VMWARE INTEGRATED OPENSTACK
Build a Production Ready Developer Cloud

AT A GLANCE

VMware® Integrated OpenStack is a VMware-supported OpenStack distribution that makes it easy for IT to run and manage an enterprise-grade OpenStack cloud on top of VMware Infrastructure. With VMware Integrated OpenStack you can boost developer productivity and flexibility by providing a simple, vendor-neutral OpenStack API access to VMware best-of-breed infrastructure technologies.

KEY BENEFITS

• Rapid deployment — simple install with an OVA file

• Simplified operations

• Leveraging in-house expertise and skillset

• Runs on the proven VMware SDDC

• Production-ready container management — natively integrated, leveraging VMware SDDC capabilities such as high availability and persistent storage

• Trusted vendor, single vendor for infrastructure and OpenStack

• Complies with the OpenStack Foundation's 2017.01 interoperability guideline

VMware Integrated OpenStack Overview

VMware delivers an enterprise grade OpenStack distribution that is Interop compliant and provides developers and IT teams with the best of both worlds — open OpenStack APIs on most proven VMware infrastructure. Building on existing expertise, VMware vSphere® admins can boost developer agility and flexibility by providing simple, vendor-neutral OpenStack API access to VMware Software-Defined Data Center (SDDC). Advanced operations and management capabilities allow you to plan, troubleshoot, and have more visibility into infrastructure and application health across your cloud.
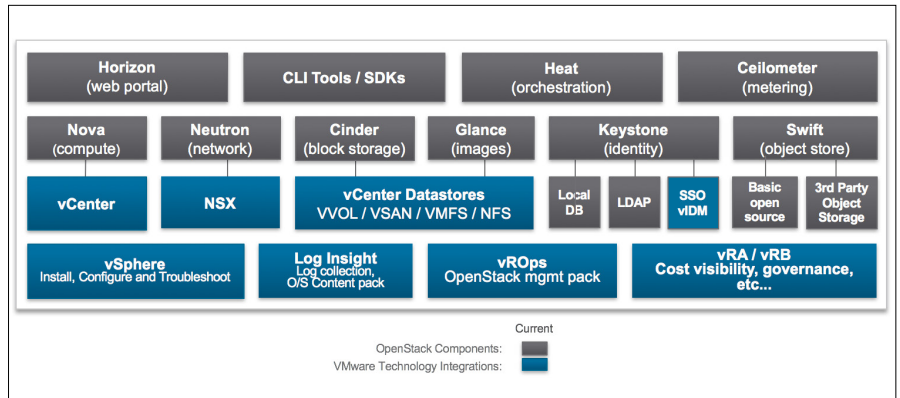
Key Use Cases of VMware Integrated OpenStack

VMware Integrated OpenStack is the ideal distribution for many different use cases. The most common use cases are:

Implementing a Developer Cloud: Increase developer productivity by providing a private cloud that offers self-service and programmable and dynamic provisioning of infrastructure resources through standard OpenStack APIs, supporting agile development and DevOps (CI/CD pipeline). Remove any barriers, eliminate manual workflows, and provide developers with the user experience they want.

Leveraging Network Virtualization with VMware NSX®: To run your business-critical applications, there are a lot of things to consider: scalability, security, manageability, stability and integration with existing networks and tools. Deploy VMware NSX with OpenStack to provide a programmable network that is fully integrated with OpenStack as well as other VMware infrastructure components, providing rich, API accessible network and security services like firewalling for micro-segmentation and load balancing.

vmware®

LEVERAGE VMWARE'S BEST-OF-BREED SDDC INFRASTRUCTURE

RELIABILITY, PERFORMANCE, SECURITY, SCALE, AND COST REDUCTION

vSphere for Nova Compute

• Industry standard for security, stability and reliability

• Lower CapEx from server savings with higher VM density

• Lower OpEx from advanced management and operations features (vSphere vMotion®, DRS, HA and more)

NSX for Neutron Networking

• Advanced security and multi-tenancy with micro-segmentation

• Advanced network services with massive scale and throughput such as LBaaS, FWaaS, routing, and more

• Integration with third-party network services providers

vSAN for Cinder and Glance Storage

• Advanced storage policies with VMware vSAN™

• Works with any vSphere validated storage

• Leverages hyper-converged storage nodes

Running Containers on OpenStack: For customers looking to modernize their traditional applications or build new applications based on containers, VMware Integrated OpenStack offers a production-ready Kubernetes support with multi-tenancy and persistent storage (volumes). This provides out-of-the-box solution for customers who want to run containers on OpenStack and leverage VMware's virtualization technologies.

Key Features of VMware Integrated OpenStack

Foster Innovation and Agility for Application Development Teams

• *OpenStack APIs:* Whether you are transitioning to a DevOps-centric agile product development methodology or building cloud-native applications, foster innovation and agility by providing developers with OpenStack APIs on top of VMware's best-of-breed SDDC infrastructure.

• *Container orchestration and management support:* Out-of-the-box support for container orchestration and management for dev/test as well as for running production containerized applications on OpenStack, leveraging VMware Integrated OpenStack enterprise grade capabilities such as multi-tenancy and persistent volume (persistent storage).

Streamlined Deployment and Operations

• *Complete support for core OpenStack services:* Nova, Neutron, Cinder, Glance, Horizon, Keystone, Heat and Ceilometer.

• *vSphere Web Client based deployment:* VMware Integrated OpenStack is deployed with an OVA file using the vSphere Web Client. The vSphere Web Client then deploys all the VMs and components needed to create a highly available, production-ready OpenStack cloud in a few simple steps.

• *Patching and upgrade:* VMware Integrated OpenStack includes a patching mechanism that allows administrators to easily perform patching and upgrades with minimum disruption to the OpenStack infrastructure.

• *Backup and restore:* Backup and restore OpenStack services and configuration data.

• *Auto scaling:* set up metrics to scale up or down application components. Development teams can address unpredictable changes in demand for app services. Ceilometer provides the alarms and triggers, Heat orchestrates the creation (or deletion) of scale out components and LBaaS provide load balancing for the scale out components

• *Live virtual machine resize:* Respond quickly to changing business needs by dynamically change CPU, memory and disk size of a running virtual machine instance without powering down.

• *Import existing VM templates and workloads:* Quickly leverage existing vSphere templated and workloads and start managing them via standard OpenStack APIs.

vmware®

Optimized for the Software Defined Data Center

- *vSphere:* VMware Integrated OpenStack leverages enterprise grade vSphere features such as Dynamic Resource Scheduling (DRS) and Storage DRS™, through Nova — the OpenStack compute service, to achieve optimal VM density. Features such as HA and vMotion are used to protect tenant workloads against failures.

- *VMware NSX:* NSX provides a highly scalable network virtualization solution with rich features such as private networks, floating IPs, logical routing, LBaaS, FWaaS, and security groups that can be consumed through Neutron — the OpenStack networking service.

- *VMware vSAN:* vSAN provides a simple, high performance, resilient shared storage for virtual machines. vSAN features are supported through Cinder and Glance, the OpenStack block storage and image storage services.

- *Multi VMware vCenter® support:* VMware Integrated OpenStack can manage multiple vCenters, providing higher level of isolation and security.

Integrated Operations and Management

- *Built-in CLI tools:* Troubleshoot and monitor your OpenStack deployment and the status of the OpenStack services.

- *Simplified configuration and operations:* Pre-defined workflows automate common OpenStack operations such as adding/removing capacity, configuration changes, and patching.

- *Integrated monitoring and troubleshooting tools:* Out-of-the-box VMware vRealize® Operations™, vRealize Log Insight™, and vRealize Business™ for Cloud integrations, provide faster and easier monitoring, troubleshooting and cost visibility of your OpenStack cloud.

- *More governance and control:* Integration with vRealize Automation™ provides enhanced user management and advanced governance and control. In addition, OpenStack workloads can be managed through vRealize Automation, and Heat templates can be consumed as catalog items in vRealize Automation Blueprints.

Compact Management Control Plane

- *HA mode:* Optimized architecture requires fewer hardware resources but still provides production-ready resilience, scale, and performance.

- *Compact mode:* Dramatically reduces the infrastructure footprint to two VMs, saving resource costs and overall operational complexity. Ideal for evaluations, or for building a small OpenStack cloud for branch locations.

vmware®