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May 2018

OpenStack Charms

Project Update, OpenStack Summit Vancouver

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What are the OpenStack Charms?

```
commit 4b30ccbd044be76be66c1bb6f9669dba352147b6
Author: Adam Gandelman <adamg@canonical.com>
Date:   Tue Jul 5 10:59:03 2011 -0700

 initial commit
```

sahara

horizon

murano

barbican

trove

designate

heat

gnocchi

cinder

keystone

aodh

nova

panko

zaqar

cloudkitty

neutron

glance

ceilometer

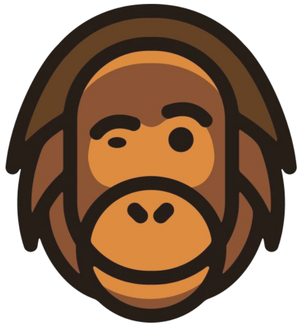
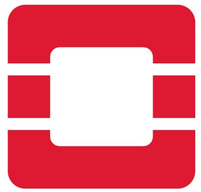
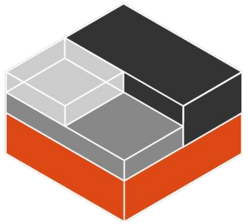
mistral

freezer

swift

watcher

tacker

Juju

Model driven, re-usable,
open source operations

- Applications
- Machines
- Relations

- Networking
- Storage

Charms

Encapsulation of operational knowledge of applications

- Installation
- Configuration
- Connections
- Upgrades & Updates
- Scale-out (and in)
- Health
- Operations

OpenStack Charms

Deploying OpenStack since 2011

- Core IaaS services
- Telemetry
- Orchestration
- High Availability
- Series upgrades
- Architectural Freedom

MAAS

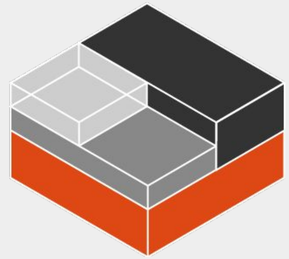
Open Source bare-metal automation

- Automated physical provisioning
- Dynamic allocation of workloads
- IPAM
- Web UI & REST API

LXD

Faster, denser, lower latency
Linux virtualization

- Machine containers
- Resources
- REST API
- Juju integration



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18.02 Features

- OpenStack Queens
- Neutron <-> Designate integration
- Ubuntu Bionic (preview)
- MongoDB removal

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18.05 Features

- Neutron Dynamic Routing using BGP
- Encrypted data at rest
- TLS certificate management
- Ubuntu 18.04 LTS support

Encrypted data at rest

- Encryption of supporting block devices using dm-crypt/LUKS
- Key management and security using Vault
- Mitigates against:
  - Disk Loss
  - Server Loss
  - Deployment Loss!

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TLS Certificate Management

- Network Spaces + HA == cert complexity
- Vault PKI - Intermediate CA
  - Signed using Corporate Root CA
- Certificate Lifecycle Management
- Core OpenStack Services
- Wider coverage (RMQ/PXC) coming

18.08 & 18.11

- Panko (telemetry events)
- Expanded Cert Management
- Ceph Bluestore validation
- Fernet Tokens
- OpenStack Rocky
- Cells v2
- Octavia (superceeding LBaaS v2)

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Beyond Rocky

- Consolidated API Load Balancer
- OVN

How to get involved

- Weekly meetings on IRC (Monday 1000 or 1700 UTC)
- openstack[-dev] mailing lists (charms topic)
- #openstack-charms on Freenode IRC
- https://docs.openstack.org/charm-guide/latest
- https://docs.openstack.org/charm-deployment-guide/latest

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How to contribute

- Reviews
- Advice
- Documentation
- Bug Fixes
- Features

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Q&A

Thank you!

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