

Tintri for OpenStack® Deployments

True VM Level Storage System that provides Choice and Performance to Power OpenStack

OpenStack is a promising solution for large cloud deployments. Tintri provides storage that is ideally suited to deliver the predictable performance, manageability, and scalability needed in these cloud environments. Powered by a VM-aware Storage (VAS) architecture, Tintri operates directly at the VM level, eliminating the need for complex mapping to LUNs and Volumes. Not only does this dramatically simplify and improve how you manage storage in an OpenStack cloud deployment, but with Tintri you also benefit from unparalleled performance guarantees and overall value from your storage system. Tintri is the first and only solution that provides customers with real time analytics per Cinder VM and volume.



MANAGEABILITY

- **Visibility** — view or search Cinder volumes and VMs by OpenStack ID
- **Analytics** — per Cinder volume and VM analytics across network and storage
- **Multi hypervisor** — run OpenStack in parallel with vSphere, Hyper-V and RHEV



PERFORMANCE

- **Sub millisecond latency** — consistent and predictable across all OpenStack tenants
- **Efficiency** — optimized Cinder snapshots, clones and VM provisioning
- **Per-VM** — performance isolation and QoS with min / max IOPS guarantees



VALUE

- **Automation** — end-to-end via PowerShell and Rest API
- **No more over-provisioning** — fully utilize storage capacity
- **Scale** — to support 5,000 VMs in just 2 rack units

Storage Architecture for the Cloud

Designed from the ground up for cloud and virtualized environments, the Tintri VAS architecture delivers storage that is a perfect match for OpenStack. With traditional storage, complex and often arbitrary rules pool VMs into LUNs or Volumes. Tintri wipes away this complexity, enabling you to directly view, analyze, and manage VMs. With reduced complexity, you save time and money. Best of all, you can focus your attention on operating the OpenStack cloud and generating value for your business rather than managing LUNs and Volumes.

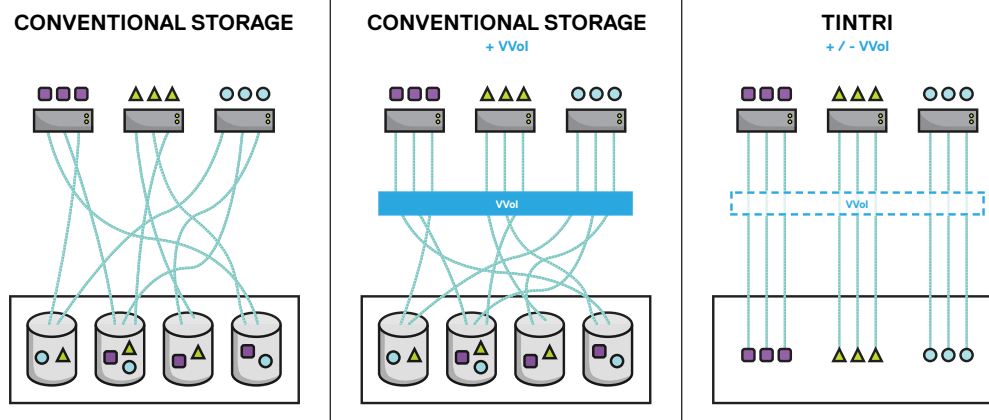


Figure 1: Tintri is the only Solution to Provide per VM Real Time Visibility for OpenStack Deployments

Tintri VMstore OpenStack Support

Tintri is the only solution that provides VM level performance guarantees, real time analytics, and simplified management and automation for OpenStack. The OpenStack Tintri Cinder driver leverages Tintri's unique capabilities and lets you analyze your VMs and Cinder volumes from the Tintri VMstore interface. The open source driver uses Tintri optimized performance capabilities for lightning fast snapshots and clones. No other OpenStack storage solution gives you such performance and visibility. With Tintri, customers can align the performance requirements of their storage solution to choose between hybrid-flash or all-flash as well as move workloads between platforms easily.



OpenStack Migration Support

While OpenStack continues to gain momentum, many customers are making a gradual transition from their existing virtualized environments. With Tintri, you can run OpenStack and your existing workloads on the same VMstore. In addition to OpenStack, Tintri supports VMware, Hyper-V, and RHEV-M and they can all run in parallel. With Tintri, your OpenStack deployment can grow and scale on your timeline and on your budget.

Tintri Provides the Best Solution for OpenStack

No other vendor can offer Tintri's level of VM and Cinder volume visibility to dramatically simplify how you manage your OpenStack storage layer. With Tintri per VM performance, OpenStack tenants get consistent and predictable latency through per VM performance lanes that eliminate noisy neighbors. For even more control, Tintri is the first and only vendor that provides performance guarantees with VM-level QoS. Finally, Tintri lets you choose the architecture tuned to your performance and value needs, from an all-flash or hybrid-flash array to Tintri VMstack™ Converged Infrastructure.



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