

# The Dao of OpenStack

Christopher MacGown  
Dark Lord and God Emperor



# The Dao of OpenStack

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

Christopher MacGown

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*at Piston Cloud,*

**WE BELIEVE**  
*it's good to be*  
**OPINIONATED**



# No, really...

“...the most opinionated people in cloud...”

Christopher MacGown  
March 2012



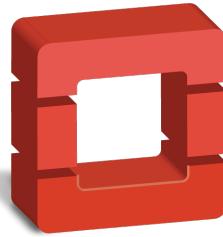
# Although...

“Fuck!”

Christopher MacGown  
March 2012







open**stack**™

- 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

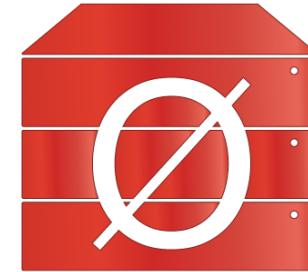






# The lessons are the same

- 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 @jmkelty



# 3 interfaces

1

The screenshot shows the OpenStack Instances & Volumes interface. On the left, there's a sidebar with 'Project Admin' selected, showing 'mycloud admin'. Below it are 'Manage Compute', 'Overview', 'Instances & Volumes' (which is selected), 'Images & Snapshots', 'Access & Security', 'Object Store', and 'Containers'. The main area is titled 'Instances' and shows a table with four rows:

Instance Name	IP Address	Size	Status	Task	State
test- www.demo.com	10.4.128.20	4GB RAM   2 VCPU   10.0GB Disk	Active	No	Running
test- www.demo.com	10.4.128.19	4GB RAM   2 VCPU   10.0GB Disk	Build	No	Spawning
myserver	10.4.128.18	2GB RAM   1 VCPU   10.0GB Disk	Active	None	Running

Below the table, it says 'Displaying 4 items'. There's also a 'Volumes' section with one item listed.

2

```
$ nova --help
usage: nova [-u[sername] USERNAME] [-a[pikey] APIKEY] [-p[assword] PASSWORD]
             [-p[rojectid] PROJECTID] [-u[rl] URL] [-r[egion_name] REGION_NAME]
             [-e[ndpoint_name] ENDPOINT_NAME] [-v[ersion] 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.
$ 
```

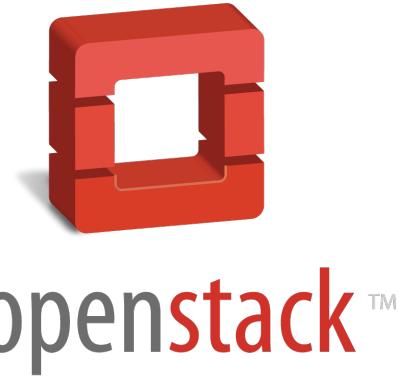
3

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



# 4 resources

- Nova
- Cinder
- Swift
- Quantum + (Your SDN here)
- And sure, Glance and Keystone and Oslo – oh my!

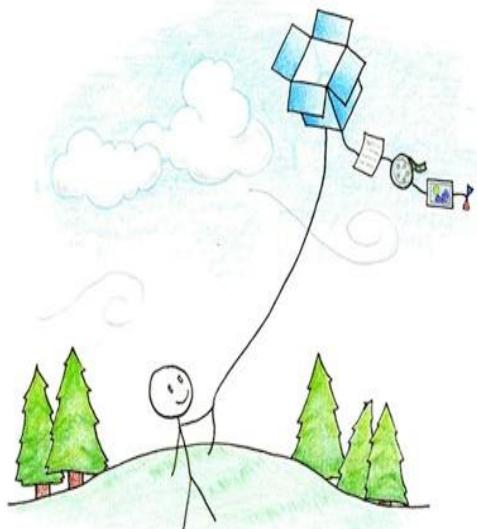


# 5 actors with different desires

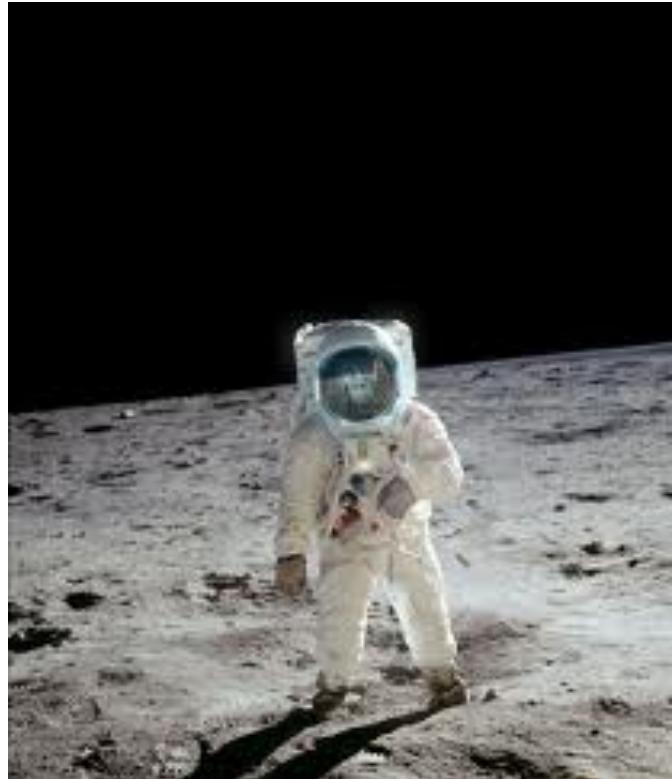
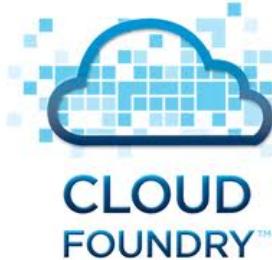
- Consumer
- Developer
- Operator
- Provider
- Auditor



# Consumers

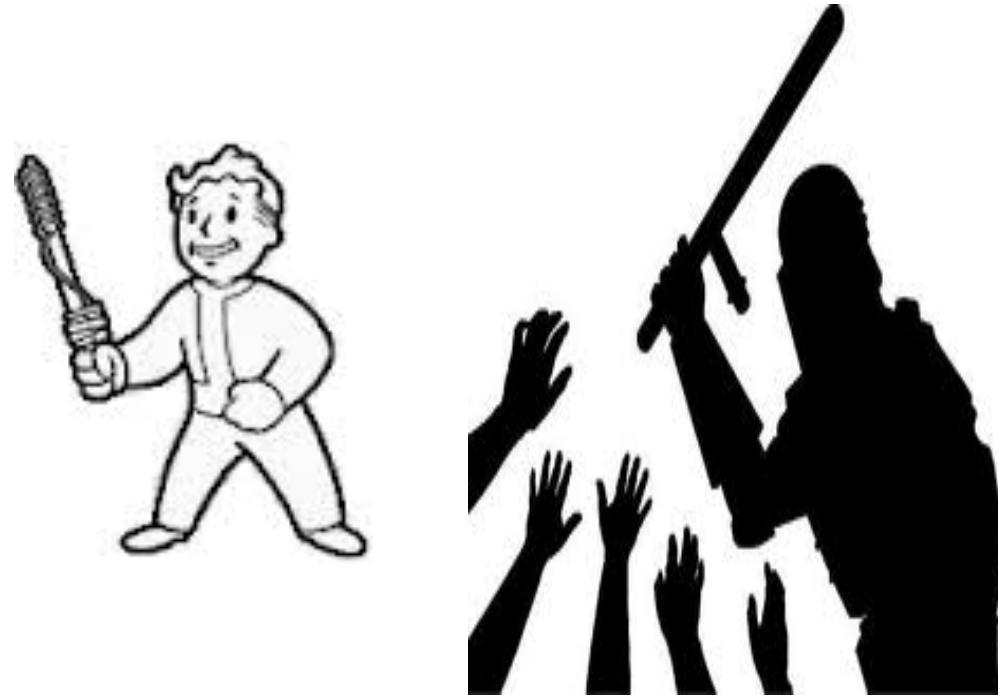


# Developers



PISTON CLOUD COMPUTING, INC.

# 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.

