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VERITAS NETBACKUP WITH RED HAT CEPH STORAGE

Using Ceph storage as a S3-compatible backup target in the private cloud

SOLUTION OVERVIEW

Achieve backup scalability and longer data retention with Red Hat Ceph Storage as a backup target for Veritas NetBackup.

Meet RTOs and improve data security with on-premise storage.

Enjoy full, enterprise-class functionality, such as built-in snapshots and disaster recovery, without complex, piecemeal licensing.

Avoid the cost of expensive, proprietary storage appliances with a software-defined solution on industry-standard infrastructure.

INTRODUCTION

Backup and recovery is one of the oldest and most frequently performed datacenter operations—and a significant ongoing concern for IT professionals. Organizations must be able to rely on their backup solutions to protect against data loss, as well as provide business continuity and disaster recovery—even as the sheer volume of data continues to grow exponentially. Most firms are currently backing up to traditional, proprietary storage appliances or the cloud—or a combination—with many approaches increasingly facing challenges. Traditional backup appliances—tape libraries and proprietary storage appliances—are expensive and difficult to scale and maintain. The public cloud may seem attractive initially, but it can bring challenges in terms of cost-effectiveness at scale and stringent recovery time objectives (RTOs).

On-premise object storage has emerged as a cost-effective way to extend cloud models to provide storage for backup and recovery. Many organizations are already using the Amazon Web Services (AWS) Simple Storage Service (S3) object storage interface as a cloud-based backup target. Likewise, many now use on-premise software-defined storage solutions like Red Hat® Ceph® Storage for their OpenStack® Infrastructure-as-a-Service (IaaS) offerings or standalone object storage solutions. Through the S3 object storage interface, those same on-premise Ceph storage clusters can also be used as a scalable, reliable, and cost-effective backup and recovery target.

Veritas NetBackup officially supports Red Hat Ceph Storage as a backup target via the Amazon S3 storage application programming interface (API) (see Figure 1).[1] This functionality allows organizations to standardize on a highly reliable and scalable storage platform, with a number of advantages:

- Scalable Ceph object storage is easy to grow and extend—to petabytes and beyond.
- On-premise store and restore helps protect IT data and reduce uptime risks.
- Data and application availability is enhanced, with lower administration costs.
- Support for standard servers, along with volume media pricing, helps lower acquisition costs.
- Diverse application compatibility improves utilization for existing Red Hat Ceph Storage clusters.

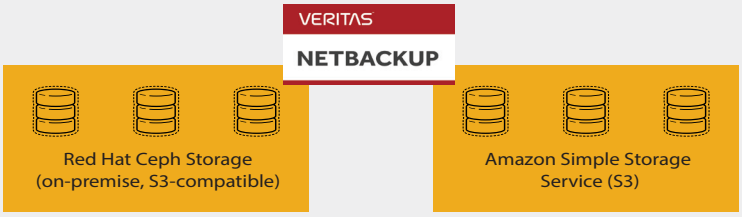

Figure 1. Because both Veritas NetBackup and Red Hat Ceph Storage support Amazon S3, backup data can move as needed between on-premise and the cloud

1 *Veritas NetBackup 7.7.3 with Cloud Configuration Package 2.1.7 or later, and Red Hat Ceph Storage 2.2 or later.*

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Red Hat Ceph Storage can be used as a part of a two-tiered backup approach, with Ceph storage serving as the second-tier backup target.

VERITAS NETBACKUP AND RED HAT CEPH STORAGE

Veritas NetBackup can make use of either existing or new Red Hat Ceph Storage clusters to provide a cost-effective, on-premise, object storage-based backup target. This scenario is common where organizations have already deployed Red Hat Ceph Storage for OpenStack IaaS or as a standalone object store and wish to extend the use of the cluster as a backup target. Because a single Red Hat Ceph Storage cluster can be configured to serve multiple diverse workloads, it can easily be extended to serve as an object storage backup target.

A CERTIFIED AND SUPPORTED SOLUTION

The combination of Veritas NetBackup and Red Hat Ceph Storage uses a traditional, two-tiered approach, with deduplication/data mover software running on the first tier and Ceph storage operating as an S3-compatible backup target tier. Using a Red Hat Ceph Storage cluster as a backup target presents numerous advantages, including:

- **Massive scalability.** In backup applications, data growth typically increases with time, causing organizations to need to continually re-evaluate their backup infrastructure. Fortunately, Ceph storage was designed as an elastic object store intended to scale to multipetabyte storage deployments. This scalable approach helps to avoid disruptive fork-lift infrastructure upgrades. Instead, inexpensive industry-standard servers can be added as needed, selected and configured to provide performance and capacity based on need.
- **Built-in disaster recovery.** Most organizations need to replicate data or move backup media to an off-site location to plan for disasters or meet compliance requirements. Unfortunately, replicating data on expensive appliances can rapidly become cost-prohibitive. In addition to three-way replication and erasure coding, Red Hat Ceph Storage supports snapshots, allowing backup data to be retained for longer periods at a manageable cost. Better retention lowers the risk of losing critical data, forfeiting intellectual property, or risking data storage noncompliance.
- **Cost-effective deployment.** Proprietary appliances can become cost-prohibitive at scale. Because Red Hat Ceph Storage is not tied to proprietary hardware, the backup platform can exploit the highly competitive storage server market as well as volume media pricing. On-premise Red Hat Ceph Storage deployments can easily extend cloud-based storage. Red Hat Ceph Storage can save labor and acquisition costs by serving as a unified storage platform, with support for block, object, and file data. Red Hat subscriptions replace costly proprietary licensing fees.

VERITAS NETBACKUP

Veritas Technologies is an established industry leader and is universally recognized for providing enterprise information archiving and data management solutions.[2,3] Veritas NetBackup provides unified data protection to allow you to deliver required service levels while limiting cost and risk, regardless of whether data resides on-premise or in the cloud. Support for using Red Hat Ceph Storage as a backup target is provided with Veritas NetBackup version 7.7.3 with Cloud Configuration Package 2.1.7 or later.[4] A Veritas NetBackup license for cloud storage is required. Figure 2 illustrates the ease of selecting Red Hat Ceph Storage as a backup target from a list of compatible options through the Veritas NetBackup configuration process.

2 *Veritas is recognized in the Leader quadrant in the 2017 Gartner Magic Quadrant for Enterprise Information Archiving, Gartner. October 2017.* veritas.com/form/whitepaper/gartner-mq-enterprise-info-archiving.
3 *Veritas is ranked the highest among all vendors for "Strategy" by Forrester in the 2017 Wave on Data Resiliency Solutions. Q3, 2017.* veritas.com/form/whitepaper/forrester-data-resiliency-solutions.
4 netbackup.com/compatibility

Red Hat Ceph Storage can be expanded without downtime, and both capacity and performance can be scaled independently.

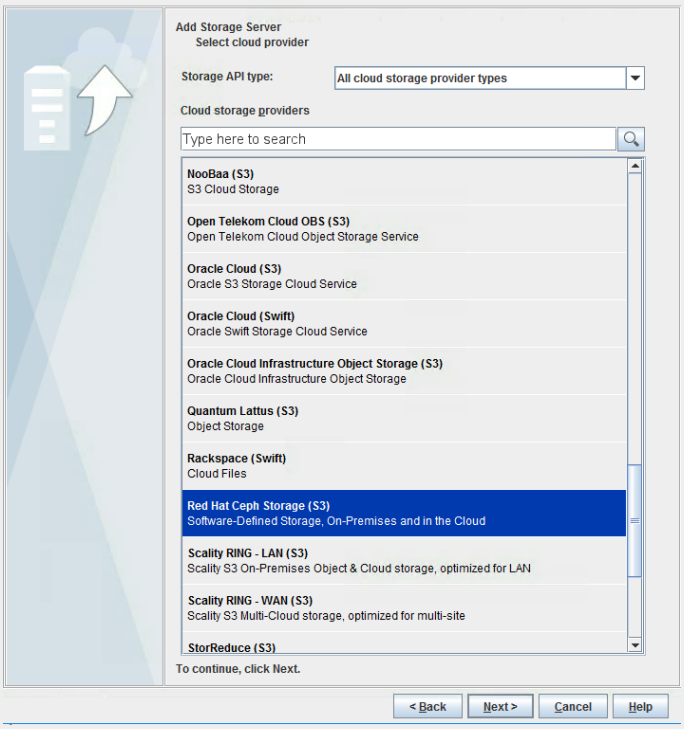


Figure 2. NetBackup administrators can select Red Hat Ceph Storage directly from a list of compatible options in the NetBackup cloud storage server configuration wizard.

RED HAT CEPH STORAGE

Designed for modern workloads like web-scale object storage, cloud infrastructure, and data lakes, Red Hat Ceph Storage lowers the cost of storing enterprise data and increases the ability to support exponential data growth—efficiently, flexibly, and automatically. Delivered in one self-healing, self-managing platform with no single point of failure, Red Hat Ceph Storage manages data on a single distributed cluster so you can focus on running your business.

Red Hat Ceph Storage supports object, block, and file storage, allowing different kinds of applications to share a single storage cluster. Red Hat Ceph Storage provides S3 compatibility via the reliable autonomic distributed object store (RADOS) gateway (RGW) interface. Red Hat Ceph Storage delivers a highly compatible AWS S3 object store implementation and offers numerous advantages that make it a compelling backup target for Veritas NetBackup:

- Industry-standard servers reduce vendor lock-in and lower costs compared to proprietary appliances.
- Backup data is retained and available on-premise, improving data security by avoiding public cloud data breaches and reducing RTO over public cloud solutions.

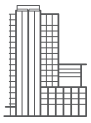
For more information on Veritas NetBackup compatibility, see the Veritas list of Amazon S3 cloud storage vendors certified for NetBackup.

- Cost, performance, and manageability advantages can be realized over physical linear tape-open (LTO) media and tape libraries.
- Built-in replication, erasure coding, snapshots, and multigeography support improve data availability and disaster recovery scenarios with no additional licensing costs.
- Unlike single-purpose storage appliances, Red Hat Ceph Storage is multipurpose and can be used for a variety of different workloads and use cases, all while serving as a backup target.
- With self-healing you do not have to replace disks as soon as they fail as required by traditional storage and backup appliances. Red Hat Ceph Storage also protects against long-term silent data corruption.

CONCLUSION

The combination of Veritas NetBackup and Red Hat Ceph Storage allows organizations to benefit from the advantages of traditional storage appliances and cloud storage. With full support from Veritas, software-defined Red Hat Ceph Storage is designed for multipetabyte scalability, eliminating the need for periodic forklift upgrades for backup infrastructure.

Organizations can dynamically add and configure servers to a Red Hat Ceph Storage cluster in accordance with performance or capacity requirements. Multiple applications can share the cluster, with storage optimized to the needs of each. Veritas NetBackup can cost-effectively share the same storage resources with other applications (including OpenStack applications)—with combined storage administration for all. Data can remain on-premise, and both backups and restores operate at full performance without additional network latencies. In addition, the solution is cost-efficient, taking advantage of an active storage server marketplace and competitive price curves for media. Subscription-based Red Hat licensing provides complete enterprise-class storage functionality at a predictable cost.



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
1 888 REDHAT1

EUROPE, MIDDLE EAST, AND AFRICA
00800 7334 2835
europe@redhat.com

ASIA PACIFIC
+65 6490 4200
apac@redhat.com

LATIN AMERICA
+54 11 4329 7300
info-latam@redhat.com

redhat.com
#F11873_0518