SIVALI CLOUD TECHNOLOGY

OpenInfra USER GROUP Indonesia

Solusi Cloud Open Source

With MicroCloud, OVN and CEPH

Canonical LXD ceph OVN

Ryo Ardian

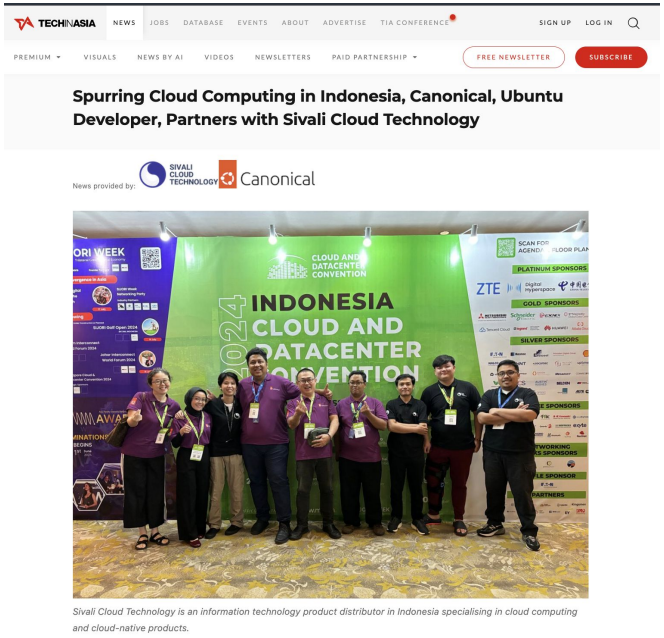
Executive Vice President
Sivali Cloud Technology

Thank You

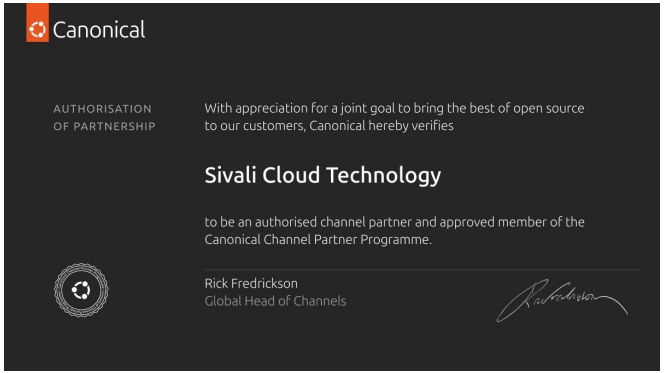
OpenInfra USER GROUP Indonesia

As the Principal Representative and Value-Added Distributor for Canonical in APAC, Sivali Cloud Technology is dedicated to fostering innovation and growth through open-source technology. We deeply value our partnerships with organizations that share our vision for accessibility and creativity. We invite communities and potential partners to explore Canonical's comprehensive solutions and strategic approach. Join us in building a stronger ecosystem by becoming a part of our network of highly qualified and specialized partners!

We are here



Sivali Cloud Technology is an information technology product distributor in Indonesia specialising in cloud computing and cloud-native products.



OpenInfra USER GROUP Indonesia

Sahabat **Ubuntu** Indonesia

SIVALI CLOUD TECHNOLOGY

Institut Teknologi Tangerang Selatan

Permen Komdigi no. 6 2025

Paragraf 2
Pemenuhan Persyaratan Umum

Pasal 4

Pemenuhan persyaratan umum dalam Pembangunan dan pengembangan aplikasi SPBE sebagaimana dimaksud dalam Pasal 3 ayat (2) huruf a paling sedikit meliputi:

a. mendaftarkan Aplikasi SPBE sebelum mulai digunakan pengguna;
b. menyimpan Kode Sumber dan dokumentasi atas pembangunan dan pengembangan Aplikasi SPBE sesuai dengan ketentuan Peraturan Menteri ini;
c. memastikan Aplikasi SPBE dapat diakses melalui teknologi berbasis web dan berbasis *mobile*;
d. mengutamakan penggunaan Kode Sumber terbuka;
e. menyediakan fitur interoperabilitas pada aplikasi yang dibangun dan dikembangkan untuk integrasi antar aplikasi SPBE;
f. menerapkan teknologi komputasi awan;

Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.

20% complete

For more information about this issue and possible fixes, visit https://www.windows.com/stopcode

If you call a support person, give them this info:

Stop code: CRITICAL_PROCESS_DIED

CANONICAL

OpenInfra USER GROUP Indonesia

2004	1000+	70+
FOUNDED	EMPLOYEES	COUNTRIES

Our Journey

From Desktop to ‘GitHub’

ubuntu

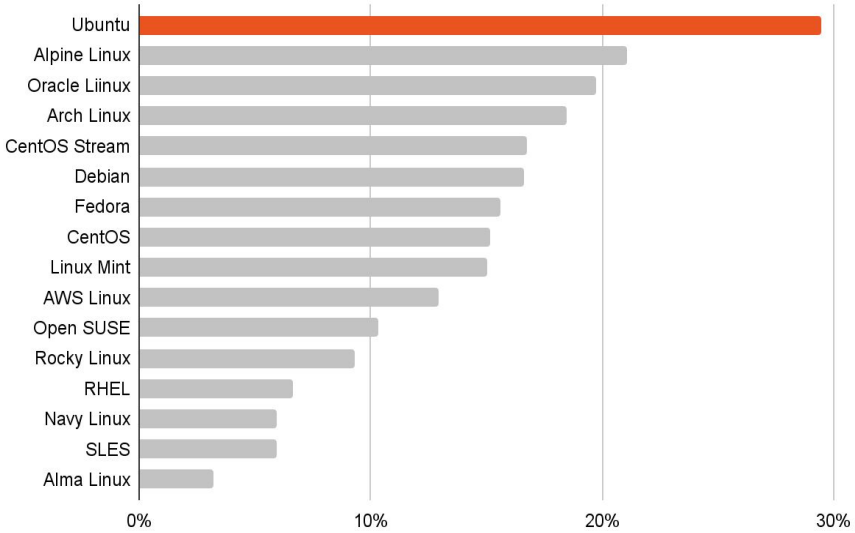
Ubuntu Pro

Desktop 2004	Public cloud 2008	Private cloud 2012	‘Github’ 2020
#1 desktop linux #1 workstation linux	#1 OS on AWS #1 OS on Azure #1 OS on GCP	#1 linux #1 openstack	AWS, Azure, Google nVidia VMWare/Tanzu

The no.1 Linux in enterprise

OpenInfra USER GROUP Indonesia

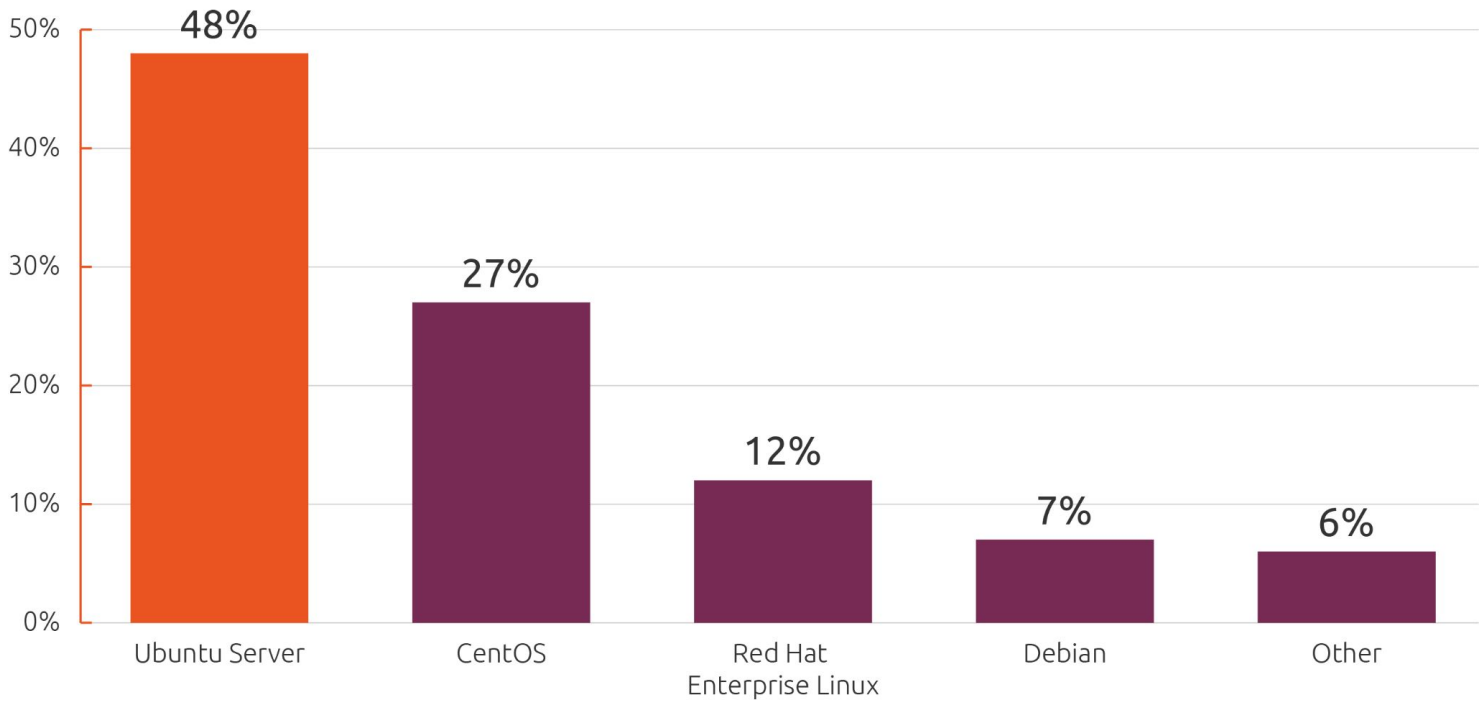
Which open source infrastructure tools and Linux distributions does your organisation use today to support your software infrastructure?



Openlogic: https://www.openlogic.com/success/2023-state-open-source-report

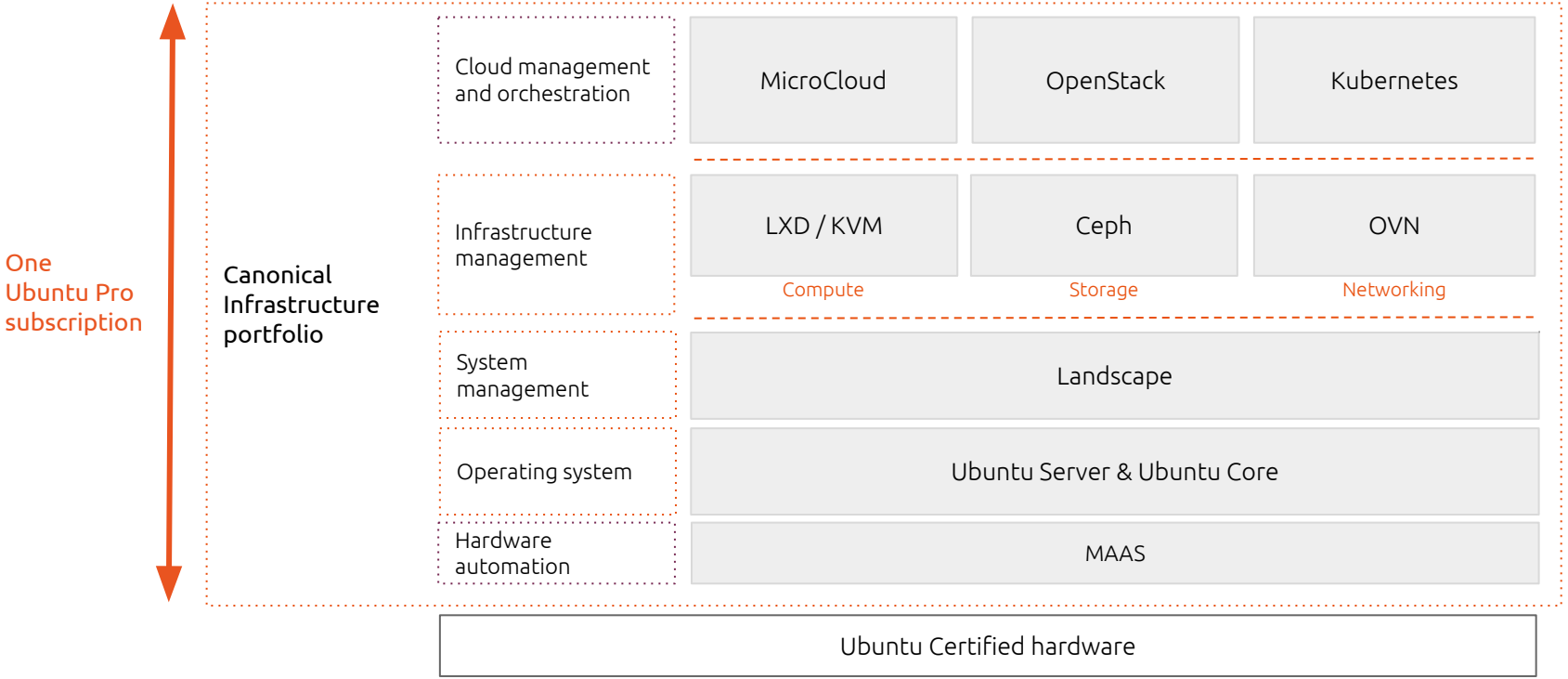
Ubuntu Desktop	Ubuntu Server	Ubuntu Core
Development environment	Server CLI system	Apps-specific images
No confinement	No confinement	Strictly confined
Image updated through package manager	Image updated through package manager	Image updated through snap updates

Endorsed by developers, trusted by executives



Source: https://www.openstack.org/analytics/

Canonical infrastructure portfolio



Cloudification: the options

OpenInfra USER GROUP Indonesia

Canonical MicroCloud

Simple scenarios

Opinionated platform

Canonical OpenStack

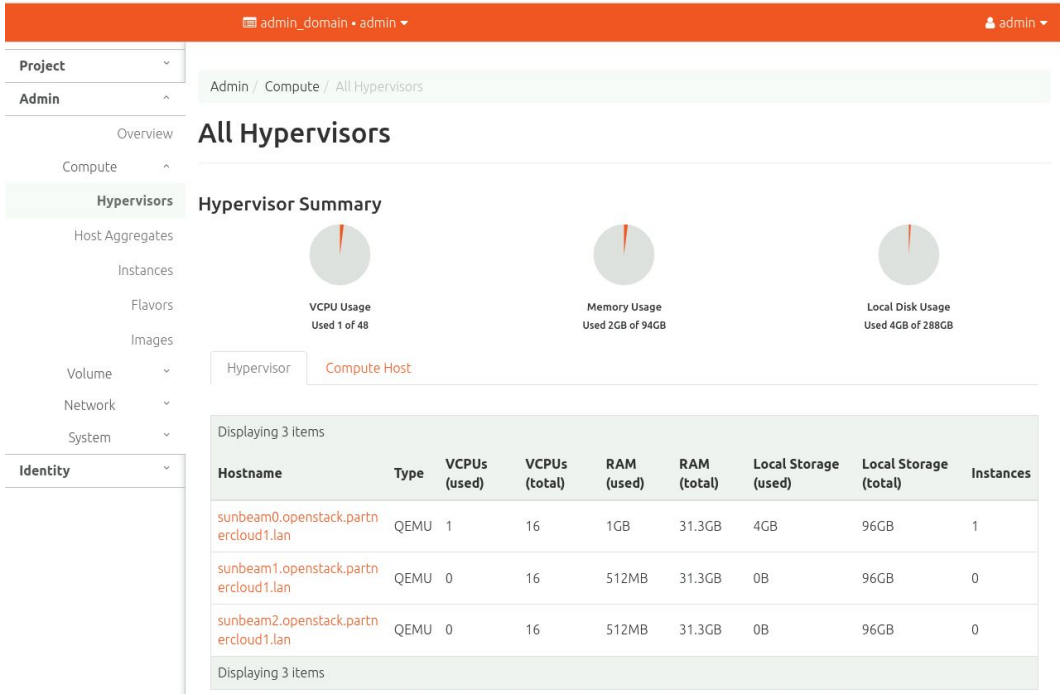
Complex scenarios

Composable platform

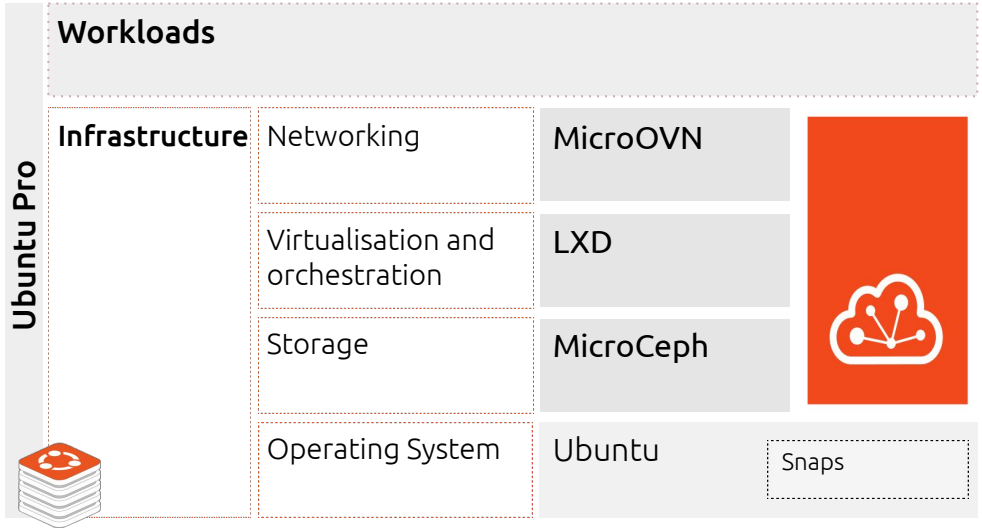
Canonical OpenStack

OpenInfra USER GROUP Indonesia

1. **Fully automated**
   Total bottom-up automation
2. **Cost-effective**
   Best cost-per-resource metrics
3. **Highly performant**
   EPA features, GPUs, DPUs and more
4. **Interoperability**
   Rich partner ecosystem
5. **Enterprise-grade**
   All the benefits of Ubuntu Pro



Canonical MicroCloud



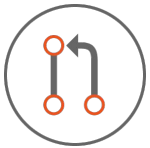
- Deploys in minutes with a single command
- Easy to operate and scale
- Low-touch management and additional security
- Opinionated, lightweight and performant

Cloud infrastructure is difficult

OpenInfra USER GROUP Indonesia

Complexity

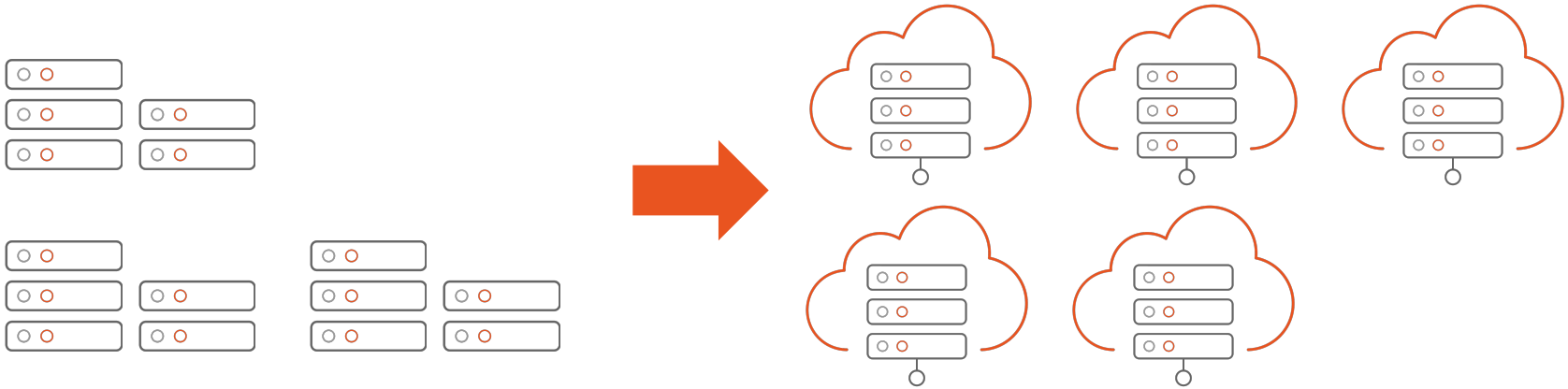
Dependencies



Operations

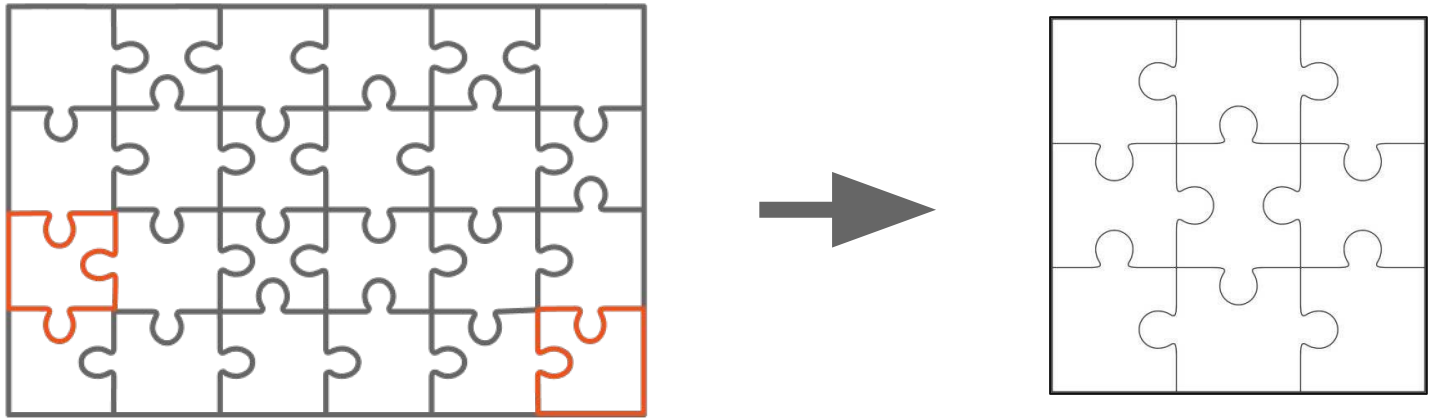
Learning curve

Moving to a more distributed model



Distributed clouds have additional requirements

- Low/no staff
- Resiliency of service
- Remote maintenance and upgrades
- Limited resources

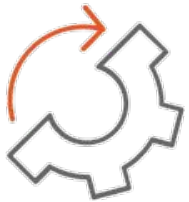


MicroCloud

Why MicroCloud?

OpenInfra USER GROUP Indonesia

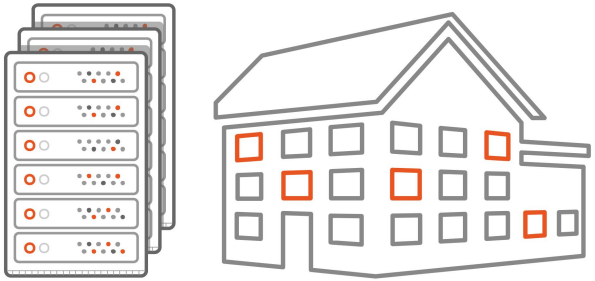
Automated

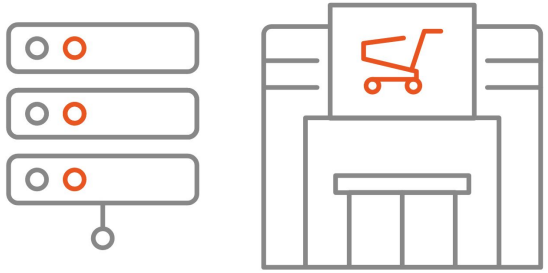


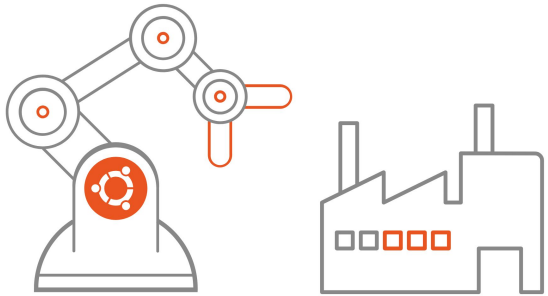
Simple

Cost-effective

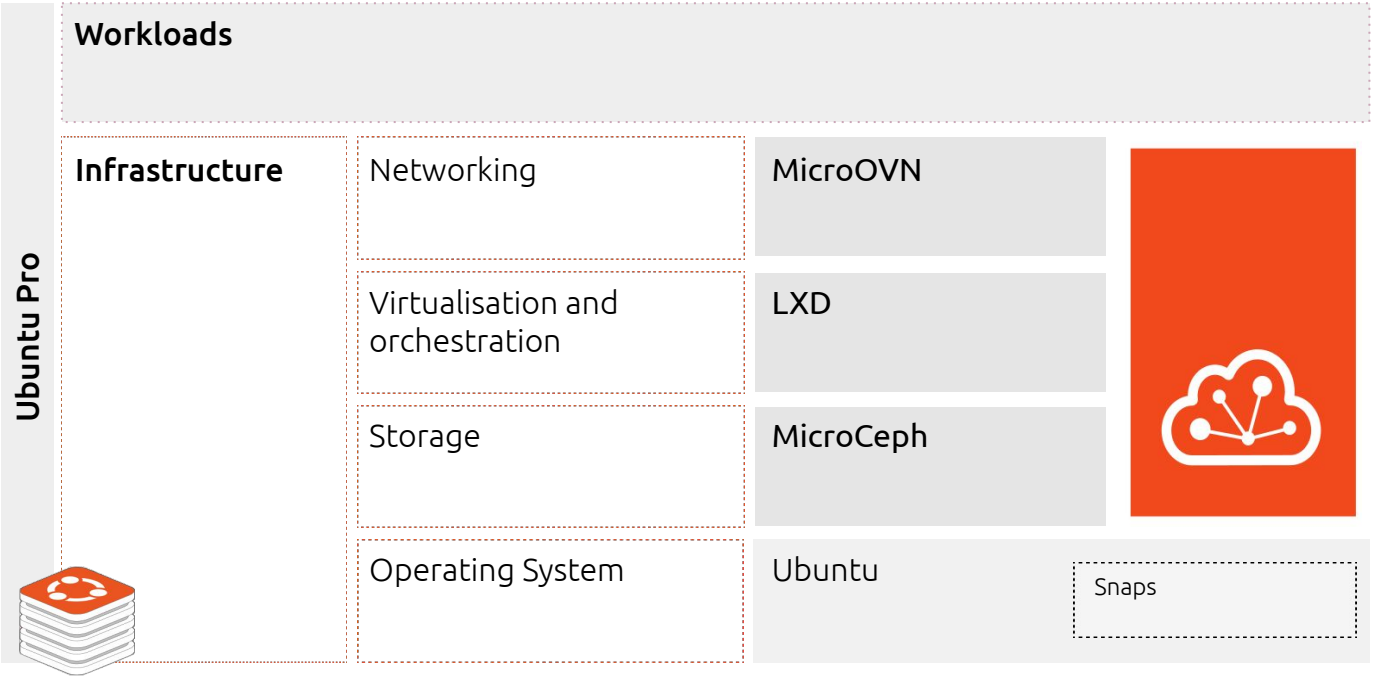
Who is MicroCloud for?







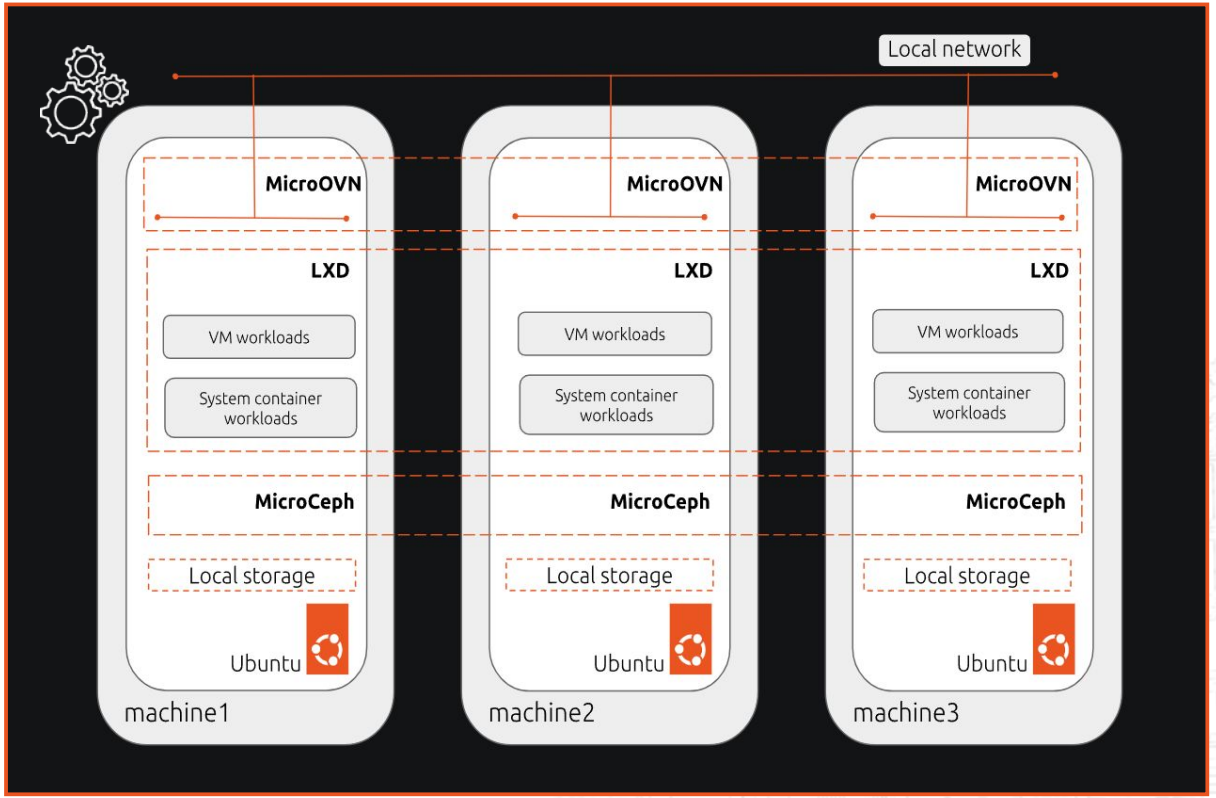
The technical bits


Ubuntu Pro
Workloads
Infrastructure
Networking
Virtualisation and orchestration
Storage
Operating System
MicroOVN
LXD
MicroCeph
Ubuntu
Snaps

MicroCloud creates a lightweight cluster of machines that operates as an open source private cloud. It combines LXD for virtualization, MicroCeph for distributed storage, and MicroOVN for networking—all automatically configured by the MicroCloud snap for reproducible, reliable deployments.

General Requirements:

- 3 NVMe Storage on Each Host
  - 1 for Operating System
  - 1 for Local Storage
  - 1 for Distributed Storage
- 2 10G Network Interface card
  - 1 for infra-cluster network
  - 1 for SDN/Distributed Network



Deployment process

MicroCloud init will:

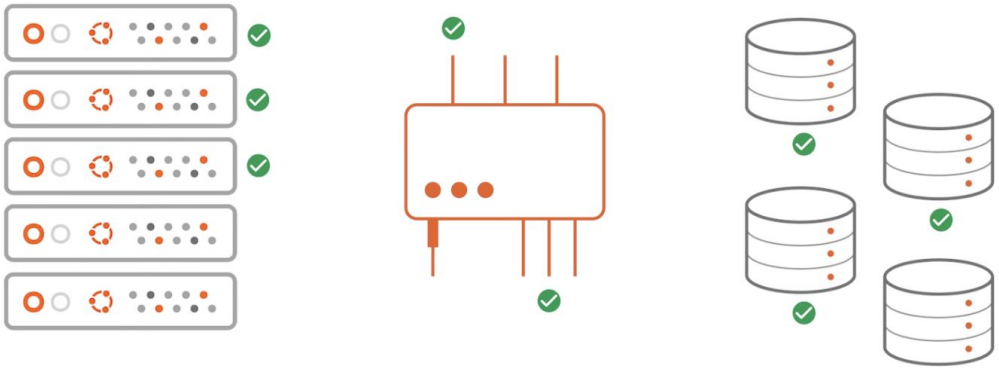
Detect all the other servers on the network and allow their immediate inclusion

Show available disks on all servers and allow adding to Ceph

Prompt about network setup (distributed networking via OVN, or bridge network)

After bootstrap, user has a working LXD cluster connected to Ceph and their network, ready to run workloads

Deployment process



microcloud init
microcloud join

MicroCloud init will:

Detect all the other servers on the network and allow their immediate inclusion

Show available disks on all servers and allow adding to Ceph

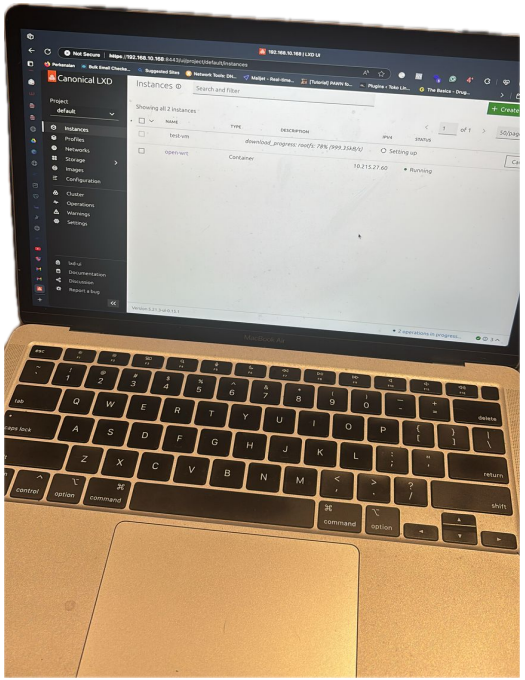
Prompt about network setup (distributed networking via OVN, or bridge network)

After bootstrap, user has a working LXD cluster connected to Ceph and their network, ready to run workloads

High-level feature summary

- Run lightweight system containers, traditional VMs, or application containers through Microk8s
- Manage instances through CLI, REST API, or the web UI
- Projects for multi-tenancy
- Profiles and projects for advanced resource control for CPU, memory, network I/O, block I/O, disk usage, kernel resources etc.
- Hardware passthrough for USB, GPU, block devices, NICs, disks etc.
- Snapshots, back-ups, image transfer and live migration
- Auto-healing for instances on Ceph
- Instance metrics and event logs with Prometheus and Grafana

Running MicroCloud on any Devices

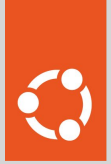


MicroCloud Advantages vs VMware

Fitur MicroCloud	Bisa Dilakukan di VMware?	Catatan
Multi-Arsitektur (x86_64, ARM64, RISC-V, ppc64le, s390x)	❌	VMware hanya mendukung x86_64. Tidak ada support resmi untuk ARM64, ppc64le, atau s390x.
Jalan di Device Apa Saja (NUC, Pi, STB, laptop tua)	❌	VMware tidak bisa dijalankan di device non-server atau ARM-based. Bahkan di NUC pun banyak limitasi.
Install di Berbagai OS (Ubuntu, Debian, OpenWRT, Android chroot)	❌	VMware = OS proprietary (ESXi). Tidak bisa jalan di OS lain, apalagi OpenWRT atau chroot di Android.
Integrasi Modular (Terraform, Juju, MAAS, OpenID)	Sebagian ✔️	Terraform: bisa. Tapi MAAS, Juju, Landscape, OpenID tidak native, perlu workaround.
Satu Perintah, Auto Cluster Setup (HA, DNS, Ceph, HAProxy)	❌	VMware perlu vCenter, NSX, dan manual setup untuk hal-hal tersebut. Tidak ada auto provisioning via 1 command.

MicroCloud Advantages vs Proxmox

Fitur MicroCloud	Bisa Dilakukan di Proxmox?	Catatan
Multi-Arsitektur (x86_64, ARM64, ppc64le, s390x)	❌	Proxmox hanya stabil dan resmi di x86_64. Dukungan ARM64 masih eksperimental, ppc64le & s390x tidak didukung.
Jalan di Device Apa Saja (NUC, Pi, STB, laptop tua)	❌	Proxmox butuh resource tinggi & biasanya butuh perangkat dengan dukungan VT-d dan hardware virtualization. Tidak cocok di device ringan seperti STB atau Pi.
Install di Berbagai OS (Ubuntu, Debian, OpenWRT, Android chroot)	❌	Proxmox adalah OS tersendiri berbasis Debian. Tidak bisa dijalankan di atas OS lain (bukan software stack seperti MicroCloud).
Integrasi Modular (Terraform, Juju, MAAS, OpenID)	Sebagian ✅	Terraform: bisa. Juju/MAAS/OpenID: tidak native, perlu workaround. Tidak ada native support untuk declarative infrastructure.
Satu Perintah, Auto Cluster Setup (HA, DNS, Ceph)	❌	Setup cluster Proxmox butuh konfigurasi manual. Ceph bisa tapi kompleks. Tidak ada auto cluster dengan 1 perintah.



In summary

MicroCloud

- Deploys in minutes with a single command
- Easy to operate and scale
- Low-touch management and additional security
  - OTA updates
  - Self-healing
- Open Source with LTS releases
  - Ubuntu Pro covers more than infrastructure
- Cost effective

Our Customers

OpenInfra USER GROUP Indonesia

Customers using Ubuntu Pro on the Cloud and Onprem

Telco

AT&T, TELE2, BT, Bell, NTT, Deutsche Telekom, tnm, Telefónica, Charter, PCCW, docomo, NOKIA

FSI

BNP PARIBAS, BARCLAYS, Rabobank, Bloomberg, SBI BITS, PayPal

Public Sector

NASA, NIH, Sandia National Laboratories, Shared Services Canada, U.S. AIR FORCE, YORK UNIVERSITY, GSA, Carnegie Mellon University

Automotive

TOYOTA, LAND ROVER, Mercedes-Benz Group, NIO, ŠKODA, Ford, SCANIA, VOLVO, GM, JAGUAR, MAN

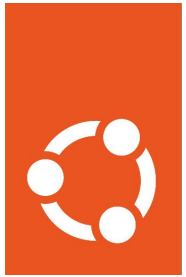
OpenAI, Microsoft, GitHub

Our Private Cloud customers

All global AI leaders run Ubuntu Pro

OpenInfra USER GROUP Indonesia

OpenInfra USER GROUP Indonesia



Ubuntu Pro

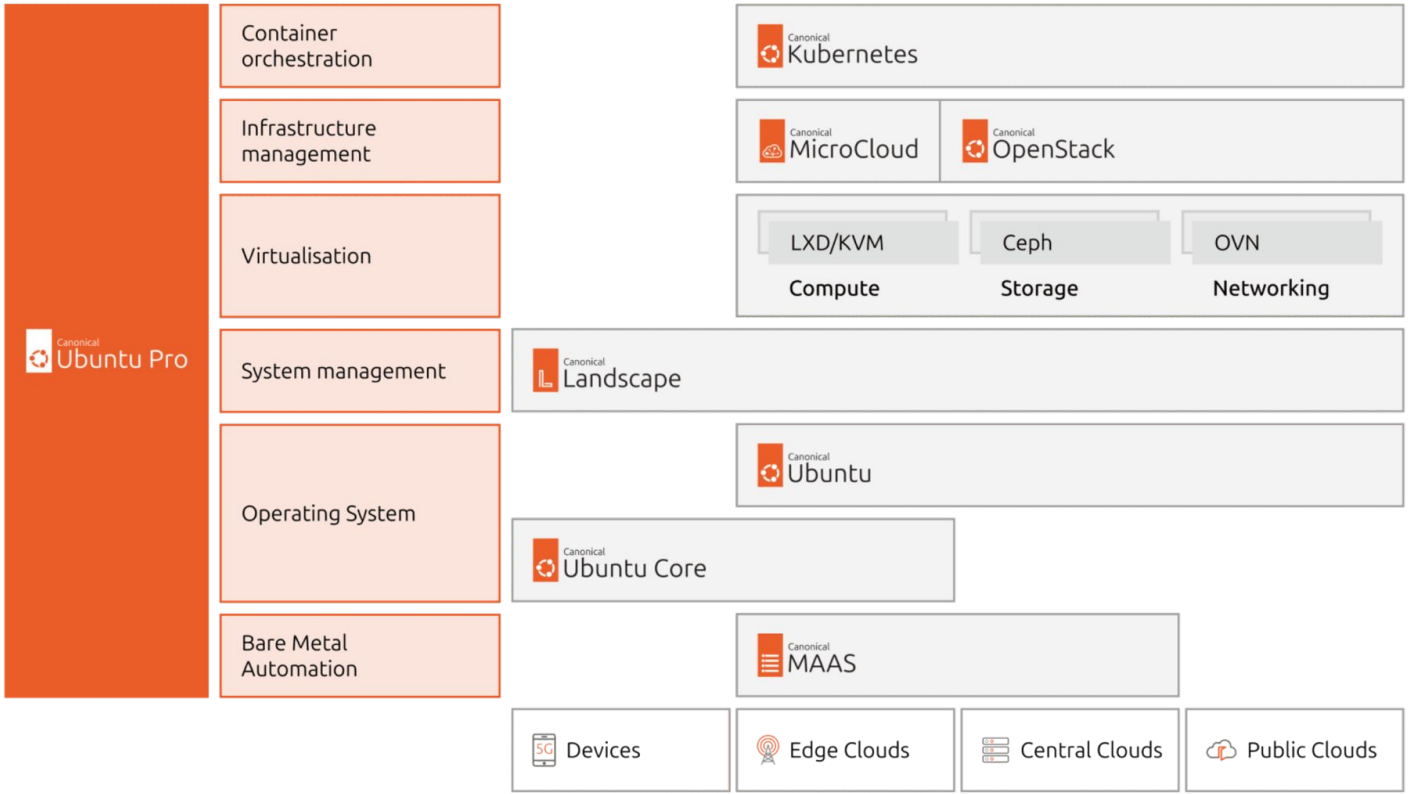
Challenges with Ubuntu LTS

Security Management

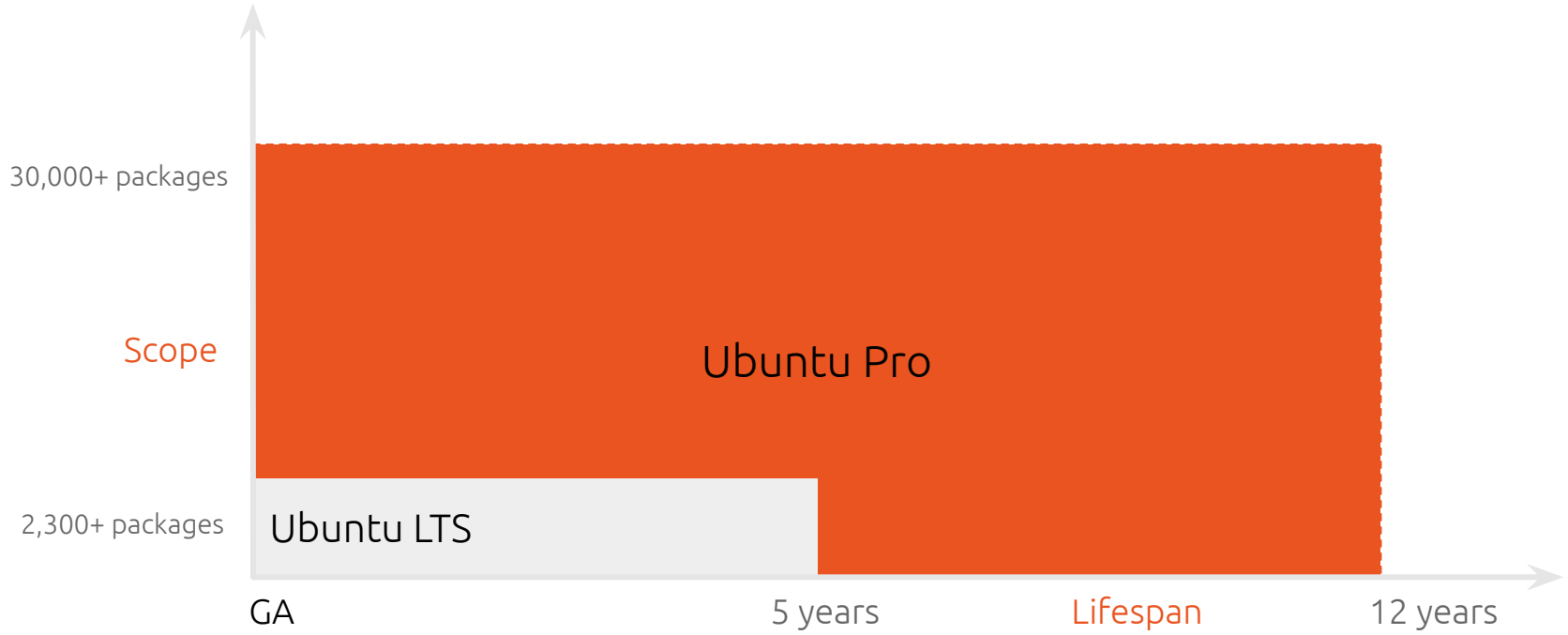
Compliance Requirements

Vulnerability Management

Dedicated Support


Canonical Ubuntu Pro
Container orchestration
Canonical Kubernetes
Infrastructure management
Canonical MicroCloud
Canonical OpenStack
Virtualisation
LXD/KVM
Compute
Ceph
Storage
OVN
Networking
System management
Canonical Landscape
Operating System
Canonical Ubuntu
Canonical Ubuntu Core
Bare Metal Automation
Canonical MAAS
Devices
Edge Clouds
Central Clouds
Public Clouds

Ubuntu Pro expands the lifespan and scope



Gain another decade of stability

12 years of security updates

12 years of phone and ticket support

12 years of guaranteed SLAs

Ubuntu Pro

Selecting Canonical Products during pre-sales

OpenInfra USER GROUP Indonesia

	MicroCloud	OpenStack
Check if there are any HW requirements, esp. In terms of storage, and if so →	Some shortcomings can lead to a "No"	Probably a better fit
Check if vMotion and DRS are important features for business operations, if so→	Limitations to be expected	Probably a better fit, but with limitations
Check if VMware security APIs or tooling are used by the IT staff, if so →	A migration is required, but no difference between the 2 platforms	
Check if the Company used vSphere to upgrade the Infra (Low Touch), or if more hands-on experience by the IT team	Probably a better fit in terms of Low Touch	Valid only for hands-on teams
Check if the backup practices is based on VM image snapshot, if so →	Failover currently not possible (on the roadmap)	Probably a better fit
Check if the VMware APIs and SDKs are widely used, if so →	A migration is required, but no difference between the 2 platforms	
Check if the Company used to have Low Touch Ops, or if the IT team is really hands-on an motivated to implement their own Ops automation.	Probably a better fit in terms of Low Touch	Valid only for hands-on teams
Check if the Company is willing to invest of re-training the IT staff and refactoring the workloads, if not →	Probably a better fit	Some complexity can lead to a "No"

Sahabat

Ubuntu

Indonesia

SIVALI CLOUD TECHNOLOGY

Institut Teknologi Tangerang Selatan

Thank you!

Questions?