

Red Hat Ceph Storage

Massively scalable storage for modern, data-intensive workloads

Red Hat Ceph Storage is an open, massively scalable storage solution for modern workloads. It offers improvements to scalability, provides a more user-friendly experience, and enhances data security and protection.

Key features:

- Scalable to petabytes of data storage and billions of objects
- Performance at scale
- Simplified installation to empower IT staffs
- New monitoring and management tools
- More granular permissions and delegation
- Data durability options for various use cases
- Enhanced security compliance

Storage demands are increasing

Organizations are creating 23% more unstructured data each year—doubling the volume every 40 months.¹ Video and image object sizes are growing to support high definition, and Internet of Things (IoT) devices have multiplied as organizations gather increasing amounts of data from sensors and image capture. In addition, there is an almost insatiable demand for data to feed artificial intelligence (AI) systems to improve decision making and customer experiences and deliver new services.

Legacy storage technologies cannot keep up with demand. The problem of managing costs while maintaining performance at scale is exacerbated by dwindling storage specialist skills. Organizations need a way to scale their storage without increasing cost, head count, or security issues while adapting to modern data management modalities that accelerate time to value.

Red Hat Ceph Storage provides flexibility as needs change

Red Hat® Ceph® Storage is an efficient, unified, and simplified storage platform that gives organizations the flexibility to scale as their needs evolve. It combines the latest stable version of Ceph Storage from the open source community with additional features and Red Hat support.

It helps organizations cope with the massive growth in data and improves their ability to derive meaningful insights from their data. It is built for modern workloads, including data analytics, AI and machine learning, object Storage-as-a-Service (STaaS), archiving, and backup. Unlike traditional network-attached storage (NAS) and storage area network (SAN) approaches, it offers predictability—even as the number of clusters grows.

Scale massively

Red Hat Ceph Storage offers the option to start small, but it can cope with massive installations. It is simple to use and increasingly self-managed, so existing IT teams can manage more storage without needing to add more staff.

Innovation, particularly applications like AI, depends on speed. Companies using Red Hat Ceph Storage can offer STaaS capabilities. This ability allows them to provide users with the self-service they want and the control they need.

Maintain performance as needs change

With its new object front end and BlueStore (a high-performance storage architecture) back end, Red Hat Ceph Storage delivers up to double the performance of previous versions.² Red Hat offers a range of reference architectures based on Ceph storage that are optimized for reliability, cost, and performance to meet any business's needs—even as demands change.



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¹ Igneous. "The State of Unstructured Data Management Report," Jan. 2019.

² Singh, Karan. "Comparing Red Hat Ceph Storage 3.3 BlueStore/Beast performance with Red Hat Ceph Storage 2.0 Filestore/Civetweb." Red Hat, 2019 Dec. 5.

The integrated monitoring dashboard offers graphical visualizations of entire clusters or single components. Users can maintain quality of service with new features like noisy neighbor monitoring, which can help you visualize IOPS, throughput, and latency outliers to pre-emptively identify issues and mitigate them.

Rely on ongoing support

Red Hat Ceph Storage is tightly integrated with [Red Hat OpenStack® Platform](#), making installation and upgrades more efficient. Support is available in person and online during deployment and throughout the management life cycle.

Red Hat Ceph Storage capabilities

Scalability

Businesses need to store more data than ever, but they cannot afford to compromise on performance. Red Hat Ceph Storage offers reliable performance and improved utilization of cluster hardware built on industry-standard servers and disks.

- Increases scalability, [tested with more than 1 billion objects](#)
- Improves performance with BlueStore back end
- Automates workload redistribution as you expand your cluster
- Offers user-enabled dynamic block device expansion
- Provides rolling expansion and hardware updates without requiring a system overhaul

Simplicity

Red Hat Ceph Storage offers improved monitoring and management tools to reduce the administrative burden. Power users can delegate tasks, enhancing skill development of junior users and increasing operational efficiency.

- Maintains compatibility with existing Red Hat Ceph installations
- Makes startup quicker and easier with a new install cockpit and lower base configurations
- Accelerates deployment with Red Hat Ansible® Automation Platform
- Monitors entire clusters or single components with ease
- Provides actionable insights with an integrated, on-premise monitoring dashboard
- Cuts deployment time and cost-to-performance ratio with recommended reference architectures

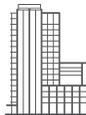
Security

Red Hat Ceph Storage has features to protect data from malicious and accidental threats, including hardware failures, employee errors, and cyberattacks.

- Provides a continuum of resiliency and data durability options from erasure coding to replication
- Supports at-rest and end-to-end encryption, including National Institute of Standards and Technology (NIST)-approved cryptography

Get started with [Red Hat Ceph Storage](#).

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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