RED HAT GLUSTER STORAGE

An open, software-defined storage platform for physical, virtual, cloud, and container environments

DATASHEET

FEATURES

Single global namespace
Aggregate disk and memory resources into a single trusted storage pool.

Object access to file storage
Filestore can be also accessed using an object-application programming interface (API).

Replication
Support synchronous replication within a datacenter and asynchronous replication for disaster recovery.

Erasure coding
Enhance data protection by using information stored in the system to reconstruct lost or corrupted data.

Bit-rot detection
Help preserve the integrity of data assets by detecting silent corruption.

Tiering
Automatically move data between fast (solid state drive-based) and slow (hard disk drive) tiers based on access frequency.

DESCRIPTION

Red Hat® Gluster Storage is an open, software-defined scale-out storage platform to easily manage unstructured data for physical, virtual, and cloud environments. Red Hat Gluster Storage combines both file and object storage with a scale-out architecture, designed to cost-effectively store and manage petabyte-scale data growth.

Red Hat Gluster Storage delivers a continuous storage fabric across physical, virtual, and cloud resources so customers can transform their big, semistructured, and unstructured data from a burden to an asset.

Red Hat Gluster Storage is used for storing various kinds of unstructured data, including:

- Rich media content like videos, images, and audio files.

- Backup images and nearline archives.

- Big data—log files, radio frequency identification (RFID) data, and other machine-generated data.

- Virtual machine images.

Built on the industry-leading Red Hat Enterprise Linux® operating system, Red Hat Gluster Storage lets customers deploy cost-effective and highly available storage without compromising scale or performance. Red Hat Gluster Storage eliminates storage silos by allowing global access to data through multiple file and object protocols. It is also designed to work seamlessly with industry-standard x86 commodity servers.

Red Hat Gluster Storage can easily be deployed on premise, in public cloud infrastructures, and in hybrid cloud environments. It is optimized for storage-intensive enterprise workloads such as archiving and backup, rich media content delivery, enterprise drop-box, cloud and business applications, virtual and cloud infrastructure storage, as well as emerging workloads such as co-resident applications and big data Hadoop workloads.

Today, enterprises are often faced with disparate storage silos, geographically dispersed among many datacenters around the globe. Red Hat Gluster Storage helps enterprises eliminate their silos and unify their data by provisioning and managing storage regardless of whether it is on premise, virtualized, or in a public cloud infrastructure.

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Security
Support Security-Enhanced Linux (SELinux) enforcing mode with secure socket layer (SSL)-based in-flight encryption.

Snapshots
Assure data protection through cluster-wide filesystem read-only and read-writable snapshots that are user accessible for easy recovery of files.

Container support
Persistent file-based storage from containerized Red Hat Gluster Storage can be consumed by containerized applications over the network.

Elastic hashing algorithm
Eliminate performance bottlenecks and single points of failure with no metadata server layer.

Easy online management
- Web-based management console

- Powerful and intuitive command-line interface (CLI) for Linux admins

- Monitoring (Nagios-based)

- Expand and shrink storage capacity without downtime

RED HAT GLUSTER STORAGE:
IDEAL FOR PRIVATE, PUBLIC, AND HYBRID CLOUDS

AN OPEN, SOFTWARE-DEFINED, SCALE-OUT STORAGE PLATFORM THAT DEPLOYS ON INDUSTRY-STANDARD X86 HARDWARE IN MINUTES
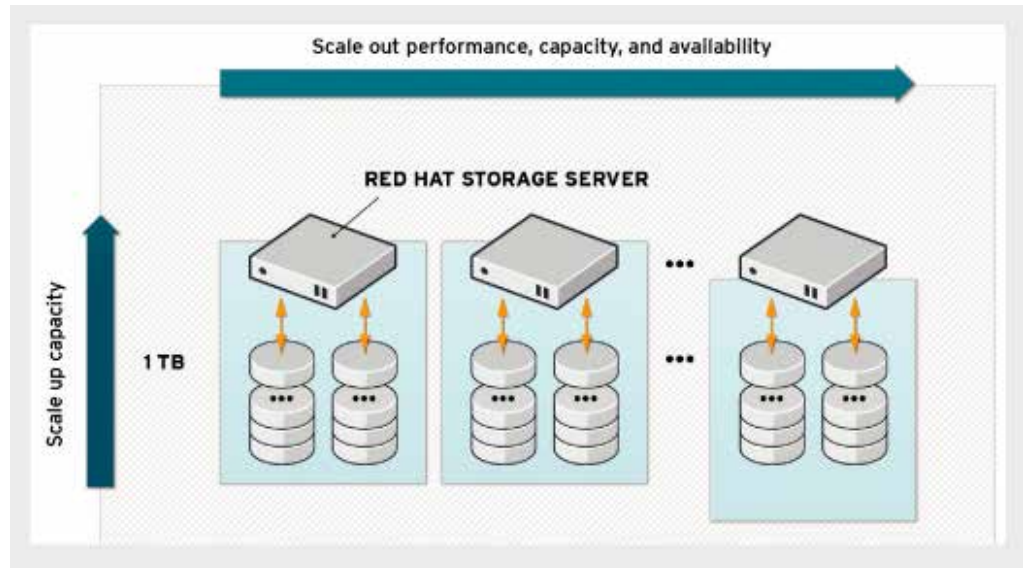
Use case: Datacenter / private cloud
Red Hat Gluster Storage

SCALABILITY AND FLEXIBILITY WITHOUT DISRUPTION

Red Hat Gluster Storage is designed for unlimited scalability; storage can be added or removed while data continues to be available. Bit-rot detection helps ensure the integrity of that data. Additionally, the elastic, scale-out architecture of Red Hat Gluster Storage lets users seamlessly grow storage to meet the dynamic needs of virtual environments.

EASY TO DEPLOY

An International Standards Organization (ISO) image installs on a server or supported hypervisors (e.g., Red Hat Enterprise Virtualization and VMware vSphere/ESXi) for quick deployment.

HIGH PERFORMANCE AT A LOWER COST

Red Hat Gluster Storage uses an elastic hashing algorithm to locate data in the storage pool (by calculating a hash on the file name), removing a common source of input/output (I/O) bottlenecks and vulnerability to failure. This, coupled with its large-capacity scalability, gives users better performance at a lower cost. Also lowering costs is erasure coding, which reduces capacity requirements for archives and cold storage at a lower cost per gigabyte.

Enterprises can eliminate their dependence on costly, monolithic storage arrays that are difficult to scale. With Red Hat Gluster Storage, enterprises can easily deploy commodity hardware in minutes for scalable, high-performance storage in their datacenters or in hybrid cloud environments.

RED HAT GLUSTER STORAGE AND MICROSOFT AZURE

Red Hat Gluster Storage offers Microsoft Azure users a scale-out, POSIX-compatible, massively scalable, elastic file storage solution with a global namespace. This offering brings existing users of Red Hat Gluster Storage another supported public cloud environment where they can they run their POSIX-compatible file storage workloads. Learn more about our partnership: http://redhatstorage.redhat.com/2015/11/04/availability-of-red-hat-gluster-storage-in-microsoft-azure-2/

RED HAT GLUSTER STORAGE FOR PUBLIC CLOUD

A HIGHLY AVAILABLE, HIGH-PERFORMANCE STORAGE SOLUTION FOR AMAZON WEB SERVICES (AWS) AND GOOGLE CLOUD PLATFORM (GCP)
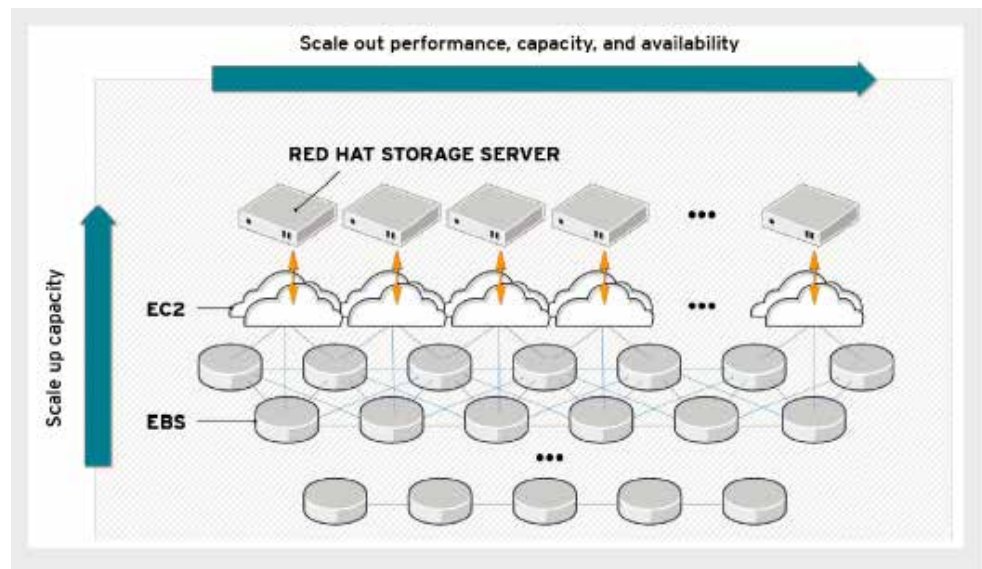
*Use case: Scale-out network-attached storage (NAS) for Amazon Web Services
Red Hat Gluster Storage for public cloud*

SINGLE GLOBAL NAMESPACE

AWS users can aggregate both Amazon Elastic Block Storage (EBS) and Amazon Elastic Compute Cloud (EC2) instances within AWS environments, creating a highly available, virtualized storage pool.

SUPERIOR AMAZON EC2 EXPERIENCE

Red Hat Gluster Storage for public cloud eliminates capacity limitations of a single device and levels out performance variations across the pool, so Amazon EC2 customers experience superior availability and performance.

HIGH AVAILABILITY

Red Hat Gluster Storage for public cloud provides synchronous replication and asynchronous geo-replication, so data is synchronously mirrored across availability zones and asynchronously across regions within AWS.

Requirements

- Intel x86-64 Xeon CPU

- Minimum 16GB RAM

- Minimum 50GB disk for system software

- Minimum 1x 1GBE or 1x 10GBE NIC

- Up to 60 SAS or SATA disks per Red Hat Gluster Storage node for data

- Flash/battery-backed RAID controller that supports RAID-6 and RAID-1+0

- Includes all software to deploy on bare-metal physical and virtualized servers (e.g., Red Hat Enterprise Virtualization or VMware vSphere/ESXi)

NO APPLICATION RE-WRITES

Migrate existing POSIX applications to the cloud without making modifications.

BENEFITS TO THE ENTERPRISE

As enterprises struggle with the explosive growth of unstructured data and the accelerating virtualization of computing environments, Red Hat Gluster Storage for public cloud provides an ideal solution for cloud storage. It simplifies the task of managing unstructured file data, whether users have a few terabytes of storage or multiple petabytes, without acquiring new hardware.
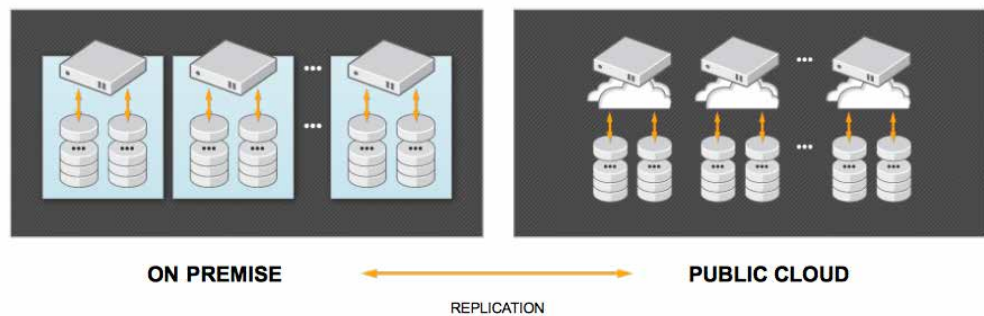
RED HAT GLUSTER STORAGE FOR HYBRID CLOUD

OPEN, SCALE-OUT STORAGE SOFTWARE FOR HYBRID CLOUD ENVIRONMENTS

Red Hat Gluster Storage for hybrid cloud brings enormous flexibility to enterprises considering deployment in both public and private clouds.

USE CASE: HYBRID CLOUD STORAGE

RED HAT GLUSTER STORAGE FOR HYBRID CLOUD DEPLOYMENT MODEL

BUILT-IN REPLICATION FOR DATA PROTECTION

Red Hat Gluster Storage for hybrid cloud uses replication to provide high availability across the datacenter and public cloud. Synchronous file replication provides local data replication to support business continuity. Asynchronous replication provides long-distance data replication for disaster recovery.

EASY MIGRATION TO THE CLOUD

Red Hat Gluster Storage for hybrid cloud is POSIX-compatible, so there's no need to rewrite your applications when moving data or applications from your on-premise datacenter to the public cloud.

SIMPLE, COST-EFFECTIVE DATA ACCESS

With Red Hat Gluster Storage for hybrid cloud, files and objects can be created and extracted simultaneously by various application environments.

Store as a file and instantly retrieve it as an object, and vice versa. This drastically reduces the cost for file and object storage and eliminates the need for separate storage silos. NFSv4 integration enhances data access with broad client support.

BENEFITS TO THE ENTERPRISE

More and more enterprises are embracing hybrid cloud environments, using external clouds to host noncritical IT services and internal clouds for business-critical applications. With Red Hat Gluster Storage for hybrid cloud, enterprises can easily extend their datacenters to the cloud and achieve increased flexibility, unified data accessibility, enhanced security, and simplified management – all while minimizing costs.

RED HAT GLUSTER STORAGE AND GOOGLE CLOUD PLATFORM FOR HYBRID CLOUD

By deploying Red Hat Gluster Storage on premise and in Google Cloud Platform, users can cohesively manage storage for data and applications—regardless of location—and easily migrate applications and workloads as they transition to the cloud. Unlike traditional, hardware-based storage, Red Hat Gluster Storage provides the compatibility and agility needed to quickly and easily adopt cloud technology by unifying storage across environments. Learn more: redhat.com/en/resources/red-hat-gluster-storage-google-cloud-platform

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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NORTH AMERICA	EUROPE, MIDDLE EAST, AND AFRICA	ASIA PACIFIC	LATIN AMERICA
1 888 REDHAT1	00800 7334 2835	+65 6490 4200	+54 11 4329 7300
	europe@redhat.com	apac@redhat.com	info-latam@redhat.com