

Canonical OpenStack



What is Canonical OpenStack?

Canonical OpenStack is a reference architecture OpenStack deployment that includes additional tools for installation, management, and most importantly, solution design and deployment. It builds on Ubuntu OpenStack, which includes all of the the core services, as well as many other big tent services. The entire solution is based on Ubuntu, the most popular operating system for OpenStack deployments as well as hosted workloads. With the unique, GUI-based installer, OpenStack Autopilot, it is the fastest and easiest way to build an OpenStack cloud.

As more technologies are certified through Canonical's OpenStack Interoperability Lab (OIL), they will be included as additional options. Once your cloud is built, Canonical OpenStack allows you to monitor and manage it from the same UI, which is housed within Canonical's Landscape systems management tool. You can literally go from bare metal to a full-fledged OpenStack cloud in minutes. And as we start rolling out complex workloads deployable via Juju, we will integrate them into the available options, so you could simply click your way through building your cloud and deploying your workloads in no time, freeing up valuable resources to focus on the things that matter most to your business.

What's included?

OpenStack

OpenStack is the world's leading open cloud platform, and provides all the core services needed to build and deploy an operational, open-source cloud, from compute (virtualization and bare metal), storage (block and object) and networking. Additional services are also included like a management dashboard and fully integrated usage metering engine. OpenStack meets cloud provider requirements for service automation, seamless scalability and high-availability computing. Ubuntu OpenStack is based on the actual trunk releases of OpenStack, every six months, making it the most open and robust way to build an OpenStack cloud.

Ubuntu server

Ubuntu is the most popular operating system for OpenStack deployments, the most widely used developer platform for the open cloud, and the most ubiquitous guest operating system on the major public clouds. As well as providing a stable operating environment for enterprise and service provider clouds, Ubuntu Long Term Support (LTS) releases are supported for five years, along with the corresponding OpenStack releases. Ubuntu and OpenStack release cycles are synchronised, ensuring all the latest OpenStack cloud features are available for users as soon as possible after they are released.

Landscape Autopilot

Autopilot is designed specifically to get you from zero to OpenStack hero in the shortest amount of time. Leveraging the power of Canonical's extended OpenStack toolset, like MAAS, Juju, and Landscape, Autopilot implements best practices for installation, configuration and deployment in a GUI-based workflow of events specifically designed to build an OpenStack cloud from the bare metal up. With the Autopilot you can choose the best storage, compute, and networking options, and let the built in intelligence take care of the hard work. Within ten minutes you can have a fully operational OpenStack cloud without the headaches of figuring out how all the pieces fit together. Once the cloud is up Landscape keeps it running smoothly, providing you with operational metrics and real time monitoring of key resources.

Landscape shows a dashboard of all storage, compute, and networking resources, with their current status, any planned outages, or issues that require admin attention. You can scale resources up or down as needed by adding hardware, creating a new availability zone, or reallocating existing resources. In addition, Landscape will manage any Ubuntu Server instances deployed onto the cloud, apply automatic patches and generate comprehensive reports to help streamline compliance requirements. When it comes to building an OpenStack cloud you can do it the hard way, or leave it to Landscape Autopilot and be a first class passenger.

Juju

The state-of-the-art service modelling tool is the fastest way to deploy OpenStack on Ubuntu. Moreover, it provides libraries of Charms that enable sys admins to deploy, connect, configure and scale out services in the cloud with only a few simple commands. Juju Charms also ensure that cloud services are deployed in line with industry best practices, increasing quality, security and performance for end users and customers. The most powerful part of Juju is that it provides application abstraction, allowing application relationships to be managed automatically, and not configured individually or by complex script-based solutions.

MAAS

The high-speed provisioning tool makes it easy to set up large-scale or hyperscale hardware. Through MAAS, hardware can be dynamically provisioned, so physical servers can be added, commissioned, or recycled with no disruption to the rest of the network. MAAS takes care of hardware-specific tasks such as burn-in tests, firmware and RAID upgrades, as well as checking that hardware is certified for Ubuntu. Together with Juju, MAAS makes it fast and easy to turn a network of physical servers into a production-ready cloud.

Professional support from Canonical

Canonical has experience of working with the world’s most innovative enterprises and cloud service providers to deliver public and private clouds based on OpenStack. Canonical’s consulting and support teams are world renowned and offer the highest SLA’s in the industry. Canonical offers multiple consultancy and technical support services as an integral part of the Ubuntu cloud proposition. These include:

Cloud consultancy and deployment support

Canonical OpenStack is intuitive enough to allow cloud architects to build their own clouds; however, should your requirements deviate from our reference architecture, our consultants will be more than happy to work with you on a design and implementation that suits your needs. Once your cloud is ready for use, they can help scale it up according to your demands, or integrate it with other existing infrastructure.

Canonical also offers BootStack, a fully managed service for OpenStack clouds, in which Canonical experts will operate your cloud for a fixed price. If and when you are ready to take over operations, Canonical engineers will train your staff and transfer operations to them at an agreed time.

For more information on BootStack, please visit: ubuntu.com/bootstack

Ubuntu Advantage support services

Canonical’s Ubuntu Advantage cloud support service provides 24-hour access to our skilled cloud support engineers, who are able to resolve technical issues quickly and effectively and maximise uptime for cloud services. In addition, Ubuntu Advantage provides legal support for Ubuntu customers, and access to a wealth of Ubuntu support information through our Knowledge Base. Pricing is flat and transparent, based on Availability Zones (AZ) within your cloud. It also includes a certain amount of storage and support for guest instances based on the size of your cloud.

The following table outlines the entitlements and pricing for each AZ:

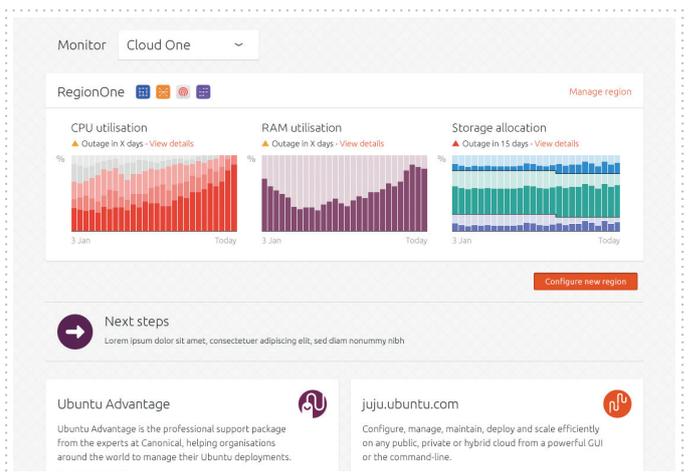
Cloud features	Small	Medium	Large
Number of nodes	Up to 100 nodes	Up to 500 nodes	More than 500 nodes
Infrastructure 24/7 support	✓	✓	✓
Landscape Dedicated Server	✓	✓	✓
Unlimited supported Ubuntu guests*	✓	✓	✓
Ceph storage included	64TB	64TB	64TB
Price per year per availability zone	\$75,000	\$180,000	\$350,000

* Support for guests is limited to office hours, but can be upgraded to 24/7

A working OpenStack cloud in minutes

After you install the appropriate software (see ubuntu.com/download/cloud), simply follow these steps:

- Choose a name for your cloud (for example, “us-chicago-1”)
- Select your hypervisor (for example, KVM)
- Select your networking configuration (for example, Open vSwitch)
- Select your storage technology (for example, Ceph)
- Assign hardware resources to your design, selecting from your physical zones
- Review the proposed configuration
- Click the ‘Build’ button
- The wizard may prompt you for configuration details, as needed for each technology. It will also prevent you from choosing incompatible combinations.



Landscape monitors your OpenStack production infrastructure and informs your capacity planning

Experiment with new designs and new technologies

You can experiment with different technology combinations with very little effort, re-designing your cloud as many times as necessary, with no time investment at all.

The reference architecture embodied in the system’s logic can deploy clouds of all sizes, from as few as five nodes to hundreds. This changes the economics of building your first production cloud: you no longer need to contract an expert who will cost more than the hardware itself.

Landscape includes OpenStack-aware monitoring that helps you track the health of your running cloud and the continued availability of your compute, storage and network resources. It also contributes to capacity planning by making real-time predictions based on current utilisation trends, helping you determine when it will be time to add new compute nodes or additional storage.

About Canonical

Canonical's platform team leads the Ubuntu project and brings together the passion and genius of the open-source community. Released every six months, each new edition of Ubuntu is better than the last, harnessing new technologies to make it quicker, easier and more intuitive than ever.

Open-source software brings rich opportunities to business users. By providing custom engineering, support contracts and training, Canonical helps telcos and service providers around the world maximise their potential for reducing costs, improving efficiency and enhancing security with Ubuntu. Canonical works with hardware manufacturers like HP, Dell and Intel so Ubuntu can be delivered on the world's most popular devices. By working closely with original equipment manufacturers (OEMs) Canonical ensures that Ubuntu offers a premium user experience that takes full advantage of hardware functions. Open-source software relies on collaboration. That's why Canonical supports the development of tools that assist collaborative working, like Launchpad, Bazaar and Upstart.

Contact us today

To try out Canonical OpenStack, go to ubuntu.com/download/cloud

To talk to our team about Ubuntu Advantage, please visit ubuntu.com/cloud and click on the Live Chat option or fill out the contact form