

COMPLETE OPENSTACK STORAGE

TECHNOLOGY BRIEF

INTRODUCTION

OpenStack® is today's largest and fastest-growing open source cloud infrastructure project. Built by a broad community of contributors, it allows enterprises to build and manage scalable, flexible, next-generation services – and it must be powered by scalable, flexible, next-generation storage to succeed.

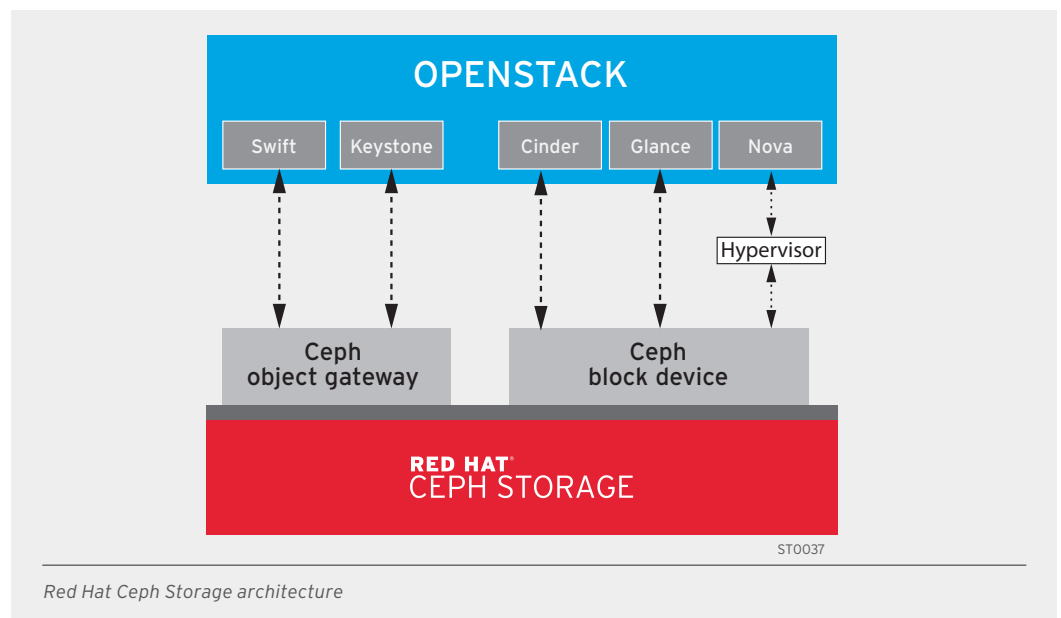
Red Hat® Storage consists of software-defined storage technologies that scale the way OpenStack does – out, not up – and their extensible architectures let them integrate more tightly with OpenStack than traditional, proprietary storage solutions can.

Red Hat offers a comprehensive software-defined storage portfolio, engineered with modern cloud architectures in mind. Red Hat Enterprise Linux® OpenStack Platform and Red Hat Ceph Storage are a clear choice for enterprises deploying OpenStack.

TECHNOLOGY

Enterprises with successful OpenStack deployments tend to have this in common: They partner with organizations that have deep open source roots, tight alliances with the OpenStack community, and the ability to provide the proper services and support.

As a platinum member of the OpenStack Foundation, Red Hat has deep relationships with the OpenStack community and is uniquely positioned to help enterprises successfully deploy and manage an OpenStack-based cloud. Red Hat is also an active contributor to both the Ceph and Gluster community projects, which deliver a critical piece of every OpenStack deployment: storage.



With a comprehensive, open, software-defined storage portfolio spanning physical, virtual, and cloud environments, Red Hat offers storage solutions for all who deploy OpenStack. Red Hat software-defined storage uniquely answers the need of today's massive deployments because it scales as OpenStack scales: quickly, reliably, and cost-effectively. For today's cloud storage, the choice is clear.

FEATURES AND CAPABILITIES

RED HAT CEPH STORAGE

A massively scalable, open, software-defined storage system that runs on commodity hardware, Red Hat Ceph Storage was built from the ground up to deliver next-generation storage for cloud and emerging workloads. The solution, which combines Ceph v0.80 (Firefly) for object and block storage with a Ceph management platform, deployment tools, and support services, integrates with Red Hat Enterprise Linux OpenStack Platform, providing a crucial storage service for virtual machines (VMs) and a fully supported cloud platform. Based on Ceph—the open source, software-defined storage system voted top by OpenStack users at large—Red Hat Ceph Storage also integrates with Ubuntu OpenStack.

The Ceph block device (RBD) integrates tightly with OpenStack by providing an excellent single back end for Cinder, Nova, and Glance that lets users efficiently store images, volumes, and snapshots. In addition, the Ceph object gateway (RGW) provides a RESTful interface that is compatible with applications written for OpenStack Swift. Both of these data services are based on the underlying RADOS object store, allowing users to deploy and manage them both within a single cluster.

Ceph is particularly well-suited as a storage back end for Red Hat Enterprise Linux OpenStack Platform, which provides an integrated and optimized foundation for building OpenStack clouds. Paired with the world's leading enterprise Linux platform and the fastest-growing cloud infrastructure platform, Red Hat Ceph Storage delivers a Red Hat-supported, end-to-end compute and storage solution with the agility and responsiveness to scale and meet enterprise demands—all without compromising on availability or performance.

RED HAT ENTERPRISE LINUX OPENSTACK PLATFORM

Red Hat Enterprise Linux OpenStack Platform is a production-ready, co-engineered cloud platform that combines the leading OpenStack technology with the world's most trusted enterprise Linux operating system, allowing enterprises to address customer demands in hours or minutes without sacrificing security or performance. Red Hat Enterprise Linux OpenStack Platform enhances OpenStack with advanced features needed for cloud environments. The tight integration of OpenStack and its underlying Linux is a critical factor in deploying a stable and high-performing cloud.

With Red Hat Enterprise Linux OpenStack Platform, enterprises get all the benefits expected from Red Hat Enterprise Linux, plus the fastest-growing cloud infrastructure platform from OpenStack—both co-engineered to work seamlessly together. Because OpenStack depends on its underlying Linux operating system for everything from service operation and access to hardware resources, system performance, driver integration, and data security, Red Hat Enterprise Linux OpenStack Platform delivers the next-generation core IaaS and secondary IaaS+ infrastructure for private or public cloud.

THE RED HAT ADVANTAGE

As enterprises struggle with the explosive growth of data and the accelerating growth of cloud computing environments, Red Hat delivers a fully integrated and supported compute and storage solution: An end-to-end stack that is agile, responsive, reliable, and cost-effective.

With Red Hat Enterprise Linux OpenStack Platform, Red Hat software-defined storage offers the thriving innovation of the OpenStack, Ceph, and Gluster community projects while providing the stability, expertise, and enterprise-readiness of a platform built on Red Hat Enterprise Linux. Red Hat's proven track record in the open source community uniquely positions it to represent its customers' needs in the OpenStack, Ceph, and Gluster communities, and Red Hat's award-winning support ensures long-term commitment through patches and feature backports.



ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services.

Red Hat is an S&P company with more than 80 offices spanning the globe, empowering its customers' businesses.

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