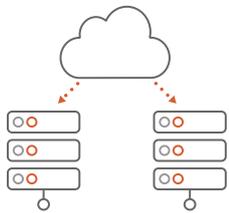


MicroCloud

Deploy your own cloud in minutes



What is a MicroCloud?

MicroClouds are small-scale clouds optimised for repeatable and reliable remote deployments. They consist of low-footprint clusters of compute nodes with distributed storage and secure networking. They can serve as small-scale private clouds, or as edge clouds distributed across a number of locations.



Automated deployment

MicroClouds are built with simplicity and automation in mind. Configure computing services, storage and networking with one command with no advanced skills required.



Secure with hassle-free updates

Easy maintenance and hassle-free updates. MicroCloud components are built with strict confinement for increased security, with over-the-air transactional updates that preserve data and roll back on errors automatically.



Suitable for even commodity hardware

MicroClouds are lightweight and can run even on simple, inexpensive hardware. It requires a minimum of three machines, each with at least 8 GiB of RAM, and additional disks depending on your storage requirements.

Common use cases

Small-scale private cloud

- A cost-effective alternative to VMware vSphere, Hyper-V and Proxmox Virtual Environment.
- Simple to deploy and operate.
- Easy to scale as your needs grow.

Edge computing at a large scale

- Scalable and low-latency HA cluster for critical applications.
- Lightweight to run on small servers or low-cost small devices.
- Low-touch, self-healing, little to no human interaction needed.

All the benefits of a cloud, but localised

Efficient compute with LXD

MicroCloud uses LXD to manage virtual machines and system containers that offer near bare-metal performance. Instances are image-based with available images for a large number of Linux distributions, as well as Windows VMs.

Distributed storage with MicroCeph

MicroCeph is a lightweight way to deploy a Ceph cluster using just a few commands, resulting in reliable and resilient distributed storage. RBD, CephFS and RGW are supported, along with full disk encryption and upgrades.

Secure networking with MicroOVN

MicroOVN is snap-deployed OVN with built-in clustering. It can provide virtual network abstractions, such as virtual L2 and L3 overlays, security groups, DHCP and other advanced networking services.

Feature overview

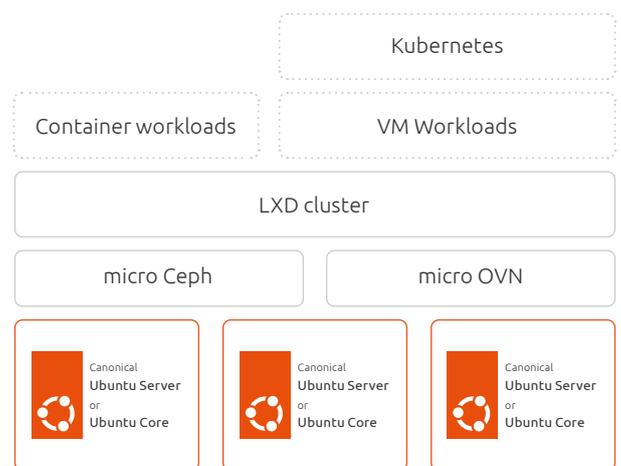
- High-availability (HA) by default.
- Run lightweight system containers, traditional VMs, or application containers through Microk8s.
- CLI, REST API, Web UI, and third-party integrations for management.
- Advanced networking support (OVN, SR-IOV, hardware acceleration support, and more).
- Advanced resource control for CPU, memory, network I/O, kernel resources, etc.
- Hardware passthrough for USB, GPU/vGPU, block devices, NICs, disks and paths.
- Live migration and stateful snapshotting.
- Auto-healing for instances on Ceph.
- Instance metrics and event logs with Prometheus and Grafana.
- Authentication through TLS or OpenID Connect (OIDC), authorisation using OpenFGA Relationship-Based Access Control (ReBAC) which allows fine-grained access control.

How does it work?

All MicroCloud components are based on snaps - app packages that are easy to install, secure, cross-platform and dependency-free.

In addition to the three main components, a MicroCloud snap is used to orchestrate and configure them across a set of servers. When initialised, MicroCloud will auto-detect all the servers in the network and drive LXD, MicroCeph and MicroOVN snaps to configure a cluster.

[Try it yourself](#) today.



MicroCloud design and delivery

Canonical offers consulting packages tailored to customer needs, including design workshops and MicroCloud delivery on reference architecture and certified hardware. [Contact our team](#) for more information.



Commercial support for MicroCloud

Canonical provides commercial support for MicroCloud under the Ubuntu Pro (full or Infra-only) subscription. [Ubuntu Pro](#) is the most comprehensive subscription for open source security, support and compliance.

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