



Ubuntu Cloud

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What is the Cloud?

The Landscape

- IaaS - Amazon EC2, Rackspace Cloud
- PaaS - Force.com, CloudFoundry, OpenShift, Heroku
- SaaS: Salesforce, Zoho, Google Apps, Zendesk



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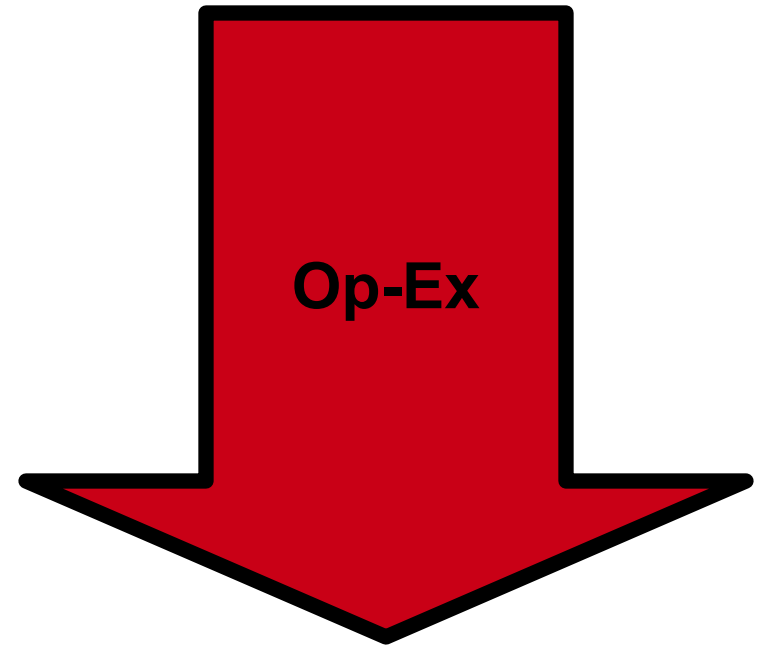
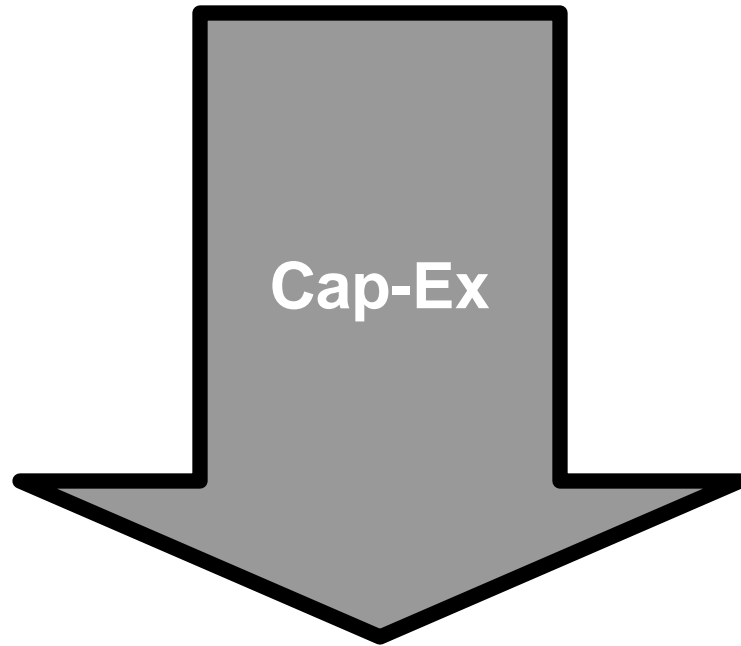


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Why Cloud?

Elastic
Multi-tenancy
Pay *As You* Go
Pace of Innovation
Speed of Provisioning

An Opportunity

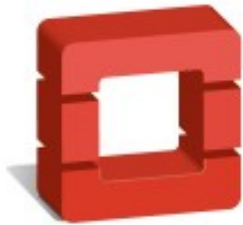


	Cloud	Traditional
Accessibility	Minutes	Days
Capex	Pay As You Go	Fixed, Upfront Cost
Economies of Scale	Yes	No
Geography	Distributed	Local/Offsite
Multi-tenant	Yes	No
Scalability	Elastic	Manual
Virtualized	Yes	Both

Hosted IAAS Options

OPEN

CLOSED



openstack™

nimbus i|o



Eucalyptus



Joyent
smart computing



vmware®

PAAS Generations

GEN 1



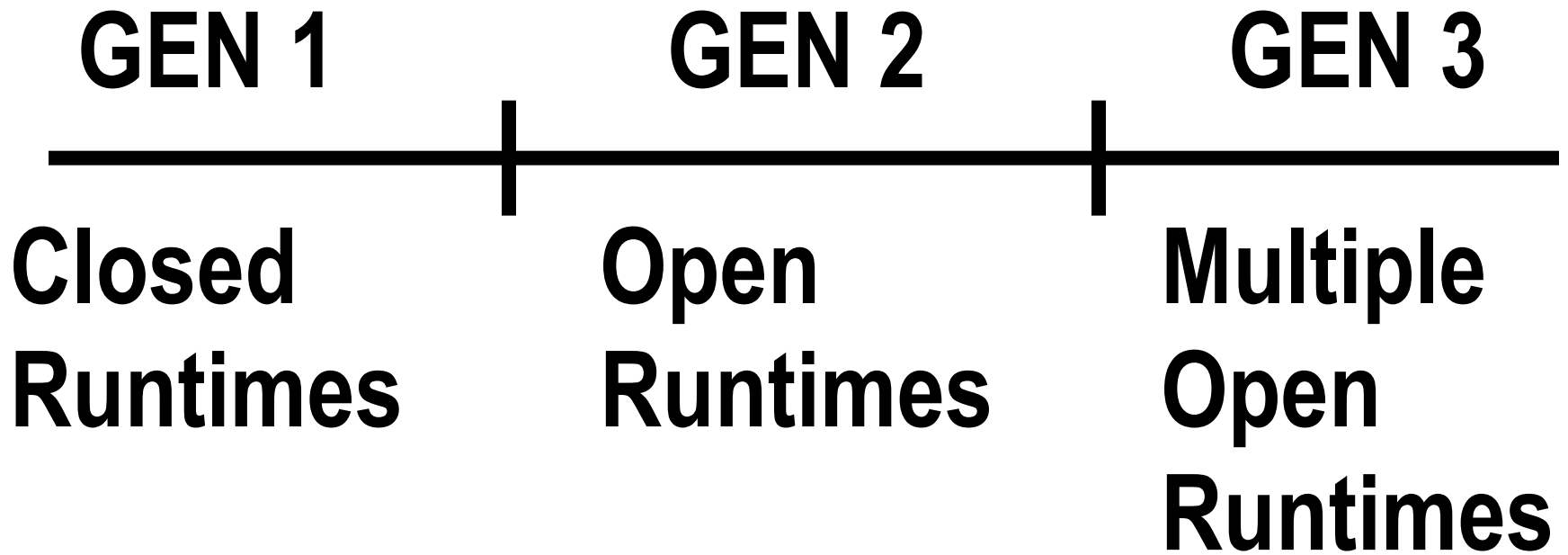
GEN 2



GEN 3



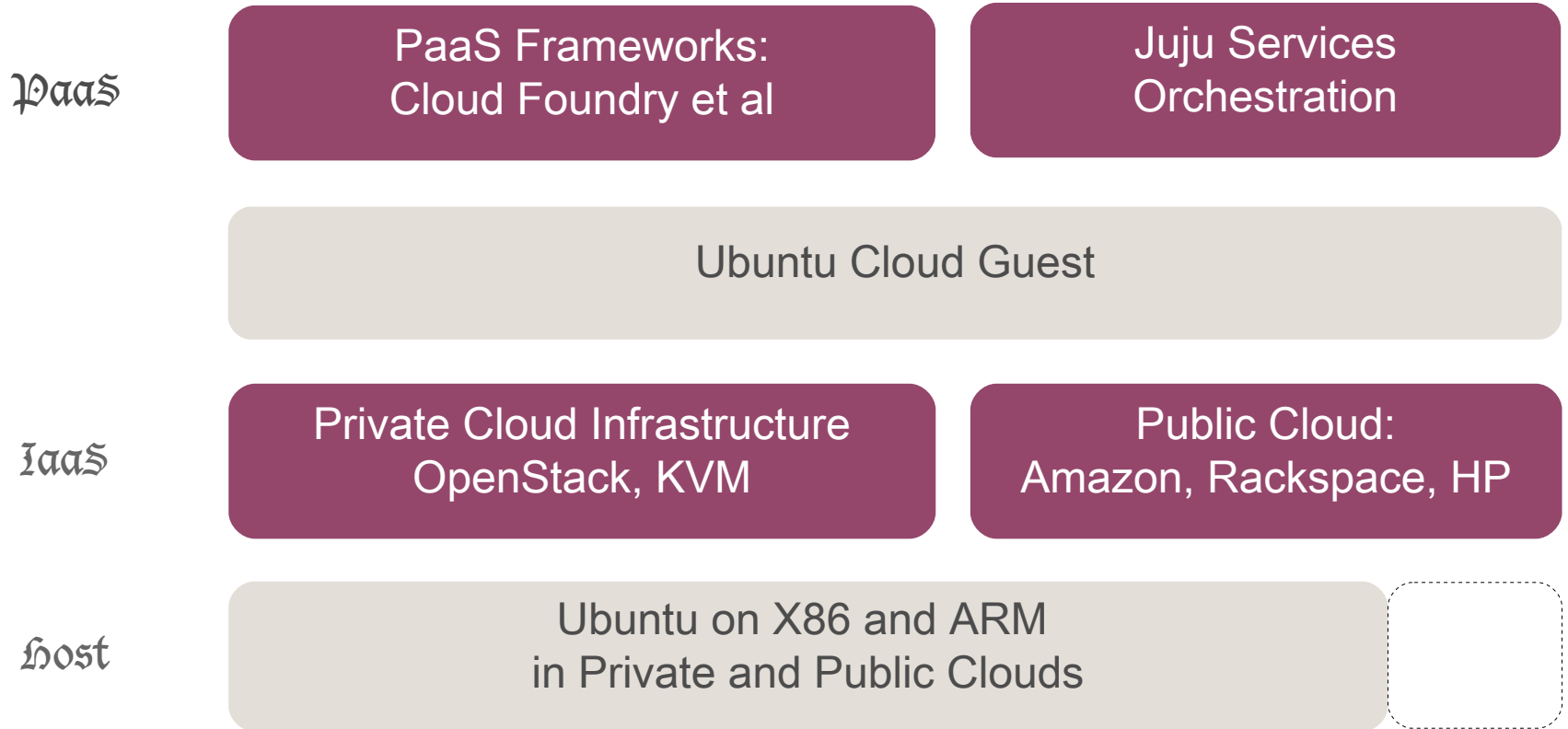
The Future is **Open**





Ubuntu Cloud

Ubuntu Cloud Map



Ubuntu is #1 OS for Cloud Computing



Leader in private cloud infrastructure

- Ubuntu 9.04 – first to ship Amazon EC2 compatible private cloud infrastructure with Eucalyptus
- Ubuntu 11.04 – first to ship OpenStack
- Ubuntu 11.10 – OpenStack default in Ubuntu Cloud Infrastructure

Built for the cloud

- IaaS built in
- Perfect guest - #1 on AWS and RackSpace Public Clouds
- PaaS OS of choice – VMWare CloudFoundry and many more
- BigData solutions on tap – Hadoop, NoSQL and the rest

Built for innovation

- Release cycle provides today's technology, and long term support
- Free, with commercial services from Canonical
- Developers' preferred platform

Cloud Innovation starts with Ubuntu



First to embrace and deliver critical technologies

- KVM for virtualisation
- LXC for containers
- OpenStack
- CloudInit
- AWS updates and integration

Continual innovation

- ARM for hyperscale data centers
(HP Moonshot and beyond)
- Juju service orchestration

Canonical services

- Support and legal assurance
- Turnkey solutions
- Consulting, design and engineering

IaaS: HP selects Ubuntu



Ubuntu selected by HP Cloud Services as its lead host and guest platform

- Currently in private beta

Canonical and HP

- Recognize that open, interoperable cloud infrastructure and services are critical for next generation cloud-based services
- Share a commitment to open source and embrace the OpenStack community



PaaS: VMWare selects Ubuntu



Ubuntu selected by VMWare Cloud Foundry as its standard guest platform



- On CloudFoundry.com, on AWS/Rackspace and in private cloud deployments
- Supports multiple PaaS languages and frameworks

Canonical and VMWare

- Want the widest variety of PaaS options available to developers regardless of IaaS
- Deliver CloudFoundry on Ubuntu, to Amazon AWS, Rackspace, Private Clouds and direct to developer workstation



Why Ubuntu Cloud?



Hybrid cloud is the goal:

Move workloads between your private cloud and major public cloud infrastructures



Friction-free deployment

Provisioning and deployment
friction destroy your agility
and efficiency



Power density is critical:

ARM processors coming
to the data centre change the
way workloads are deployed





The next problem (and a solution)

Managing *services* in the cloud, not machines



In the cloud, machines are ephemeral and unreliable

- Machines no longer the appropriate unit
- Current configuration tools are clumsy as they still focus on machines

Services, not machines

Services change during their lifetime

- Number of instances, which machines, dependencies
- Horizontal scaling of services brings internal complexity
- Pipeline from development, through staging, test and production

Configuration management → Service orchestration



Configuration management

- Machine-centric
- Decoupled from provisioning
- Inefficient re-use of knowledge
- Analog:
./configure && make && sudo
make install

Service orchestration

- Service-centric
- Coupled with provisioning
- Efficient knowledge sharing
- Complementary to config management
- Analog:
apt-get install

Service orchestration

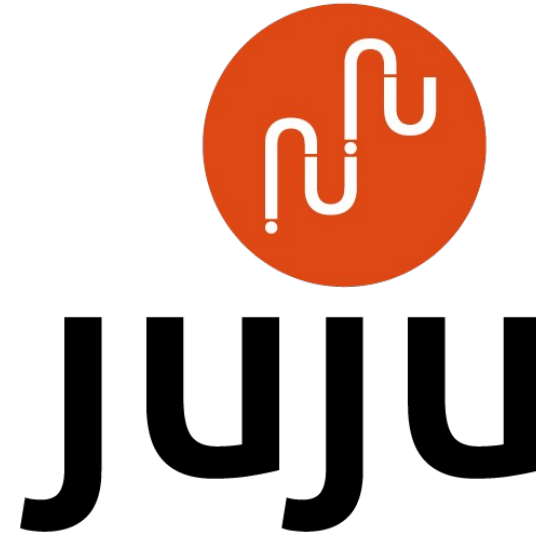


Juju models relationships between services,
not machines

- Dependency model allows loosely coupled but highly cohesive services
- Maintains service relationships through scaling

Encapsulates deployment intelligence for re-use

- Hides complexity of horizontal scalability in “charms”
- Reusable, codified best practice from devops



Juju is...



DevOps Distilled

- Expertise encapsulated in charms
- Frictionless dev-ops handovers

Scalable by design

- Re-usable service units, well-defined interfaces
- Encapsulation

A community of expertise

- Public charms, open source
- Governance of charmers

Service orchestration

- Focus on services, not machines or instances

Easy

- No need to learn a new language
- No need for packaging
- Codify existing practice first

Universal

- Same charms locally, bare metal, EC2, OpenStack



Ubuntu Cloud Canonical Services

Ubuntu Advantage Cloud



Ubuntu Advantage Cloud Infrastructure

Support, Management and Legal protection
for Ubuntu Cloud Infrastructure

Ubuntu Advantage Cloud Guest (released)

Fixed price, up to 100 guests

Ubuntu Cloud Guest OnDemand (To be announced)

Utility based pricing

Professional Services

Canonical can help you implement a cloud-computing environment with the management tools you need to grow your cloud and prepare for the future.

You can involve us at every stages:

- Planning
- Proof of concept
- Deployment
- Optimisation



Your own cloud in 1 week for \$9000

Request your Jumpstart:

<https://pages.ubuntu.com/ubuntu-cloud-jumpstart>

Ubuntu Cloud Jumpstart includes:

- One Canonical Services Engineer for five days
- A planning framework that enables you to make essential, core architecture decisions based on your specific needs and the rapidly evolving state of the various components that provide those services
- A seed Ubuntu Cloud Infrastructure deployment on up to 20 x86 servers
- Limited opportunistic integration of this cloud infrastructure with existing related systems on your premises
- Training on key tools and processes to support your cloud



Thank you.

Questions?

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<https://pages.ubuntu.com/ubuntu-cloud-jumpstart>

www.ubuntu.com/business/cloud/overview

juju.ubuntu.com

@ubuntucloud on Twitter