OpenStack Primer

What is OpenStack?

OpenStack is the world's leading open cloud infrastructure platform. An open-source project initiated by Rackspace and NASA, it's a global collaboration between developers and cloud experts to build a solution that's fast to deploy, simple to develop and manage, massively scalable, and free from vendor lock-in.

How is OpenStack different from other cloud infrastructure software?

The OpenStack project is about openness and collaboration, bringing together people and organisations with the same philosophy to work together with full transparency. That openness extends to platforms, too. While some vendors are strong in either public or private clouds, OpenStack covers both. It has the support of over 150 companies, including HP, IBM, RackSpace and more.

What does Open Cloud mean exactly?

A truly open cloud has a few key strengths. It uses open-source code that anyone can run, build on and contribute to, and has a lively developer community driving it forward. Design and development are transparent processes, with plans and code available for public review. It's based on open standards, without patents and other commercial restrictions, and it spans different cloud architectures, so it can be easily ported if need be.

These factors combine to make open clouds far easier than many people think. Rather than doing it all on your own, a platform like OpenStack has a community of thousands of individuals and hundreds of companies ready to share their services and experience, and they're all invested in keeping the platform open, secure and reliable. OpenStack has the largest ecosystem of tools, solutions and service providers.

What is Canonical's involvement with OpenStack?

Canonical is a Platinum Member of the OpenStack Foundation, and was the first company to commercially distribute and support OpenStack. Ubuntu is the reference operating system for OpenStack deployments, making it the easiest way to build an OpenStack cloud, and since 2011 the latest version has been included in every Ubuntu release. The release schedules of the two projects are synchronised, ensuring that OpenStack updates and releases are immediately available on widely deployed releases of Ubuntu.

Does Canonical have its own OpenStack distribution? How does it differ from others?

Technically yes, but Canonical's OpenStack distribution (called 'Ubuntu OpenStack') is so close to the original distribution that it's not differentiated as such. Ubuntu with OpenStack just works. Most important is Ubuntu's status as the reference operating system, the one the developers of OpenStack use every day. That means whenever a new update is published for OpenStack, it will be tested and published for Ubuntu straight away – something no other operating system can claim.
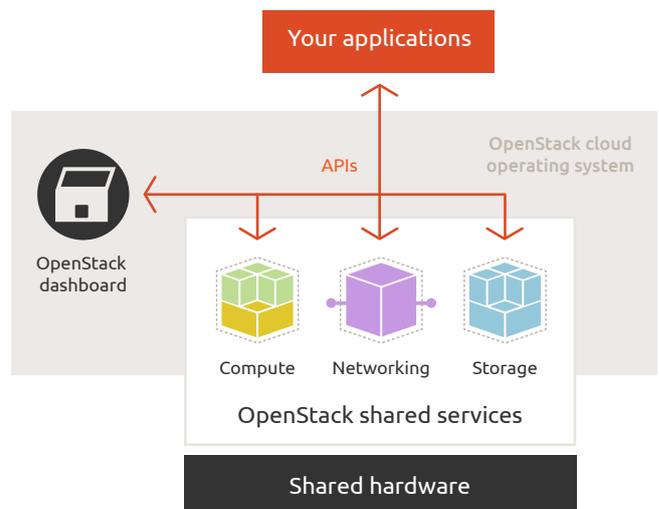
What does OpenStack consist of?

OpenStack consists of a series of interrelated projects delivering the necessary components of a cloud infrastructure.

OpenStack Compute provisions and manages large numbers of virtual machines to offer on-demand computing resources.

OpenStack Block Storage or Object Storage allow for effective scale-out storage needs to be met, with a variety of options to meet the complexity of a project.

OpenStack Networking is a pluggable, scalable and API-driven system for managing networks and IP addresses.

Shared services span all three, addressing identity and image management, and integration with other OpenStack components and external systems.

The OpenStack Dashboard provides a web interface for administrators to control all of the above.

Can I run an OpenStack cloud alongside my existing, proprietary one?

Technically, yes. Many of our customers choose to build an OpenStack cloud alongside an existing, proprietary cloud. Typical reasons are: reducing vendor lock-in, being able to scale out without restrictions on capacity or proportional increases in pricing, testing the latest cloud technologies, which are almost always available on open platforms first, among others. The exact details of whether and how your existing cloud can work alongside an OpenStack cloud will vary depending on your existing technology and requirements. If you are interested in building an OpenStack cloud, please get in touch and our experts will advise you: **ubuntu.com/cloud/contact-us**

How do I get started with OpenStack?

The wiki pages at wiki.openstack.org contain installation instructions and links to all sorts of helpful guides, FAQs, mailing lists and IRC channels. The Ask OpenStack page can help if your question hasn't been answered elsewhere, and Launchpad is the place to submit and view known bugs.

How can Canonical help with my OpenStack cloud deployment on Ubuntu?

Through our Jumpstart service, Canonical will build you a private cloud on your own hardware over the course of five days. An on-site Canonical services engineer will design and deploy the infrastructure, deal with group and security requirements, assess storage needs, and develop a personalised strategy for ongoing management. It's all the hard work done for you in under a week.

From there, you'll want the Ubuntu Advantage professional package with its Landscape systems management tool. With a choice of several levels, companies can get 24/7 support and access to the experts to keep the cloud running smoothly. For more information on Jumpstart, please visit: **ubuntu.com/cloud/cloud-tools/jumpstart**

What companies have you worked with on building OpenStack clouds?

We've worked with many large companies and the list is growing all the time. Four of the world's largest telcos are currently implementing a cloud on Ubuntu OpenStack with support from experts at Canonical.

In these deployments we can work with a company's existing datacentres, help them choose the right cloud infrastructure for their expansion needs, and even run trials on a test cloud to evaluate the potential benefits. They want cost-effective, scalable, robust IT, and our custom-built clouds give them all that and more, including the ability to have one OS – Ubuntu – running across the whole enterprise, from servers to staff desktops.

Where can I find out more?

For information on Ubuntu OpenStack: **ubuntu.com/cloud**

To speak to us about building and supporting your OpenStack cloud: **ubuntu.com/cloud/contact-us**

For information on support packages and Landscape for systems management: **ubuntu.com/cloud/management**

Ask about our other publications:

- Top Questions about Juju
- Top Questions about MAAS
- Running a public cloud on Ubuntu OpenStack
- Landscape for cloud

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