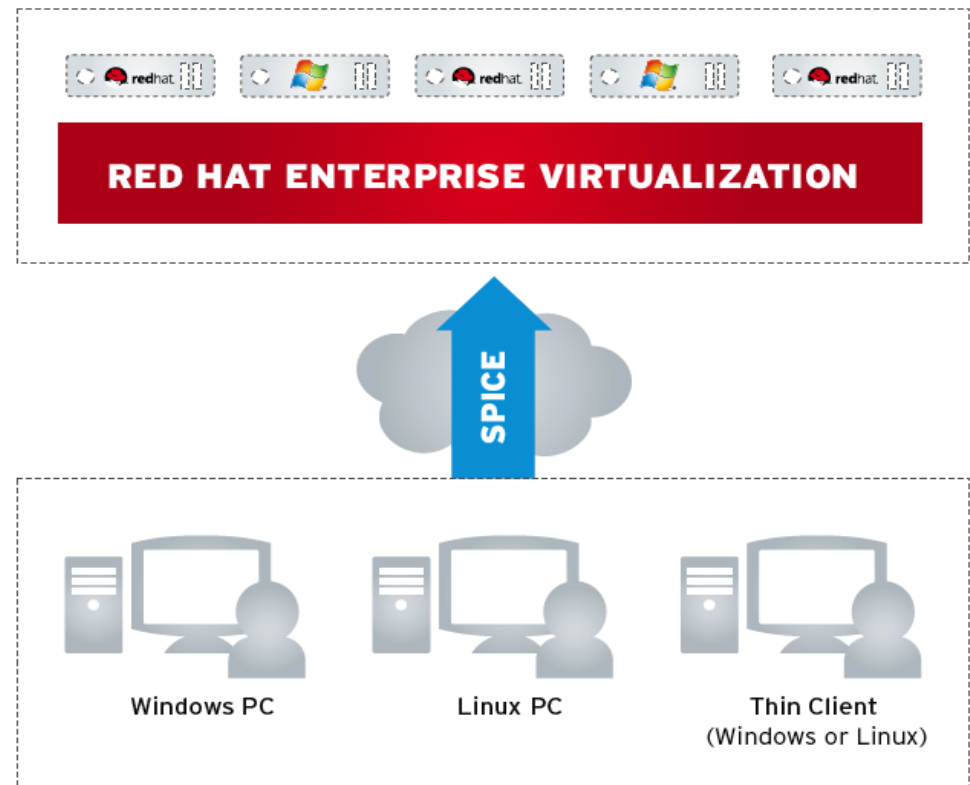
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SPICE: EXCEPTIONAL USER EXPERIENCE

- User experience comparable to a local desktop PC
 - Bi-directional audio & video
 - VoIP & video conferencing
 - HD quality video
 - Hi resolution 2560x1600 (each)
 - Up to 4 monitors
 - USB redirection for nearly any device
 - Smart Card/CAC authentication
 - Copy & paste



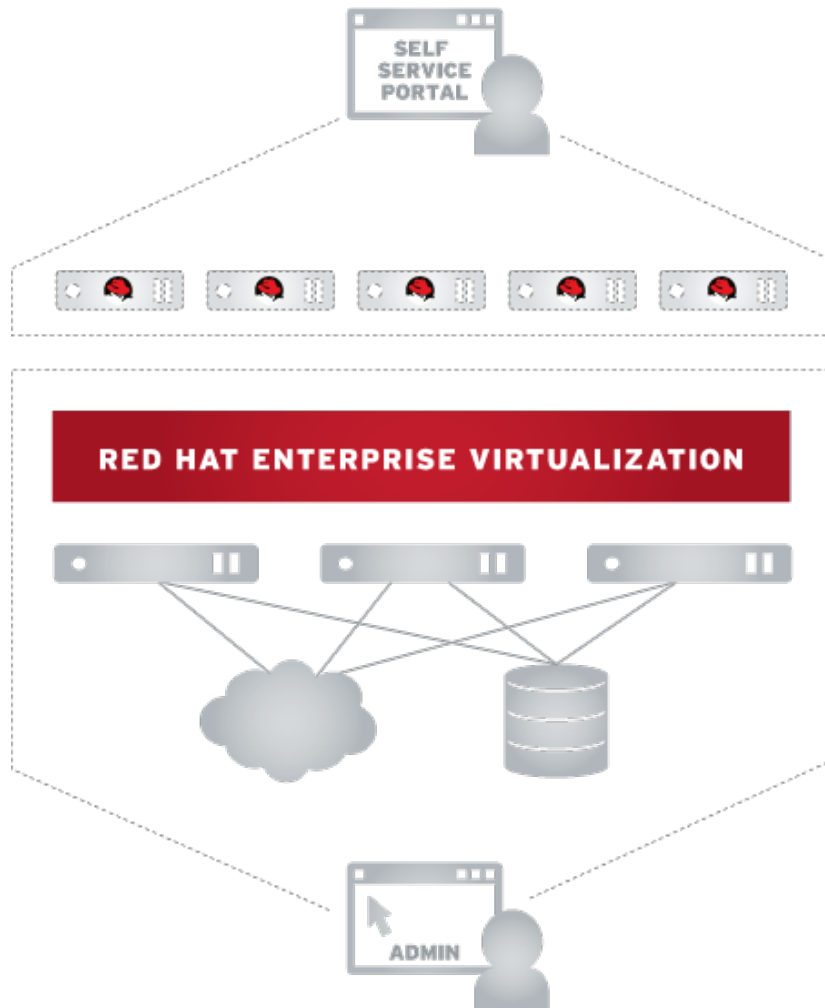
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POWER USER PORTAL



- Self-Service user portal
- Tied to Microsoft AD or Red Hat Identity Management (LDAP) users and groups
- Role and object based security delegation
- Full VM lifecycle management

- ✓ Create, edit and remove virtual machines
- ✓ Manage virtual disks and network interfaces
- ✓ Assign user permissions to virtual machines
- ✓ Create and use templates to rapidly deploy virtual machines
- ✓ Monitor resource usage and high-severity events
- ✓ Create and use snapshots to restore virtual machines to a previous state

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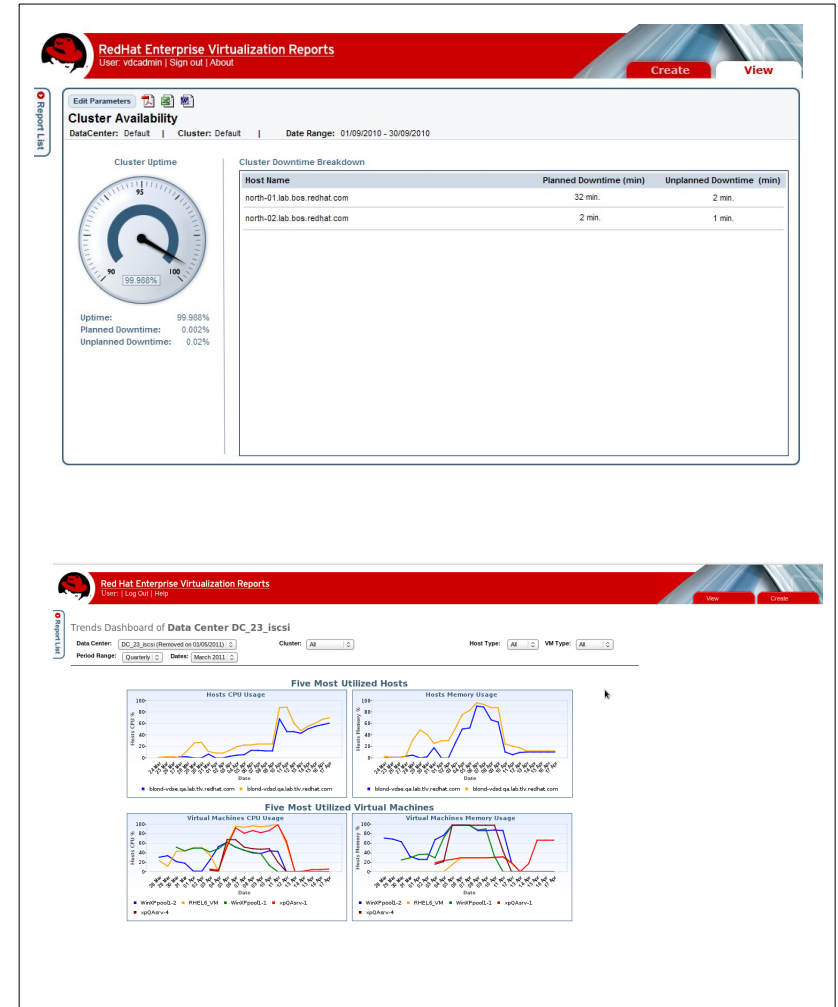
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REPORTING

- Historical usage, trending, quality of service
- Integrated reporting engine based on Jasper reports
- Over 25 prebuilt reports and dashboards included
- Ability to create and customize reports and templates



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RED HAT ENTERPRISE VIRTUALIZATION FOR DESKTOPS:

Competition, Pricing, Wrap up...

Jeff Jameson, Product Marketing Manager

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RHEV FOR DESKTOPS VS. VIEW VS. XD

	Feature	RHEV 3	View 5	XD 5.5
Hypervisor	Bare Metal hypervisor / Small Footprint	✓	✓	✓
	Memory Page Sharing / Hardware memory assist	✓	✓	✓
Resource Optimization	Live Migration / vMotion	✓	✓	✓
	Storage Live Migration / Storage vMotion	↑↑	✓	✓
	System Scheduler / DRS	✓	✓	✓
	Power Saver / DPM	✓	✓	✓
	Memory Overcommit	✓	✓	✓
	Thin Provisioning / Linked Clones	✓	✓	✓
	Stateless VM Pools	✓	✓	✓
Desktop Access	Integrated Connection Broker	✓	✓	✓
	Customized Network Protocol (not RDP)	✓	✓	✓
	Self-Service User Portal	✓	✓\$	✓\$
	USB Device Redirection	✓	✓	✓
	Windows & Linux Desktops	✓	✗	✗
Administration & Security	Templates/Snapshots	✓	✓	✓
	Live Snapshots	↑↑	✓	✓
	Role Based Access Control	✓	✓	✓
	SSL Encryption	✓	✗	✓
	Hooks & Extensibility	✓	✗	✗
	Open Source	✓	✗	✗
\$ → Requires Additional Product & Cost		↑↑ → Coming in Next Release		

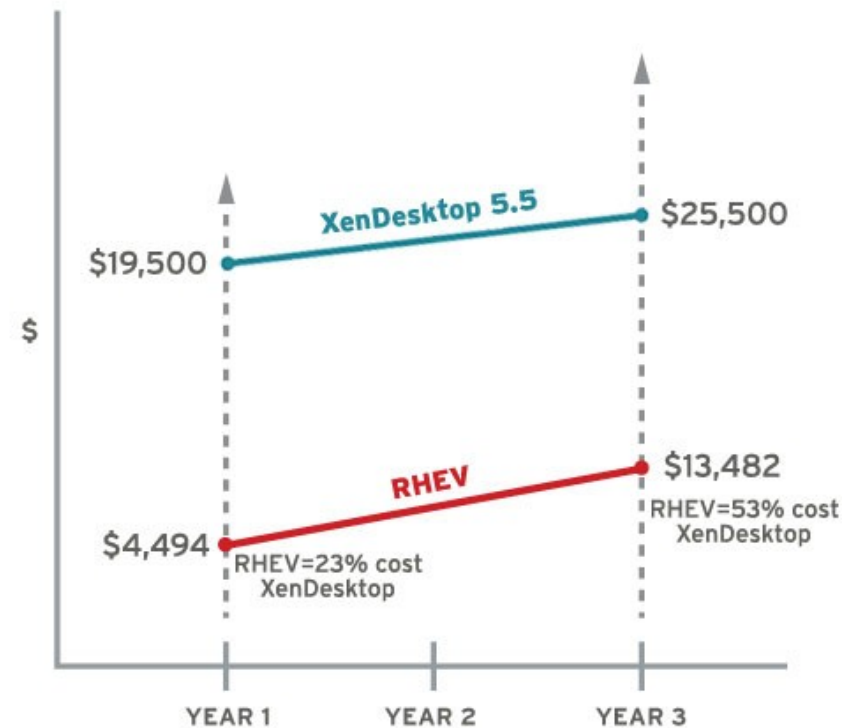
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SIGNIFICANT COST ADVANTAGE



100 desktops on 6 sockets (three dual-socket servers)

- **RHEV for Desktops delivers more value...**
 - Windows & Linux desktops
 - Desktops & Servers
 - Included self-service user portal

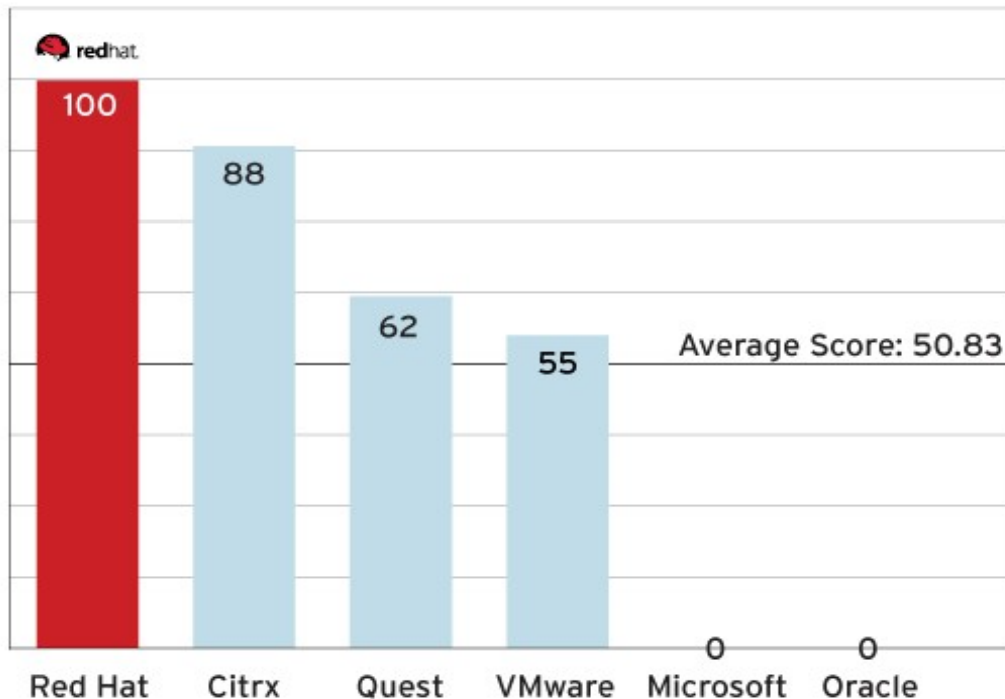
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RHEV FOR DESKTOPS: DELIVERING REAL VALUE!



Source: 2011 InfoTech Desktop Virtualization Vendor Landscape



"On a relative basis, Red Hat maintained the highest Info-Tech Value Score™ of the vendor group. Vendors were indexed against Red Hat's performance to provide a complete, relative view of their product offerings."



PRICING EXAMPLE: 100 DESKTOPS

THREE YEAR TCO ANALYSIS	Red Hat ENTERPRISE VIRTUALIZATION FOR DESKTOPS	VMware VIEW 5 ENTERPRISE
Total Number of Servers (4 sockets each)	2	2
Total Number of Processors	8	8
Total Number of Virtual Desktops	100	100
License Costs (One Time)		
Virtualization Software	\$0	\$15,000
Annual Support and Subscription Costs		
Virtualization Software	\$3,496	\$3,150
Total First Year Costs	\$3,496	\$18,150
Three Year Costs	\$10,488	\$24,450

- 100 desktops
- Two servers (4 sockets each)
- Standard Support (10x5 hours)


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CALCULATE TCO & ROI YOURSELF...



Red Hat Enterprise Virtualization TCO Calculator

The Red Hat Enterprise Linux Migration Calculator was developed independently by leading ROI consultancy Alinean, Inc. This tool uses information provided by Red Hat as well as publicly available information to configure virtualized server environments using Red Hat Enterprise Virtualization technology and to compare the total cost of ownership for the Red Hat solution with other popular virtualization offerings.

Username:


Password:

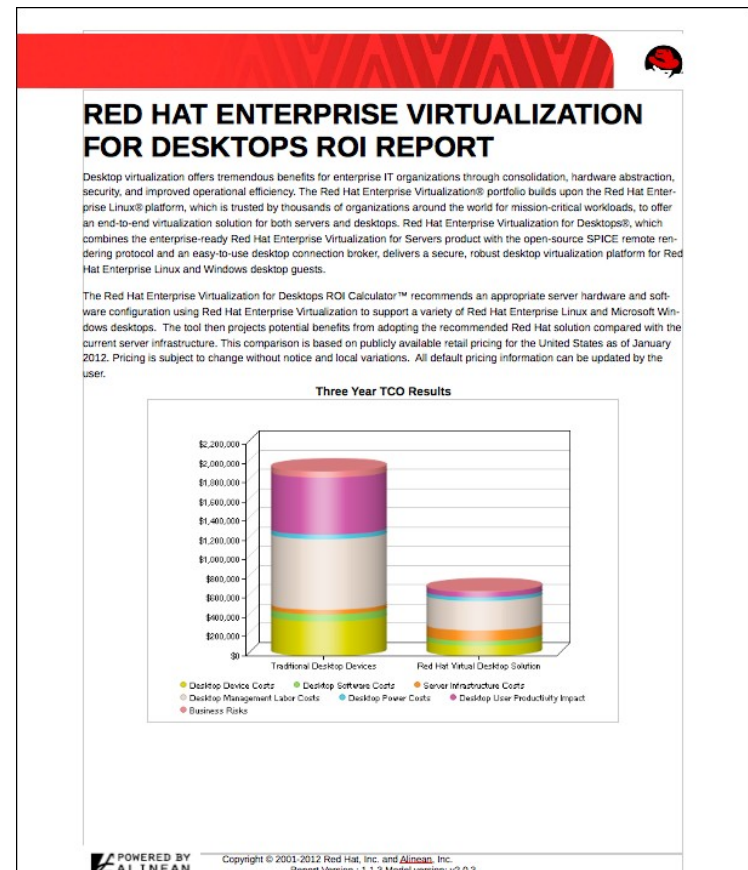
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www.redhat.com/rhev/desktop/cost

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RESOURCES

- Try it for yourself!
 - **Visit the SPICE Cafe in the main lobby**
- Learn more about RHEV For Desktops...
 - **redhat.com/rhev/desktops**
- Learn more about RHEV...
 - **redhat.com/rhev**

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UPCOMING RHEV SESSIONS

Session Title	Day	Time
Making RHEV Highly Available	Tues	11:00am
Integration with RHEV API	Tues	3:00pm
Simplified VDI with RHEV for Desktops	Wed	10:40am
RHEV Team Q&A	Wed	12:00pm
RHEV Overview & Roadmap	Wed	1:20pm
RHEV 3.1 Deep Dive	Wed	2:30pm
RHEV Architecture	Wed	3:40pm
RHEV Scripting & Integration (API & CLI)	Wed	4:50pm
Expert Panel: with Andy Cathrow (panelist)	Wed	6:00pm
KVM Update & Roadmap	Thurs	1:20pm
Migrating to RHEV: A Customer Perspective	Thurs	2:30pm
RHEV Real World Perspectives Panel	Thurs	4:50pm

14 unique breakout sessions at RHEV Campgrounds each day! Room 105

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