

STORAGE ADMINISTRATORS MEET BIG DATA DEMANDS WITH RED HAT STORAGE

TECHNOLOGY OVERVIEW

“At Brightcove, we are focused on providing our customers with best-in-class solutions. Red Hat Storage helps us continue offering cost-effective solutions without having to sacrifice performance and reliability.”

RICH PARET
DIRECTOR OF
SYSTEMS ENGINEERING,
BRIGHTCOVE

INTRODUCTION

The effective use of data has become critical to enterprise competitiveness and profitability. Enterprises are now capturing data in much greater volume, storing and manipulating it in more locations across the datacenter and the cloud, and delivering it to users through a variety of new applications.

Storage administrators play a key role in overcoming the many challenges of collecting, retaining, managing, and using large amounts of enterprise data. To do this, they are helping their companies adopt agile, software-defined storage platforms that scale to meet modern storage requirements while simplifying and unifying data access.

Red Hat® Storage—which includes Red Hat Ceph Storage and Red Hat Gluster Storage—helps storage administrators and their enterprises easily manage unstructured, semi-structured, and big data in physical, virtual, and cloud environments to increase competitiveness, improve performance, and reduce costs.

SHIFTING STORAGE REQUIREMENTS DEMAND A NEW APPROACH

According to research by the McKinsey Global Institute, the amount of data being generated globally is growing at a rate of 40% per year.¹

The way enterprise data is being used is shifting as well, with demand growing for new web, social, mobile, and big data applications. Applications based on these technologies differ in many ways from traditional enterprise applications. A key distinguishing factor is their greater requirement for unstructured data—such as images, video, documents, and text—that must be easily accessed and shared via web-based protocols.

At the same time, the target deployment environment for new storage capacity is shifting rapidly. Storage administrators must now provision storage in public and private clouds as well as within the enterprise datacenter.

The complexity of deploying and operating traditional, monolithic storage systems at the scale and geographic diversity now required has significantly impeded the storage administrator's ability to support innovation and deliver the reliability, performance, and manageability that applications require.



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¹ <http://www.mckinsey.com/business-functions/business-technology/our-insights/big-data-the-next-frontier-for-innovation>

STORAGE THAT DEPLOYS ANYWHERE

Red Hat Storage is an easy-to-manage, software-defined storage solution that spans physical, virtual, and cloud environments, helping storage administrators to:

- Simplify deployment, management, and administration of storage.
- Unify file, object, and cloud storage.
- Increase flexibility, scalability, and reliability.
- Gain a competitive advantage.

To overcome these challenges, storage administrators require a storage platform that can:

- Affordably scale to meet future capacity requirements.
- Support all current and future deployment environments, including physical, virtual, and cloud environments.
- Be easily managed via one console, independent of scale and deployment environment.
- Regularly automatically replicate data among and between disparate environments to ensure high levels of data availability and application performance.
- Support traditional file-based data access via established network protocols—such as Server Message Block (SMB), Common Internet File System (CIFS), and Network File System (NFS)—as well as direct object-based data access, via standard REST and HTTP-based services.

To gain these capabilities, eliminate lock-in, and ensure high-quality service, storage administrators seek an open source platform supported by a vendor they can trust.

RED HAT STORAGE ENABLES CONFIDENT DEPLOYMENT AND MANAGEMENT

Red Hat Storage offers storage administrators a scalable, flexible data platform that eliminates the complexity of traditional, monolithic storage products and lets data be easily stored and accessed across the enterprise.

The Red Hat Storage product portfolio includes:

- **Red Hat Gluster Storage:** A scalable, reliable, cost-effective data management platform that streamlines file and object access across physical, virtual, and cloud environments.
- **Red Hat Ceph Storage:** A robust, highly scalable block and object storage platform for enterprises deploying public or private clouds.

Red Hat Storage products run on physical, virtual, or cloud-based servers, pooling their storage capacities to create a common information repository across data types, access methods, and deployment environments. Enterprises can use existing infrastructure more effectively while establishing the foundation for flexible, limitless, and cloud-compatible storage.

By bringing together proven open source technologies such as Gluster, Ceph, and Red Hat Enterprise Linux®, Red Hat Storage delivers cost, scalability, performance, and other benefits.

DEPLOY IN PUBLIC, PRIVATE, AND HYBRID CLOUDS

Red Hat Storage can be easily deployed both behind the corporate firewall and in the cloud, enabling a hybrid enterprise cloud. By incorporating physical, virtual, and cloud resources, Red Hat Storage eliminates the need to manage disparate storage platforms for different environments or data types. This simplifies the storage landscape and dramatically reduces the operational cost and complexity of supporting a diverse application portfolio.

Red Hat Storage products deploy anywhere in minutes, without proprietary and expensive infrastructure. Storage administrators can manage a complete environment of servers and storage via one graphical user interface (GUI)—improving both productivity and efficiency.

Used in coordination with Red Hat Enterprise Virtualization or Red Hat OpenStack® Platform, Red Hat Storage helps administrators simplify virtualization and private cloud environments by eliminating their dependency on complex, costly storage area network (SAN) infrastructure, resulting in increased efficiency and lower operating costs.

SUPPORT A VARIETY OF APPLICATION USE CASES

Red Hat Storage creates a converged data storage environment that consolidates file, object, and cloud storage and supports all unstructured and semi-structured data needs.

Users and applications can access data via SMB, NFS, and Portable Operating System Interface (POSIX) standards for easy integration with existing processes and systems. Object-based access via HTTP and REST is also supported to help developers more easily deliver content-centric applications. In addition, support for Hadoop Distributed File System (HDFS) lets Hadoop and big data applications access data within Red Hat Gluster Storage and Red Hat Ceph Storage.

IMPROVE FLEXIBILITY, SCALABILITY, AND RELIABILITY

Red Hat Storage lets capacity be added to existing volumes easily, without downtime. As a result, organizations can start with small deployments and scale incrementally as applications grow. Adding nodes to a Red Hat Storage environment expands storage capacity and also increases performance by providing additional I/O bandwidth.

Red Hat Storage products offer built-in high availability and disaster recovery capabilities to help storage administrators meet demanding storage service-level agreements (SLAs) without additional hardware or software.

In addition, Red Hat Storage protects against failures of individual instances and entire availability zones in public and private cloud environments through advanced features such as erasure coding and wide area network (WAN)-aware replication.

INNOVATE FASTER AND ELIMINATE LOCK-IN

Since the release of the Apache web server in 1995, open source software has generated rapid enterprise IT innovation, including the development of modern cloud computing. With lengthy product release cycles, proprietary vendors rarely deliver the innovation companies need to gain a competitive advantage.

Community-based development helps customers to exchange ideas, share expertise, and directly participate in the process of creating solutions that best suit their needs. With Red Hat, organizations get the best of both worlds: the innovation of the open source community along with a commitment to the quality standards required for reliable, 24x7 datacenter operations.

ENTERPRISE STORAGE NEEDS A MODERN DATA PLATFORM

Storage administrators can overcome the scalability, reliability, and operational challenges of traditional storage systems by introducing a modern data platform. Red Hat Storage provides a robust foundation for enterprise data that can support file, object, and block data across physical, virtual, and cloud-based infrastructure.

Red Hat Gluster Storage and Red Hat Ceph Storage can be used individually or in coordination to support a variety of data-centric use cases, including:

- Cloud infrastructure and object storage.
- Containers.
- Rich media and archival storage.
- Big data and analytics.
- Enterprise virtualization and hyperconvergence.
- Enterprise sync and share.

With Red Hat Storage, storage administrators can confidently support these and other use cases while building a scalable, reliable, and easily managed foundation for enterprise data.

For more information, visit redhat.com/storage.



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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