



# RED HAT VIRTUAL STORAGE APPLIANCE

## FOR AMAZON WEB SERVICES

### KEY BENEFITS

- Packaged as an Amazon Machine Image (AMI)
- Replicate synchronously across availability zones
- Replicate Asynchronously across AWS Regions
- Deployed in minutes as EC2 Instances
- Virtualizes Elastic Block Storage (EBS)
- Files stored on EBS
- VSA, EC2, and EBS form scale-out NAS within AWS
- Each AMI ties to large number of EBS's, so no need to worry about individual EBS performance
- Top: Provides visibility into the I/O workload pattern
- Profile: Provides performance statistics over a user-defined time period for metrics including latency and amount of data read or written
- No need to rewrite POSIX compliant apps - move them directly to the cloud
- Pay per-hour, per GB/mo

### TECHNICAL OVERVIEW

Red Hat Virtual Storage Appliance (VSA) for Amazon Web Services (AWS) packages GlusterFS as an Amazon Machine Image (AMI) for deployment of scale-out NAS in the AWS public cloud. This powerful storage appliance provides a highly available, scalable, virtualized, and centrally managed pool of storage for Amazon users. The Red Hat VSA is the only way to assure highly available storage within AWS. Synchronous N-way replication across AWS Availability Zones assures information access within an AWS Region. Asynchronous Geo-Replication provides continuous data replication to assure information access across AWS Regions. The GlusterFS global namespace capability aggregates disk and memory resources into a unified storage volume that is abstracted from the physical hardware. GlusterFS supports multi-tenancy; partitioning users or groups into logical volumes on shared storage.

The Red Hat VSA simplifies the task of managing unstructured file data whether you have a few terabytes of storage or multiple petabytes. As enterprises struggle with both the explosive growth of unstructured data and the accelerating virtualization of the computing environment, Red Hat provides a solution ideally suited for cloud storage.

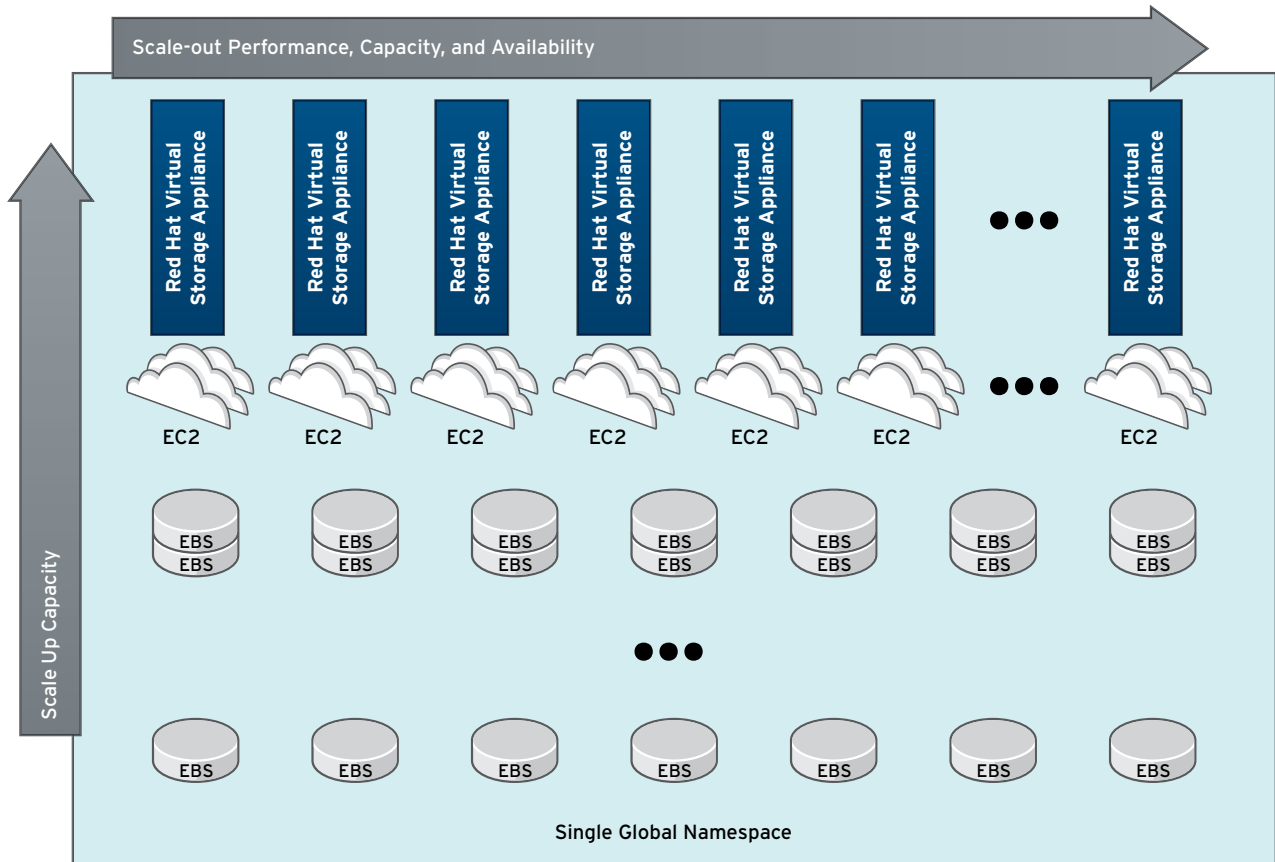
Red Hat Virtual Storage Appliance is the only high availability (HA) storage solution available for AWS. This unique HA solution is enabled by the synchronous file replication capability built into the GlusterFS.

### DEPLOYMENT OVERVIEW

Red Hat Storage is well suited to cloud environments. It deploys and scales easily on public cloud platforms such as AWS and aggregates elastic block storage (EBS) into a single pool that can be shared across many clients. GlusterFS is POSIX compliant so applications do not need to be modified in order to run in the cloud and use GlusterFS NAS file storage. This capability enables you to accelerate your move of applications to the cloud and more effectively leverage cloud resources.

By scaling performance and capacity linearly, storage nodes and capacity are 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.

FIGURE 1: RED HAT VIRTUAL STORAGE APPLIANCE





Red Hat Virtual Storage Appliance is available in multiple instance types from AWS. Flexibility in the AWS pay-as-you-go model, combined with the highly-elastic scaling capabilities of Red Hat VSA, ensures you only deploy and pay for storage resources when needed.

## ADDITIONAL FEATURES

### Optimized for Amazon Web Services (AWS)

- A POSIX-compliant, distributed file system, designed for the cloud.
- Modular, stackable design. Red Hat VSA 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, GlusterFS 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.
- Uses arrays of EBS devices for consistent, high performance access.

### 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.
- Up to 100 TB per appliance

### Flexibility

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

### High Availability

- Highly available. Synchronous N-Way replication. Asynchronous Geo-Replications continuous data replication. Data is synchronously mirrored across availability zones, and asynchronously across regions.

### Easy to Deploy

- With just a few mouse clicks you can deploy additional instances 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

### Simple Management

- Simple, single command for storage management
- Includes performance monitoring and analysis tools

### Superior Economics

- Leverages EC2 hardware environment
- Ideal for AWS usage-based pricing

## RED HAT SALES AND INQUIRIES

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