

IT LEADERS MANAGE COMPLEXITY WHILE REDUCING COST WITH SOFTWARE-DEFINED STORAGE

TECHNOLOGY OVERVIEW

“We provide a wide range of entertainment services on the cloud such as TV channels, VOD (Video on Demand), music, and games. It is important for us to choose appropriate storage for each service offering. Red Hat Storage delivers high availability and scalability with low cost, which takes advantage of GlusterFS technology. We are thus able to build robust platforms to meet the requirements of service providers.”

Katsumi Nagata,
board director and
executive director,
technology and
engineering division,
NTT Plala Inc.

INTRODUCTION

From physical to virtual to cloud, IT organizations have adopted increasingly complex technologies to help their enterprises achieve greater agility. It's left to IT leaders to manage this complexity, keeping operating costs low while delivering on ever-increasing service level agreement (SLA) expectations. With the rapid growth in unstructured data volumes, IT organizations are now turning their attention to storage to eliminate costs and inefficiencies while increasing performance, security, and reliability.

DATA DELUGE STRAINS TRADITIONAL STORAGE

According to research by the McKinsey Global Institute, the amount of globally generated data is growing at a rate of 40% per year.¹ To add to this, many firms are experiencing even greater growth rates for their unstructured data. The proliferation of virtualization has further exacerbated this issue.

As enterprises capture more data from more sources, storage has become a key challenge for enterprise IT leaders. One obvious cause for concern is cost. With IT storage spending growing alongside increasing data volumes, managing spend has become a priority while planning for growth. And with storage costs consuming nearly 20% of the average IT budget², enterprises find themselves paying high maintenance fees to legacy vendors.

Managing complexity and meeting SLAs present even more of a concern. IT leaders are facing a staggering amount of complexity created by isolated storage, deployed across the enterprise and supported by layers of technology that require multiple set of tools and varied skills.

This complexity gets in the way of meeting SLAs. When issues arise, isolating issues can be difficult for engineers, and involving multiple vendors can further delay service restoration.

SOFTWARE SIMPLIFIES ENTERPRISE STORAGE

An efficient solution is a software-based storage platform that allows IT leaders to easily deliver enterprise-grade storage using the inexpensive and readily available x86 servers that they understand and trust.

This new platform will be:

- Versatile, supporting a wide range of storage use cases
- Accessible using a wide range of standard protocols
- Integrated into a common operational model



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¹ Big Data: The next frontier for innovation, competition and productivity. McKinsey Global Institute. June 2011
² <http://www.forbes.com/sites/ciocentral/2012/07/17/defensible-disposal-you-cant-keep-all-your-data-forever/>

**BREAKING DOWN
INFORMATION SILOS
WITH OPEN STORAGE
SOFTWARE**

To deliver scalable, reliable, cost-effective, and secure storage, IT leaders are turning to open, software-defined storage that enables them to:

- Unify disparate data silos
- Standardize infrastructure and acquisition
- Increase reliability and scalability
- Modernize their architectures
- Capitalize on open source innovation

- Manageable using one management console
- Consistent with the organization’s infrastructure strategy
- Readily deployed to physical, virtual, and cloud-based resources

To meet or exceed SLA commitments, IT leaders need a storage platform that offers built-in high availability and disaster recovery without the complexity of third-party tools. They also need to be able to add nodes easily and flexibly so they can grow capacity and performance without disruption or downtime.

Open source solutions tap into the power of community. Freed from proprietary vendor upgrade cycles, they allow organizations to deploy software-based solutions on industry-standard hardware and avoid vendor lock-in.

**RED HAT STORAGE FREES IT ORGANIZATIONS
TO DELIVER ON THE PROMISE OF CLOUD**

The Red Hat® Storage portfolio is an open-source, software-defined platform that lets IT leaders transform their proliferating data stores from a cost burden into a strategic asset. Red Hat Storage products run on off-the-shelf servers—physical, virtual, or cloud based—pooling their storage capacities to create a common information repository that spans data types, access methods, and deployment environments.

The Red Hat Storage portfolio includes:

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

Pooling cloud and on-premises resources, Red Hat Storage products leverage a company’s existing infrastructure while establishing the foundation for flexible, limitless, cloud-compatible storage. Red Hat Storage products bring together proven open source technologies such as Gluster, Ceph, and Red Hat Enterprise Linux® to deliver the benefits of modern data storage to enterprises.

UNIFIES DISPARATE DATA SILOS

With Red Hat Storage, infrastructure leaders can easily construct a converged data platform that consolidates file, object, and cloud storage and supports all the enterprise’s unstructured and semi-structured data needs.

Red Hat Storage products are easily deployed both behind the corporate firewall and in the cloud, enabling a hybrid enterprise storage cloud. By incorporating physical, virtualized, and cloud resources, they eliminate the need for disparate storage platforms, simplifying the storage environment and dramatically reducing operational cost and complexity.

In addition, Red Hat Storage allows IT organizations to manage servers, storage, and virtualization with one efficient management interface.

STANDARDIZES INFRASTRUCTURE AND ACQUISITION

Proprietary storage solutions use single-source hardware and an embedded software stack, locking customers into a pricing model in which each incremental expansion is more expensive than the industry-standard equivalent. By contrast, the cost of commodity components is driven ever-downward by marketplace pressures, widening this gap with each passing year.

Red Hat Storage products are compatible with more than 75 off-the-shelf server models, allowing IT organizations to shorten decision cycles, streamline procurement, and realize value faster. And by supporting a wide variety of infrastructure configurations, the Red Hat Storage product family gives IT organizations the freedom to choose the right hardware to meet application and business requirements.

INCREASES RELIABILITY AND SCALABILITY

Red Hat Storage products allow organizations to easily add capacity as the need arises—without downtime or disruption. This allows organizations to start with small Red Hat Storage deployments and scale incrementally as applications grow. Adding nodes to a Red Hat Gluster Storage or Red Hat Ceph Storage environment not only expands storage capacity, it increases performance by providing additional input/output bandwidth.

IT leaders can meet and exceed demanding SLAs with the built-in high availability and disaster recovery capabilities Red Hat Storage products offer. Whether on premise or in the cloud, no additional hardware or software is needed to achieve high levels of data availability.

Red Hat Storage products include advanced features such as erasure coding and WAN-aware replication to ensure that data availability requirements are easily and efficiently met. These features also allow IT organizations to guard against failures in public and private cloud environments.

MODERNIZES STORAGE ARCHITECTURE

Red Hat Storage products support a wide variety of access protocols, allowing IT organizations to support existing datacenter technologies while enabling future innovation.

Red Hat Storage lets users and applications access data via the Common Internet File System (CIFS), Network File System (NFS), and Portable Operating System Interface (POSIX) standards for easy integration with existing processes and systems. Support for object-based access via HTTP and REST lets developers easily deliver data-ready social, mobile, and web applications. Hadoop plug-ins enable compatibility between the Hadoop Distributed File System (HDFS) and Red Hat Storage. Hadoop and other data-intensive applications can run directly on storage nodes, allowing low-latency and high-throughput access to stored files and objects.

CAPITALIZES ON OPEN SOURCE INNOVATION

Open source software has driven rapid enterprise IT innovation, including cloud technologies. Proprietary vendors, which focus on expanding deployments and maximizing profits, rarely deliver the innovation companies need to gain a competitive advantage.

Community-based development enables customers to exchange ideas, share expertise, and directly participate in the process of creating the solutions that best suit their needs. And 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.

RED HAT STORAGE ENABLES MODERN WORKLOADS

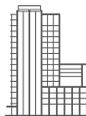
With the rise of big data and the explosion of unstructured data, IT leaders are paying closer attention to storage delivery in their organizations and turning to open, software-defined storage running on industry-standard servers.

The Red Hat Storage portfolio consists of two leading, open source, software-defined storage solutions that may be used individually or together to enable:

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

Red Hat Storage lays the foundation for an agile, cost-effective storage architecture by consolidating file, object, and cloud-based data onto a platform able to span physical, virtual, and cloud-based resources. With Red Hat Storage, infrastructure leaders can confidently manage cost, complexity, and risk; capitalize on emerging technologies; and drive future innovation across their organizations.

For more information on Red Hat Storage, visit www.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 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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