

Red Hat Hyperconverged Infrastructure for Cloud

Red Hat® Hyperconverged Infrastructure for Cloud combines Red Hat OpenStack® Platform and Red Hat Ceph® Storage into a single, prepackaged hyperconverged software offering for telecommunications environments.

Benefits

- Consolidate infrastructure to a smaller physical and environmental footprint.
- Exploit community innovation in virtualization, software-defined storage, and open networking technologies.
- Transform your datacenter and provider edge without “rip and replace upgrades.”
- Optimize operational costs and better overall value for infrastructure investments.
- Run virtualized workloads and containers side by side.

Hyperconverged infrastructure for telecommunications

Hyperconverged infrastructure is ideal for private cloud as well as network functions virtualization (NFV) core and edge workloads. Hyperconverged platforms offer co-located software-defined compute and storage resources, as well as a unified management interface, all running on economic, industry-standard servers.

With hyperconverged infrastructure, communications service providers (CSPs) can consolidate workloads onto a smaller hardware footprint while improving reliability, manageability, and efficiency. As a result, CSPs can move power to the edge of their networks to meet changing demands for services. Ideal NFV use cases for Red Hat Hyperconverged Infrastructure for Cloud include:

- Core datacenters
- Central office datacenters
- Service Provider edge and remote point of presence (PoP) environments

Red Hat Hyperconverged Infrastructure for Cloud

Red Hat Hyperconverged Infrastructure for Cloud combines Red Hat OpenStack Platform and Red Hat Ceph Storage into a single offering with common life cycle and support. Both compute and storage functionality are run on the same host (Figure 1), enabling significant consolidation and efficiency gains.

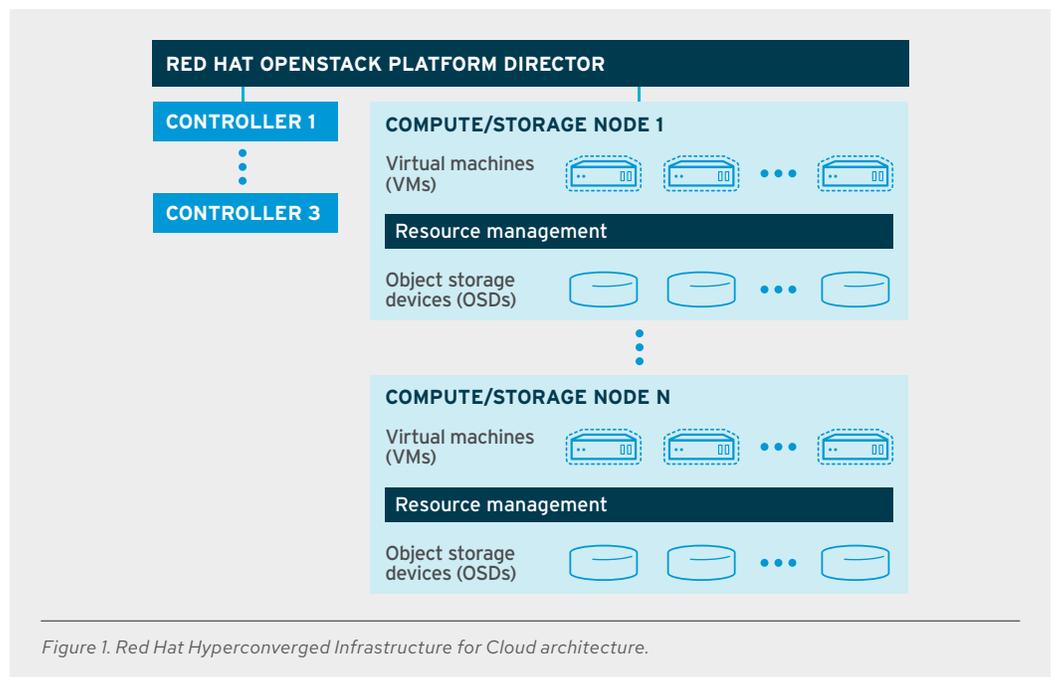


Figure 1. Red Hat Hyperconverged Infrastructure for Cloud architecture.



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Red Hat OpenStack

Platform is a highly scalable Infrastructure-as-a-Service (IaaS) product that delivers an open, flexible, and integrated private cloud foundation—optimized for, and based on, Red Hat Enterprise Linux®.

Red Hat Ceph Storage

provides a massively scalable, hardware-independent, programmable storage platform with unified support for block, object, and file storage. It is designed for modern workloads like OpenStack-based cloud infrastructure.

Features and benefits

Capability	Benefit
Reduced deployment footprint	Consolidation of compute and storage functions reduces the overall number of servers needed for a given workload, increasing efficiency and cutting costs.
No single point of failure	Clustered deployment of compute and storage resources provides increased reliability and resiliency.
Single orchestration manager	Red Hat OpenStack Platform director orchestrates all resources in the hyperconverged infrastructure for increased visibility and streamlined operations.
Advanced compute and memory management	Non-uniform memory access (NUMA) and Kernel-based Virtual Machine (KVM) memory reservation provide consistent performance during cluster stage changes.
High scalability	Scalability of up to 50 nodes to serve larger environments.
Container-based deployment model	Containerization speeds setup, helps deliver predictable and reliable performance, and enables infrastructure savings.
Complete OpenStack service support	Full support for OpenStack Nova, Cinder, Glance, Amazon Simple Storage Service (S3)/Swift, and tight integration with Red Hat Ceph Storage.
Single software package	A unified offering with aligned component life cycles simplifies purchasing and support while integration delivers use case-specific performance optimizations.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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