



TECHNICAL BREAKOUT - RHHI

RED HAT HYPERCONVERGED INFRASTRUCTURE

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AGENDA

RED HAT HYPERCONVERGED INFRASTRUCTURE

- INTRODUCTION
- RED HAT VIRTUALIZATION
- RED HAT GLUSTER STORAGE
- RED HAT HYPERCONVERGED INFRASTRUCTURE
- NEW FEATURES IN RHHI 2.0
- DEPLOYMENT PLANNING
- DEPLOYMENT STEPS



HYPERCONVERGED INFRASTRUCTURE

WHAT IS IT AND WHAT DOES IT DELIVER ?

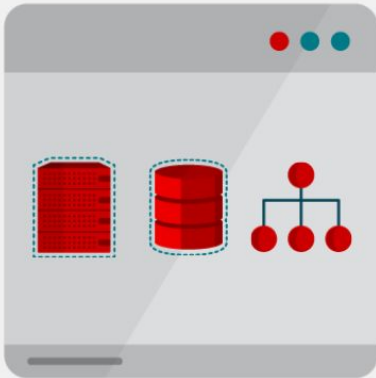
- A combination of Red Hat Virtualization and Red Hat Gluster Storage
- Consolidation of compute and storage on the same physical hardware
- Software Defined Networking
- Major savings are realized by removal of dedicated SAN infrastructures and its associated maintenance cost
- Single staff looking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

RHV

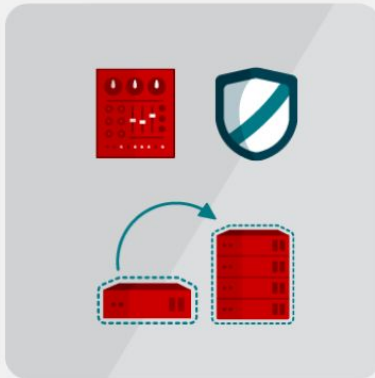
RED HAT
VIRTUALIZATION

RED HAT VIRTUALIZATION OVERVIEW

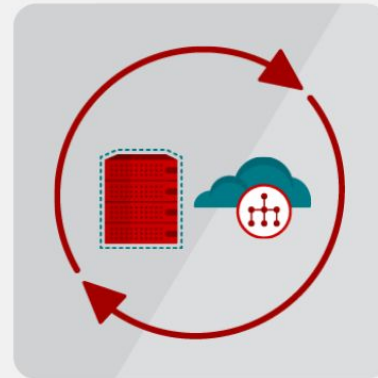
Red Hat Virtualization is an easy to use software-defined platform for virtualized Linux and Windows built on Red Hat Enterprise Linux and Kernel-based Virtual Machine (KVM) technologies



Centralized Management of virtualized compute, network and storage resources using the Open Source KVM Hypervisor



Automated workload management, scalability and security features for virtualized applications

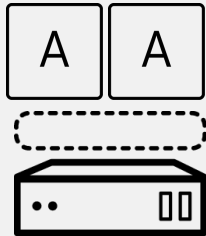


Engineered to optimize current IT and integrate with future technologies using a RESTful API

WHAT IS RHV ?

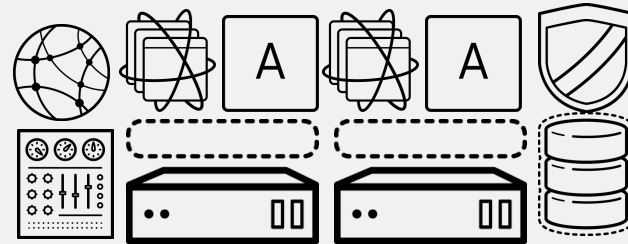
RHEL + KVM

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



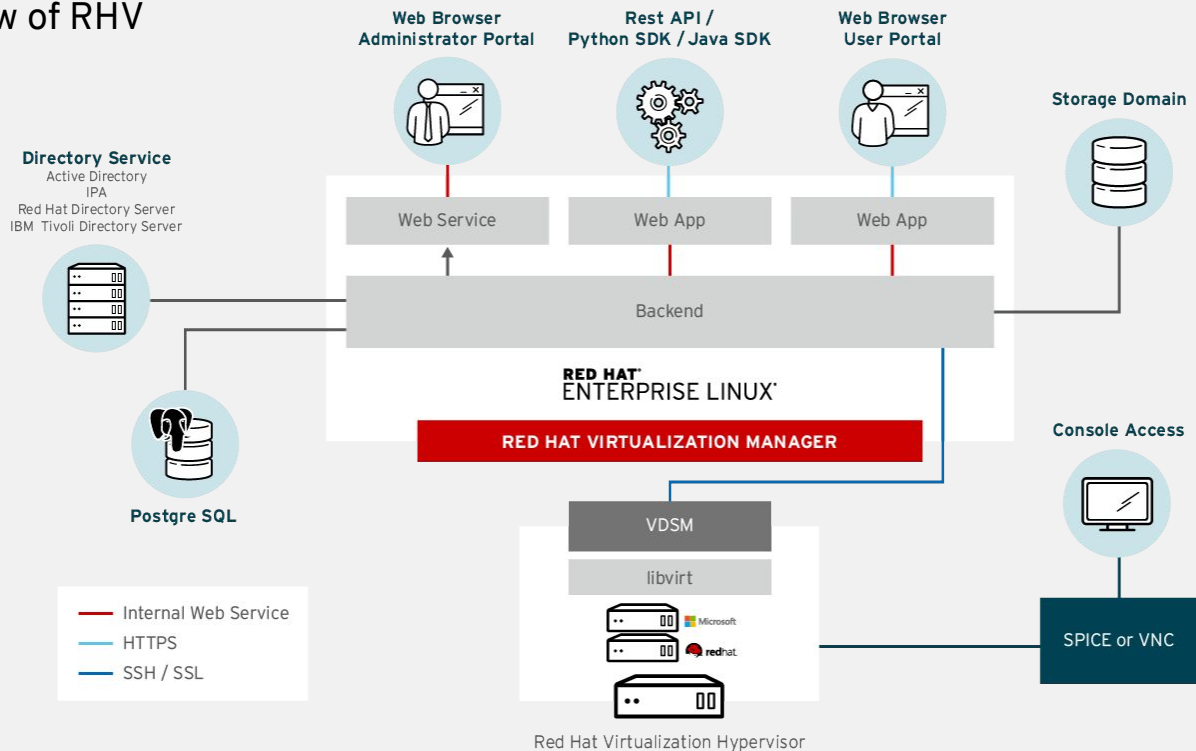
RED HAT VIRTUALIZATION

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



What is RHV?

Overview of RHV



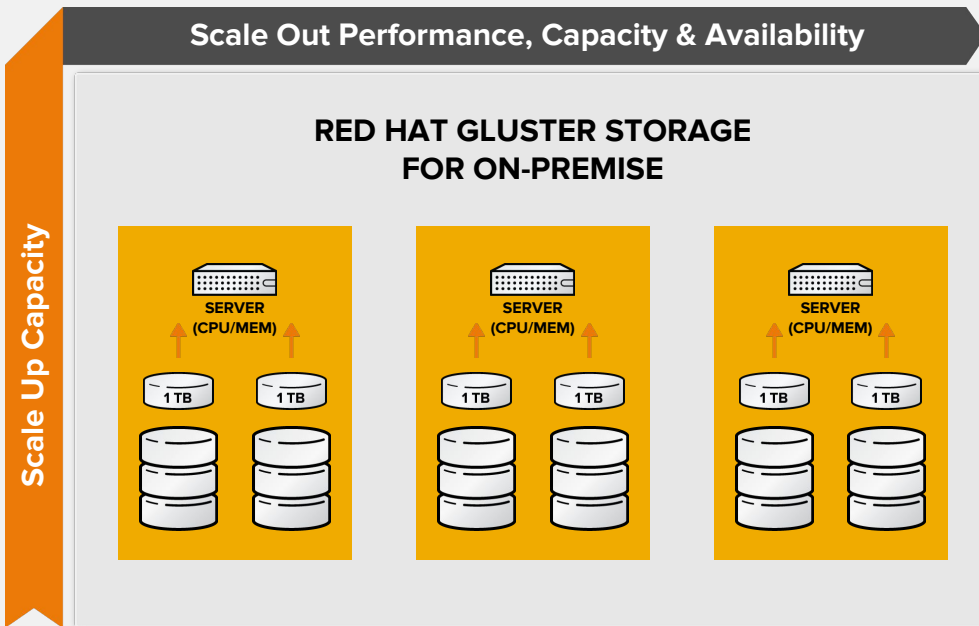
RHGS

RED HAT GLUSTER STORAGE

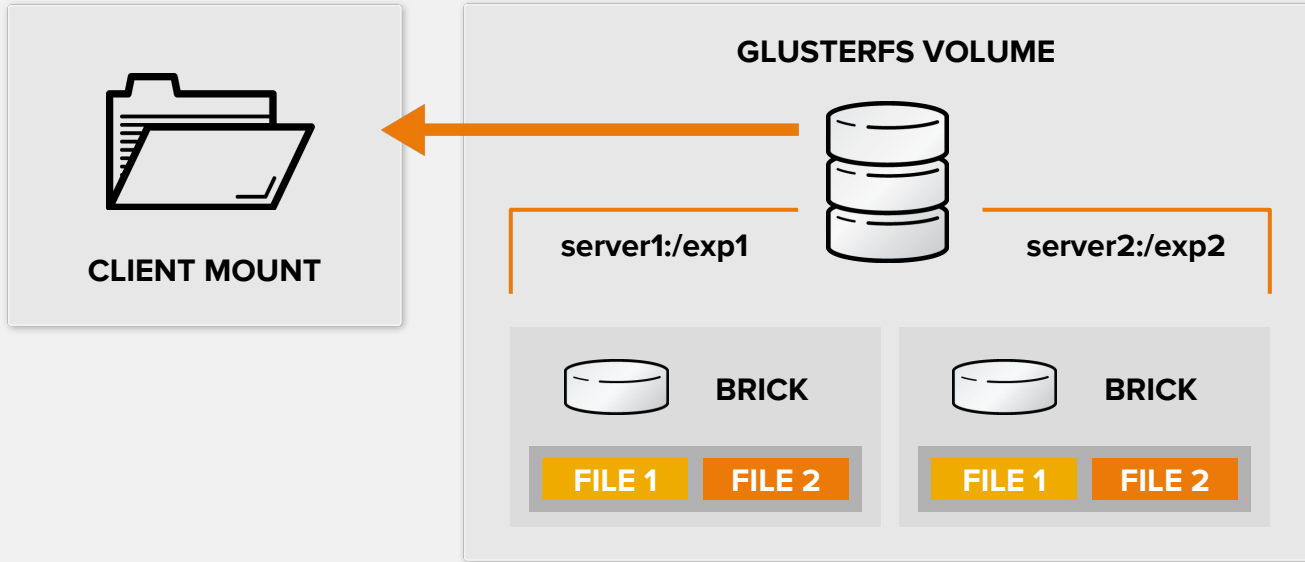
GLUSTERFS - DISTRIBUTED FILE STORAGE

Single, Global namespace

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



FEDERATING LOCAL STORAGE



RHV

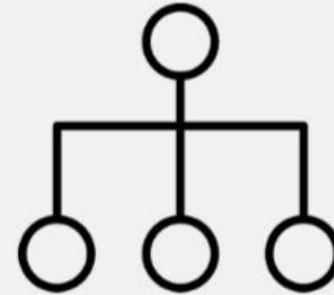
ARCHITECTURE

RHV ARCHITECTURE

SOLUTION COMPONENTS

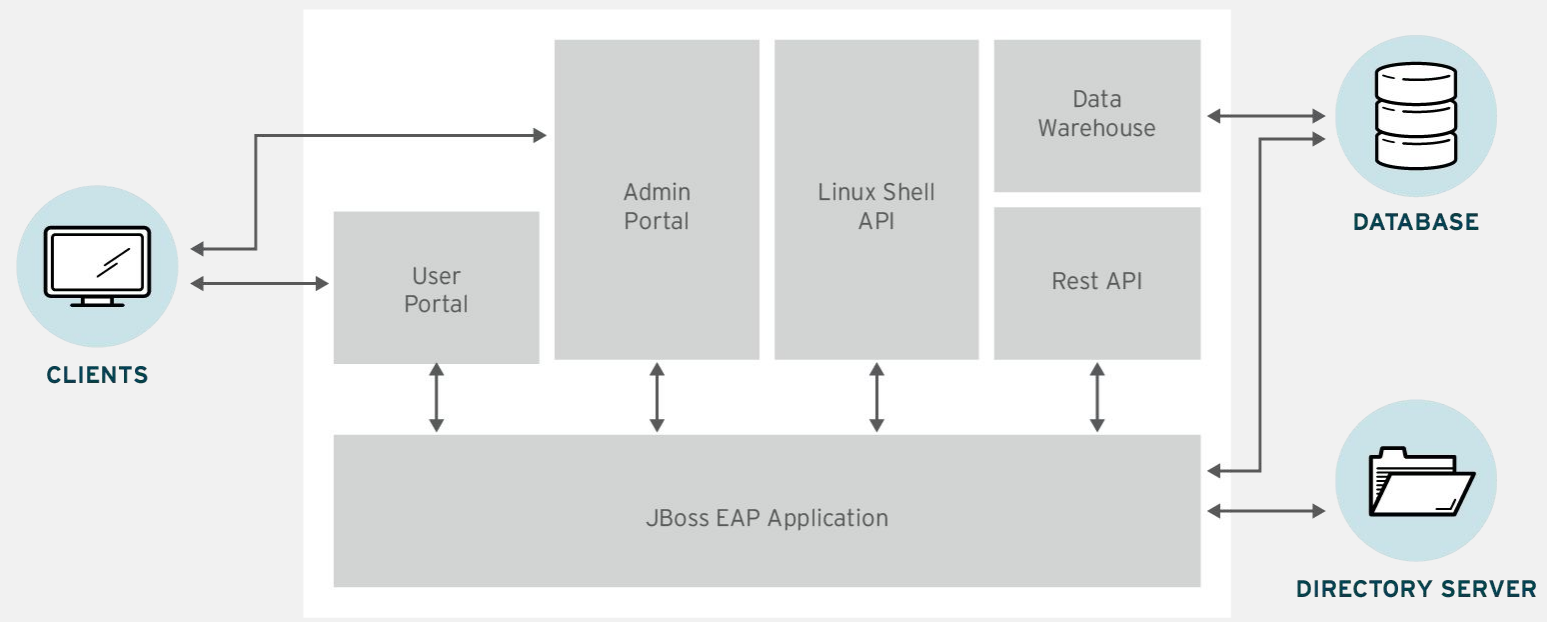
- **VIRTUALIZATION MANAGER**
RHV-M

- **HYPERVERSOR NODES**
RHV-H

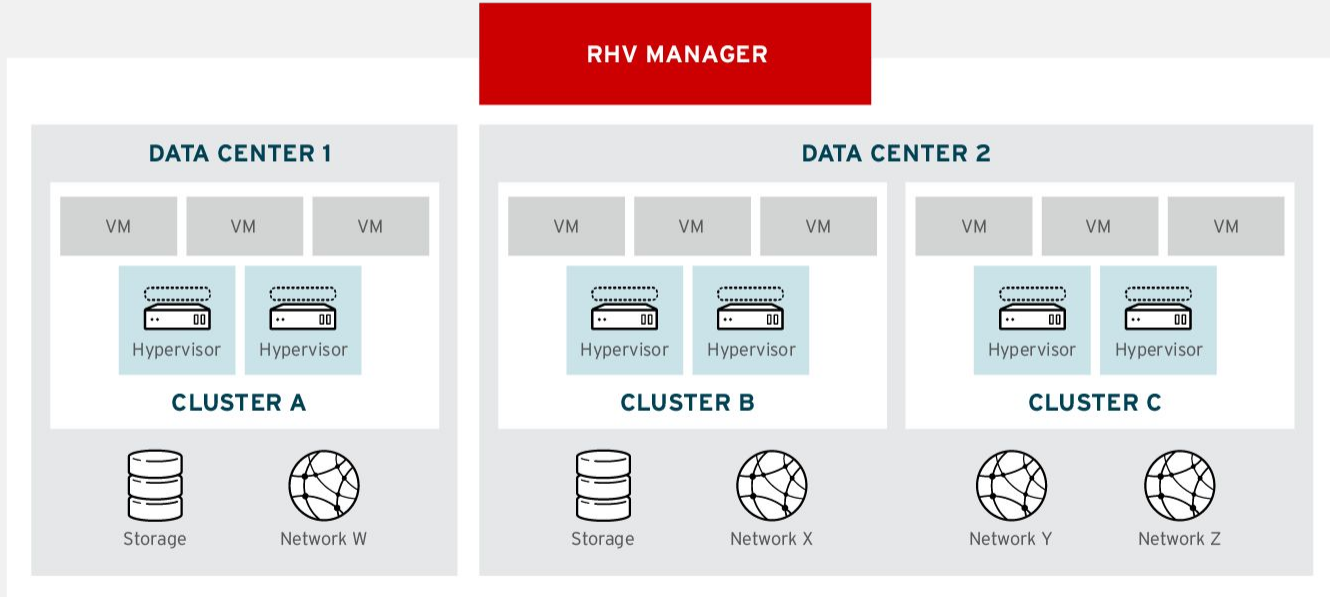


RHV ARCHITECTURE

RED HAT VIRTUALIZATION MANAGER



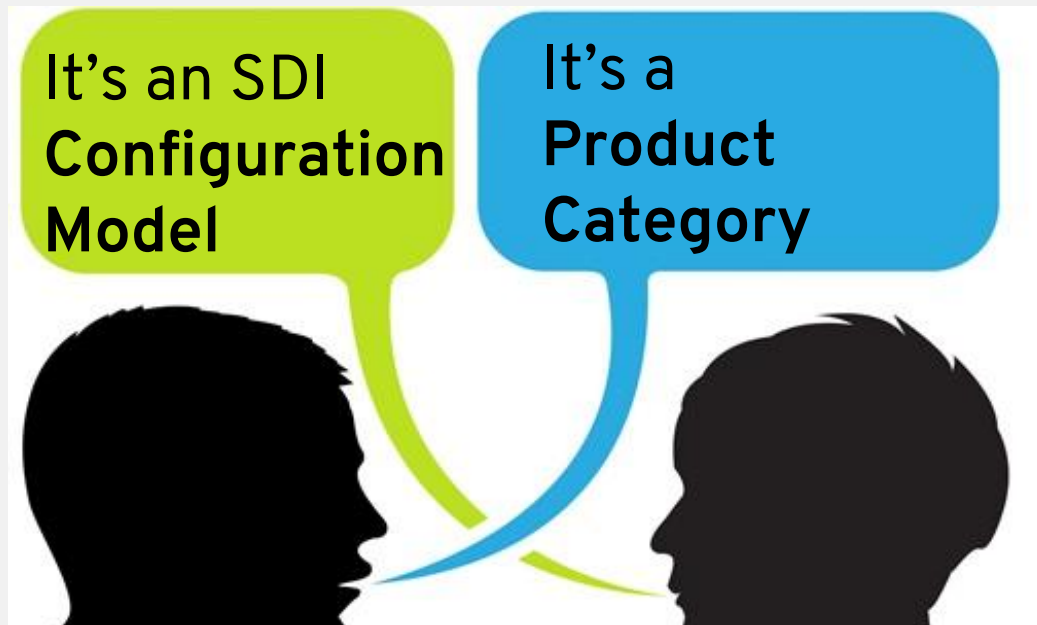
RHV MANAGER (RHV-M)



RHHI

RED HAT HYPERCONVERGED INFRASTRUCTURE

“Hyperconverged” *is...*



Define Hyperconverged

Demand-driven Innovation

$$1 + 1 = >2$$

RED HAT®
VIRTUALIZATION

RED HAT®
GLUSTER STORAGE



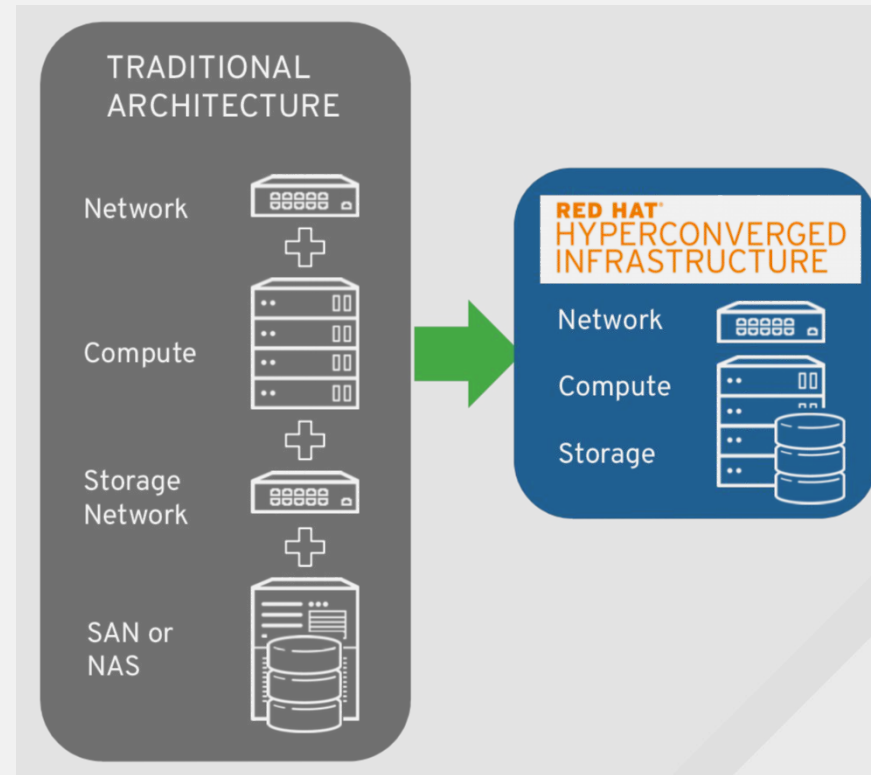
RED HAT®
HYPERCONVERGED
INFRASTRUCTURE

Powered by: Industry-Proven Distributed SDS & SDI Platform

TRIED, TESTED, TRUSTED WITH HARDWARE VENDOR PLATFORMS (HCL)

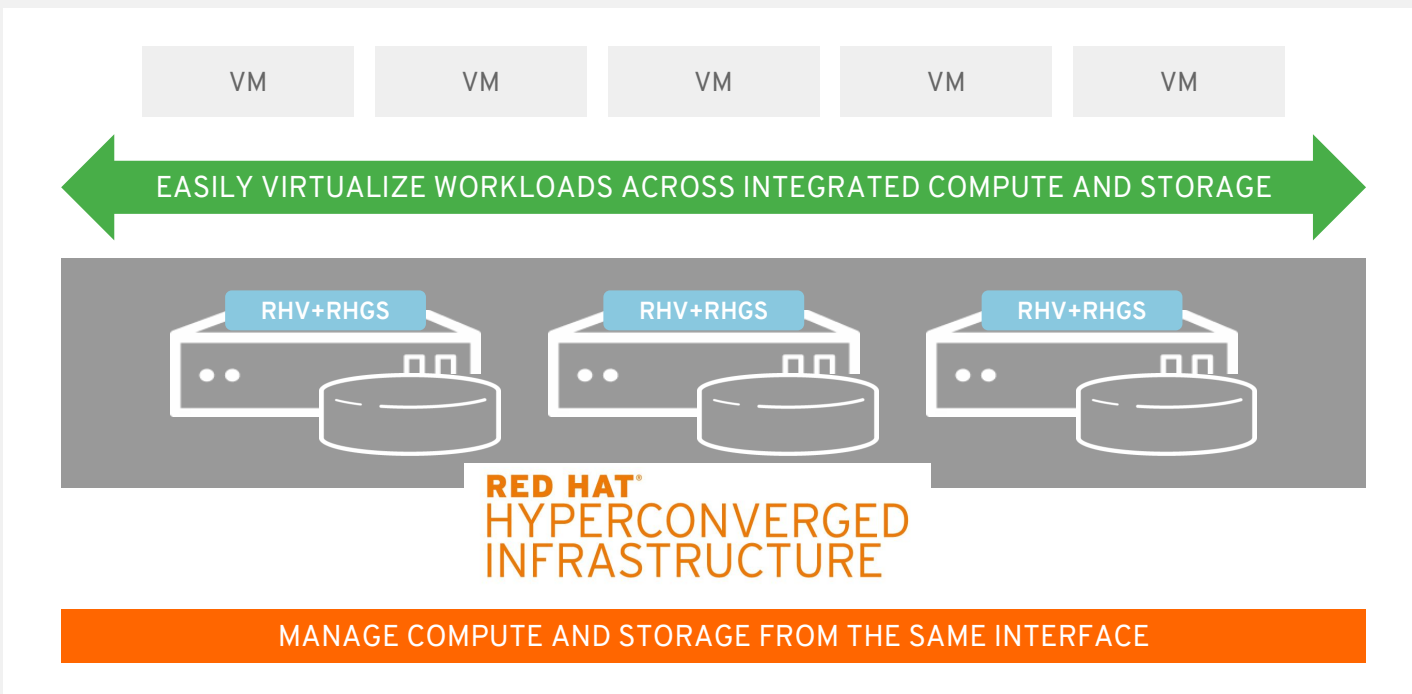
INFRASTRUCTURE CONSOLIDATION OPERATIONAL EFFICIENCY

- Eliminate storage as a discrete tier
- Easily virtualize business applications, maximizing resource utilization
- Single budget for compute & storage
- Streamlined deployment & management
- Single support stack for compute & storage



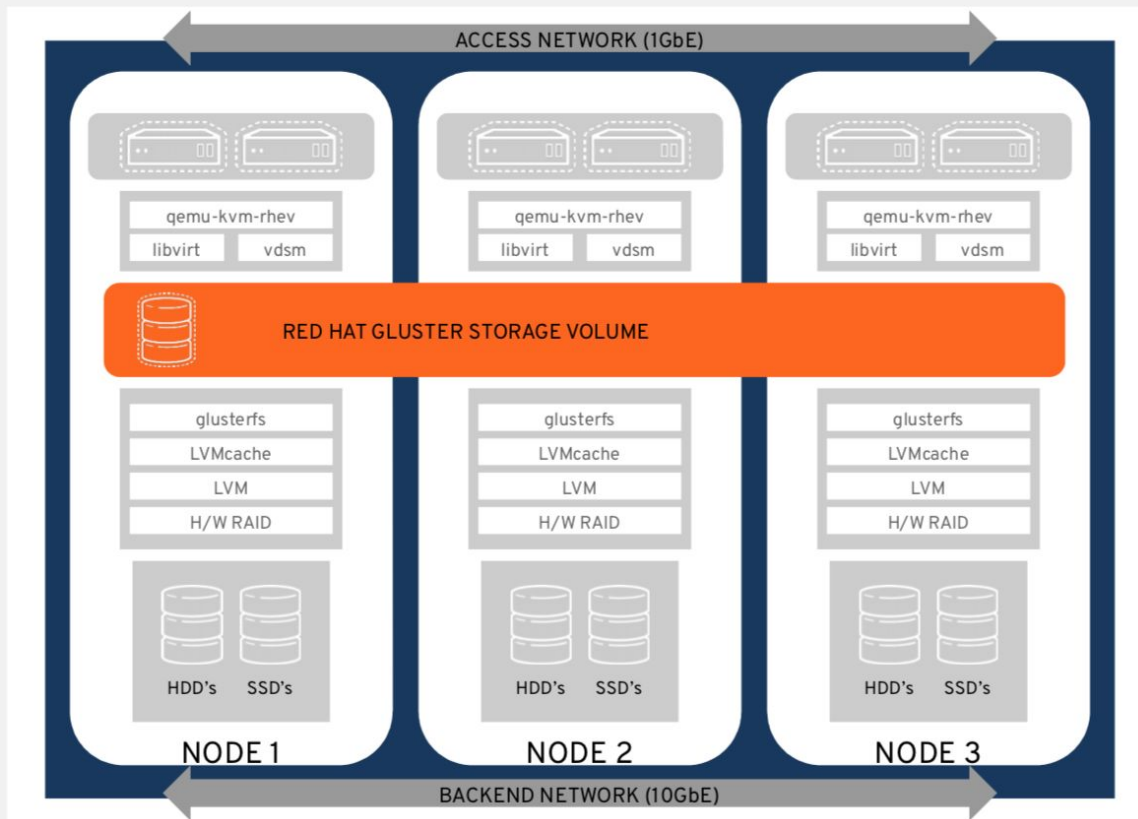
RED HAT HYPERCONVERGED INFRASTRUCTURE

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



UNDER THE COVERS



RED HAT®
HYPERCONVERGED
INFRASTRUCTURE

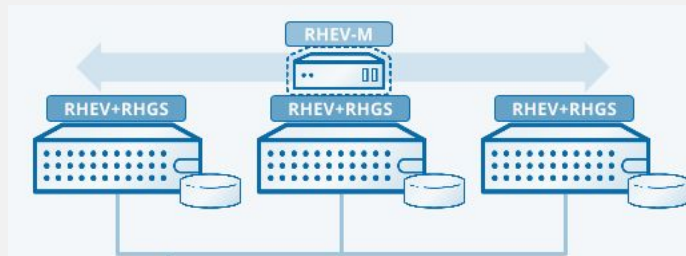
SOLUTION ARCHITECTURE

Simple, Self-Healing, High Available

- **RHV with Self-Hosted Engine** including GlusterFS
- **3 STORAGE VOLUMES**
 - Hosted Engine
 - VM Images (sharded)
 - Data
- SSD cache fronting spinning media
- HW & SW monitoring, fault correlation
- **Ansible** based deployment tool & playbook

- **THE MAIN MOVING PARTS**

- VDSM (VM lifecycle agent)
- GLUSTERD (storage mgmt daemon)
- LIBGFAPI (qemu I/O)



- 3-node base POD configuration,
- RHGS w/ 3-way replica,
- Optional Arbiter config

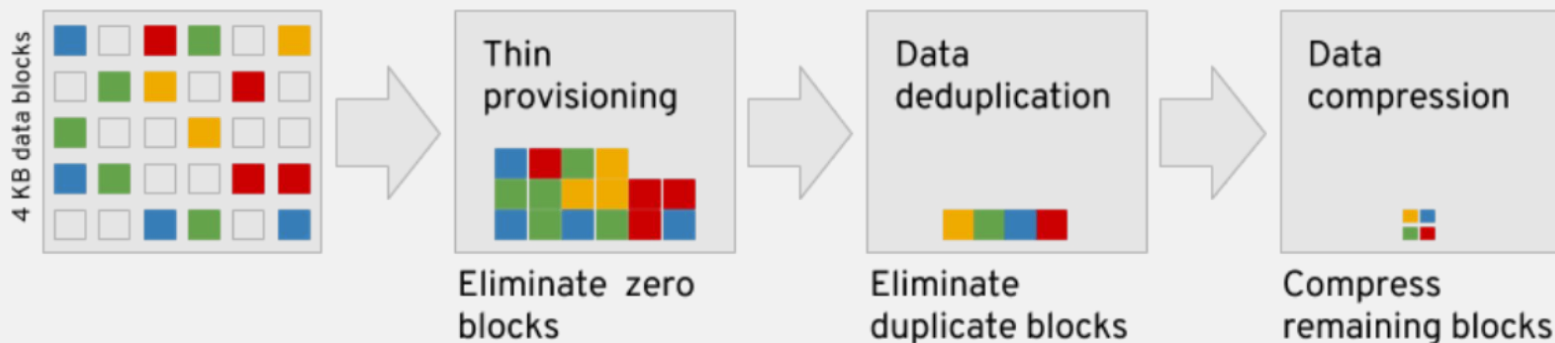
RHHI

NEW FEATURES IN RHHI 2.0

RHHI 2.0 NEW FEATURES

- **DEDUPLICATION and COMPRESSION**
with Virtual Data Optimizer

VDO data reduction processing



RHHI 2.0 NEW FEATURES

- **DISASTER RECOVERY**
with failover and failback

Currently supports backup,
Failover and Failback
to a remote secondary site



RHHI 2.0 NEW FEATURES

- **UPGRADING THE ENVIRONMENT**
Upgrade your RHHI deployment using the Admin Portal
- **SCALE EASILY**
by using Cockpit to prepare and configure new nodes
- **MANAGE STORAGE AND VIRTUAL MACHINES**
by using Cockpit as a centralized management place
- **UPDATED USER INTERFACES**
better organizations operations and new functional options

RHHI 2.0 SETUP OPTIONS

- **SINGLE-NODE DEPLOYMENT**

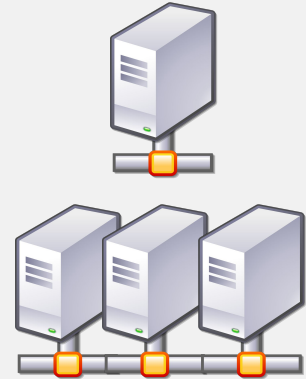
Install and run RHHI based on a single server system

- **RHHI STANDARD SETUP**

Install RHHI on minimal 3 or maximal 12 nodes

- **VIRTUALIZATION HOST CONVERSION**

Existing RHV hosts can now be converted into hyperconverged hosts



RHHI

DEPLOYMENT FLAVORS



RHHI 2.0 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 2.0 SETUP OPTIONS

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

RHHI 2.0 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 (DNS is key)

10-GbE **FRONT-end** network: for client connectivity

10-GbE **BACK-end** network: for internal storage and migration traffic

RHHI 2.0 STORAGE SETUP REQUIREMENTS

- **SOLID STATE DISKS (SSD) RECOMMENDED**
4k native devices are not supported as RHV requires 512k blocks emulation
- **RAID**
Recommended setup: RAID6 (10+2) for most disk technology types
RAID cards must have protected write cache (flash or battery backup)
- **JBOD**
Not a recommended way and will require a Red Hat architecture review

RHHI 2.0 LOGICAL VOLUMES SETUP

- **RHV ENGINE LOGICAL VOLUME**

Must always be THICK provisioned

Protecting the engine from out-of-space conditions and migration activity

- **VMSTORE AND DATA LOGICAL VOLUMES**

Should ideally be THIN provisioned (unless using VDO!)

Offering greater flexibility within underlying configuration

- **USING HDD's**

If ThinP volumes are on HDD, a small **SSD** is recommended for lvmcache

VDO: VIRTUAL DATA OPTIMIZER

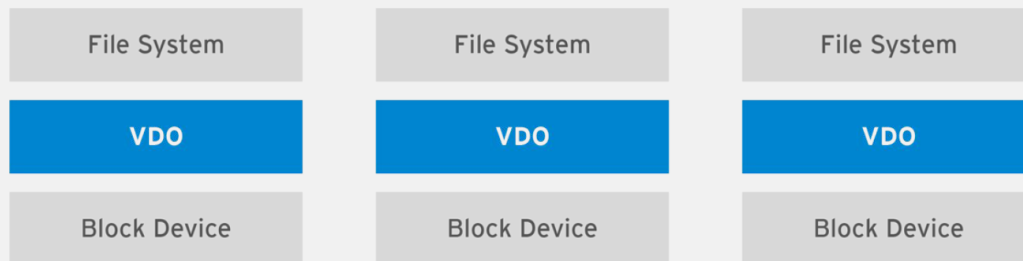
- **IMPORTANT CONSIDERATION**

Only available for NEW implementations

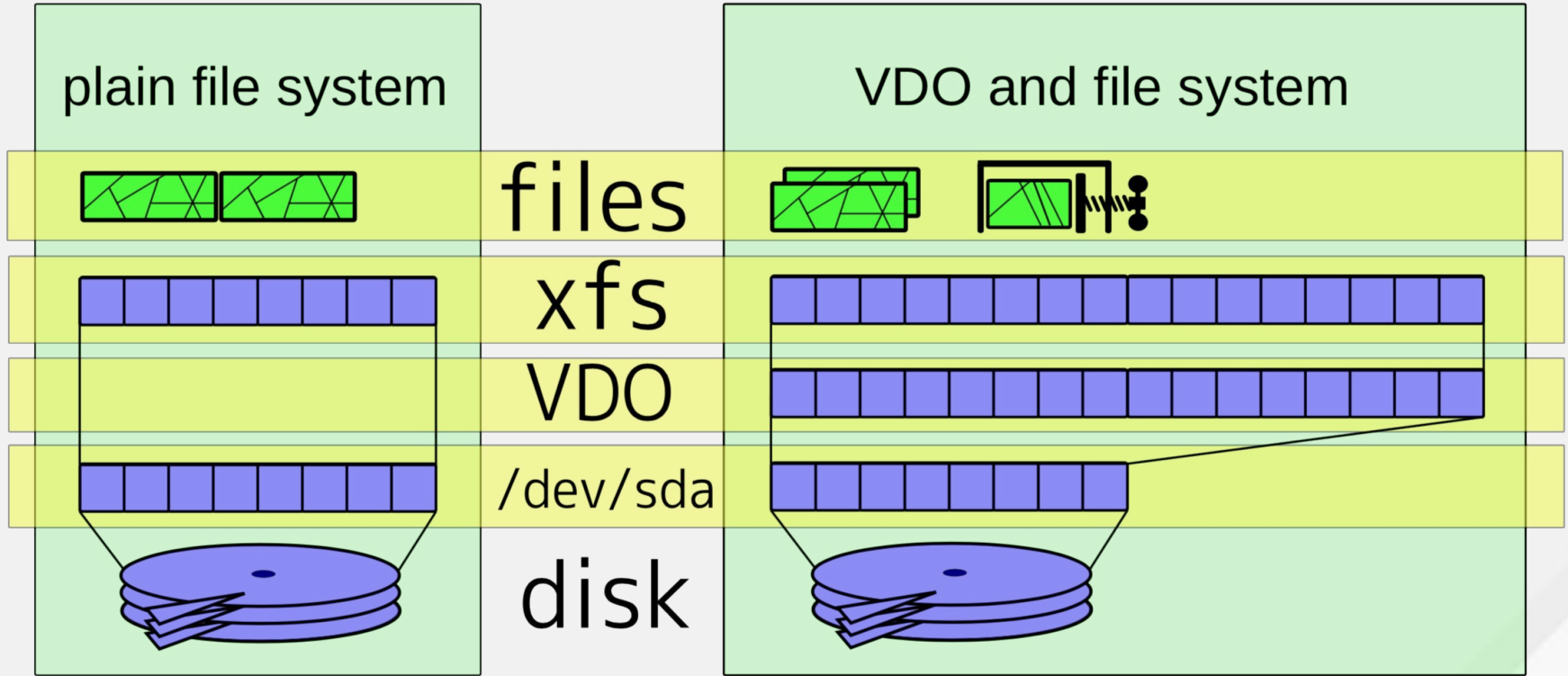
- **COMPATIBILITY**

VDO and Thin-Provisioning are currently **NOT** compatible.

These two technologies are not supported on the same device



VDO: VIRTUAL DATA OPTIMIZER



RHHI

DEPLOYMENT STEPS

PREFERRED RAID SETUP : RAID 6

PERC H730P Mini BIOS Configuration Utility 5.03-0010

UD Mgmt PD Mgmt Ctrl Mgmt Properties

Virtual Disk Management

ID: 0, 300.00 GB

Basic Settings

RAID Level : RAID-6

RAID State : Optimal

UD Size : 300.00 GB

UD Name : ██████████

Strip Element Size: 64KB

Physical Disks

Disk ID	Size
00:01:07	1862.50 GB
00:01:08	1862.50 GB
00:01:09	1862.50 GB
00:01:10	1862.50 GB
00:01:11	1862.50 GB
00:01:14	1862.50 GB
00:01:15	1862.50 GB

Operations

Operation : Back Init.

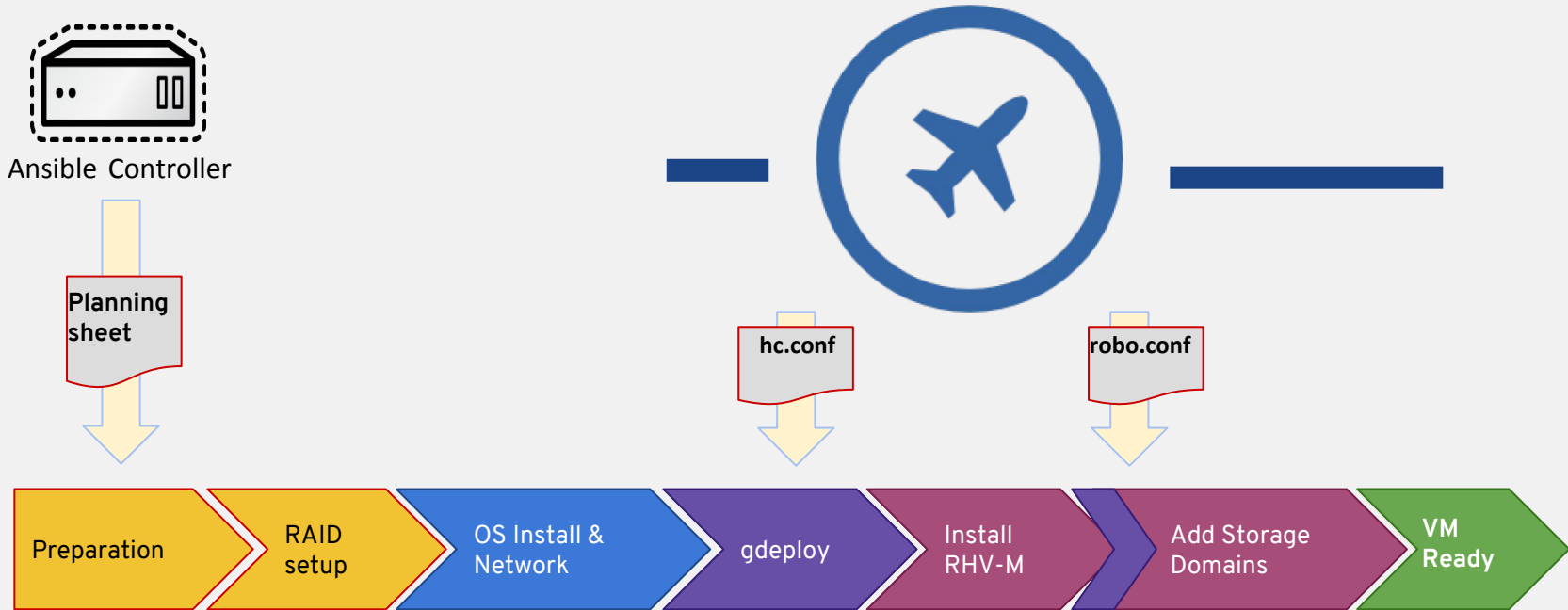
Progress : 4%

Time Left : N/A

Advanced OK CANCEL

F1-Help F12-Ctrlr

RHHI INSTALLATION WORKFLOW



RHHI SETUP WORKFLOW STEPS



- **BASIC SETUP**

- Install RHV-H

- Configure networking and passwordless ssh across other nodes

- Run Cockpit Interface to continue RHHI setup

- **COCKPIT**

- User interface for monitoring the host and performing administrative tasks

- Run Hyperconverged Wizard steps

RHUI 4.2

Install RHUI 4.2
Test this media & install RHUI 4.2

Troubleshooting >

Press Tab for full configuration options on menu items.

WELCOME TO RHVH 4.2.

What language would you like to use during the installation process?

English	English >	English (United States)
Afrikaans	Afrikaans	English (United Kingdom)
አማርኛ	Amharic	English (India)
العربية	Arabic	English (Australia)
অসমীয়া	Assamese	English (Canada)
Asturiano	Asturian	English (Denmark)
Беларуская	Belarusian	English (Ireland)
Български	Bulgarian	English (New Zealand)
বাংলা	Bengali	English (Nigeria)
Bosanski	Bosnian	English (Hong Kong SAR China)
Català	Catalan	English (Philippines)
Čeština	Czech	English (Singapore)
Cymraeg	Welsh	English (South Africa)
Dansk	Danish	English (Zambia)
Deutsch	German	English (Zimbabwe)
		English (Antigua & Barbuda)

Quit

Continue

LOCALIZATION



DATE & TIME

Europe/Amsterdam timezone



KEYBOARD

English (US)



LANGUAGE SUPPORT

English (United States)

SYSTEM



INSTALLATION DESTINATION

Automatic partitioning selected



KDUMP

Kdump is enabled



NETWORK & HOST NAME

Not connected



SECURITY POLICY

No profile selected

Quit

Begin Installation

We won't touch your disks until you click 'Begin Installation'.

USER SETTINGS



ROOT PASSWORD

Root password is not set



USER CREATION

No user will be created

Installing software 21%

EVERYTHING YOU NEED TO HELP
PLAN, DEPLOY, MAINTAIN, AND SOLVE



Visit the Customer Portal:
access.redhat.com

Please complete items marked with this icon before continuing to the next step.

[Done](#)

us

[Help!](#)

The root account is used for administering the system. Enter a password for the root user.

Root Password:

••••••

 Weak

Confirm:

••••••|

 The password you have provided is weak: The password contains the user name in some form. You will have to press Done twice to confirm it..

USER SETTINGS



ROOT PASSWORD

Root password is set



USER CREATION

No user will be created

Installing software 73%



redhat.

MANAGE MORE. STRESS LESS.
RED HAT SATELLITE

USER SETTINGS



ROOT PASSWORD
Root password is set



USER CREATION
No user will be created

Complete!

RHVH is now successfully installed and ready for you to use!
Go ahead and reboot to start using it!

Reboot

Use of this product is subject to the license agreement found at </usr/share/redhat-release/EULA>

```
Red Hat Virtualization Host 4.2.3 (el7.5)  
Kernel 3.10.0-862.2.3.el7.x86_64 on an x86_64
```

```
rhvh001 login: root
```

```
Password:
```

```
Last login: Wed May 23 17:36:21 on tty1
```

```
node status: OK
```

```
See `nodectl check` for more information
```

```
Admin Console: https://10.0.2.15:9090/ or https://192.168.122.31:9090/
```

```
[root@rhvh001 ~]#
```



```
Password:
```

```
Last login: Wed May 23 17:36:21 on tty1
```

```
node status: OK
```

```
See `nodectl check` for more information
```

```
Admin Console: https://10.0.2.15:9090/ or https://192.168.122.31:9090/
```

```
[root@rhvh001 ~]# nodectl check
```

```
Status: OK
```

```
Bootloader ... OK
```

```
  Layer boot entries ... OK
```

```
  Valid boot entries ... OK
```

```
Mount points ... OK
```

```
  Separate /var ... OK
```

```
  Discard is used ... OK
```

```
Basic storage ... OK
```

```
  Initialized UG ... OK
```

```
  Initialized Thin Pool ... OK
```

```
  Initialized LVs ... OK
```

```
Thin storage ... OK
```

```
  Checking available space in thinpool ... OK
```

```
  Checking thinpool auto-extend ... OK
```

```
vdsmd ... OK
```

```
[root@rhvh001 ~]# _
```

CONFIGURE PUBLIC KEY BASED SSH AUTHENTICATION

- **ON FIRST RED HAT VIRTUALIZATION HOST**

Configure Public Key authentication based SSH for the root user to all three virtualization hosts

- **IMPORTANT**

RHHI for Virtualization expects key-based SSH authentication without password between these nodes for both IP addresses and FQDNs



HTTPS://RHVHOST:9090

(Cockpit Interface Login)



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.



SETUP HYPERCONVERGED RHGS & RHV

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


Dashboard

V 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 HOSTS

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.



ADD OTHER NODES TO HOSTED ENGINE

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.

ADDITIONAL PACKAGES OPTION



Gluster Deployment ×

Hosts FQDNs Packages Volumes Bricks Review

① ——— ② ——— ③ ——— ④ ——— ⑤ ——— ⑥

Repositories

Packages

Update Hosts

CONFIGURE STORAGE VOLUMES



Gluster Deployment ✕

Hosts 1 — FQDNs 2 — Packages 3 — **Volumes 4** — Bricks 5 — Review 6

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

[+ Add Volume](#)

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



CONFIGURE RED HAT GLUSTER BRICKS

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 >



REVIEW GDEPLOY ANSIBLE PLAYBOOK

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 PART



Gluster Deployment ✕

Hosts Packages Volumes Bricks Review

① ————— ② ————— ③ ————— ④ ————— ⑤



Successfully deployed Gluster

[Continue to Hosted Engine Deployment](#)



DEPLOYMENT PART SELF-HOSTED ENGINE

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

SELF-HOSTED ENGINE VM SETTINGS



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="••••••"/> <input type="checkbox"/>
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

SELF-HOSTED ENGINE SETTINGS



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



PREPARATION 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 vdsmd config statements]
[ INFO ] TASK [Restore initial abrt config files]
```

Cancel < Back Prepare VM


SELF-HOSTED ENGINE PREPARED



Hosted Engine Deployment ✕

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤



Execution completed successfully. Please proceed to the next step.



SPECIFY SELF-HOSTED ENGINE STORAGE

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

Cancel < Back Next >



FINAL PLACEMENT 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



PROGRESS SELF-HOSTED ENGINE ACTIONS

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 READY



Hosted Engine Deployment ✕

VM Engine Prepare VM Storage Finish

① ——— ② ——— ③ ——— ④ ——— ⑤



Hosted engine deployment complete!

Close




SELF-HOSTED ENGINE UP & RUNNING

RED HAT VIRTUALIZATION HOST 4.2.6 (EL7.5) root ▾


Dashboard

Hosted Engine

 Hosted Engine is up!

Hosted Engine is running on **rhh01.supermicro.com**

Status of this host (rhh01.supermicro.com)

rhh01.supermicro.com 

Local maintenance cannot be enabled with a single host

[Put this host into local maintenance](#) [Remove this host from maintenance](#) [Put this cluster into global maintenance](#)

Hosts in this cluster **Manage Gluster**

rhh01.supermicro.com

ACCESSING RHHI HOSTED ENGINE

HTTPS://NODE001.FQDN/



RED HAT VIRTUALIZATION

Username

Password

Profile

Log In

ACCESSING RHHI HOSTED ENGINE

HTTPS://NODE001.FQDN/

Applications Places Firefox Thu 14:20

Red Hat Virtualization Manager Web Administration - Mozilla Firefox

rhhi01.supermicro.com Red Hat Virtualization Manager

https://engine.supermicro.com/ovirt-engine/webui/ Search

RED HAT VIRTUALIZATION

Last Updated 9/27/2018, 2:20:14 PM GMT+2

1 Data Centers	1 Clusters	3 Hosts
2	N/A	3
2 Data Storage Domains	4 Virtual Machines	5 Events
2	1 3	4 1

Global Utilization

CPU	Memory	Storage
100% Available of 100%	1.1 Available of 1.1 TIB	1.4 Available of 1.5 TIB
Virtual resources - Committed: 11%, Allocated: 14%	Virtual resources - Committed: 2%, Allocated: 2%	Virtual resources - Committed: 2%, Allocated: 16%

FINALIZING ACTIONS: NETWORK

CREATE LOGICAL NETWORK FOR GLUSTER TRAFFIC

1. Create Gluster Network by following the wizard steps
2. Enable the newly created Gluster network (administrative action)
3. Mark the network for host replication and Gluster traffic
4. Attach the appropriate host NIC to the Gluster network

LOGICAL NETWORKS SETUP

The screenshot shows the Red Hat Virtualization management console. The top navigation bar includes a hamburger menu, the text "RED HAT VIRTUALIZATION", and several utility icons. The left sidebar contains a vertical menu with options: Dashboard, Compute, Network (highlighted), Storage, Administration, and Events. The main content area is titled "Network » Networks" and features a search bar, a "Network:" label, and action buttons for "New", "Import", "Edit", and "Remove". Below this is a table with two columns: "Name" and "Description". The table lists two networks: "Gluster" with description "Gluster Backbone" and "ovirtmgmt" with description "Management Network". Both networks are associated with the "Default" Data Center. A mouse cursor is visible at the bottom center of the interface.

RED HAT VIRTUALIZATION

Network » Networks

Network:

1 - 2

Name	Comment	Data Center	Description
Gluster		Default	Gluster Backbone
ovirtmgmt		Default	Management Network

FINALIZING ACTIONS: STORAGE

CREATE MASTER STORAGE DOMAIN

1. Create new storage domain
2. Set the storage type option to GlusterFS
3. Select the VMstore volume
4. Use mount option: **backup-volfile-servers=<node2>:<node3>**

RHHI STORAGE DOMAINS

The screenshot shows the 'Storage Domains' management page in the Red Hat Virtualization console. The left sidebar contains navigation options: Dashboard, Compute, Network, Storage (selected), Administration, and Events. The main content area shows the 'Storage Domains' list with a search bar and action buttons. The table below lists three storage domains: 'hosted_storage' (Data (Master), GlusterFS, V4), 'ISO' (ISO, GlusterFS, V1), and 'VMStore' (Data, GlusterFS, V4).

Storage: ✕ ☆ ▾ 🔍

New Domain Import Domain Manage Domain Remove ⋮

🔄 ▾ 1 - 3 < >

		Domain Name	Comment	Domain Type	Storage Type	Format	Cros
▲	👑	hosted_storage		Data (Master)	GlusterFS	V4	Acti
▲		ISO		ISO	GlusterFS	V1	Acti
▲		VMStore		Data	GlusterFS	V4	Acti

FINALIZING ACTIONS: ADD RHHI HOSTS

ADD YOUR RHHI HOSTS TO THE HOSTED ENGINE

1. Login to the Hosted Engine
2. In the Hosts section, add new hosts
3. Specify the 2nd and 3rd RHHI host
4. Activate new hosts and configure logical networks

RHHI HOSTS ADDED TO THE CLUSTER

The screenshot displays the Red Hat Virtualization web console interface. The top navigation bar includes the 'RED HAT VIRTUALIZATION' logo and various utility icons. The left sidebar contains a menu with options: Dashboard, Compute (selected), Network, Storage, Administration, and Events. The main content area is titled 'Compute » Hosts' and features a search bar with the filter 'Host: status = up'. Below the search bar are action buttons: 'New', 'Edit', 'Remove', 'Management', 'Installation', and 'Host Console'. A table below these buttons lists three hosts, each with a green status indicator and a crown icon. The table columns are Name, Comment, Hostname/IP, Cluster, and Data Center. The hosts are rhh01.supermicro.com (node01), rhh02.supermicro.com (node02), and rhh03.supermicro.com (node03), all associated with the 'Default' cluster and 'Default' data center.

		Name	Comment	Hostname/IP	Cluster	Data Center	S
▲	👑	rhh01.supermicro.com	node01	rhh01.supermicro.com	Default	Default	U
▲		rhh02.supermicro.com	node02	rhh02.supermicro.com	Default	Default	U
▲		rhh03.supermicro.com	node03	rhh03.supermicro.com	Default	Default	U

RHHI HOSTS LOGICAL NETWORKS SETUP

Setup Host rhh101.supermicro.com Networks ?

Drag to make changes

Interfaces

Assigned Logical Networks

Networks

Labels

SR-IO enp24s0f0

Gluster

SR-IO enp24s0f1

ovirtmgmt

Unassigned Logical Networks

Required

Non Required

External Logical Networks ?

Verify connectivity between Host and Engine

POST DEPLOYMENT SUGGESTIONS

RECOMMENDED ACTIONS AFTER SUCCESSFUL INSTALLATION


1. Configure a SSD Logical Volume Cache for improved performance
2. Configure Fencing for High Availability
3. Configure Backup & Recovery options
4. Enjoy the RHHI !



SUPERMICRO DEMO BOOTH



Integrated Board



Super X11DPT-B



THANK YOU



plus.google.com/+RedHat



facebook.com/redhatinc



linkedin.com/company/red-hat



facebook.com/redhatinc



youtube.com/user/RedHatVideos