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OpenStack: An Overview

What is OpenStack?

OpenStack is an open source cloud platform. OpenStack software controls large pools of compute, storage, and networking resources throughout a datacenter, all managed by a dashboard that gives administrators control while empowering their users to provision resources through a web interface.

Why OpenStack?

Control. OpenStack's flexible architecture and vibrant ecosystem mean you can customize the platform for your business needs and control your own destiny. The modular design allows you to integrate third-party technologies, so you don't have to rip-and-replace your existing infrastructure and can continue to use your favorite tools. You can also directly influence the OpenStack roadmap through the open design process and strong user community.

Agility. OpenStack's self-service dashboard and rapid resource provisioning support internal engineering teams, agile business processes and faster product delivery. Gain operational efficiencies and a competitive advantage by streamlining your infrastructure on the OpenStack cloud platform.

Cost savings. With expensive and complex licensing schemes, some cloud software forces you to make architectural decisions just to contain licensing costs. With OpenStack, the software is freely available under the Apache 2 license, which means you have the freedom to use OpenStack according to your unique requirements, whether it's from the free open source repositories or a with a turnkey enterprise solution. Many companies in the ecosystem offer professional services to provide expertise regardless of which path you choose.

OpenStack Ecosystem. More than 180 leading technology companies across the globe are developing and building tools for OpenStack. With so many options in the commercial ecosystem, you are never locked to a vendor. For more information about the companies supporting OpenStack, go to openstack.org/foundation/companies.

OpenStack Elements

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

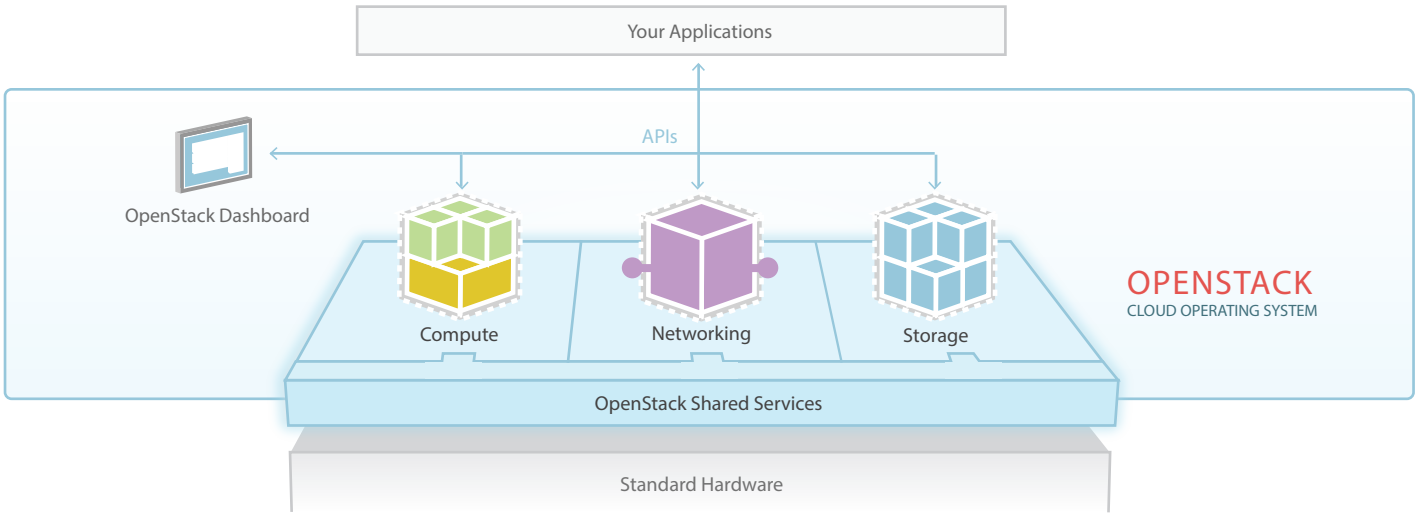
OpenStack Storage: Object and Block storage for use with servers and applications

OpenStack Networking: Pluggable, scalable, API-driven network and IP management

OpenStack components are tied together with **OpenStack Shared Services** and accessible both via the **OpenStack Dashboard** and programmatically via the API.

The OpenStack Foundation promotes the development, distribution and adoption of the OpenStack cloud operating system.

To learn more about OpenStack Foundation and OpenStack cloud software, go to: **www.openstack.org**



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OpenStack: Getting Started

Try OpenStack

Option One: Public Clouds

To see how an OpenStack Cloud operates, you can quickly try one of many OpenStack public clouds in production across the world, including DreamHost, eNovance, HP and Rackspace. A quick swipe of the credit card will show you OpenStack in action.

Option Two: Local Dev Environment: devstack.org

With some technical skills, DevStack is a great option to install and run an OpenStack cloud on your laptop (or even inside the VM on a cloud). DevStack is ideal for potential users who want to see what the Dashboard looks like from an admin or user perspective, and OpenStack contributors wanting to test against a complete local envirnment.

For more great pointers on getting started with OpenStack, go to **www.openstack.org/start/**

Learn About OpenStack

openstack.org/user-stories/
Complete case studies to learn more about use cases and best practices.

docs.openstack.org
Detailed OpenStack documentation, developer and administrator guides

Deploy OpenStack

Distributions. There are many ways to install and deploy OpenStack through software distributions, each of which add their own value to the cloud operating system. Software distributions powered by OpenStack include Cisco, Cloudscaling, Debian, Fedora, Piston Cloud Computing, Red Hat, SUSE, Ubuntu and StackOps.

Packaged Solutions. Many companies now offer integrated hardware and software solutions to deploy OpenStack private clouds, such as Dell, IBM, MetaCloud, Morphlabs, and Nebula.

Services. There are many service companies that bring OpenStack expertise to the table such as B1 Systems, CloudTP, Mirantis and SwiftStack. If you are looking for someone to guide you through these choices, help you execute your cloud strategy and provide development and operations support, this is a great place to start. Several of these companies such as Mirantis and Rackspace also provide OpenStack training courses for cloud administrators.

An OpenStack User Story

Cisco webex

"With OpenStack we have the ability to customize the platform and maintain control over our destiny."

REINHARDT QUELLE
OPERATIONS ARCHITECT, CISCO WEBEX

Cisco WebEx has pioneered on-demand applications since 1996, which require highly available, reliable infrastructure to support its business customers 24/7. To deliver new applications, Cisco sought an infrastructure-as-a-service platform to provide the agility, resiliency and operational efficiencies needed to streamline their infrastructure. To build that cloud architecture, operations architect Reinhardt Quelle and team knew the platform had to be open and API-driven, agile and highly available. After attending an OpenStack Summit in 2011, the team made the decision to adopt the open source cloud platform.

The WebEx team has since deployed OpenStack private clouds in two data centers with plans for more. The infrastructure was designed to support continuous deployment with a focus on tight integration between the engineering and operations teams. By all measures, the OpenStack cloud implementation has been a success, and there are now numerous other product teams within Cisco that have witnessed the results and are interested in moving their groups to the OpenStack cloud.

Read the full case study at openstack.org/user-stories/