Dirty Clouds Done Dirt Cheap

Matthew Treinish
mtreinish@kortar.org
`mtreinish` on Freenode

May 11, 2017

https://github.com/mtreinish/dirty-clouds-done-dirt-cheap

Building a Cloud

Scope of the Project

- Pretend to be a sysadmin with no prior OpenStack knowledge
- Try to rely only on install docs and google searches
- $1500 USD Budget
- Build a basic compute cloud:
  - Keystone
  - Glance
  - Nova
  - Neutron
- Install from Ocata from tarballs
- No automation or pre-existing install scripts

Buying Hardware

- Maximize core count per USD
- Second priority is amount RAM
- Machines don't need to be fast (that costs money)

The Servers

Model	PowerEdge R610
Processor	2x Intel Xeon E5540
Memory Installed	32GB Total Memory; 8 x 4 GB DDR3
Hard Drives	2x 146GB 10K SAS Hard Drive
RAID Controller	Dell PowerEdge R610 Perc 6i
Ethernet	2x Dual Port Embedded Broadcom NetXtreme ll 5709c
Return Policy/Warranty	60 days Money Back Or Exchange

$215 Each

Quirks with the servers

- Super stripped down:
  - No management interface
  - No redundant power supply
- Memory installed in wrong slots
- Came pre-installed with Windows Server 2012 (and default password Apple123)
- At full fan speed $>$**70 dB**

Assembling the Cloud

- Need something to hold the servers
- Traditional racks are too much money (even used)

LackRack

Installing the Operating System

- Installed Ubuntu 16.04 LTS server
-

What to do with your budget cloud?

OpenStack Development

- Lots of capacity for running devstack
- A really good platform to develop and test OpenStack applications

- https://github.com/mtreinish/handbrakecloud

- 5x 1U Servers in your bedroom closet is not pleasant
- The power bill
-

Where to get more information

- openstack-dev ML openstack-dev@lists.openstack.org

Questions?