Enterprises are adopting cloud-based architectures to meet business demands, address competitive pressures and realize benefits such as cost effectiveness and agility. OpenStack is a leading, open source platform that companies are leveraging for building out their cloud environments. As an open source platform it offers many advantages including flexibility and community-driven innovation. However, enterprises looking to deploy OpenStack in production find its storage management capabilities wanting from the perspective of management complexity and business resiliency. Organizations are also challenged when it comes to ensuring protection of their data and providing the necessary performance, especially for their tier one applications. Meeting these needs is critical for enterprises to proceed confidently with their OpenStack deployments.

**ENTERPRISE STRENGTH FOR OPENSTACK**

Veritas® HyperScale for OpenStack is a software-defined storage management solution for OpenStack based clouds that leverages direct attached storage (DAS) and provides enterprise-strength capabilities that enable robust, production-scale deployments while meeting performance and data protection needs.

**KEY FEATURES**

Veritas HyperScale for OpenStack has a revolutionary architecture that is designed for, and integrated with, OpenStack and offers several key features:

- **Resiliency and high availability** - Protects and transitions workloads in event of storage and network failures.
- **Independent compute/storage scaling** - Provides flexibility and facilitates cost-effective resource utilization.
- **Off-host storage services** - Eliminates impact of data protection activities on workloads and provides Zero Backup Window.
- **Intelligent workload placement** - Based on available IOPS and ability to maintain SLAs in case of VM or server failures.
- **Rapid virtual machine provisioning** - Delivers VMs with chosen storage and compute resources with minimal effort.
- **Simple, self-service storage management** - Enables easy, UI-based storage provisioning and management extending Horizon’s native capabilities.
- **Versioning** - Maintains multiple recovery points.
- **Storage optimization** - Reduces amount of storage required.
- **Optimized storage types** - Matches storage type (SSD versus HDD) to specific use.

**KEY BENEFITS**

- Predictable Storage Quality of Service (QoS)
- Workload resiliency
- Integrated backup support with Zero Backup Window
- Simple, enterprise-ready storage management
- Cost effectiveness

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**HyperScale for OpenStack Architecture**

1. **Separation between compute plane and data plane**
2. **Workloads deployed on compute plane**
3. **Data protection tasks conducted from data plane**
4. **Eliminates impact of data protection on workload performance**

This offering is currently under development.
RELIABLE AND UNMATCHED PERFORMANCE FOR ALL YOUR APPS

While some workloads are tolerant of low or variable performance, many enterprise workloads, especially tier one workloads typically require high and reliable storage performance. The deployment of multiple workloads in the same cluster contending for resources can lead to “noisy neighbor” effects adversely impacting delivered application performance. HyperScale for OpenStack uses an intelligent workload deployment approach that considers residual available IOPs (in addition to other standard factors such as vCPUs and RAM). This serves to mitigate noisy neighbor effects and delivers a consistent and reliable storage quality of service (QoS). Further, the dual plane architecture serves to protect compute plane processing resources from data protection tasks thereby supporting QoS and delivering a Zero Backup Window allowing backups that don’t require the application to be quiesced. The innovative architecture and intelligent deployment help meet the performance needs of all your apps, tier one as well as tier two, three and cloud native.

DATA PROTECTION AND RESILIENCY TO MEET WORKLOAD NEEDS

While test and dev environments can sometimes safely neglect to backup data, production environments normally require a backup capability to be in place for data protection. HyperScale for OpenStack is the only solution where applications running in OpenStack can be backed up seamlessly without impacting application performance. The solution also supports the ability to move versions to external storage and easy on-demand restoration to a chosen recovery point. To support resiliency needs live migration of applications helps respond to storage and network failures. Protection against node failures is provided through the ability to reflect writes to multiple (zero, one or two) nodes based upon the criticality of the workload.

ENTERPRISE-GRADE EFFICIENCY FOR IT OPERATIONS

The solution addresses complexity of storage management through a simple provisioning and management graphical user interface providing enhanced storage management and reporting capabilities right within the familiar OpenStack Horizon interface. So you have a single pane of glass for managing your primary and secondary storage. It also supports OpenStack APIs providing applications programmatic access to its capabilities. Rapid VM provisioning and deployment is another way in which Veritas HyperScale for OpenStack supports IT efficiency. It enables and helps VMs to be provisioned with chosen storage and compute resources with minimal effort. The ability to address the storage needs of both legacy and the newer, cloud applications through a single solution helps simplify operations.

COST EFFECTIVE DESPITE THE PERFORMANCE

The two-plane architecture of the solution means that high performance storage devices can be used at the compute plane depending upon the workload requirements and it suffices to use lower performance storage at the data plane. Of course, some enterprises may prefer to use significant proportion of high-performance SSDs in the compute plane. The solution is flexible and allows storage to be allocated based on workload needs. It also does not require multiple data copies to be maintained in the higher cost compute plane. Instead, unlike other competitive solutions, the number of compute plane copies is configurable (between zero and two) based on the workload. For disaster recovery (DR) setups, the solution requires only four data copies at the data plane as compared to other solutions which require six and indeed, some enterprises choose to use nine. Naturally, it requires less storage to store fewer copies which translates into an attractive cost of ownership without compromising performance or protection.

Forward-looking Statements: Any forward-looking indication of plans for products is preliminary and all future release dates are tentative and are subject to change at the sole discretion of Veritas. Any future release of the product or planned modifications to product capability, functionality, or feature are subject to ongoing evaluation by Veritas, may or may not be implemented, should not be considered firm commitments by Veritas, should not be relied upon in making purchasing decisions, and may not be incorporated into any contract.

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Veritas Technologies LLC enables organizations to harness the power of their information, with solutions designed to serve the world’s largest and most complex heterogeneous environments. Veritas works with 86 percent of Fortune 500 companies today, improving data availability and revealing insights to drive competitive advantage.