

Storage Services for OpenStack Clouds

Integration with OpenStack Block Storage (Cinder), Compute (Nova), and Image Services (Glance)

OpenStack allows quick and cost-effective cloud deployments. But when it's paired with homegrown storage, the solutions rarely meet the performance and reliability required for mission-critical systems. And traditional storage systems are expensive, complex, and inflexible, making them impractical for OpenStack cloud deployments.

Nimble Storage Adaptive Flash Platform for OpenStack

Nimble Storage has a solution: A storage platform with a fully integrated driver for OpenStack block storage compatible with compute services (Nova), storage services (Cinder), and image services and repositories (Glance).

Automated Storage Provisioning and Management

Nimble Storage for OpenStack enables customers to provision and deploy their own storage, change capacity levels and/or configurations, and create space-efficient snapshots and clones of storage volumes in a self-service manner.

Integrated Data Protection

Snapshots serve as backups, providing fine point-in-time granularity and causing no performance overhead. Nimble's data replication feature allows data to be replicated to another Nimble array for efficient and non-disruptive data recovery.

Zero-Copy Clones for Glance Image Services and DevTest

Zero-copy clones enable users to create a Glance image repository and deployment templates without consuming additional capacity. Volume cloning allows fast deployment of DevTest environments with minimal capacity overhead.

Multi-Tenancy

A Nimble array can support multiple customers with data separation on a per tenant basis via 802.1Q VLAN encapsulation and dedicated storage pools.

Storage Services for OpenStack Deliver These Key Benefits:

- **Reduced implementation times.** Simplified setup and management allows DevOps to focus on higher value projects.
- **Multiple storage service levels.** Support different applications, and a range of performance requirements on the same array.
- **Secure customer environments.** VLAN based data separation and storage pools allow for multi-tenancy, saving costs by consolidating storage.
- **Better than 99.999% uptime.** Proven availability across Nimble's install base.

Solution Overview

Features

- Automated storage provisioning and management
- Integrated data protection
- Zero-copy clones for image services and DevTest
- Multi-tenancy

Benefits

- **Reduced implementation times:** Free DevOps for high-value projects.
- **Multiple service levels:** Support different applications on a single array
- **Secure environments:** Multi-tenant VLAN and storage pool separation.
- **Better than 99.999% uptime:** The gold standard for system availability across thousands of arrays.

Nimble OpenStack Driver Features

| Volume Operations | Volume Stats / Attributes |
|-----------------------------|---------------------------|
| Volume create/delete | Driver version |
| Volume attach/detach | Free capacity |
| Snapshot create/delete | Reservation (%) |
| Create volume from snapshot | Total capacity |
| Get volume stats | Volume backend |
| Copy image to volume | |
| Copy volume to Image | |
| Clone volume | |
| Extend volume | |