

RED HAT ENTERPRISE VIRTUALIZATION & CLOUD



redhat®

Road Show Uruguay 2011

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Red Hat Latinoamérica

Agenda



redhat.



- Red Hat Enterprise Virtualization
 - Introducción
 - Características
 - Virtualización de Escritorios
 - ¿ Cómo reducir los costos ?
- Red Hat Cloud
- Preguntas

Agenda

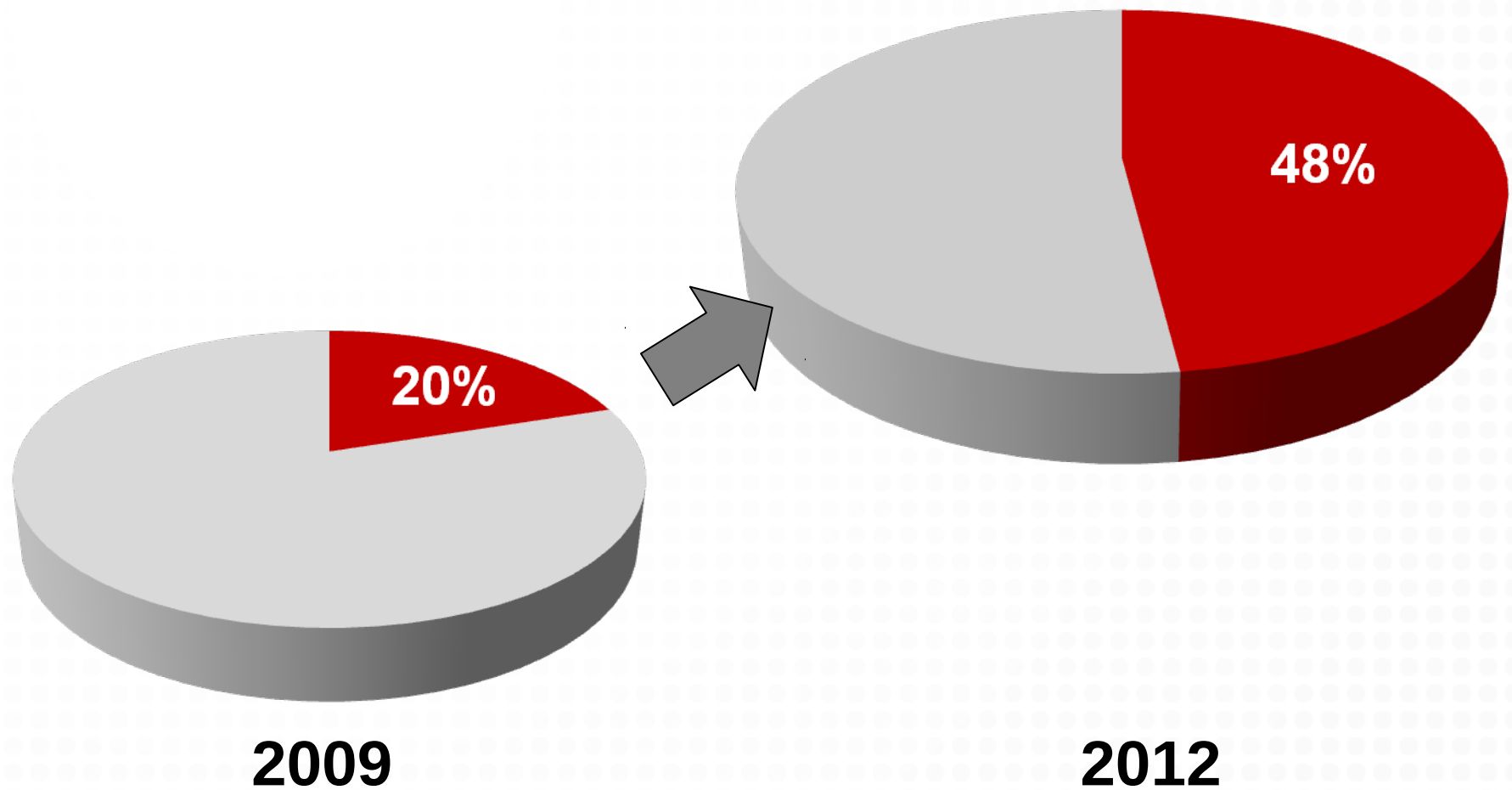


RED HAT ENTERPRISE VIRTUALIZATION

ADOPCIÓN DE LA VIRTUALIZATION



redhat.



Gartner, Virtual Machines and Market Share Through 2012, Gartner ID#G00170437.

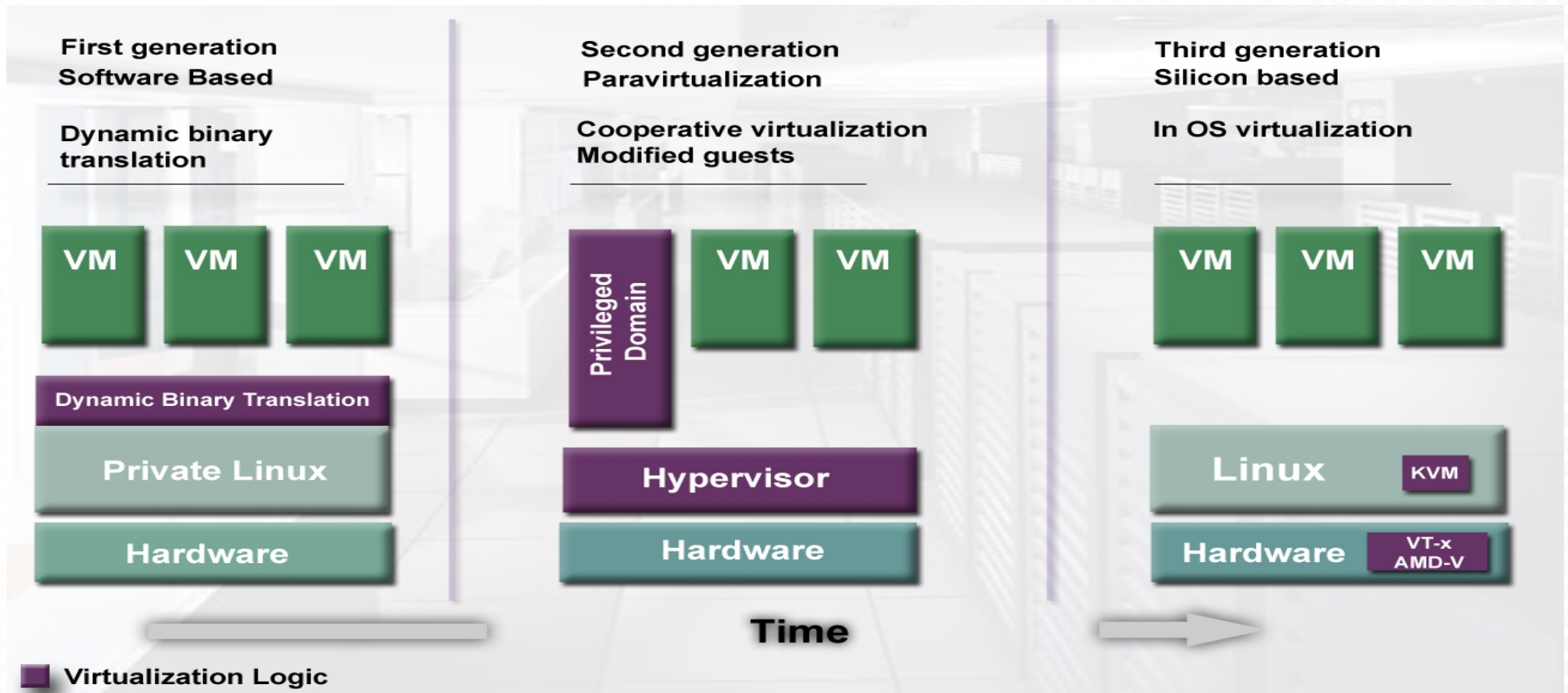
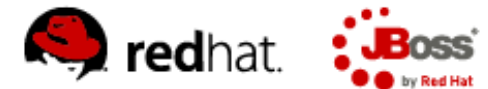
BARRERAS PARA LA ADOPCIÓN DE LA VIRTUALIZACIÓN



Cuales son los factores que limitan la implementación de una solución de virtualización:

- » **Performance**
- » **Escalabilidad**
- » **Seguridad**
- » **Certificaciones y Soporte**
- » **Costo**

VIRTUALIZACIÓN CON RED HAT EVOLUCIÓN



Legacy
Virtualization

RHEL 5.0 - Xen
Virtualization

RHEL 5.4 - KVM
Red Hat Enterprise Virtualization
RHEL 6.x - KVM

RED HAT ENTERPRISE VIRTUALIZATION ROMPIENDO LAS BARRERAS



- **Performance:**

- Hasta 98% de performance

- **Escalabilidad:**

- Hosts : 4096 cores, 64TB RAM
- Guests : **64vCPUS**, 1TB RAM

- **Seguridad:**

- SELinux: military grade security

- **Interoperabilidad:**

- Windows and Linux support
- Windows & Red Hat agreement

- **Administración:**

- Administración centralizada de Hosts y Guests
- Administración basada en Web, permitiendo escalar a 1000's de servers

- **Costos**

#RED HAT ENTERPRISE VIRTUALIZATION PRODUCT PORTFOLIO



- **RHEV MANAGER FOR SERVERS**

- **RHEV HYPERVERSOR**

Disponible solamente con RHEV Manager

- **RHEV MANAGER FOR DESKTOPS**

- **RED HAT ENTERPRISE LINUX 5.4+ (KVM)**



Adopción de KVM e interoperabilidad



redhat.



redhat



Empowered by

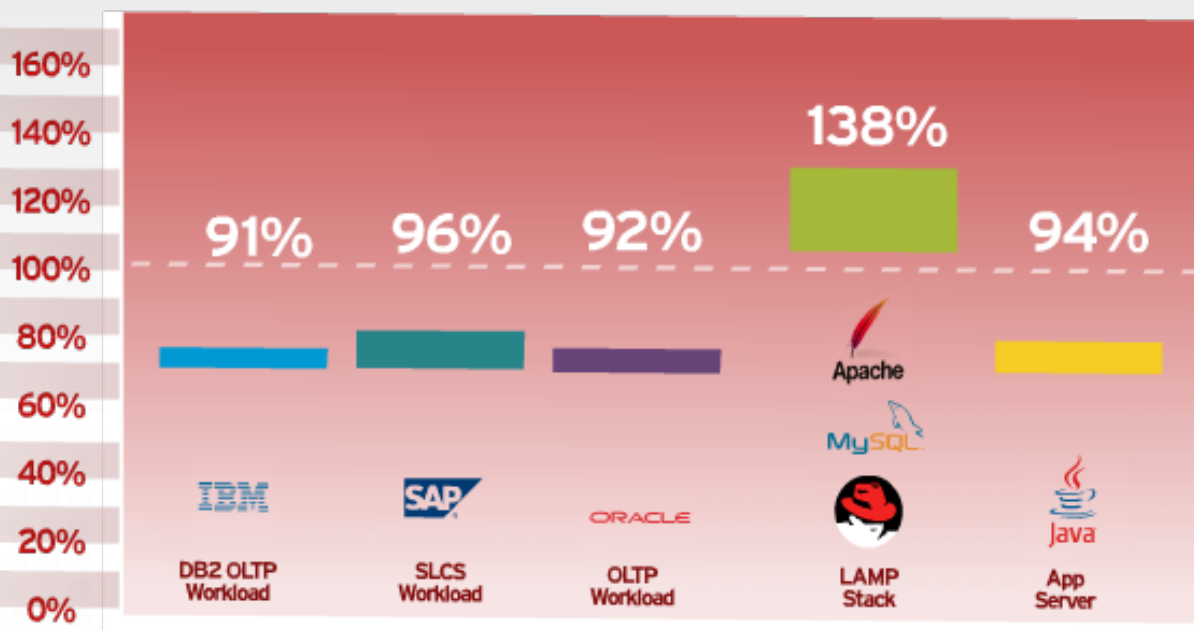


<http://www.openvirtualizationalliance.org>

RED HAT ENTERPRISE VIRTUALIZATION PERFORMANCE AND SCALABILITY



PERFORMANCE & SCALABILITY OF REAL ENTERPRISE WORKLOADS ON RED HAT ENTERPRISE VIRTUALIZATION



* Performance measured on a 16 core Intel Xeon X5570
with 32 GB RAM Server in various configurations of VMs

Más Performante

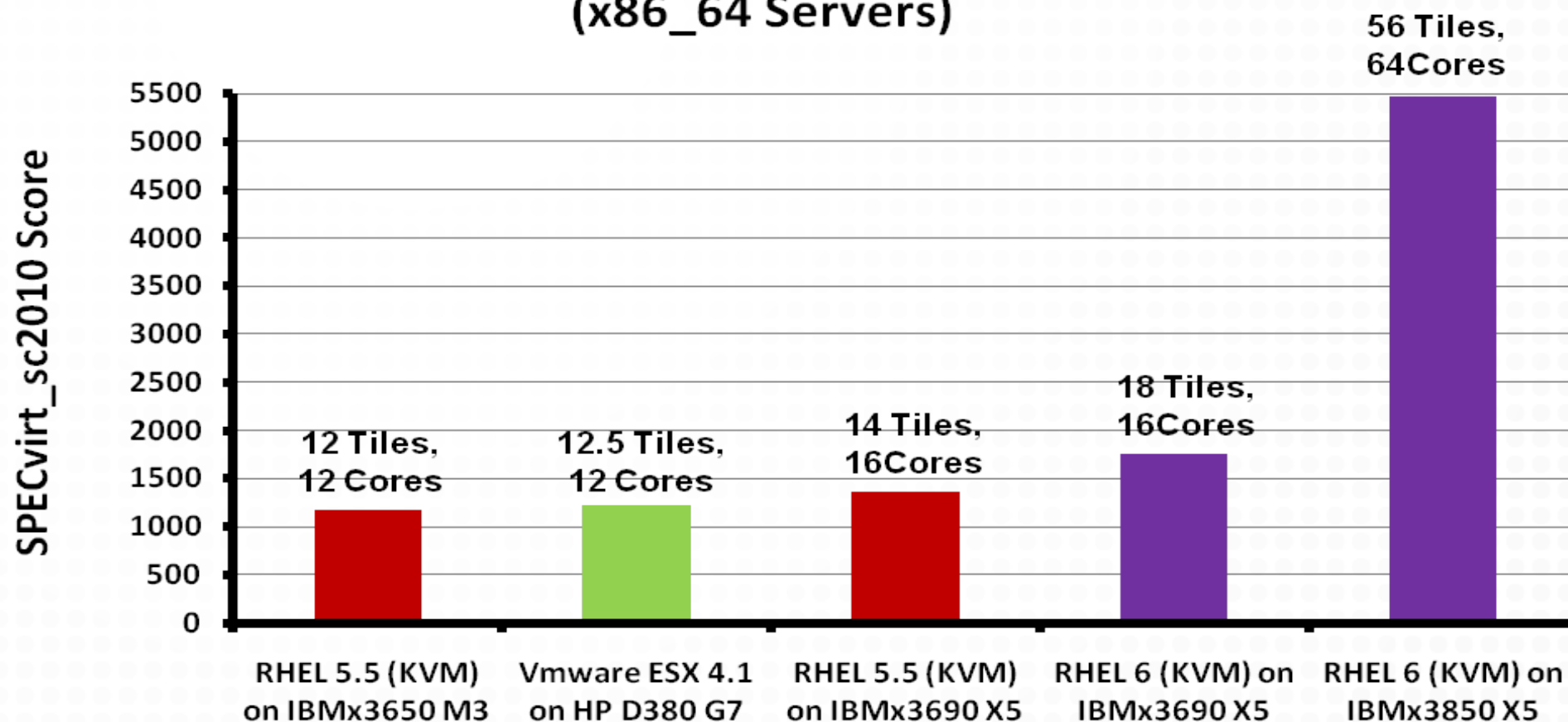
Virtualization benchmarks



redhat.

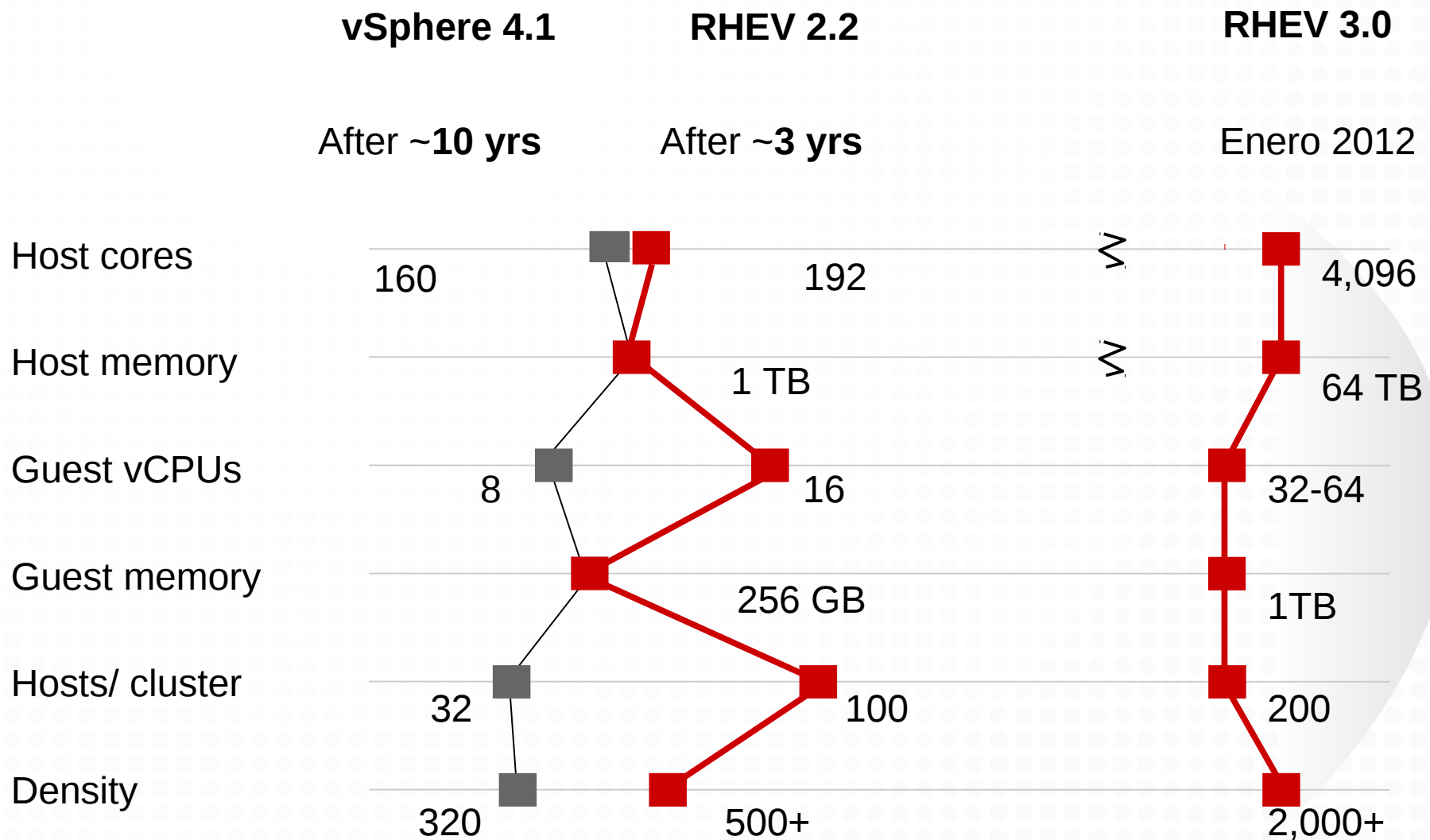


SPECvirt_sc2010 Results (x86_64 Servers)



“RHEL 6 muestra un 29% más de performance por sobre RHEL 5.5 (KVM) en el mismo hardware!”

RED HAT ENTERPRISE VIRTUALIZATION ESCALABILIDAD



Más Seguro sVirt (SELINUX)



SELinux security standard



Cada guest está aislado

- En caso de vulnerar una VM o segmento, no compromete a todo el cluster

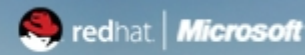
#RED HAT ENTERPRISE VIRTUALIZATION

Acuerdos Corporativos

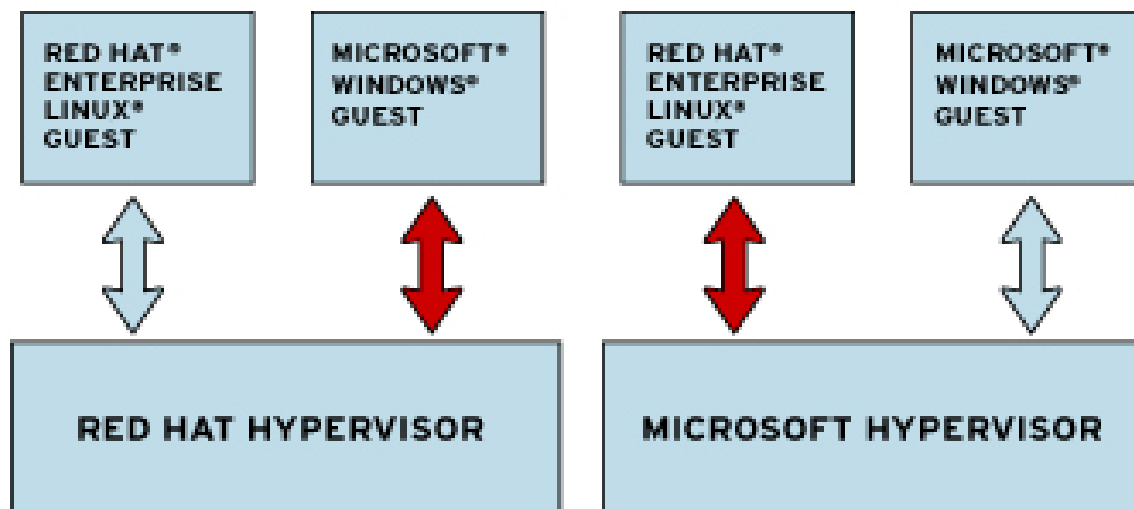


CUSTOMER DEMAND HAS SPOKEN

RED HAT AND MICROSOFT ADVANCE INTEROPERABILITY

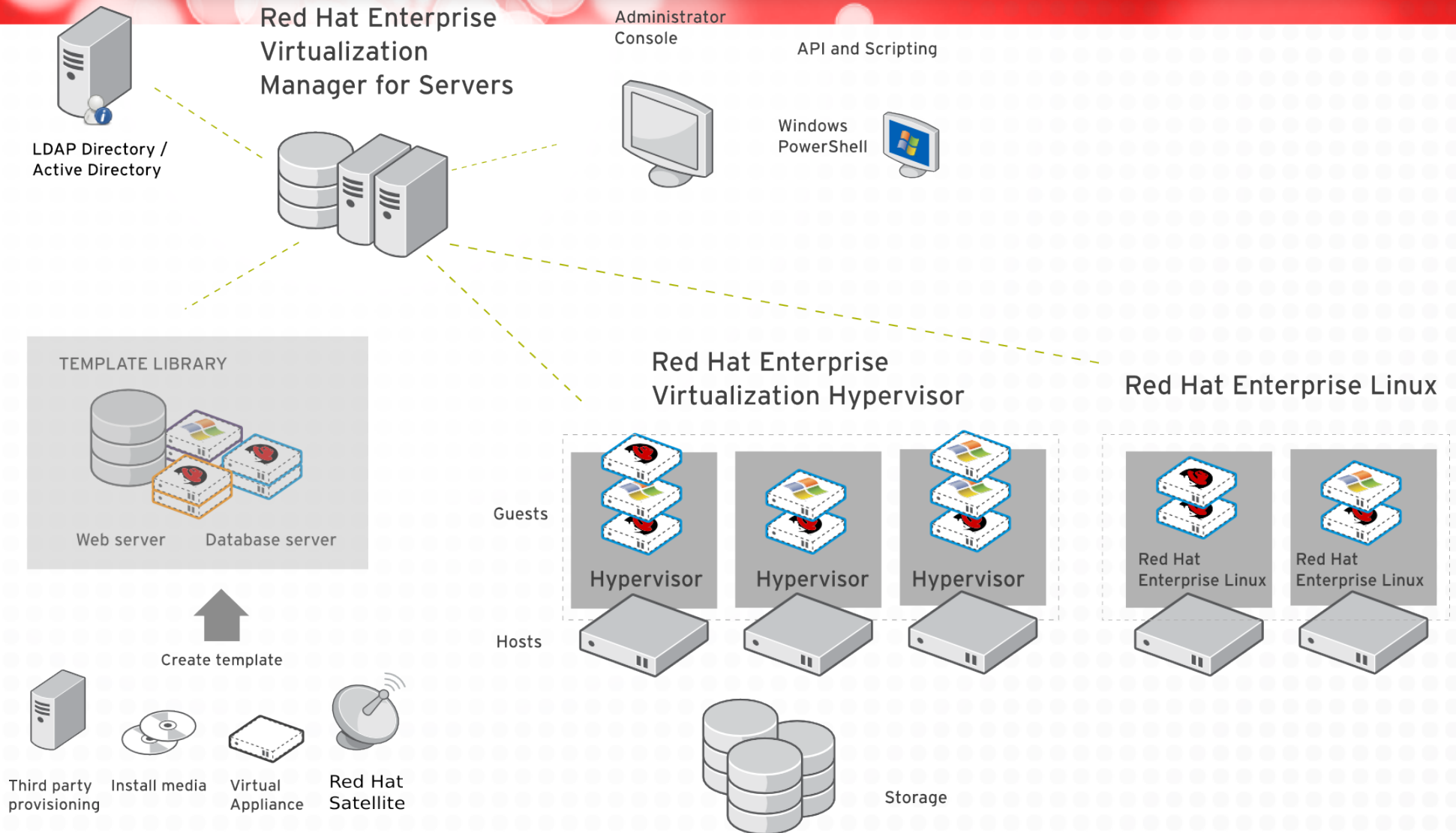


RED HAT AND MICROSOFT VALIDATED VIRTUALIZATION



RHEL 5.4 supported guest: Windows Server 2008 R2, 2003, Windows XP, Vista

RED HAT ENTERPRISE VIRTUALIZATION ARCHITECTURE



#RED HAT ENTERPRISE VIRTUALIZATION MANAGER



 **ENTERPRISE VIRTUALIZATION**

Logged in user: Administrator | Sign out | Configure | About

Search: Vms:

Bookmarks

Desktops
Servers
Windows_VMs
RHEL_VMs
Host_over_80%_cpu
Host_over_80%_network
Running_VMs
All_Hosts

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

	Name		Cluster	Host	IP Address	Memory	CPU	Network	Display	Status
■	DNS-RHEL4		Default			0%	0%	0%		Down
▶	RHEL3		Default	rhev-1.rhev.redhat.com		0%	0%	1%	VNC	Up
▶	RHEL4		Default	rhev-1.rhev.redhat.com		0%	12%	0%	VNC	Up
▶	RHEL5		Default	sandbox.rhev.redhat.com		0%	0%	0%	VNC	Up
▶	RHEL5_SAP		Default	rhev-3.rhev.redhat.com		0%	0%	0%	VNC	Up
▶	RHEL5_webserver		Default	sandbox.rhev.redhat.com		0%	0%	0%	VNC	Up
■	RHEL5-Desktop		Default			0%	0%	0%		Down
■	win2k3		Default			0%	0%	0%		Down
▶	win2k8		Default	rhev-3.rhev.redhat.com	172.16.31.4	42%	0%	0%	VNC	Up
▶	Windows7		Default	rhev-1.rhev.redhat.com	172.16.31.5	69%	51%	0%	Spice	Up
▶	WinXP-1		Default	rhev-2.rhev.redhat.com		0%	0%	1%	Spice	Up
■	WinXP-2		Default			0%	0%	0%		Down
▶	WinXP-3		Default	rhev-2.rhev.redhat.com	172.16.31.4	38%	0%	1%	Spice	Up
▶	WinXP-4		Default	rhev-2.rhev.redhat.com		0%	0%	1%	Spice	Up
▶	WinXP-5		Default	rhev-2.rhev.redhat.com		0%	0%	1%	Spice	Up

General **Users** **Network Interfaces** **Virtual Disks** **Snapshots** **Applications**

Operating System: Windows 2003
Description:
Template: Blank
Number of CPUs: 2

Defined Memory: 512 MB
Domain:
Time Zone: Eastern Standard Time

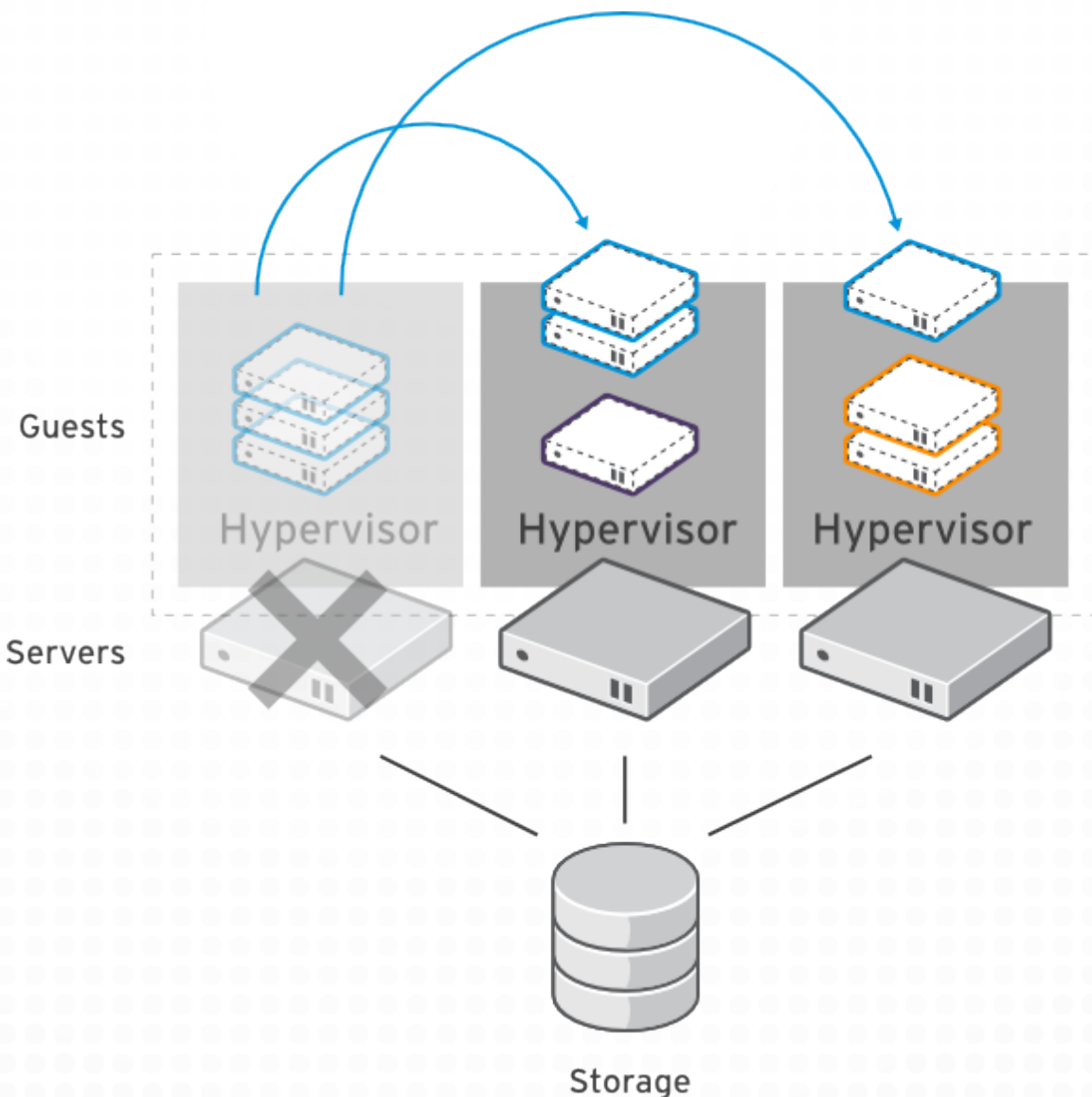
RED HAT ENTERPRISE VIRTUALIZATION MANAGEMENT FEATURES



Característica	Descripción
High Availability	Alta Disponibilidad automática para máquinas virtuales (VMs)
Live Migration	Mueva VMs entre hosts en vivo y con cero downtime
System Scheduler	Balanceo de carga basado en políticas de uso
Power Saver	Concentre VMs en un número menor de servidores durante horas de menor stress
Maintenance Manager	Efectúe tareas de mantenimiento sin afectar el uptime
Image Management	Implementación basada en Templates; thin provisioning y snapshots
Monitoring and Reporting	Para todos los objetos del sistema - VM guests, hosts, networking, storage, etc.

RED HAT ENTERPRISE VIRTUALIZATION

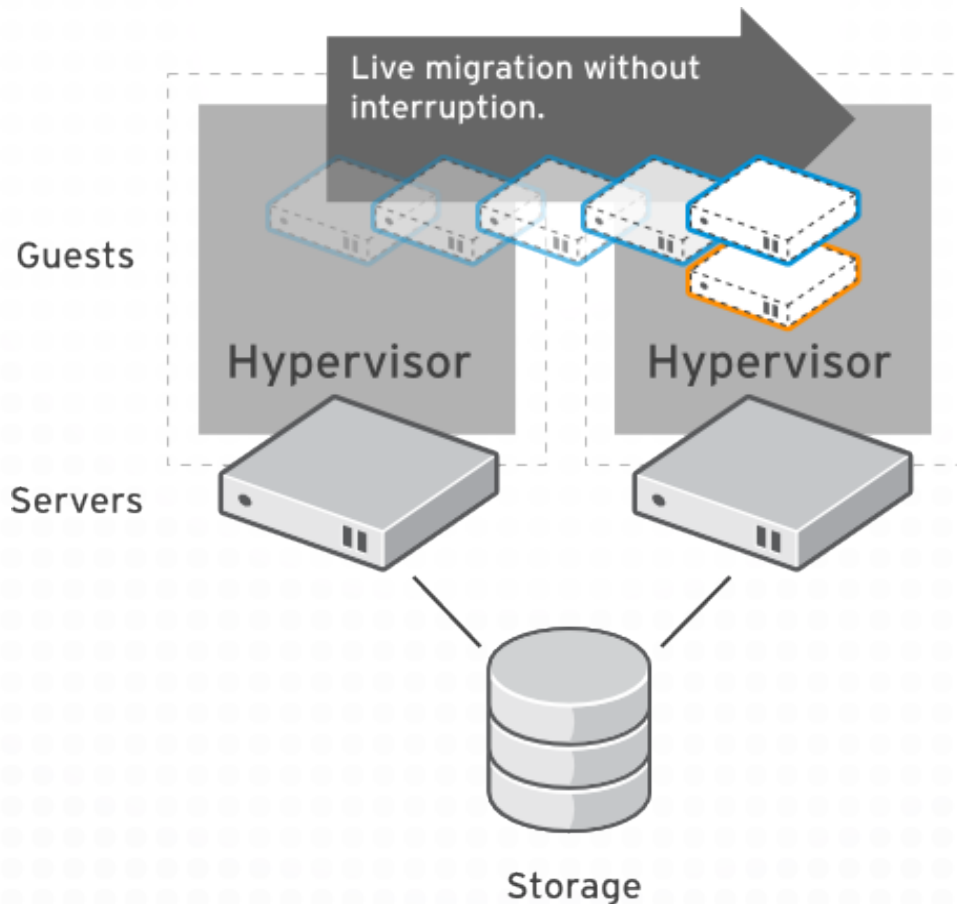
ALTA DISPONIBILIDAD



Failover

- Alta Disponibilidad automática de máquinas virtuales
- Monitoreo constante de hosts y máquinas virtuales
- Restart automático de VMs en otro nodo del Cluster

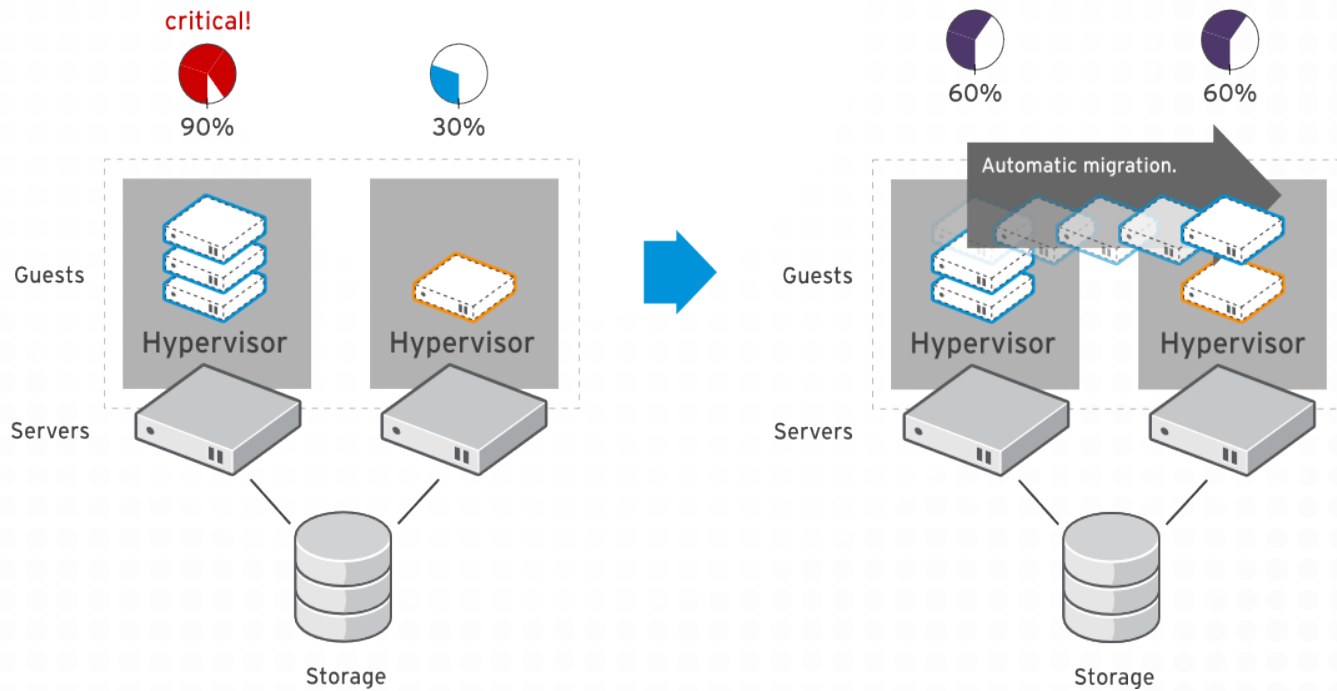
RED HAT ENTERPRISE VIRTUALIZATION LIVE MIGRATION



Live migration

- Migración rápida que permite el mantenimiento de los equipos
- Sin interrupción del servicio
- Balanceo dinámico de carga

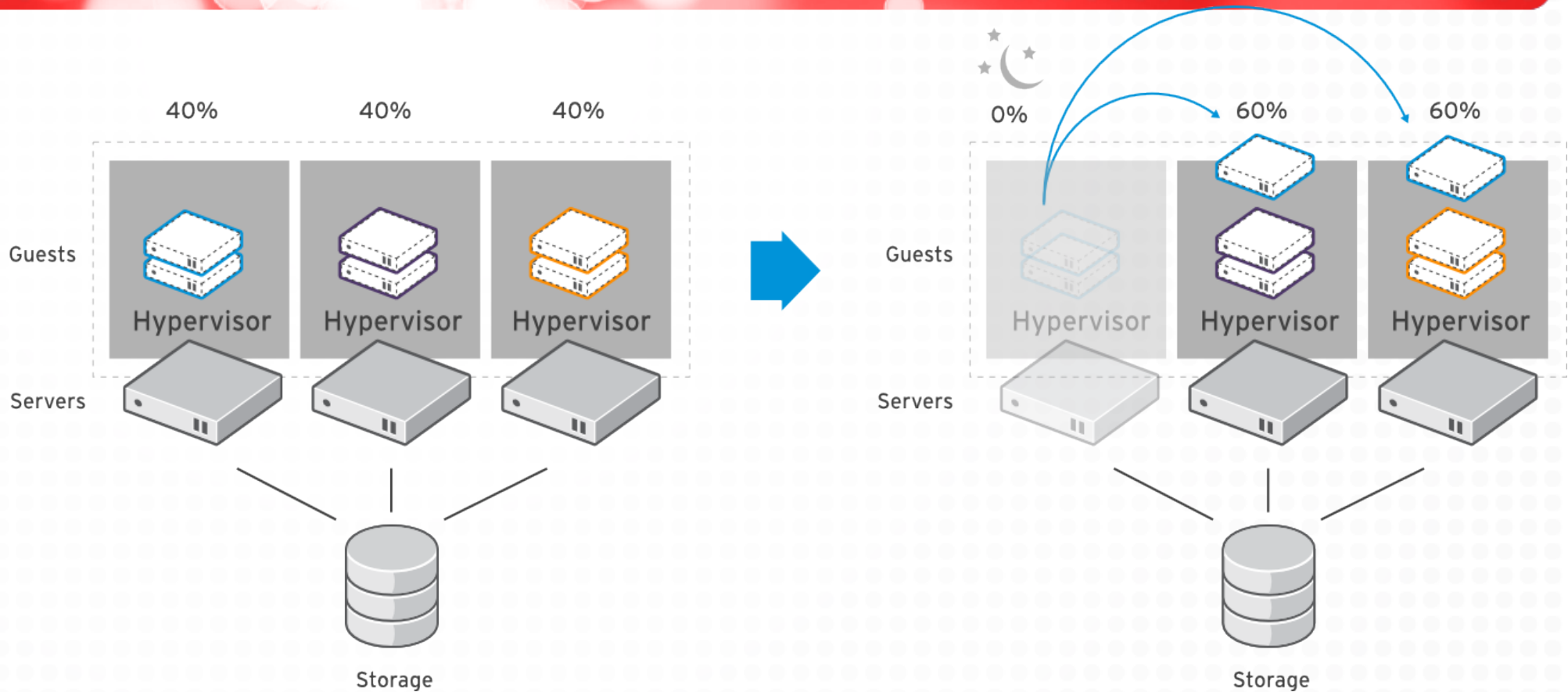
RED HAT ENTERPRISE VIRTUALIZATION SYSTEM SCHEDULER



- Balanceo dinámico de carga en el Data Center
- Automáticamente se migran en vivo las VMs basado en los recursos
- Políticas predefinidas para la distribución de VMs

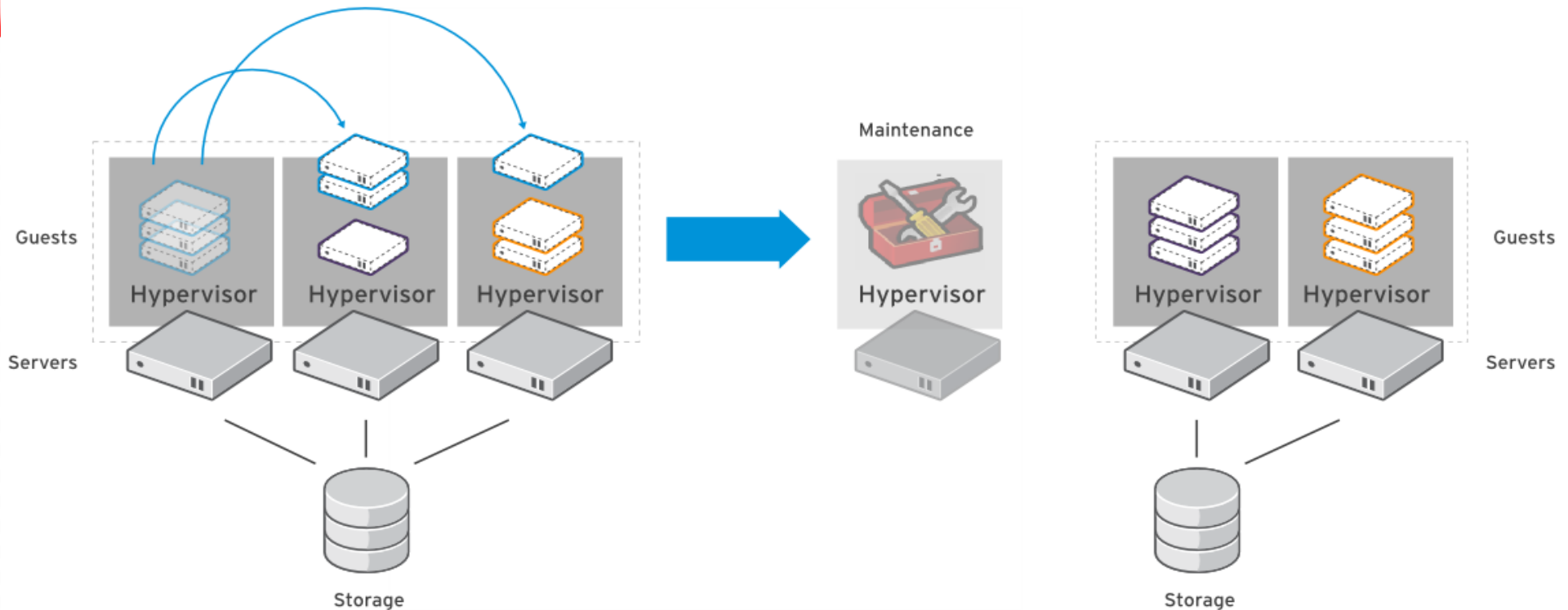
“Mantenga un uso consistente de los recursos a lo largo de todo el Data Center”

#RED HAT ENTERPRISE VIRTUALIZATION POWER SAVER



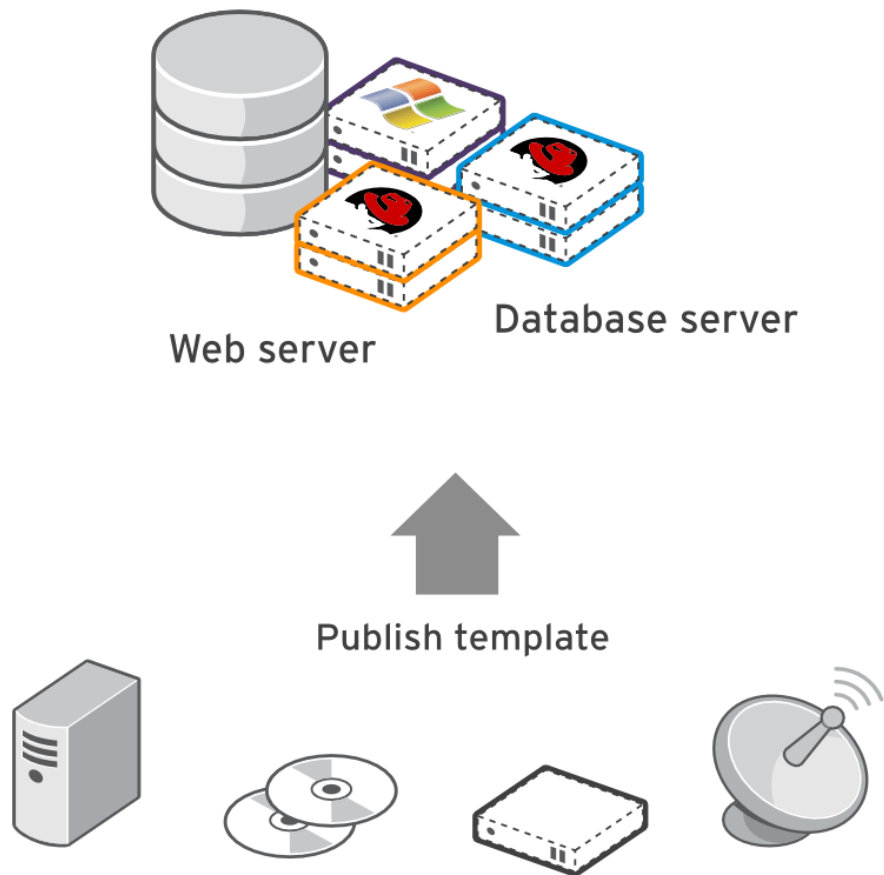
“Defina políticas para optimizar la carga de trabajo en un número menor de servidores durante las horas de menor stress”

#RED HAT ENTERPRISE VIRTUALIZATION MAINTENANCE MANAGER



- Efectúe tareas de mantenimiento sin afectar el uptime
- Coloque un host en “modo mantenimiento”
 - Automáticamente “live migrate” VMs
- Envío de Alertas al administrador

RED HAT ENTERPRISE VIRTUALIZATION IMAGE MANAGER

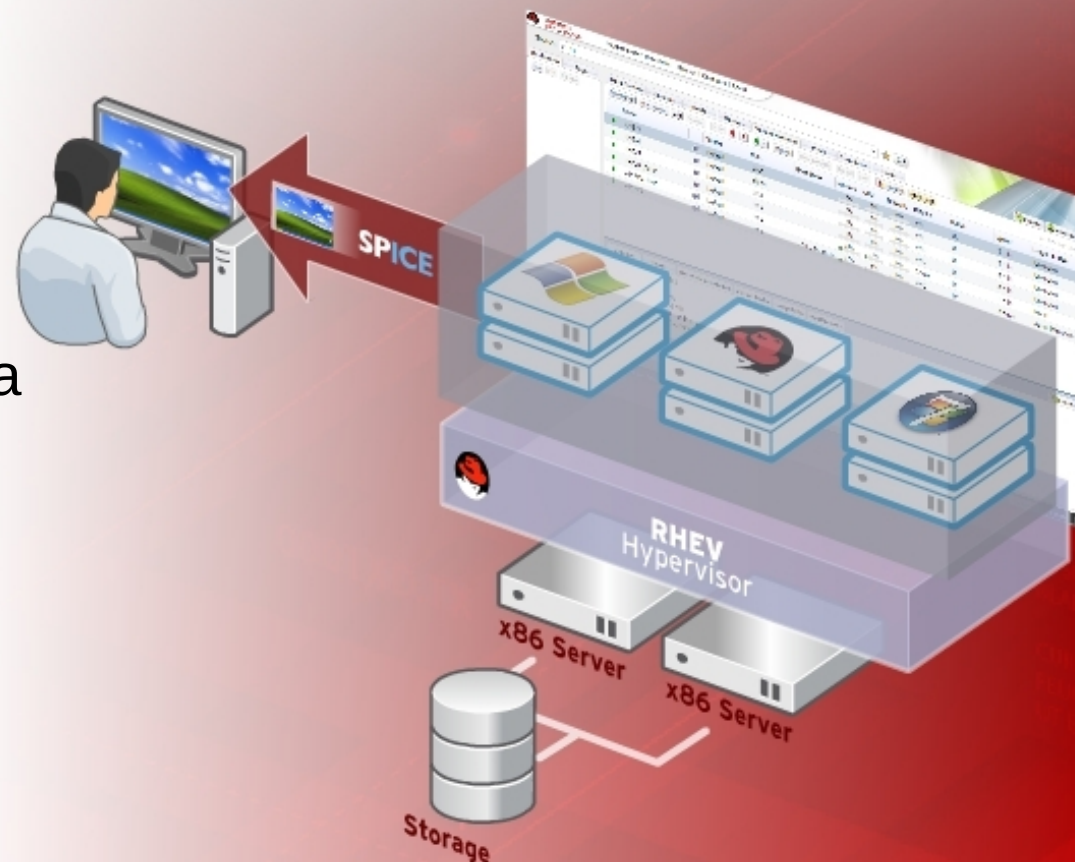


- Implemente rápidamente nuevas VMs basadas en templates
- Cree VM Templates a mano, automáticamente desde VMs existentes, con Red Hat Network Satellite, o herramientas de 3^{ras} partes
- Thin Provisioning
- Virtual Machine snapshots

VIRTUALIZACION DE ESCRITORIOS INTEGRADA



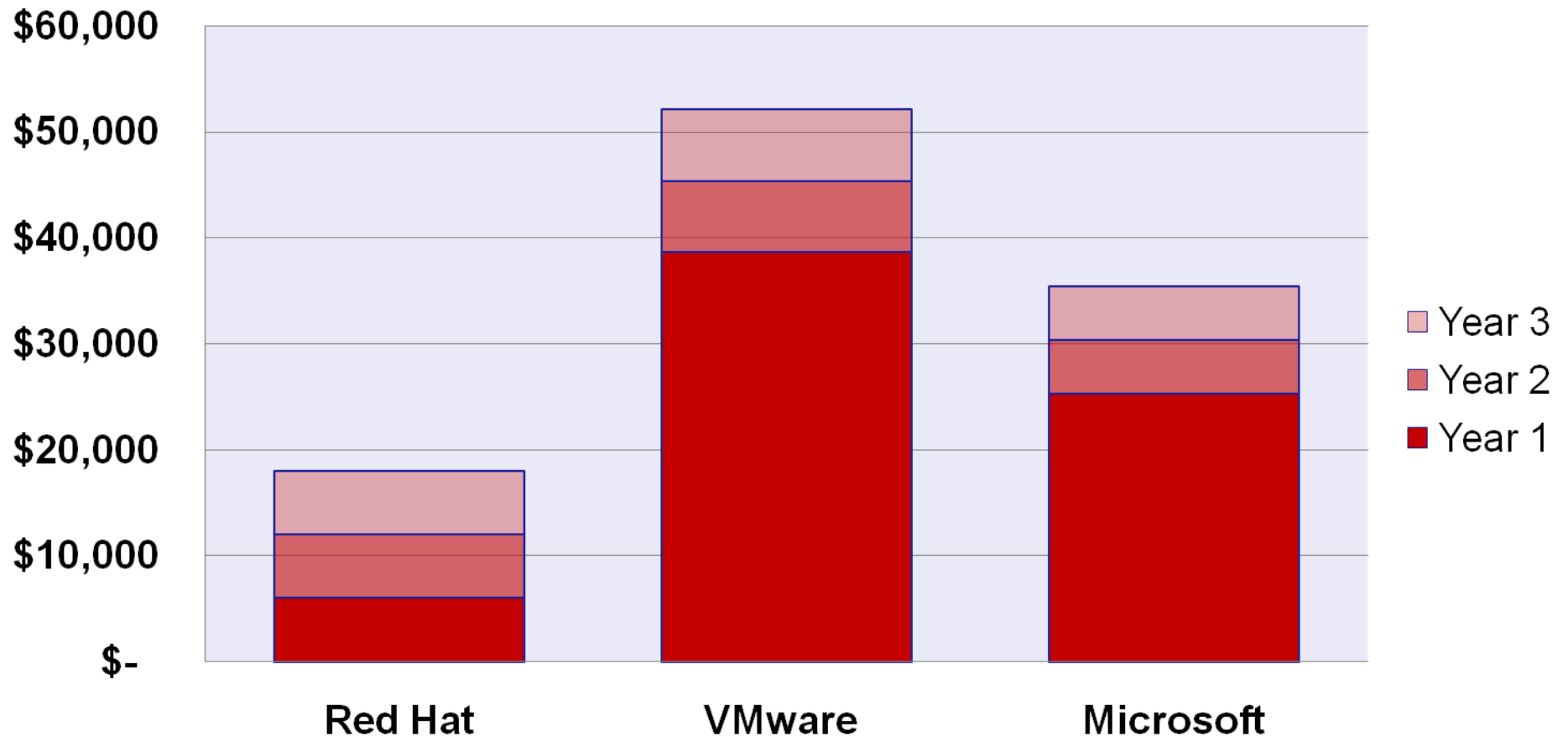
- Administración, seguridad y políticas centralizadas
- Experiencia similar a “real PC”
- Múltiples monitores
- Video con calidad HD
- Audio/Video Bi-directional (para VoIP o video-conferencia)
- Soporte USB-forwarding



#RED HAT ENTERPRISE VIRTUALIZATION FOR SERVERS PRICING



Three Year Cost (Virtualization Software and Support)



<http://www.redhat.com/rhev/server/cost>

RHEV 3.0 VENTAJAS



redhat.



- Performance superior
- 50% a 75% menores costos
- Open source (no propietario, no lock-in) con KVM, OVA & oVirt
- No vRAM licensing
- Mayor escalabilidad
- Reporte histórico integrado
- Self-service user portal y power-user portal
- Virtual servers & desktops en el mismo producto
- Seguridad avanzada a nivel de Kernel con sVirt y SELinux

#RED HAT ENTERPRISE VIRTUALIZATION

BENEFICIOS



Reducción de costos

- Mejora la utilización del hardware
- Reducción de costo de hardware
- Reducción de costos de energía y refrigeración
- Mayor eficiencia de management

Performance

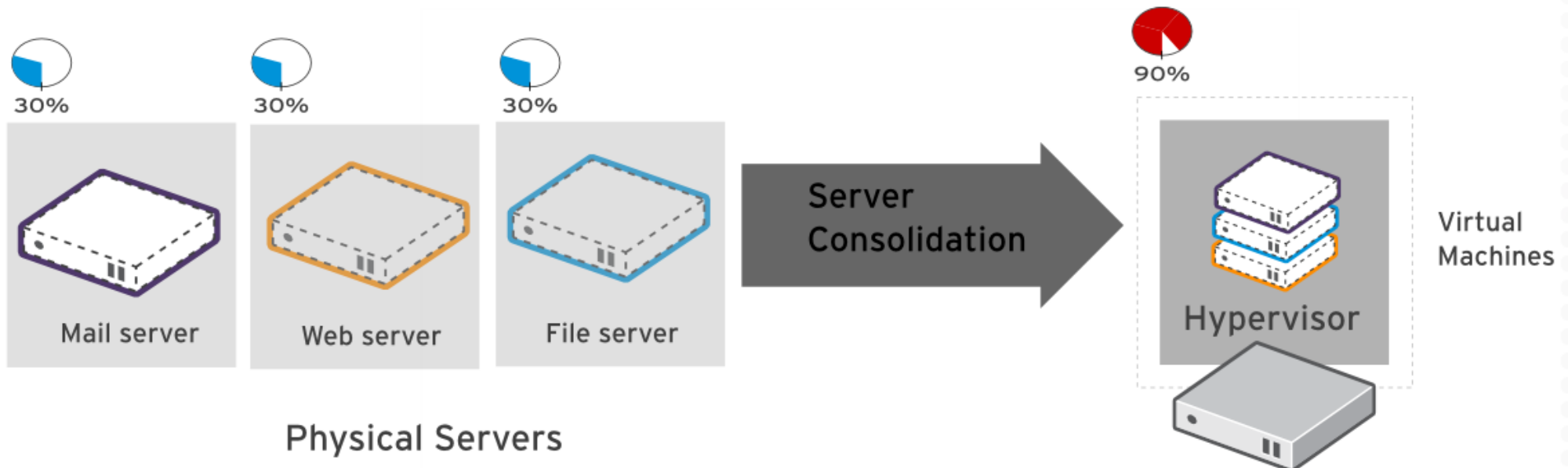
- Inigualable por la competencia

Mejore los tiempos de respuesta

- Necesidades de negocio
- Escalabilidad
- Aprovisionamiento
- Business continuity

Seguridad

- SO: Svirt, Execshield
- Aislamiento de VMs





RED HAT CLOUD

EVOLUCION EN LA NUBE



redhat.



by Red Hat

FASE 1: CONSOLIDAR VIRTUALICE LOS SERVIDORES

La Virtualización aumenta la utilización de servidores físicos y provee un fundamento para el cómputo en la Nube,



FASE 2: AUTOMATIZAR CONSTRUYA UNA NUBE PRIVADA

Una nube privada abstraee múltiples instancias de recursos virtuales en pools elásticos de cómputo con provisionamiento y servicios escalables



FASE 3: UTILIZAR AGREGUE UNA NUBE PÚBLICA

La arquitectura de nube de Red Hat permite administrar e integrar varios sistemas de virtualización y proveedores de nubes públicas juntos.



RED HAT CLOUD PORTFOLIO



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RED HAT CLOUD



CLOUDFORMS™

by Red Hat® Cloud

BUILD AND MANAGE IAAS

- Build and Manage Hybrid Clouds
- Build, Manage, and Launch Apps
- Provide Cloud Infrastructure Services

APPLICATION LIFECYCLE MANAGEMENT

COMPUTE RESOURCE MANAGEMENT

INFRASTRUCTURE SERVICES



OPENSHIFT™

PaaS by Red Hat® Cloud

PAAS FOR DEVELOPERS USING OPEN SOURCE

- A quality enterprise PaaS built on enterprise-class technology
- A developer's fast track to the cloud
- An unprecedented level of choice and portability

EXPRESS – FREE AND EASY CLOUD DEPLOYMENTS

FLEX – AUTO-SCALE NEW AND EXISTING APPS IN THE CLOUD

POWER – COMPLETE CONTROL OVER CLOUD DEPLOYMENTS

CONSTRUYENDO Y ADMINISTRANDO CLOUDS

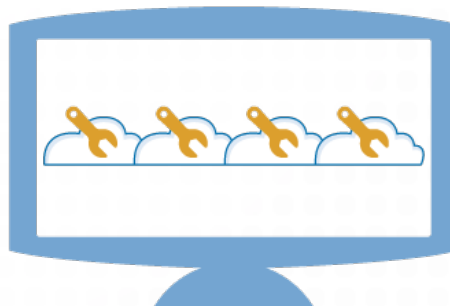


BUILD AND MANAGE CLOUDS

1 USER LOG-IN



2 ADD CLOUD PROVIDERS AND SERVICES



3 APPLICATION TEMPLATE CREATION

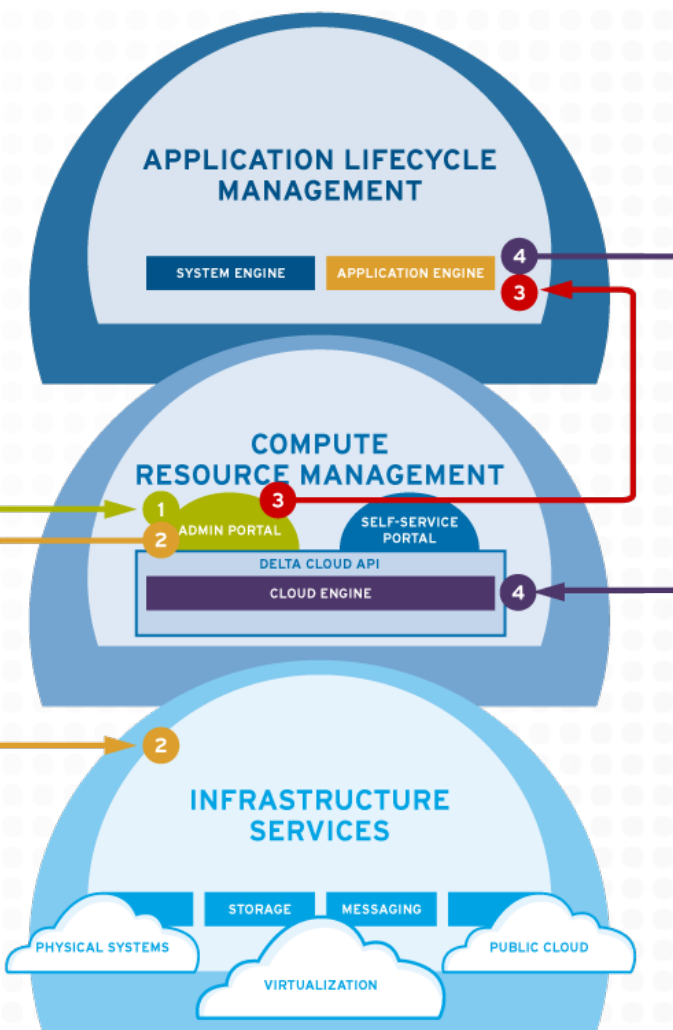
JBOSS DEVELOPMENT ENVIRONMENT



4 CREATE APPLICATION POLICY



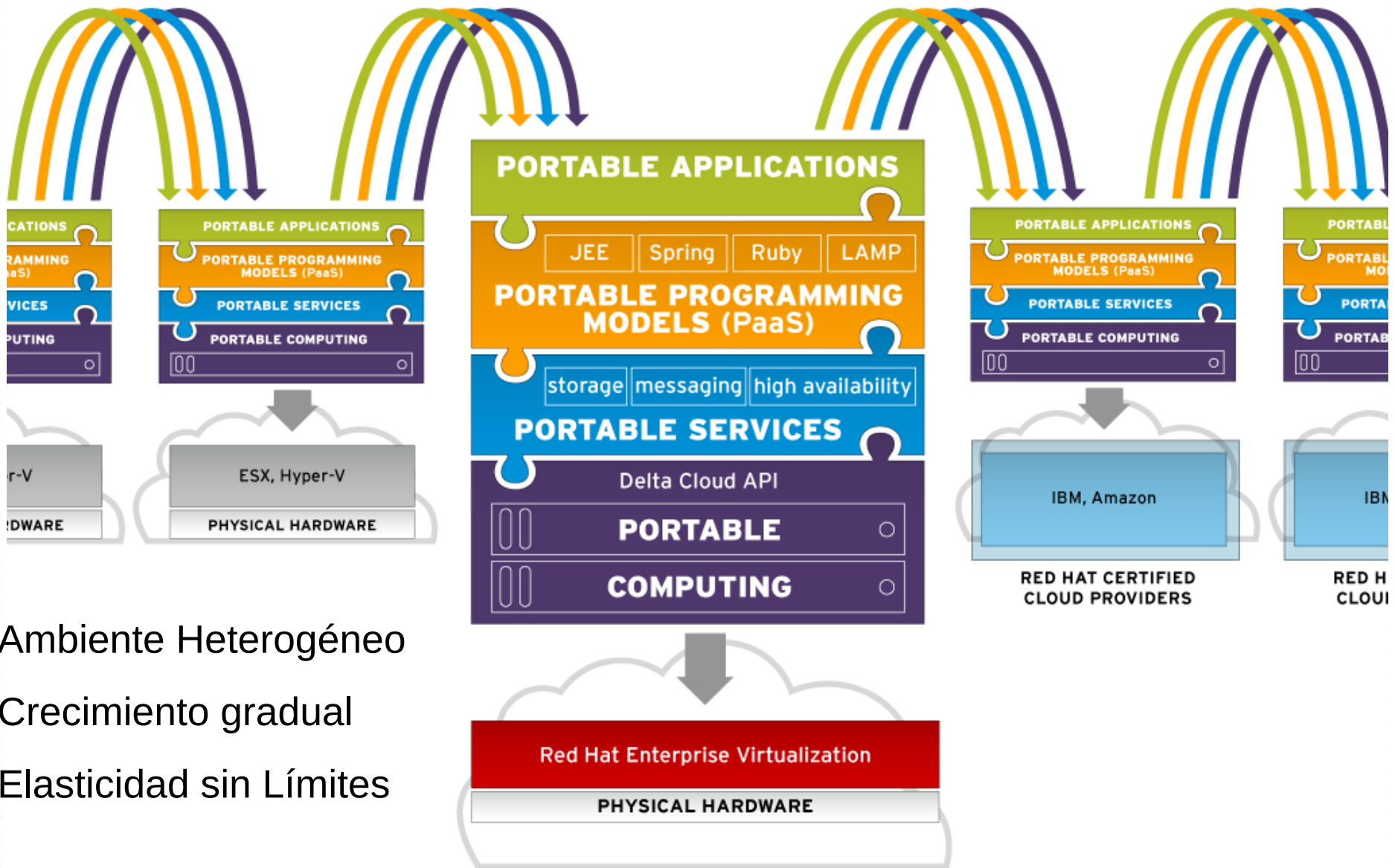
CLOUDFORMS DELIVERS IAAS



PORTABILIDAD DEL CLOUD



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Ambiente Heterogéneo
Crecimiento gradual
Elasticidad sin Límites

RED HAT CLOUD CUSTOMERS



*“Our decade-long partnership with Red Hat has always been focused on customer value and innovation. Today, we are extending this partnership to include cloud computing – broadening our reach and answering the strong customer demand for cloud computing services, Red Hat Enterprise Virtualization is an **optimal hypervisor technology for the infrastructure offerings on the IBM cloud.**”*

- Maria Azua, VP Cloud Computing Enablement at IBM



“We needed to change the model and make compute services expand and contract automatically.”

*“Red Hat gets it. **In kernel virtualization, virtualization management, the application orchestration and cloud abstraction layers, Red Hat get it.** Red Hat is giving customers the opportunity to innovate [in different ways] and leverage them where it makes sense.”*

- Derek Chen, Digital Operations, DreamWorks



¿ PREGUNTAS ?

The background is a solid red color. In the upper left quadrant, there is a cluster of bright white bokeh circles of varying sizes, some of which are slightly out of focus, creating a soft, glowing effect. The text "MUCHAS GRACIAS" is centered in the lower half of the image.

MUCHAS **GRACIAS**