RED HAT GLOBAL FILE SYSTEM

WHAT IS IT?

Red Hat Global File System (GFS) is an open source, POSIX-compliant cluster file system and volume manager that executes on Red Hat Enterprise Linux servers attached to a storage area network (SAN). It works on all major server and storage platforms supported by Red Hat. The leading (and first) cluster file system for Linux, Red Hat GFS has the most complete feature set, widest industry adoption, broadest application support, and best price/ performance of any Linux cluster file system today.

WHAT DOES IT DO?

Red Hat GFS allows Red Hat Enterprise Linux servers to simultaneously read and write to a single shared file system on the SAN, achieving high performance and reducing the complexity and overhead of managing redundant data copies. Red Hat GFS has no single point of failure, is incrementally scalable from one to hundreds of Red Hat Enterprise Linux servers, and works with all standard Linux applications.

WHY SHOULD I CARE?

Red Hat GFS is tightly integrated with Red Hat Enterprise Linux and distributed through Red Hat Network. This simplifies software installation, updates, and management. Applications such as Oracle 9i RAC, and workloads in cluster computing, file, web, and email serving become easier to manage and achieve higher throughput and availability with Red Hat GFS.

FEATURES AND BENEFITS

Performance
Red Hat GFS helps Red Hat Enterprise Linux servers achieve high IO throughput for demanding applications in database, file, and compute serving. Performance can be incrementally scaled for hundreds of Red Hat Enterprise Linux servers using Red Hat GFS and storage area networks constructed with iSCSI or Fibre Channel.

Availability
Red Hat GFS has no single-point-of-failure: any server, network, or storage component can be made redundant to allow continued operations despite failures. In addition, Red Hat GFS increases system availability by allowing reconfigurations such as file system and volume resizing to be made while the system remains online. Red Hat Cluster Suite can be used with GFS to move applications in the event of server failure or for routine server maintenance.

Ease of Management
Red Hat GFS allows fast, scalable, high throughput access to a single shared file system — reducing management complexity by eliminating the need for data copying and maintaining multiple versions of data to insure fast access. Integrated with Red Hat Enterprise Linux (AS, ES, and WS) and Cluster Suite, delivered via Red Hat Network, and supported by Red Hat's award winning support team, Red Hat GFS is the world's leading cluster file system for Linux.

redhat

EMPOWER YOUR APPLICATIONS WITH RED HAT GFS

For customers with demanding file serving, Web serving, database, and grid/technical/scientific computing applications, Red Hat GFS enables unprecedented application performance and scalability. Scaling to hundreds of servers and terabytes of storage, it lets customers utilize cost-effective, high-performance "scale out" architectures rather than expensive "scale up" architectures. GFS solves the scalability limits of traditional IP-based shared storage solutions. It achieves significant cost savings and simplifies data management by eliminating the multiple data copies associated with non-shared storage environments. GFS is the most trusted Linux file storage platform for large-scale data environments requiring continuous data availability.

DATA SHARING IN SCALE OUT LINUX CLUSTERS

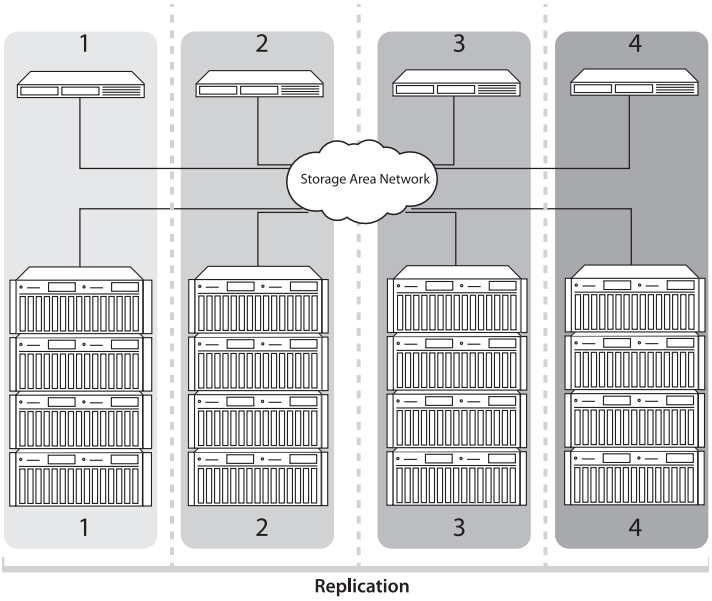
Scale out Linux clusters are becoming a key component in the enterprise IT infrastructure. Red Hat Enterprise Linux, GFS, and Cluster Suite provide an integrated software framework for providing data sharing between the large number of nodes found in scale out clusters. Data sharing improves application performance and scalability, simplifies data management using low-cost Linux hardware and storage area networks, and ensures continuous data availability for mission-critical applications. Developed and supported by the open source community and Red Hat, GFS is the trusted cluster file system for large, scale out Linux clusters.

FILE SERVING

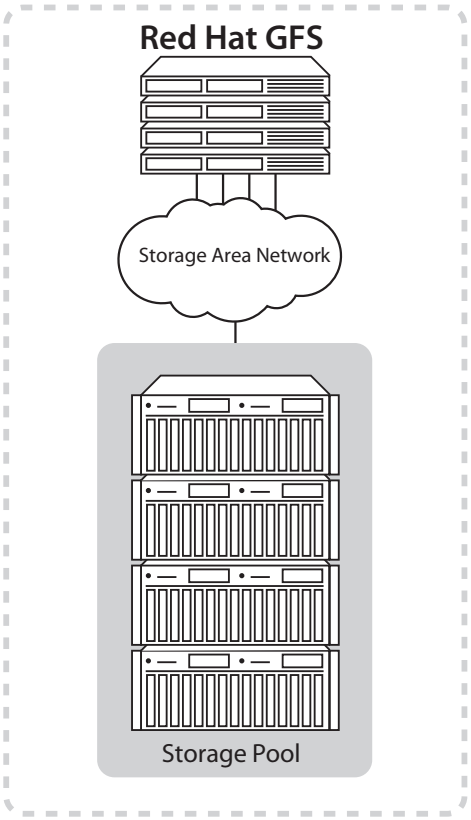
Traditional IP-based file servers provide a single server per file system name space, which can become a performance bottleneck when accessing shared data. With Red Hat GFS, file servers can be clustered to provide shared, parallel access to a single file system namespace, increasing file serving performance and scalability, simplifying data management, and insuring continuous data availability.

ORACLE RAC DATABASE CLUSTERING

Oracle databases can be clustered using Oracle's powerful Real Application Clusters software, which exploits the performance, availability, and scalability of today's storage area networking (SAN) technology. Red Hat GFS simplifies the installation, configuration, and on-going maintenance of the SAN infrastructure necessary for Oracle RAC clustering. Oracle tables, log files, program files, and archive information can all be stored in GFS files, avoiding the complexity and difficulties of managing raw storage devices on a SAN while achieving excellent performance.



Separate file systems. No data sharing.



Data sharing with Red Hat GFS.

GRID AND HIGH PERFORMANCE COMPUTING

Grid and high performance computing is a leading application area for Linux clusters. Red Hat GFS can be used to share data among Red Hat Enterprise Linux servers, improving application performance for IO- and storage-intensive application software by improving raw file transfer speeds, removing unnecessary data copying, and ensuring continuous data availability. Red Hat GFS combined with storage area networking technology can solve the large data and IO requirements of the largest grid computing clusters in production today.

EMAIL SERVING

Red Hat GFS can provide scalable performance and continuous data availability for large email server installations. Email is both mission-critical and performance-intensive. Data sharing clusters constructed with Red Hat Enterprise, GFS, and Cluster Suite can help provide the scalability, performance, and data availability required by demanding email server environments today.

ADVANCED FEATURES

- Scalable to hundreds of Red Hat Enterprise Linux servers.
- Supports Intel X86, Intel Itanium2, AMD AMD64, and Intel EM64T architectures
- Works with Red Hat Cluster Suite to provide high availability for mission-critical applications.
- Quota system for cluster-wide storage capacity management.
- Direct IO support allows databases to achieve high performance without traditional file system overheads.
- Dynamic multi-pathing to route around switch or HBA failures in the storage area network.
- Dynamic capacity growth while the file system remains on-line and available.
- Can serve as a scalable alternative to NFS.

PRODUCT INFORMATION

- Supported on Red Hat Enterprise Linux AS, ES, and WS. Red Hat Cluster Suite support available on Red Hat Enterprise Linux v.3.
- Support for a wide variety of Fibre Channel and iSCSI storage area network products from leading switch, HBA, and storage array vendors.
- Mature, industry-leading, field-proven, open source cluster file system.

redhat

COMPLETE YOUR RED HAT SOLUTION

RED HAT ENTERPRISE LINUX

The foundation for open source computing in the enterprise.

- **Red Hat Enterprise Linux AS:** for high-end and mission-critical systems
- **Red Hat Enterprise Linux ES:** for small/mid-range servers
- **Red Hat Enterprise Linux WS:** for technical/design workstation clients
- **Red Hat Desktop:** for secure, managed clients

www.redhat.com/software/rhel

RED HAT NETWORK

The complete systems management platform for Linux, currently featuring three modules:

- **Update**
- **Management**
- **Monitoring**

www.redhat.com/software/rhn

PROFESSIONAL SERVICES

A complete range of open source services to help companies plan, implement, and extend the value of Red Hat's open souce solutions.

- **Global Learning Services:** Industry acclaimed, perfomance-based training courses and certifications
- **Global Professional Services:** A full set of consulting services from assessment to implementation, to infrastructure management
- **Global Support Services:** Around-the-clock, global support from the most trusted, experienced, and knowledgable technical support staff

TRAINING

Red Hat offers the industry's most highly respected Linux training and certification programs, covering core and advanced skills in administering Red Hat Enterprise Linux for deployment. Three levels of certification are available: Red Hat Certified Technician (RHCT), Red Hat Certified Engineer (RHCE), and Red Hat Certified Architect (RHCA). RH436 Red Hat Enterprise Storage Management, an advanced course in the RHCA curriculum, provides intensive hands-on experience with the emerging shared storage technology delivered by Red Hat GFS.

RED HAT SALES AND GENERAL INQUIRIES

USA/Canada
1-888-REDHAT1
1-866-273-3428 X44555
sales@redhat.com

Worldwide offices
www.redhat.com/about/corporate/wwoffices/

www.redhat.com

redhat

INS0032US, 6/04