

Gluster Virtual Storage Appliance

For Red Hat KVM, VMware ESX, Citrix Xen Hypervisors



Technical Overview

The Gluster Virtual Storage Appliance is a software-only storage solution delivered as a virtual appliance. The Virtual Appliance integrates GlusterFS into a virtual machine (VM) for deployment on any Red Hat KVM, VMware ESX and Citrix Xen certified hardware platform.

The Virtual Appliance enables enterprises to treat physical storage as a virtualized, scalable, standardized, scale-on-demand, and centrally managed pool of storage for VM users. Enterprises now have the capability to leverage storage resources the same way they have leveraged computing resources, radically improving storage economics in the process via the use of commodity storage hardware. The Virtual Appliance global namespace capability aggregates disk and memory resources into a unified storage volume that is abstracted from the physical hardware. Gluster supports multi-tenancy; partitioning users or groups into logical volumes on shared storage.

Deploying Gluster

The Gluster Virtual Appliance easily deploys and scales in minutes on any Red Hat KVM, VMware ESX and Citrix Xen certified hardware platforms. The Virtual Appliance installs in userspace, and scales to petabytes of storage capacity within a Virtual Appliance. Virtual Appliances are POSIX compliant, so the interface abstracts vendor APIs and applications do not need to be modified.

By scaling performance and capacity linearly, capacity is able to be added as required in only a few minutes across a wide variety of workloads without affecting performance. Storage can also be centrally managed across a wide variety of workloads enabling operations to more efficiently manage storage used for a variety of purposes.

Virtual Appliances enable VM users to eliminate their dependence on costly, difficult to deploy and manage monolithic storage arrays. With Virtual Appliances VM users can now deploy commodity storage hardware and realize superior economics of significantly lower storage hardware costs. VM users can now ensure they deploy and pay for storage resources when needed.

Key Benefits

- ✓ Elastically scale storage with no downtime or application interruption
- ✓ Automate management with an advanced console manager
- ✓ High Availability support via N-way replication
- ✓ Uses any KVM, VMware, Xen certified hardware platform
- ✓ Uses standard IP network connectivity
- ✓ No-metadata server eliminates performance bottleneck and ensures linear scalability
- ✓ Deploys in minutes on Virtual Machine certified storage
- ✓ Works with standard VM backup capabilities
- ✓ Aggregate CPU, memory, network, capacity
- ✓ Scale-out capacity and performance as needed

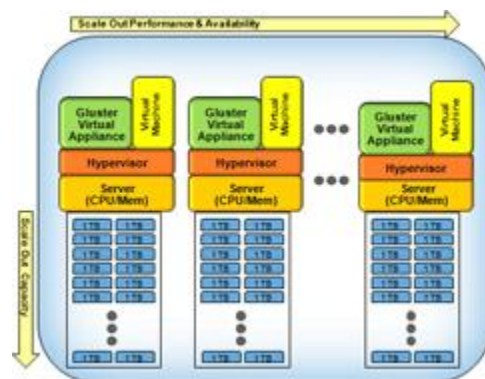


Figure 1. Gluster Virtual Storage Appliance

Additional Features

Optimized for Virtual Machine Environments

- ✓ Enables users to treat storage as a virtualized resource.
- ✓ A POSIX-compliant, distributed file system, designed for the virtual machine environment.
- ✓ Modular, stackable design. Gluster Virtual Storage Appliances can be configured and tuned to deliver high performance for a wide range of workloads. Modules can be combined as necessary depending on storage requirements and workload profile.
- ✓ No metadata server. Rather than using a centralized or distributed metadata server, Gluster employs an elastic hashing algorithm to locate data in the storage pool removing this common source of I/O bottlenecks and vulnerability to failure. Data access is fully parallelized and performance scales linearly.

Scalability

- ✓ Elastic volume management enables storage volumes to be abstracted from the hardware so data and hardware can be managed independently. Storage can be added while data continues to be available, with no application interruption. Volumes can grow across machines in the system and can be migrated within the system to rebalance capacity. Storage server nodes can be added on the fly.
- ✓ A unified global namespace that aggregates disk and memory resources into a single pool, virtualizing the underlying hardware. Grow and shrink the single namespace dynamically, with no interruption to client access.
- ✓ Scale-out to petabytes

Flexibility

- ✓ Runs in userspace, eliminating the need for complex kernel patches or dependencies.

Easy to Deploy

- ✓ With just a few mouse clicks you can deploy additional storage in seconds.
- ✓ Provision and scale-out an unlimited number of nodes for multi-petabyte NFS, CIFS, and GlusterFS mounts.
- ✓ Build a secure, low cost, and easily managed, thin provisioned, multi-tenant scale-out storage system in minutes, and add additional instances in seconds.

High Availability

- ✓ Highly available. N-way replication. Data is synchronously mirrored across availability zones.
- ✓ Files can be replicated two or more times to ensure data is always available, even in the event of hardware failure. Self-healing capabilities restore data to the correct state following recovery.

Simple Management

- ✓ Simple, single command for storage management.
- ✓ Automated call-home for critical issues, 24/7/365, 2 hour response support available.
- ✓ Includes performance monitoring and analysis tools.

Try/Buy

- ✓ To learn more about a functional trial, or to purchase the Gluster Virtual Storage Appliance visit www.gluster.com/trybuy.