

# RED HAT HYPERCONVERGED INFRASTRUCTURE

A hyperconverged platform for remote sites and the edge

DATASHEET

## AT A GLANCE

- Consolidates infrastructure by removing the independent storage tier
- Combines the performance of Red Hat Virtualization with the power of Red Hat Gluster Storage
- Optional seamless integration with broader Red Hat stack—such as Red Hat Satellite and Red Hat CloudForms—delivers the full, integrated Red Hat stack value proposition
- Built from open standards and application programming interfaces (APIs) with a vibrant community of contributors
- Workflow integration and optimization, fault management integration, and correlation between Red Hat Virtualization and Red Hat Gluster Storage to deliver unified operations and a single-pane-of-glass management solution

## PRODUCT OVERVIEW

Red Hat® Hyperconverged Infrastructure solves the problem of having to deploy storage separately from virtualization when resources are a factor. By using the same server hardware as both the hypervisor (host) and controller (storage), it reduces capital expenditures (CapEx), operating expenses (OpEx), and deployment time.

Red Hat Hyperconverged Infrastructure is an ideal solution for remote/ branch-office or edge computing needs. Built on Red Hat Virtualization and Red Hat Gluster Storage, Red Hat Hyperconverged Infrastructure provides simplified planning and procurement, streamlined deployment and management, and a single support stack for virtual compute and virtual storage resources.

With Red Hat Hyperconverged Infrastructure, you can:

- Use servers as a clustered pool of integrated compute-plus-storage resources.
- Easily virtualize business applications, maximizing resource utilization.
- Manage integrated compute-plus-storage resources with a simplified skill set from a single management interface.

## DEPLOYMENT AND MANAGEMENT

Central virtual resource management

Red Hat Virtualization Manager is a secure web-based tool that provides central management for compute, network, and storage resources. In addition to administrator access, a RESTful API extends the management and orchestration capabilities to tools such as Red Hat CloudForms.

Security and hardening

Secure virtualization (sVirt) and Security-Enhanced Linux® (SELinux) technologies secure and harden the hypervisor against attacks aimed at the host or virtual machines. Red Hat Virtualization Manager also supports network encryption using transport layer security (TLS) and secure sockets layer (SSL) for authentication and authorization at both the virtualization and storage layers.

Highly available resources

Red Hat Virtualization Manager is configured for high availability (HA). Three-way replication with Red Hat Gluster Storage protects the underlying data.

Automation and integration

Ansible by Red Hat is used to deploy Red Hat Hyperconverged Infrastructure and can be used extensively for the configuration of virtual resources (compute, network, storage, etc.). Additionally, Red Hat CloudForms can orchestrate events for an even more streamlined operation.



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**ALIGNS TO BUSINESS AND TECHNICAL GOALS FOR DECENTRALIZED I.T. REQUIREMENTS:**

1. Get more IT power, flexibility, and reliability in a smaller footprint from a software-defined infrastructure.
2. Simplify operations for remote office IT and edge computing with unified management.
3. Streamline planning, design, and procurement with a single subscription.

Support for multiple guest operating systems

Full support is provided for Red Hat Enterprise Linux 5, 6, and 7. Support is also available for Windows Server 2008, 2008 R2, 2012, 2016, and desktop systems Windows 7 and 10. SUSE Linux Enterprise Server 10, 11, and 12 are also supported.

Automation and customization	The RESTful API allows automation management and programmatic configuration for the Red Hat Hyperconverged Infrastructure environment.
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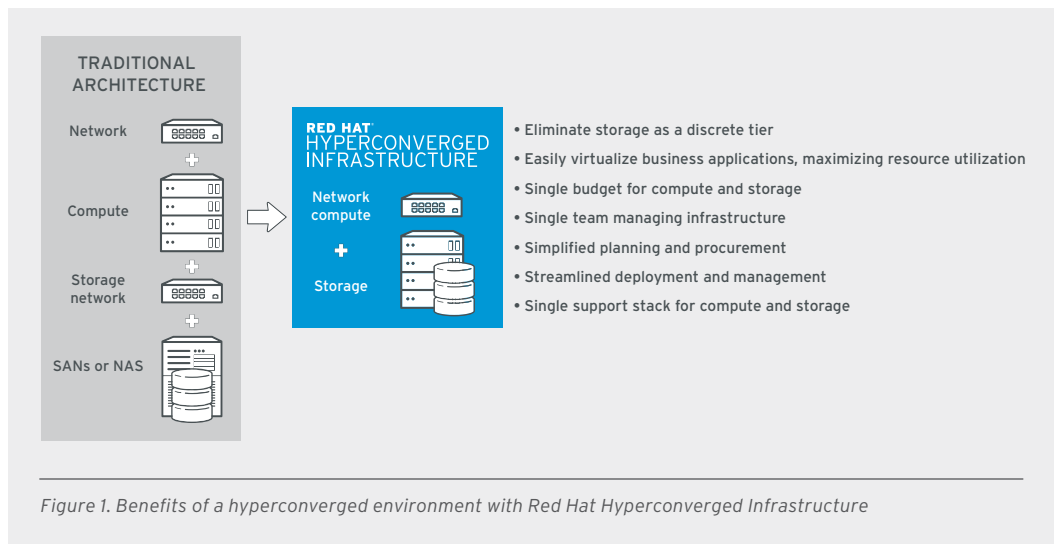


Figure 1. Benefits of a hyperconverged environment with Red Hat Hyperconverged Infrastructure

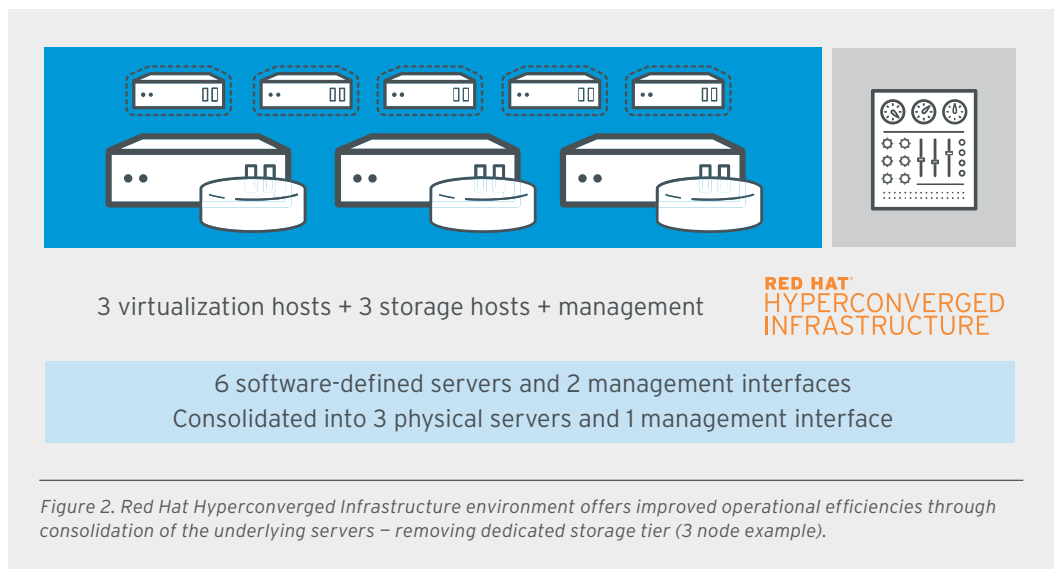


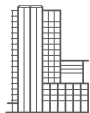
Figure 2. Red Hat Hyperconverged Infrastructure environment offers improved operational efficiencies through consolidation of the underlying servers – removing dedicated storage tier (3 node example).

## TECHNICAL SPECIFICATIONS

The hardware requirements for Red Hat Hyperconverged Infrastructure are:

- Three physical servers with at least two network interface controllers each.
- A cluster must consist of exactly three, six, or nine physical machines (hosts) with adequate memory and storage space. \*Each host should have at least:
  - *For a small deployment:* two 6-CPU cores, 64GB RAM, up to 48TB storage.
  - *For a medium deployment:* two 6-CPU cores, 128GB RAM, up to 64TB storage.
  - *For a large deployment:* two 8-CPU cores, 256GB RAM, up to 80TB storage.
- Requirements for redundant arrays of independent disks (RAID) will depend on the disk type and specifications.
- Two network interfaces are required for this deployment:
  - One back-end network interface for probing Gluster peers and setting up the volume. It is highly recommended that the back-end network be 10GbE and that dual interfaces are used in a redundant configuration.
  - One network interface to create the virtual network bridge. This can be 1GbE. It is highly recommended that dual interfaces are used in a redundant configuration.

\*We recommend you work with a Red Hat solutions architect to determine the workload and proper sizing requirements.



## ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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