



RHHI-V: Red Hat Hyperconverged Infrastructure for Virtualization

“La alternativa Open Source hiperconvergente”

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Tech Lab Madrid - 19 Diciembre 2018



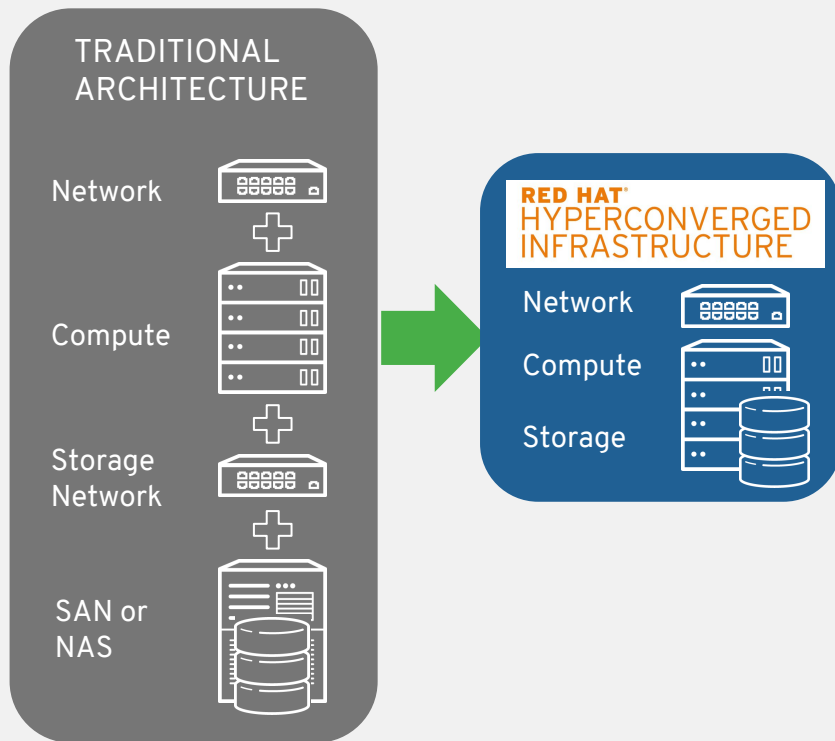
AGENDA

RED HAT® HYPERCONVERGED INFRASTRUCTURE

- Why Hyperconverged solutions are on the rise?
- Intro to components of RHHI-V:
 - Red Hat Gluster Storage
 - Red Hat Virtualization
- Red Hat Hyperconverged Infrastructure for Virtualization (RHHI-V):
 - Architecture
 - Deployment
- Live Demo

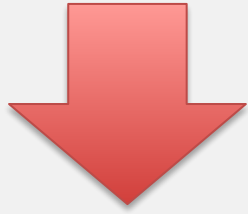
Why Hyperconverged solutions are on the rise?

THE BENEFITS OF HCI: INFRASTRUCTURE CONSOLIDATION & OPERATIONAL EFFICIENCY

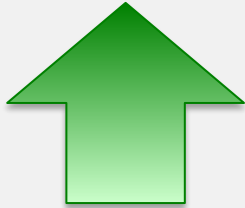


- Single budget for compute, storage, & networking
- Single team managing infrastructure
- Simplified planning & procurement
- Streamlined deployment & management
- Single support stack

TECTONIC SHIFT IN INFRASTRUCTURE



- Declining siloed infrastructure
 - Declined 16.7% in 2017
 - Expected to half 2020-2021



- Growing hyperconverged infrastructure
 - 69% YoY, \$10B to \$28B by 2022

BENEFITS OF HCI VS. ROLL YOUR OWN

80%

Time to value savings

*Time to production decreases from
1 year to ~10 Weeks*

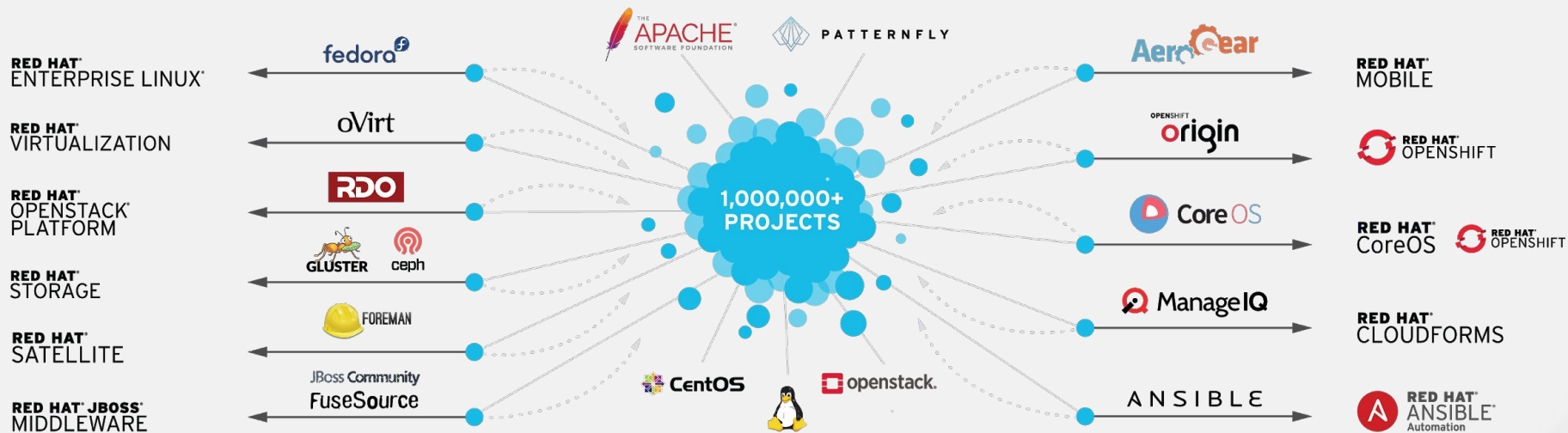
57%

OpEx Savings

*Each admin can manage 2.33x
the infrastructure*

Source: [Wikibon 2018](#)

OPEN SOURCE: WHERE INNOVATION LIVES

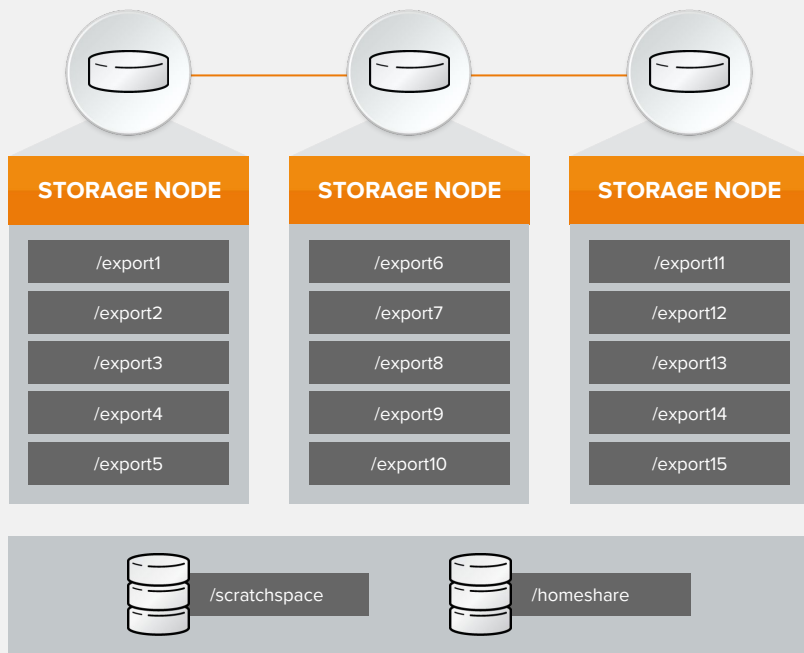


RHHI-V: WHAT IS IT AND WHAT DELIVERS ?

- A combination of Red Hat Virtualization and Red Hat Gluster Storage
- Consolidation of compute and storage on the same physical hardware
- Software Defined Networking
- Major savings are realized by removal of dedicated SAN infrastructures and its associated maintenance cost
- Single staff looking after both compute and storage - no silo's

RED HAT GLUSTER STORAGE

GlusterFS in one sentence



GlusterFS is a user-space software running on Linux that takes local filesystem directories of standard servers and federates them in a pool across the network, to make them accessible to clients a single mountpoint.

GLUSTERFS - DISTRIBUTED FILE STORAGE

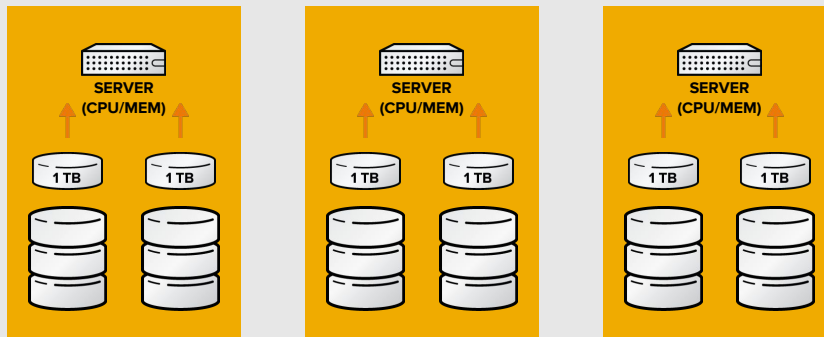
Single, Global namespace

- Deploys on Red Hat-supported servers and underlying storage: DAS, JBOD
- Scale-out linearly
- Replicate synchronously and asynchronous

Scale Up Capacity

Scale Out Performance, Capacity & Availability

RED HAT GLUSTER STORAGE FOR ON-PREMISE



RED HAT VIRTUALIZATION

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HISTORY OF RED HAT VIRTUALIZATION

RED HAT ENTERPRISE VIRTUALIZATION BEATS VMWARE
on the SPECvirt_sc2010 benchmark on both speed and scale

2010

RED HAT ENTERPRISE VIRTUALIZATION 3.1, 3.2
Windows guests NUMA collaboration with HP

2013

RED HAT ENTERPRISE VIRTUALIZATION 3.6
V-2-V migration tool

2015

RED HAT VIRTUALIZATION 4.1
Ansible integration
Native SDN

2017

2009
QUMRANET ACQUISITION

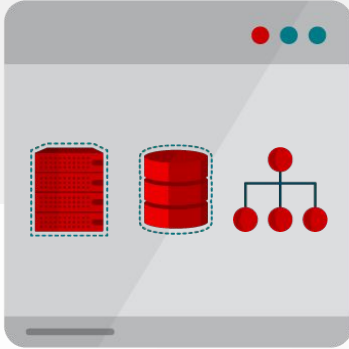
2012
RED HAT ENTERPRISE VIRTUALIZATION 3.0
More solution partners
RESTful API
Memory overcommit

2014
RED HAT ENTERPRISE VIRTUALIZATION 3.3, 3.4
OpenStack Neutron integration
Hot Plug CPU Affinity management
IBM Power support

2016
RED HAT VIRTUALIZATION 4.0
10th product release

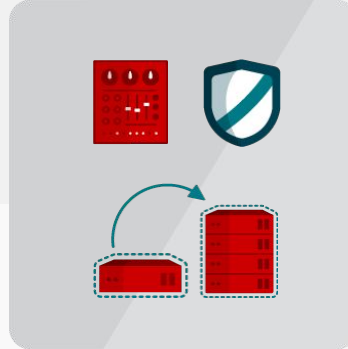
2018
RED HAT VIRTUALIZATION 4.2
Native DR
New metrics
Store new UI
Cisco ACI

RED HAT VIRTUALIZATION



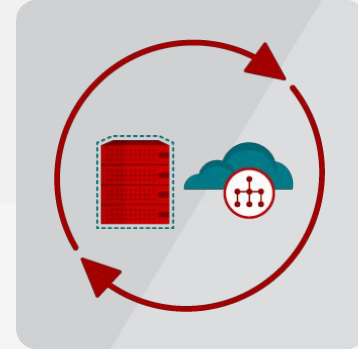
CENTRALIZED MANAGEMENT

Virtualized compute, network,
and storage resources



AUTOMATED WORKLOAD

Management, scalability,
and security features

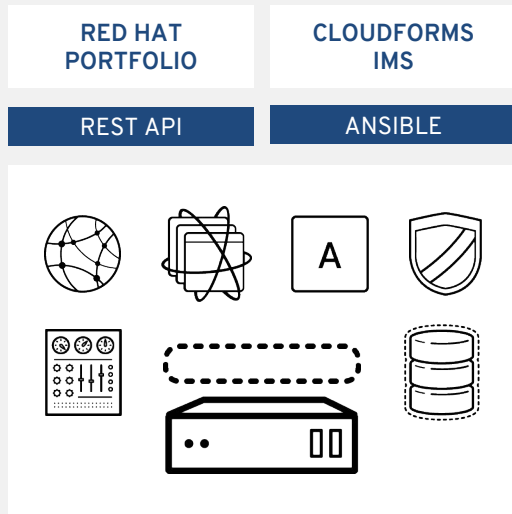


OPTIMIZES CURRENT I.T.

Integrates with future
technologies using RESTful API

EASY TO OPERATIONALIZE, EASY TO AUTOMATE, EASY ON THE BUDGET, NO VENDOR LOCK-IN

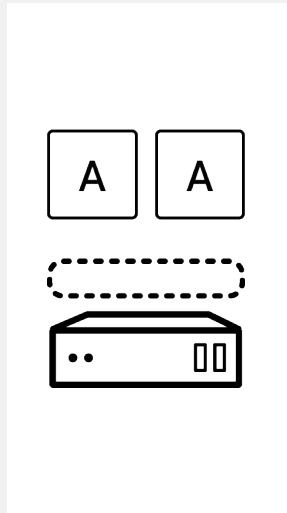
RHV and KVM HYPERVISOR



RED HAT VIRTUALIZATION

Centralized management for the KVM hypervisor, as well as compute, network, and storage resources

Red Hat Virtualization is built on Red Hat Enterprise Linux + KVM

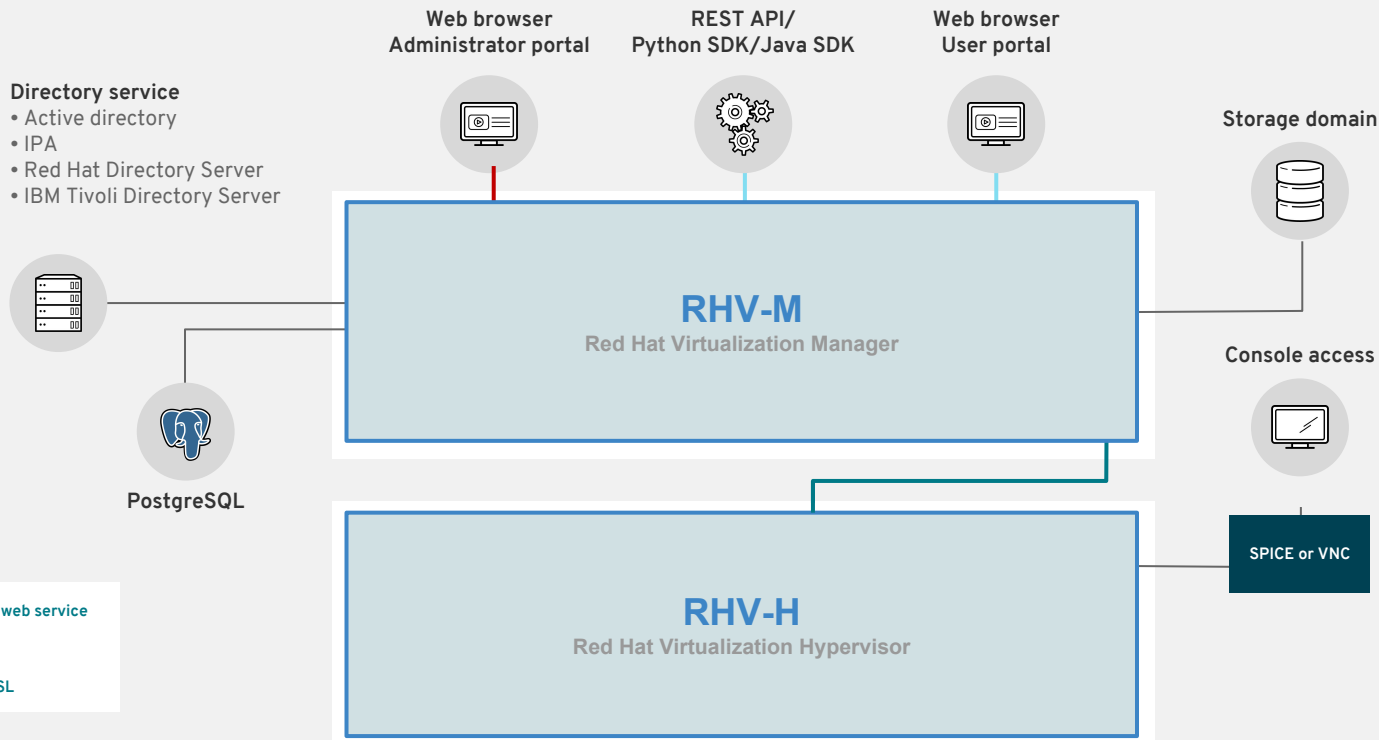


RED HAT ENTERPRISE LINUX + KVM

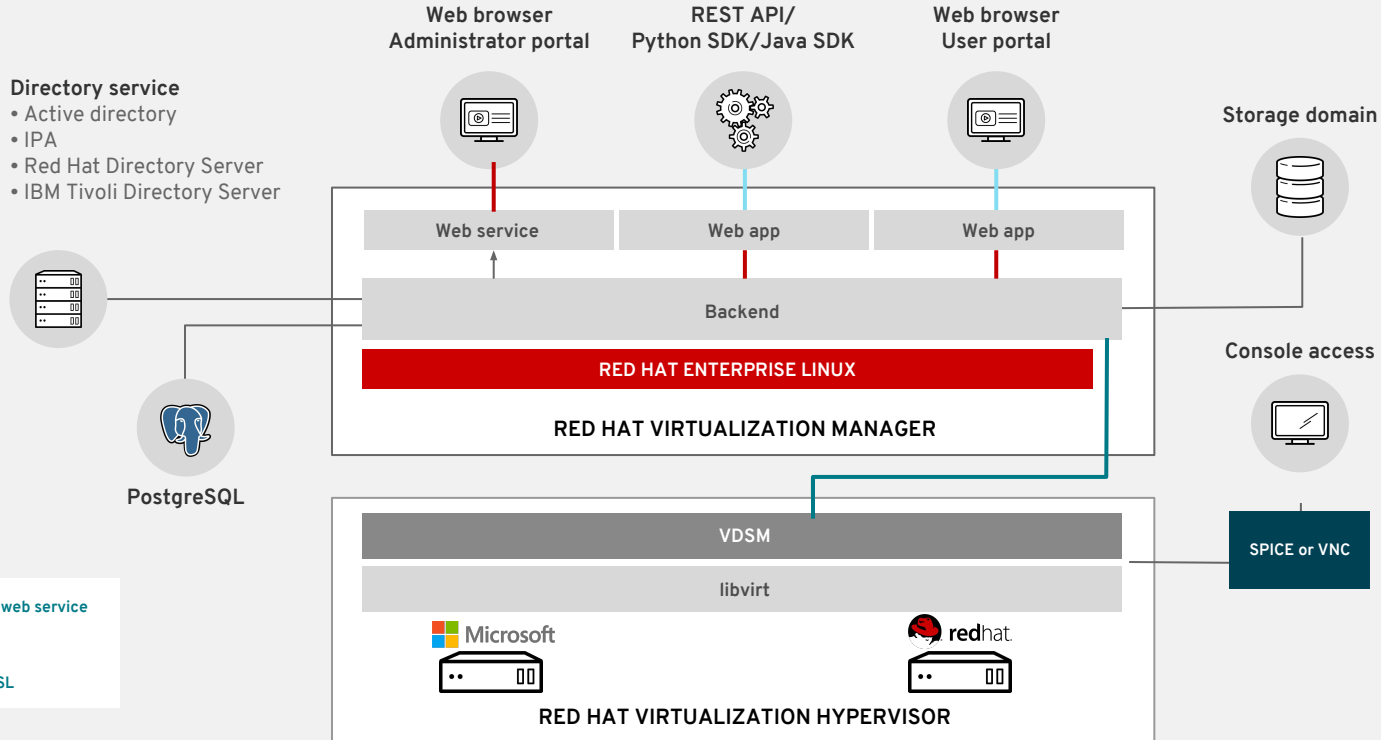
Basic virtualization

Limited number of VMs allowed

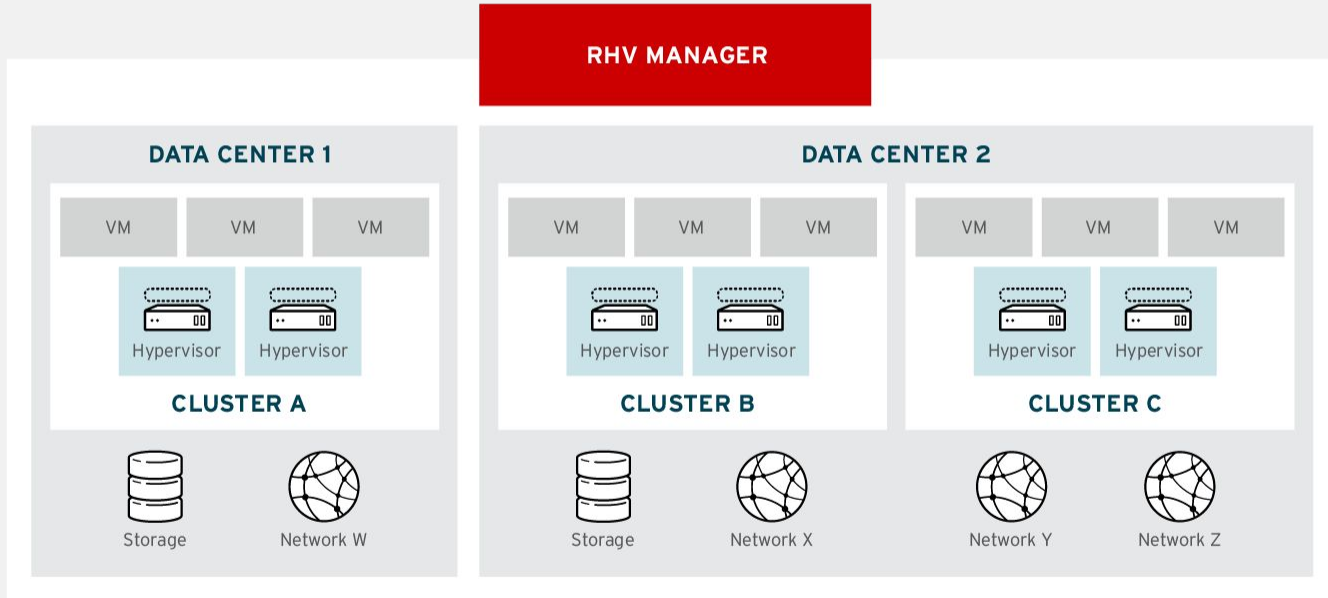
RED HAT VIRTUALIZATION OVERVIEW



RED HAT VIRTUALIZATION OVERVIEW



RHV CONCEPTS



RHV Integration with ANSIBLE



RED HAT®
VIRTUALIZATION

Module	Version
ovirt_auth	2.2
ovirt_vms	2.2
ovirt_disks	2.2
ovirt_datacenters	2.3
ovirt_clusters	2.3
ovirt_networks	2.3
ovirt_storage_domains	2.3
ovirt_hosts	2.3
ovirt_host_pm	2.3
ovirt_host_networks	2.3
ovirt_external_providers	2.3
ovirt_nics	2.3
ovirt_templates	2.3
ovirt_vmpools	2.3
ovirt_users	2.3
ovirt_groups	2.3
ovirt_permissions	2.3

Details of RHV & Ansible Integration

```
---  
- name: Create a template from qcow  
  hosts: localhost  
  
  vars:  
    engine_url: https://rhvm-engine.example.com/ovirt-engine/api  
    engine_user: admin@internal  
    engine_password: 123456  
    engine_cafile: /etc/pki/ovirt-engine/ca.pem  
    qcow_url: https://images-repo.example.com/images/myvm.qcow2  
    template_cluster: production  
    template_name: rhel7_template  
    template_memory: 4GiB  
    template_cpu: 2  
    template_disk_size: 10GiB  
    template_disk_storage: mydata
```

1. Credentials
(or manage with
Ansible Tower)

2. Template
definition
(and URL to
download from)

Details of RHV & Ansible Integration



2 HTTPd + ANTI-AFFINITY + HA DATABASE

```
---
- name: WebApp VMs
  hosts: localhost
  ...
  vars:
  ...
  httpd_vm:
    cluster: webapp
    domain: example.com
    template: rhel7_template
    memory: 2GiB
    state: running

  database_vm:
    cluster: webapp
    domain: example.com
    template: rhel7_template
    memory: 4GiB
    high_availability: true
    state: running

  affinity_groups:
  - name: httpd_affinity_group
    cluster: webapp
    vm_enforcing: true
    vm_rule: negative
    vms:
      - apache-vm-1
      - apache-vm-2

  vms:
  - name: apache-vm-1
    tag: httpd
    profile: "{{ httpd_vm }}"
  - name: apache-vm-2
    tag: httpd
    profile: "{{ httpd_vm }}"
  - name: postgresql-vm
    tag: db
    profile: "{{ database_vm }}"

  roles:
  - oVirt.vm-infra
```

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RED HAT
SUMMIT

MAY 8-10, 2018
BREAKOUT
SESSION

RED HAT VIRTUALIZATION SUITE

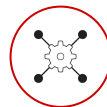
RED HAT® VIRTUALIZATION



Enterprise virtualization

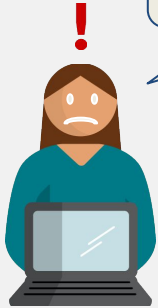


RED HAT® CLOUDFORMS



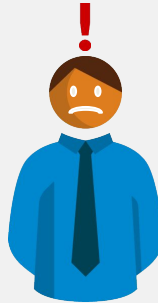
Orchestration and automation

WITHOUT AUTOMATION



“I need a database instance for the new business app”

We can't get systems fast enough!
I'm trying to help the business. IT just slows me down.



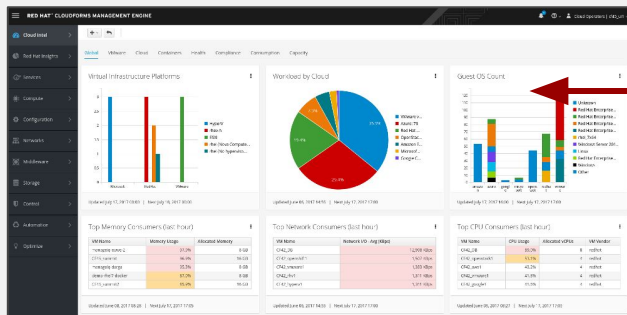
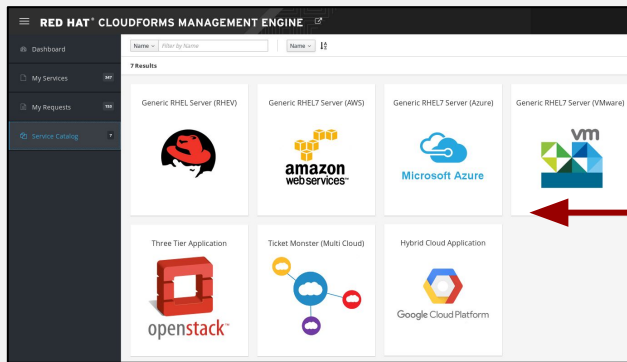
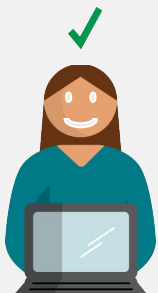
Do we have an IP address for this system?
Do we have the resources available for this request?
There's an emergency, I can't work on your request today.
Are you authorized to request these systems?

ACTIVITIES REQUIRED

- + **Process requests** for IT resource
- + **Clarify request** and collect needed information
- + **VM creation** from template
- + **Configuration** to desired state
- + **Security** and compliance process
- + **Non-work time** for weekends, emergencies, etc.

= WEEKS OR MONTHS

SERVICE AUTOMATION



ACTIVITIES REQUIRED

- + Self-service catalog
- + Automated approval workflow
- + provisioning
- + configuration
- + policy enforcement
- + No down time for weekends, emergencies, etc

= **MINUTES**

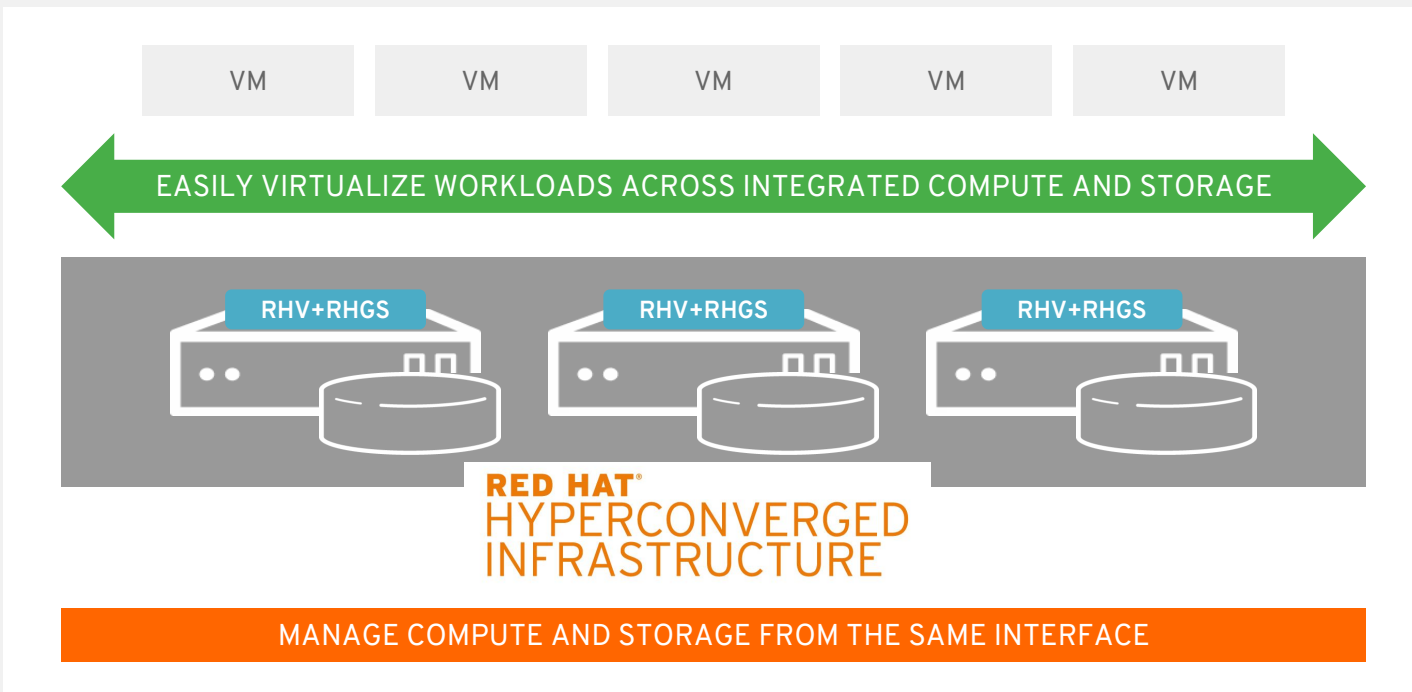
RHHI-V: Architecture

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RED HAT HYPERCONVERGED INFRASTRUCTURE

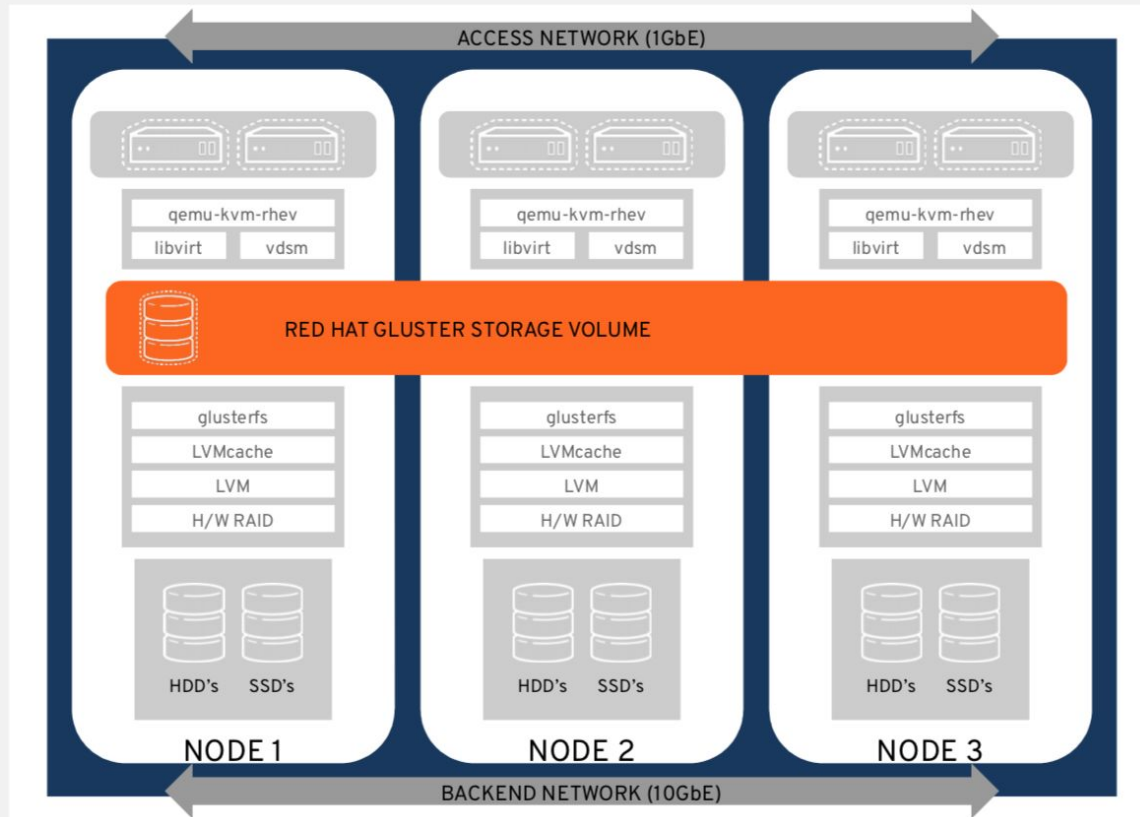
OPTIMIZE, INTEGRATE, MANAGE

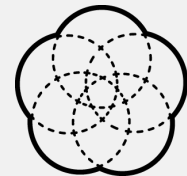


Red Hat Virtualization and Red Hat Gluster storage as complete offering for Compute and Storage.

ARCHITECTURAL POD VIEW

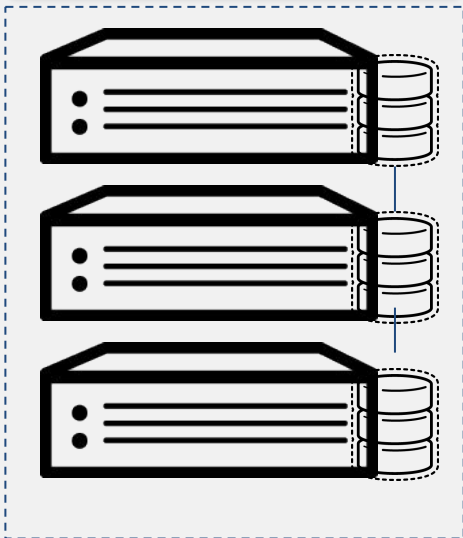
STARTING WITH 3 NODES UP TO 12 NODES





RHHI-V PRODUCT

RED HAT[®]
HYPERCONVERGED
INFRASTRUCTURE



Simple, Self Healing & Highly Available

- **3-node base** POD configuration
- RHGS with **3-way replica** & Arbiter configs
- SSD **cache** fronting spinning media
- HW & SW **monitoring**, fault correlation
- **Automated** metal-to-VM deployment

ANSIBLE
by Red Hat[®]

ADVANTAGES OF SUBSCRIPTION MODEL

	RHHI	HCI appliance	Proprietary SW HCI
SW portability (across HW or cloud)	✓	✗	✓
No feature degradation at expiration	✓	✓	✗
All-inclusive license/subscription	✓	✗	✗
No HW or SW lock-In	✓	✗	✗

✓ Ability/Common

✗ No Ability/Uncommon

SIGNIFICANT COST SAVINGS

Medium-sized environment

9 nodes, production support

3 years, 25% discount

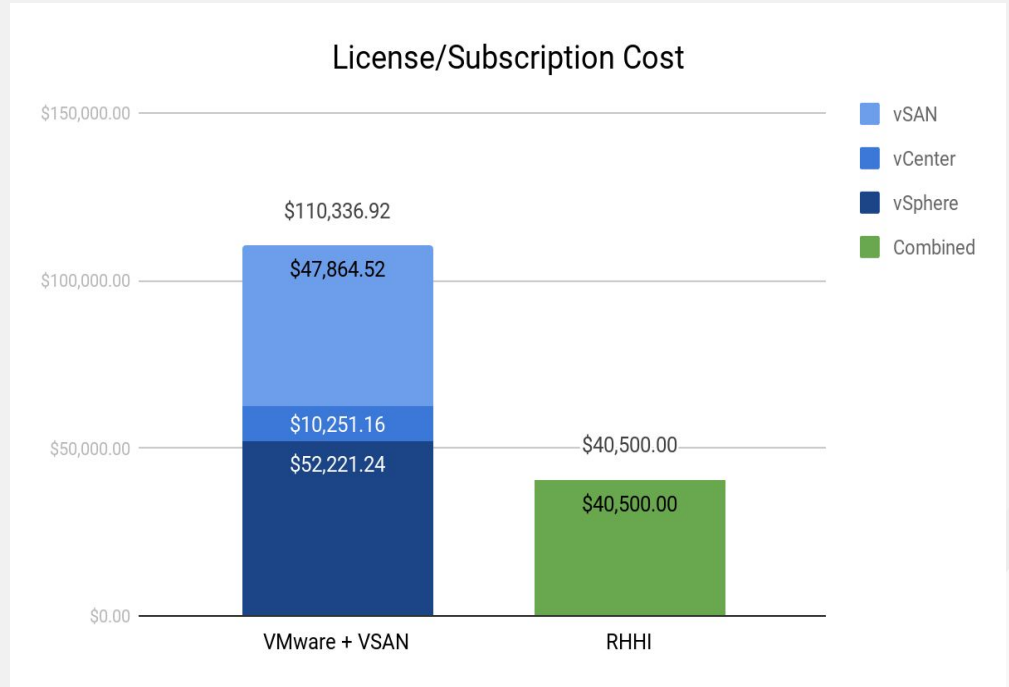
Must support encryption

VMware/VSAN ([Source](#)/[Source](#)/[Source](#))

- Cost - \$110,337

RHHI4V - \$40,500

- VMware 172% more expensive
- Open HCI = Lower dev costs
→ Customer savings



RHHI-V 1.5 HIGHLIGHTS



DATA REDUCTION

Dedup & compression with the Permabit technologies



VIRTUAL GPU

NVIDIA based vGPU support available!
Documented steps to support Nvidia vGPUs



AUTOMATED DR

Site to site failover capability driven
by Ansible



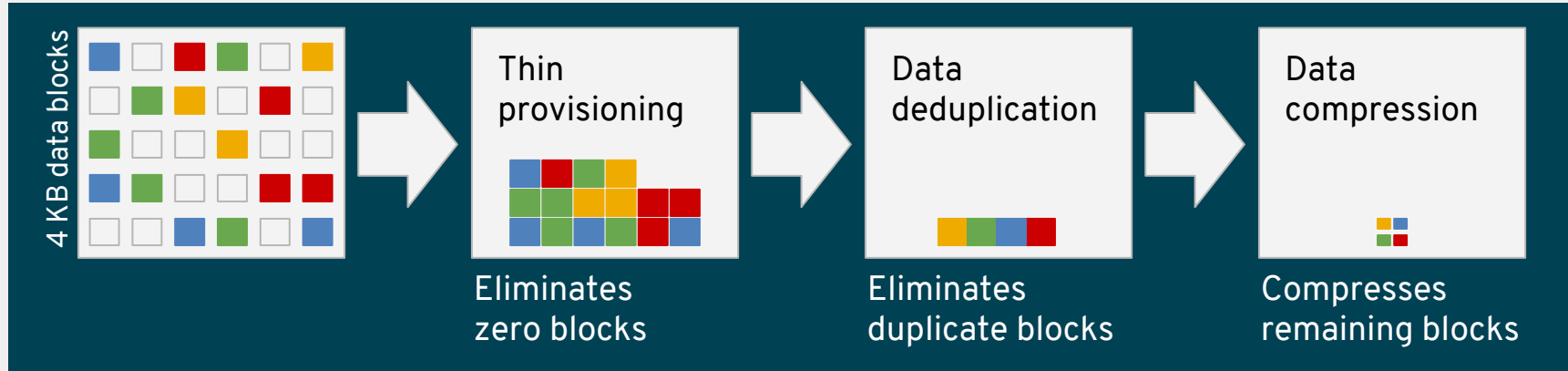
SINGLE NODE RHHI-V

There are use cases that require an all-in-one hyperconverged appliance

RHHI-V STORAGE EFFICIENCIES

DATA REDUCTION

WITH PERMABIT VDO AND INTEGRATED MANAGEMENT



VIRTUAL GRAPHICS PROCESSING UNIT

vGPU powered RHHI-V for AI, big data, rich graphics



Target markets include

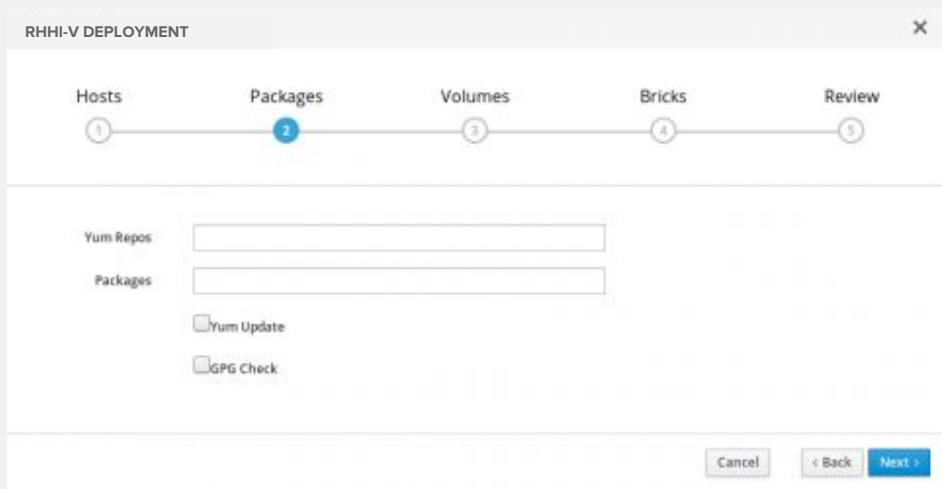
- Energy / Oil & Gas
- Sciences & Education
- Manufacturing & Engineering

→ *Support for Linux and Windows*

Easier Deployments Using Ansible

Deployment wizard via Ansible

- RHN credentials and channels
- LVM config (including lvmcache)
- Systemd service configuration
- Firewall ports
- Pool, volume configuration, tuning
- **Metal to running VM**



The screenshot shows a deployment wizard window titled "RHHI-V DEPLOYMENT". At the top, there is a progress bar with five steps: Hosts (1), Packages (2), Volumes (3), Bricks (4), and Review (5). Step 2, "Packages", is currently active and highlighted in blue. Below the progress bar, there are two input fields labeled "Yum Repos" and "Packages". Underneath these fields are two checkboxes: "Yum Update" and "GPG Check", both of which are currently unchecked. At the bottom right of the window, there are three buttons: "Cancel", "< Back", and "Next >".

ANSIBLE
by Red Hat®

VALIDATED HARDWARE CONFIGS

- RHHI-V Validated Configurations take the guesswork out of sizing for many workload profiles
- Built from systems in the trusted Red Hat HCL
- Program launches with a set of HPE DL Validated Configs

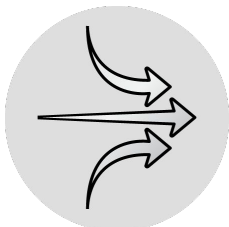
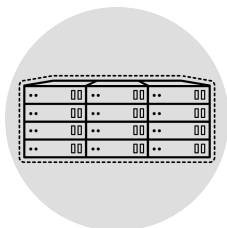
- Sizer Tool

SERVER CONSOLIDATION		
SIZING RESULTS	BASIC NODE (CLUSTER)	CAPACITY NODE (CLUSTER)
NUMBER OF NODES	6	3
RACK UNITS	1 U (6 U)	2 U (6 U)
CPUs (2 SOCKETS)	Intel Xeon Silver 4116 48 threads (288 threads)	Intel Xeon Platinum 8160 96 threads (288 threads)
MEMORY	128 GB (768 GB)	512 GB (1536 GB)
CLUSTER USABLE STORAGE	24.99 TB	40.86 TB
CPU COMMITMENT	69 %	69 %
MEMORY COMMITMENT	104%	52 %
STORAGE CAPACITY COMMITMENT	39 %	24 %




Hewlett Packard
Enterprise

INFRASTRUCTURE MIGRATION SOLUTION



Combines technologies, consulting services, and leading subscriptions to deliver significant infrastructure savings

Alternative platforms including Red Hat Virtualization and Red Hat OpenStack Platform

Provides a modern, flexible infrastructure supporting hybrid cloud and cloud-native architectures

Safely migrate from proprietary virtualization to flexible open source alternatives

<http://red.ht/possibilities>

INFRASTRUCTURE MIGRATION STRATEGY

Three aspects to successful migration



Planning and platform setup

- Define approach and architecture
- Operationalize alternative platform
- Identify and characterize VMs for migration



Migration tooling and approach

- Included comprehensive tooling for VM migration.
- Analyze workloads and develop an approach for migration with key stakeholders to ensure success



Migration execution

- Validate and refine migration approach
- Pilot migration of a representative set of workloads
- Set the stage to migrate thousands of workloads with a strategic approach and proven tools

RHHI 1.5 HARDWARE REQUIREMENTS

- **SMALL SETUP**

at least: **12 CORES**

at least: **64 GB RAM**

at most: **48 TB STORAGE**

- **MEDIUM SETUP**

at least: **12 CORES**

at least: **128 GB RAM**

at most: **64 TB STORAGE**

- **LARGE SETUP**

at least: **12 CORES**

at least: **256 GB RAM**

at most: **80 TB STORAGE**



RHHI 1.5 MINIMAL SETUP REQUIREMENTS

- **3-NODE DEPLOYMENT**

RHHI requires at least 3 physical machines

- **NETWORKING REQUIREMENTS**

2 NICs per node, split across 2 network switches

FQDN resolvable in both forward and reverse lookups

FRONT-end network: for client connectivity

BACK-end network: for internal storage and migration traffic

RHHI-V: Deployment

RHHI 1.5 SETUP OPTIONS

- **RHEL BASED INSTALLATION (LAYERED INSTALL)**
RHV being installed on top of RHEL
- **RHV HYPERVISOR BASED INSTALLATION**
ISO Appliance way of setup
- **CONVERSION OF EXISTING RHV HYPERVISOR**
Migration towards hyperconverged setup

RHHI 1.5 STORAGE SETUP REQUIREMENTS

- **SOLID STATE DISKS (SSD) RECOMMENDED**
4k native devices are not supported as RHV requires 512k blocks emulation
- **RAID**
Recommended setup for Spinning Disks: RAID6 (10+2) for most disk technology types. Raid cards must have protected write cache (flash or battery backup)
- **JBOD**
Only for SSD, NVMe flash disks

RHV HYPERVISOR INSTALLATION

- **RHV - RED HAT VIRTUALIZATION HOST**

Minimal operating system based on Red Hat Enterprise Linux
Designed to provide a simple set-up method



Contains packages required for the machine to act as a hypervisor

- **COCKPIT**

User interface for monitoring the host and performing administrative tasks



HTTPS://RHVHOST:9090



RED HAT VIRTUALIZATION HOST 4.2.3 (EL7.5)

User name

Password

Reuse my password for privileged tasks

► Other Options

Log In

Server: rhvh001.example.com

Log In with your server user account.

CONFIGURE RED HAT GLUSTER STORAGE




RED HAT VIRTUALIZATION HOST 4.2.3 (EL7.5) root ▾

Dashboard
Hosted Engine

RED HAT[®] VIRTUALIZATION

Hosted Engine Setup


Configure and install a highly-available virtual machine which will run oVirt Engine to manage multiple compute nodes, or add this system to an existing hosted engine cluster.



Hosted Engine

Deploy oVirt hosted engine on storage that has already been provisioned

[Start](#)



Hyperconverged

Configure gluster storage and oVirt hosted engine

[Start](#)



CONFIGURE RED HAT GLUSTER STORAGE

Gluster Deployment

Hosts FQDNs Packages Volumes Bricks Review

1 2 3 4 5 6

Host1

Host2

Host3

i gdeploy will login to gluster hosts as root user using passwordless ssh connections. Make sure, passwordless ssh is configured for all gluster hosts from the first host.



CONFIGURE RED HAT GLUSTER STORAGE

Gluster Deployment ×

Hosts FQDNs Packages Volumes Bricks Review

① ——— ② ——— ③ ——— ④ ——— ⑤ ——— ⑥

Host2

Host3

i If you want to add the additional hosts automatically to Hosted Engine, then please provide FQDN or IP address to use.

CONFIGURE RED HAT GLUSTER STORAGE



Gluster Deployment ×

Hosts FQDNs Packages Volumes Bricks Review

① ——— ② ——— ③ ——— ④ ——— ⑤ ——— ⑥

Repositories

Packages

Update Hosts



CONFIGURE RED HAT GLUSTER STORAGE

Gluster Deployment

Hosts FQDNs Packages **Volumes** Bricks Review

① — ② — ③ — ④ — ⑤ — ⑥

Name	Volume Type	Arbiter	Brick Dirs	
engine	Replicate	<input type="checkbox"/>	/gluster_bricks/engine/engine	
data	Replicate	<input checked="" type="checkbox"/>	/gluster_bricks/data/data	
vmstore	Replicate	<input checked="" type="checkbox"/>	/gluster_bricks/vmstore/vmsto	

[Add Volume](#)

i First volume in the list will be used for hosted-engine deployment

Cancel < Back **Next >**



CONFIGURE RED HAT GLUSTER STORAGE

Gluster Deployment

Hosts FQDNs Packages Volumes Bricks Review

1 — 2 — 3 — 4 — 5 — 6

Raid Information ⓘ

Raid Type: RAID 6

Stripe Size(KB): 256

Data Disk Count: 12

Brick Configuration

Select Host: 10.70.41.139

LV Name	Device Name	Size(GB)	Thinp	Mount Point	Enable Dedupe & Compression	Logical Size(GB)
engine	sdb	100	<input type="checkbox"/>	/gluster_bricks/engine	<input checked="" type="checkbox"/>	1000
data	sdb	300	<input checked="" type="checkbox"/>	/gluster_bricks/data	<input checked="" type="checkbox"/>	3000
vmstore	sdb	300	<input checked="" type="checkbox"/>	/gluster_bricks/vmstore	<input checked="" type="checkbox"/>	3000

Configure LV Cache

SSD: sdd

LV Size(GB): 1

Cache Mode ⓘ: writethrough

Cancel < Back Next >



CONFIGURE RED HAT GLUSTER STORAGE

Gluster Deployment

Hosts FQDNs Packages Volumes Bricks Review

① ————— ② ————— ③ ————— ④ ————— ⑤ ————— ⑥

Generated Gdeploy configuration : /var/lib/ovirt-hosted-engine-setup/gdeploy/gdeployConfig.conf Edit Reload

```
[vdo1:192.168.0.101]
action=create
devices=sdb
names=vdo_sdb
logicalsize=7000G
blockmapcachesize=128M
readcache=enabled
readcachesize=20M
emulate512=on
writepolicy=auto
ignore_vdo_errors=no
slabsize=32G
```

Cancel < Back Deploy


DEPLOYED RED HAT GLUSTER STORAGE



Gluster Deployment ×

Hosts Packages Volumes Bricks Review

① ——— ② ——— ③ ——— ④ ——— ⑤



Successfully deployed Gluster

[Continue to Hosted Engine Deployment](#)

Cancel < Back Close

A screenshot of a web-based deployment interface for Gluster storage. The window title is "Gluster Deployment" with a close button. A progress bar at the top shows five steps: Hosts (1), Packages (2), Volumes (3), Bricks (4), and Review (5). The Review step is highlighted in blue. Below the progress bar, a large green checkmark icon is centered, indicating successful deployment. Underneath the icon, the text "Successfully deployed Gluster" is displayed. A blue button labeled "Continue to Hosted Engine Deployment" is centered below the text. At the bottom right of the window, there are three buttons: "Cancel", "< Back", and "Close".



DEPLOYMENT SELF-HOSTED ENGINE AKA RHV-M

PREREQUISITES

1. Configure Red Hat Gluster Storage for Hosted Engine
2. Gather information needed for Hosted Engine deployment:

IP address for a pingable gateway to the virtualization host

IP address of the front-end management network

Fully-qualified domain name (FQDN) for the Hosted Engine appliance

MAC address that resolves to the static FQDN and IP address

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

1 2 3 4 5

VM Settings

Engine VM FQDN	<input type="text" value="engine.example.com"/>
MAC Address	<input type="text" value="00:xx:xx:xx:xx:xx"/>
Network Configuration	<input type="text" value="DHCP"/>
Bridge Interface	<input type="text" value="ens2f0"/>
Root Password	<input type="password" value="••••••"/>
Root SSH Access	<input type="text" value="Yes"/>
Number of Virtual CPUs	<input type="text" value="4"/>
Memory Size (MiB)	<input type="text" value="16348"/> 62,047MB available

> Advanced

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤

Engine Credentials

Admin Portal Password

Notification Settings

Server Name

Server Port Number

Sender E-Mail Address

Recipient E-Mail Addresses - +

Cancel < Back Next >

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤

Please review the configuration. Once you click the 'Prepare VM' button, a local virtual machine will be started and used to prepare the management services and their data. This operation may take some time depending on your hardware.

▼ VM

- Engine FQDN: engine.example.com
- MAC Address: 00:xx:xx:xx:xx:xx
- Network Configuration: Static
- VM IP Address: 192.168.0.104
- Gateway Address: 192.168.0.104
- DNS Servers: 192.168.0.254
- Root User SSH Access: yes
- Number of Virtual CPUs: 4
- Memory Size (MiB): 16348
- Root User SSH Public Key: (None)
- Add Lines to /etc/hosts: yes
- Bridge Name: ovirtmgmt

▼ Engine

- SMTP Server Name: localhost
- SMTP Server Port Number: 25
- Sender E-Mail Address: root@localhost

Cancel < Back Prepare VM

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤

Deployment in progress

```
[ INFO ] TASK [Gathering Facts]
[ INFO ] ok: [localhost]
[ INFO ] TASK [Stop libvirt service]
[ INFO ] changed: [localhost]
[ INFO ] TASK [Drop vdsm config statements]
[ INFO ] TASK [Restore initial abrt config files]
```

Cancel < Back Prepare VM


DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment ✕

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤



Execution completed successfully. Please proceed to the next step.

A screenshot of a 'Hosted Engine Deployment' window. At the top, the title bar reads 'Hosted Engine Deployment' with a close button. Below the title bar is a progress bar with five steps: 'VM', 'Engine', 'Prepare VM', 'Storage', and 'Finish'. Each step is represented by a circle with a number inside. The 'Prepare VM' step (number 3) is highlighted with a blue background, indicating it is the current step. Below the progress bar, a large green checkmark icon is centered, signifying successful completion. Underneath the icon, the text reads 'Execution completed successfully. Please proceed to the next step.' At the bottom right of the window, there are three buttons: 'Cancel', '< Back', and 'Next >'. The 'Next >' button is highlighted in blue.

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤

Please configure the storage domain that will be used to host the disk for the management VM. Please note that the management VM needs to be responsive and reliable enough to be able to manage all resources of your deployment, so highly available storage is preferred.

Storage Settings

Storage Type:

Storage Connection:

Mount Options:

> Advanced

DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤

Please review the configuration. Once you click the 'Finish Deployment' button, the management VM will be transferred to the configured storage and the configuration of your hosted engine cluster will be finalized. You will be able to use your hosted engine once this step finishes.

▼ Storage

Storage Type: glusterfs
Storage Domain Connection: node1.example.com:/engine
Mount Options: backup-volfile-servers=node2.example.com;node3.example.com
Disk Size (GiB): 58

Cancel < Back Finish Deployment



DEPLOYMENT SELF-HOSTED ENGINE

Hosted Engine Deployment

VM Engine Prepare VM Storage Finish

1 2 3 4 5

Deployment in progress

```
[ INFO ] TASK [Start ovirt-ha-agent service on the host]
[ INFO ] changed: [localhost]
[ INFO ] TASK [Wait for the engine to come up on the target VM]
[ INFO ] changed: [localhost]
[ INFO ] TASK [include_tasks]
[ INFO ] ok: [localhost]
[ INFO ] TASK [Obtain SSO token using username/password credentials]
[ INFO ] ok: [localhost]
[ INFO ] TASK [Check for the local bootstrap VM]
[ INFO ] ok: [localhost]
[ INFO ] TASK [Make the engine aware that the external VM is stopped]
[ INFO ] TASK [Wait for the local bootstrap VM to be down at engine eyes]
[ INFO ] ok: [localhost]
[ INFO ] TASK [Remove bootstrap external VM from the engine]
[ INFO ] changed: [localhost]
[ INFO ] TASK [Include custom tasks for after setup customization]
[ INFO ] TASK [Include Host vars]
[ INFO ] TASK [Set Engine public key as authorized key without validating the TLS/SSL certificates]
[ INFO ] TASK [Add additional gluster hosts to engine]
[ INFO ] TASK [Add additional glusterfs storage domains]
```

Cancel < Back Finish Deployment


DEPLOYMENT SELF-HOSTED ENGINE



Hosted Engine Deployment ✕

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤



Hosted engine deployment complete!

Close

The image shows a screenshot of a 'Hosted Engine Deployment' window. At the top, the title bar reads 'Hosted Engine Deployment' with a close button (✕). Below the title bar is a progress bar with five steps: 'VM', 'Engine', 'Prepare VM', 'Storage', and 'Finish'. Each step is represented by a numbered circle (1-5) connected by a horizontal line. The 'Finish' step (5) is highlighted with a blue background, indicating it is the current or final step. Below the progress bar, a large green checkmark icon is centered on the screen, with the text 'Hosted engine deployment complete!' underneath it. In the bottom right corner of the window, there is a blue button labeled 'Close'.

SELF-HOSTED ENGINE RUNNING



RED HAT VIRTUALIZATION HOST 4.1 (EL7.4)



Machines



Virtualization

Dashboard



Dashboard



Hosted
Engine



Virtual
Machines

Running VMs

VMs in Cluster

VDSM

Virtual Machines

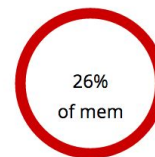
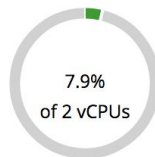


HostedEngine

Guest IPs: 192.168.1.50

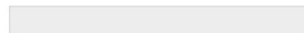
engine.example.com

Up for: 01:26:34

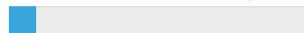


Disk:

Read (0.0 / 1.1)

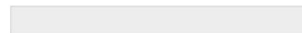


Write (0.1 / 1.1)

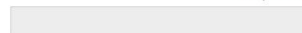


Network:

Rx (0.0 / 0)

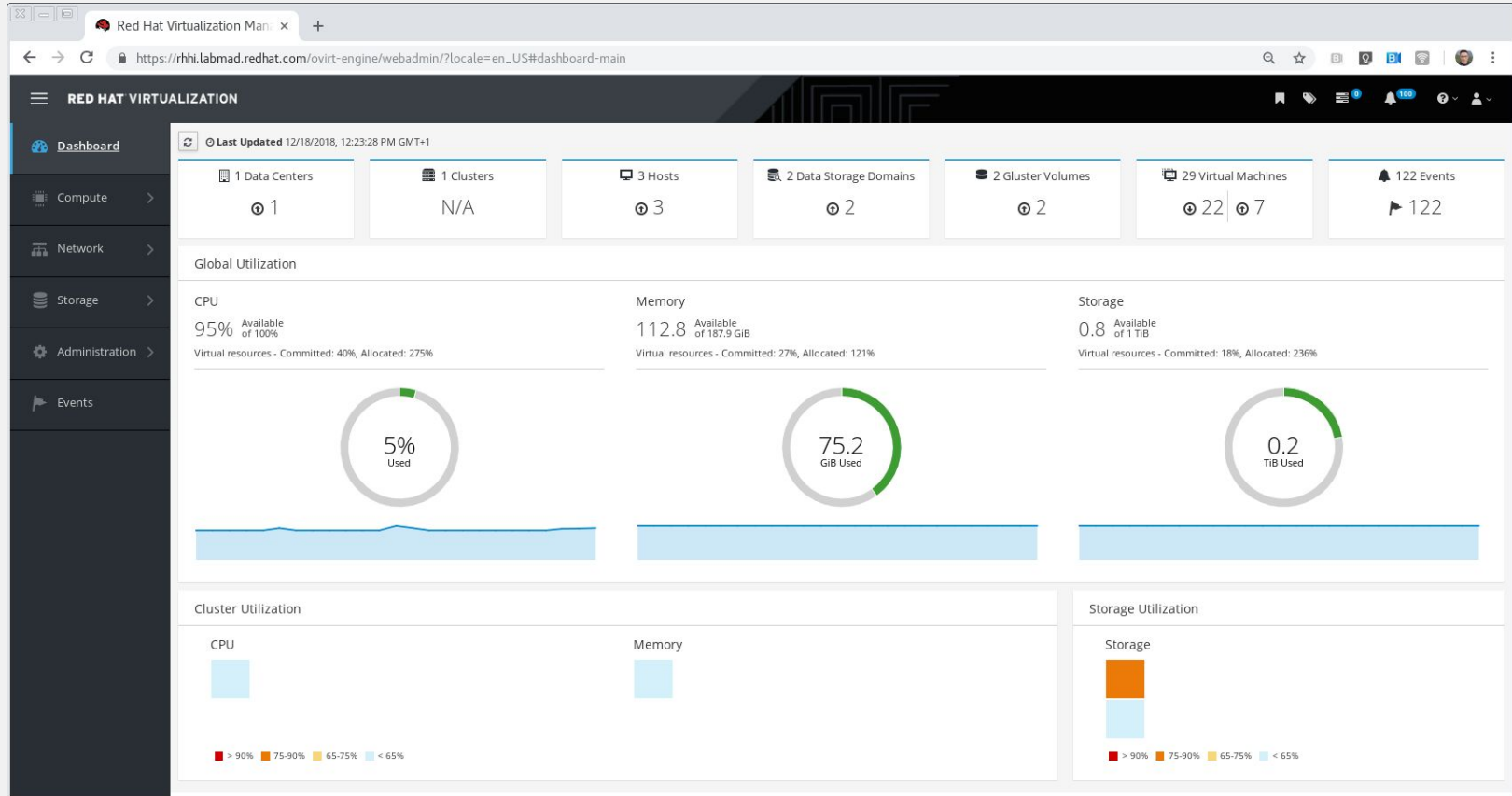


Tx (0.0 / 0)



RHHI HOSTED ENGINE

<https://rghi.labmad.redhat.com>



LIVE DEMO

THANK YOU!

OPEN HYBRID CLOUD

HYBRID CLOUD INFRASTRUCTURE



RED HAT
HYPERCONVERGED
INFRASTRUCTURE

CLOUD-NATIVE APP PLATFORMS



CLOUD MANAGEMENT AND AUTOMATION

