



# **Red Hat Hyperconverged Infrastructure for Virtualization 1.5**

## **Converting a virtualization cluster to a hyperconverged cluster**

Convert existing virtualization hosts to create a hyperconverged cluster



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## Abstract

Read this for information about converting existing virtualization hosts into hyperconverged hosts to create a hyperconverged cluster.

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# CHAPTER 1. WORKFLOW FOR CONVERTING A VIRTUALIZATION CLUSTER TO A HYPERCONVERGED CLUSTER

1. Verify that your virtualization hosts use Red Hat Virtualization 4.2 or higher, and meet Red Hat Hyperconverged Infrastructure for Virtualization [Support Requirements](#).
2. [Subscribe to software repositories](#).
3. [Convert virtualization hosts to hyperconverged hosts](#).
4. [Create Red Hat Gluster Storage volumes using storage on the converted host](#).

## CHAPTER 2. SUBSCRIBING TO SOFTWARE REPOSITORIES FOR HYPERCONVERGED HOSTS

Hyperconverged virtualization hosts require access to the **rhel-7-server-rhv-4-mgmt-agent-rpms** repository.

Red Hat Virtualization hosts are subscribed to this repository during installation and setup, so no further action is necessary.

Red Hat Enterprise Linux hosts need to subscribe to the repository by running the following command.

```
# subscription-manager repos --enable=rhel-7-server-rhv-4-mgmt-agent-rpms
```



## CHAPTER 3. CONVERTING VIRTUALIZATION HOSTS TO HYPERCONVERGED HOSTS

Follow this process to convert virtualization hosts to hyperconverged hosts. This lets you use and manage the host's local storage as Red Hat Gluster Storage volumes.

1. Log in to Red Hat Virtualization Manager.
2. Move all hosts except the self-hosted engine node into maintenance mode.
  - a. Click **Compute** → **Hosts**.
  - b. For each host except the self-hosted engine node:
    - i. Select the host to move to maintenance.
    - ii. Click **Management** → **Maintenance** and click **OK**.
3. Enable the gluster service in the cluster.
  - a. Click **Compute** → **Clusters** and select the cluster.  
The *Edit Cluster* window appears.
  - b. Check the **Enable Gluster service** checkbox.
  - c. Click **OK**.
4. Reinstall all hosts except the self-hosted engine node.
  - a. Click **Compute** → **Hosts**.
  - b. For each host except the self-hosted engine node:
    - i. Select the host to reinstall.
    - ii. Click **Management** → **Reinstall** and click **OK**.  
Wait for the reinstall to complete and for the hosts to become active again.
5. Move the self-hosted engine node into maintenance mode.
  - a. Select the self-hosted engine node.
  - b. Click **Management** → **Maintenance** and click **OK**.  
The hosted engine migrates to one of the other virtualization hosts.
6. Reinstall the previous self-hosted engine node.
  - a. Select the previous self-hosted engine node.
  - b. Click **Management** → **Reinstall** and click **OK**.  
Wait for the reinstall to complete and for the host to become active again.

Your hosts are now able to use and manage storage as Red Hat Gluster Storage volumes.

## CHAPTER 4. CREATING RED HAT GLUSTER STORAGE VOLUMES USING RED HAT VIRTUALIZATION MANAGER

### Prerequisites

- This task assumes you have raw unused storage devices attached to your virtualization hosts.

### Task

1. Log in to the Administration Portal.
2. Configure your local storage as a Red Hat Gluster Storage brick.
  - a. Click **Compute** → **Hosts** and click on the name of the host to use.
  - b. Click the **Storage Devices** subtab and select the device.
  - c. Click **Create Brick** to open the *Create Brick* window.

### The Create Brick window

**Create Brick**
✕

Brick Name

Mount Point

**RAID Parameters** ⓘ

RAID Type

No. of Physical Disks in RAID Volume

Stripe Size (KB) ⓘ

**Storage Devices**  
(Choose storage devices of RAID type: RAID6)

	Name	Type	Size
<input checked="" type="checkbox"/>	sdd1	SCSI	50 GIB

Size

**Cache Device**

Device

Mode

Size

- i. Enter a **Name** for the brick.
- ii. Verify or correct the suggested **Mount Point**.
- iii. If the underlying storage uses RAID, enter the number of physical disks in the RAID device and confirm the RAID type.
- iv. Click **OK**.

A new thin-provisioned logical volume is created on the specified storage device, with all settings appropriate for use with Red Hat Gluster Storage.

3. Configure a Red Hat Gluster Storage volume.
  - a. Click **Storage** → **Volumes**.
  - b. Click **New** to open the *New Volume* window.

### The New Volume window

**New Volume**
✕

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Data Center Default ▾

Volume Cluster Default ▾

---

Name

Type Distribute ▾

Transport Type  TCP  RDMA

Bricks   
(0 bricks selected)

**Access Protocols**

Gluster

NFS

CIFS

Allow Access From

*(Comma separated list of IP addresses/hostnames)*

Optimize for Virt Store

- i. Select the cluster that contains your bricks.
- ii. Enter a **Name** for the volume.
- iii. Set the **Type** of volume to create. To use local storage without high availability, choose **Distribute**.  
See [Setting Up Storage Volumes](#) in the Red Hat Gluster Storage *Administration Guide* for more information about volume types.
- iv. Click **Add Bricks** and select your existing storage as a brick for this volume.

### The Add Bricks window

**Add Bricks**
✕

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Volume Type Distribute

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**Bricks**

Host rhsdev-grafton2.lab.eng.blr.redhat.com ▼

Show available bricks from host

Brick Directory ▼

Host	Brick Directory

Allow bricks in root partition and re-use the bricks by clearing xattrs

---

- v. Optionally, for enhanced security, specify the IP addresses or hostnames of all hosts in the cluster in the **Allow Access From** field.
- vi. Check the **Optimize for virt store** checkbox to configure the volume for storing virtual machine images.
- vii. Click **OK**.

See the [Red Hat Virtualization 4.2 Administration Guide](#) or the [Red Hat Gluster Storage 3.4 Administration Guide](#) for more information about managing Red Hat Gluster Storage.