The Dao of OpenStack

Christopher MacGown
Dark Lord and God Emperor

PISTON CLOUD COMPUTING, INC.

The Dao of OpenStack

...I shouldn't be allowed to name things anymore.

Christopher MacGown
Co-Founder and Chief Scientist at Piston Cloud

PISTON CLOUD COMPUTING, INC.

Piston
PISTON {CLOUD} COMPUTING

at Piston Cloud,

WE BELIEVE

it's good to be

OPINIONATED

No, really...

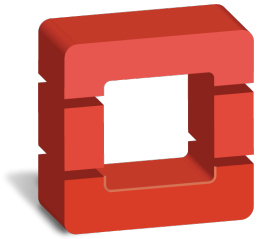
"...the most opinionated people in cloud..."

Christopher MacGown
March 2012

Although...

“Fuck!”

Christopher MacGown
March 2012



openstack™

- The leading open source cloud framework
- Founded by NASA and Rackspace in 2010
- Global collaboration of companies
- Massively scalable compute, storage and networking

2 kinds of cloud

The lessons are the same

- Create simple building blocks that are easy to scale
- Full Convergence
- Compute, storage, network, & management on every server
- No special puppies.

NULL-TIER
ARCHITECTURE

2 kinds of cloud

There are no puppy clouds...

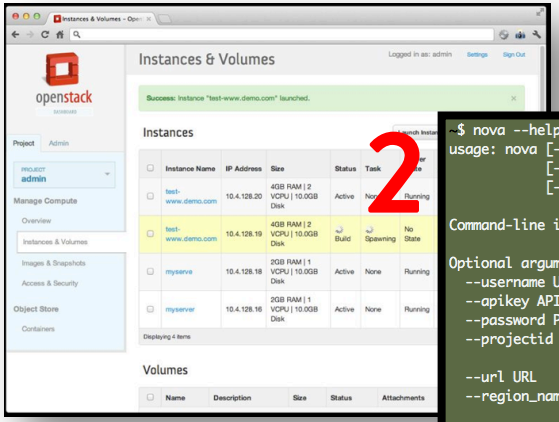
Meanwhile, yesterday...

"OpenStack is really about shooting cows. Somebody is going to tweet that. You watch. Somebody will."

@hartsock quoting @jmkenty

3 interfaces

1



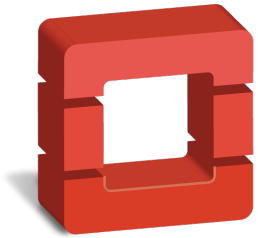
2

```
~$ nova --help
usage: nova [--username USERNAME] [--apikey APIKEY] [--password PASSWORD]
            [--projectid PROJECTID] [--url URL] [--region_name REGION_NAME]
            [--endpoint_name ENDPOINT_NAME] [--version VERSION]

Command-line interface to the OpenStack Nova API.

Optional arguments:
  --username USERNAME   Defaults to env[OS_USERNAME].
  --apikey APIKEY       Defaults to env[NOVA_API_KEY].
  --password PASSWORD   Defaults to env[OS_PASSWORD].
  --projectid PROJECTID
                        Defaults to env[OS_TENANT_NAME].
  --url URL             Defaults to env[OS_AUTH_URL].
  --region_name REGION_NAME
                        Defaults to env[NOVA_REGION_NAME].
  --endpoint_name ENDPOINT_NAME
                        Defaults to env[NOVA_ENDPOINT_NAME] or "publicURL".
  --version VERSION     Accepts 1.1, defaults to env[NOVA_VERSION].

See "nova help COMMAND" for help on a specific command.
~$
```

3 > curl http://mycloud/v2.0/glance/image007

4 resources

- Nova
- Cinder
- Swift
- Quantum + (Your SDN here)



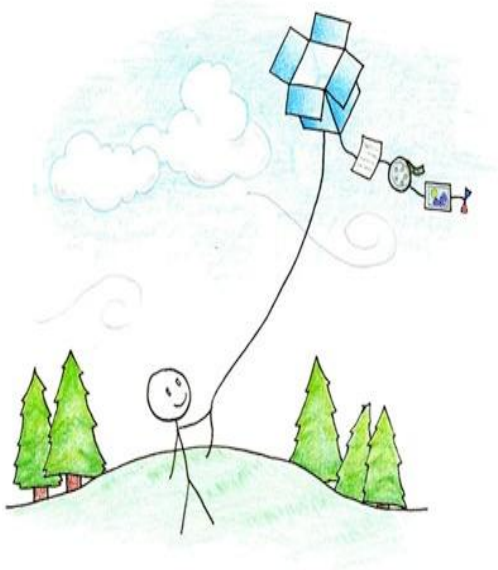
openstack™

- And sure, Glance and Keystone and Oslo — oh my!

5 actors with different desires

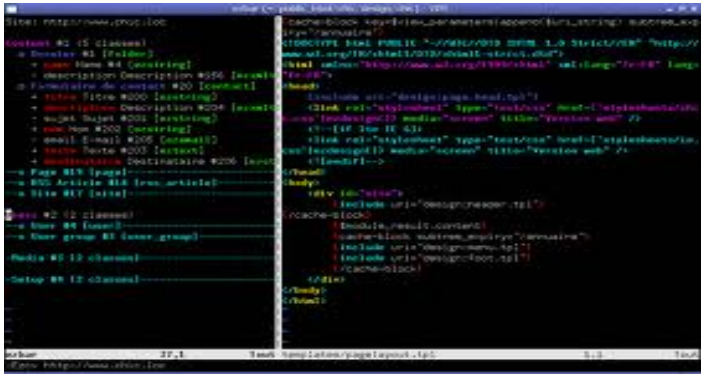
- Consumer
- Developer
- Operator
- Provider
- Auditor

Consumers



Developers

CLOUD FOUNDRY™



Operators

Providers

Auditors

The desires are the same...

- The targets are different.
  - Op focus on resilience -> happy devs
  - Dev focus on application resilience-> happy consumers
  - Happy users -> happy providers
  - Nothing makes an auditor happy, just less sad.

Thank you.