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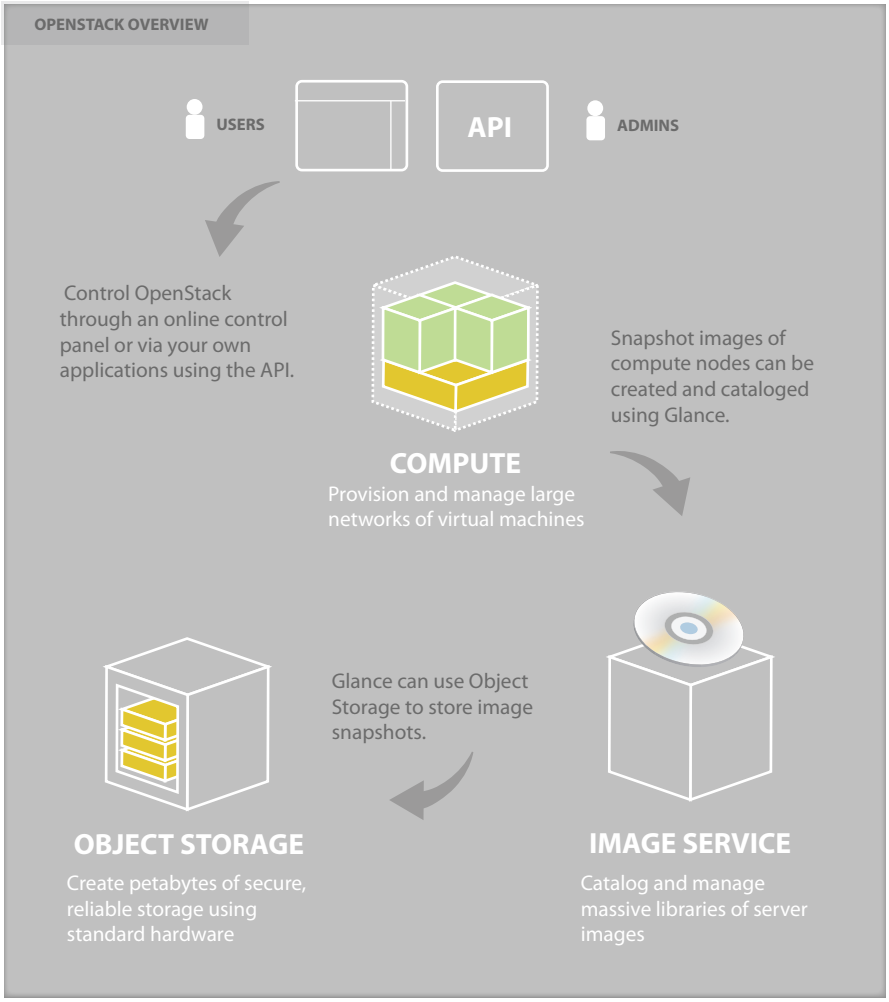
OpenStack: An Overview

What is OpenStack?

OpenStack is a global collaboration of developers and cloud computing technologists producing the open standard cloud operating system for both public and private clouds. Cloud service providers, enterprises and government organizations can take advantage of the the freely available, Apache-licensed software to build massively scalable cloud environments.

OpenStack currently consists of three core software projects: OpenStack Compute (code-name Nova), OpenStack Object Storage (code-name Swift), and OpenStack Image Service (code-name Glance). These projects, along with a vibrant ecosystem of technology providers and future OpenStack projects underway, deliver a pluggable framework and operating system for public and private clouds.

Learn more about the project at openstack.org and how to contribute at wiki.openstack.org/HowToContribute.



OpenStack Overview

OpenStack is open source software to build private and public clouds. There are three main components:

OpenStack Compute: Provision and manage large networks of virtual machines

OpenStack Object Store: Create petabytes of secure, reliable storage using standard hardware

OpenStack Glance: Catalog and manage massive libraries of server images

Why OpenStack?

- Control and Flexibility. Open source platform means you're never locked to a proprietary vendor, and modular design can integrate with legacy or third-party technologies to meet your business needs.
- Scalability. With massively scalable public clouds in the petabyte storage range, OpenStack is already running in global corporations providing secure public and private cloud infrastructure.
- Open Industry Standard. More than 75 leading companies from over a dozen countries are participating in OpenStack, including Cisco, Citrix, Dell, Intel and Microsoft, and new OpenStack clouds are coming online across the globe.
- Openness and Compatibility. Avoid proprietary vendor lock-in with Apache licensed source code delivering compatibility with thousands of existing public and private clouds for seamless transition from cloud to cloud.
- Flexible Technology. Global ecosystem of industry leading vendors supply integration support for a wide variety of features within the cloud. As an example, hypervisor support includes ESX, Hyper-V, KVM, LXC, QEMU, UML, Xen, and XenServer.

The OpenStack project is provided under the Apache 2.0 license.

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OpenStack: The Projects In Detail

Project	Details
OpenStack Compute	OpenStack Compute is open source software designed to provision and mange large networks of virtual machines, creating a redundant and scalable cloud-computing platform. The software provides control panels and APIs required to orchestrate a cloud, including running instances, managing networks, and controlling access through users and projects. OpenStack Compute is hardware and hypervisor agnostic.
OpenStack Object Storage	OpenStack Object Storage is open source software for creating redundant, scalable data storage using clusters of standard servers to store multiple petabytes of accessible data. It is not a file system or real-tine data system, but rather a long-term storage system for large amounts of static data that can be retrieved, leveraged, or updated. Object Storage uses a distributed architecture with no central point of failure, providing greater scalability, redundancy, and permanence.
OpenStack Imaging Service	OpenStack Image Service provides discovery, registration, and delivery services for virtual disk images. The Image Service API server provides a standard REST interface for querying information about virtual disk images stored in a variety of back-end stores, including OpenStack Object Storage. Clients can register new virtual disk images with the Image Service, query for information on publicly available disk images, and use the Image Service's client library for streaming virtual disk images.
OpenStack Principles	■ Abide by Apache 2.0 Licensing ■ Support all Available Hypervisors ■ Implement REST APIs and Open Image Format ■ Commitment to Drive and Adopt Open Standards ■ Open Design Process with 2x Year Design Summits for Community Transparency

About OpenStack

OpenStack is a large-scale open source cloud project and community established to drive industry standards, end cloud lock-in and speed the adoption of cloud technologies by service providers and enterprises. The project currently includes OpenStack Object Storage, a fully distributed object store, OpenStack Compute, a scalable compute provisioning engine and OpenStack Image Service, an image registry and delivery service. OpenStack was founded by Rackspace® Hosting through its wholly owned subsidiary, OpenStack, LLC, and has the support of more than 60 technology industry leaders and over 1,000 project participants. For more information and to join the community, visit OpenStack.org.