



UNIVERSITY OF
OXFORD

OpenStack cloud at Oxford

Kashif Mohammad
University of Oxford

- Deployment

- OpenStack Havana installed with the help of Packstack
- Packstack is python + puppet

- Hardware

- One Controller node
- Three WN's comprising of 56 cores

- API

- Nova api
 - Python -novaclient
- Amazon EC2 client
 - euca2ools

Services

- Controller Node
 - Conductor
 - API Services
 - MySQL and qpid
 - Glance
 - Image repository
 - Horizon
 - Dashboard
 - Keystone
 - Identity Service
- Compute Node
 - Nova compute
 - Nova Network

Networking

- Running Nova-Network with multi_host enabled
 - It means that every Compute Node has a public IP address, VM's running on a host can talk directly to internet without going through controller
- Supports floating IP address but generally it is used for troubleshooting purpose only
 - VM's can be assigned public ip address on the fly
- VM's can be accessed through VNC console
- Fine grained security policies can be created



Edit Security Group Rules: ox-phy

Logged in as: mohammad [Settings](#) [Help](#) [Sign Out](#)

Security Group Rules

[+ Add Rule](#) [Delete Rules](#)

<input type="checkbox"/>	Direction	Ether Type	IP Protocol	Port Range	Remote	Actions
<input type="checkbox"/>	Ingress	-	ICMP	-1 (ALL ICMP)	0.0.0.0/0 (CIDR)	Delete Rule
<input type="checkbox"/>	Ingress	-	TCP	1 - 65535	163.1.136.0/24 (CIDR)	Delete Rule
<input type="checkbox"/>	Ingress	-	TCP	1 - 65535	163.1.5.0/24 (CIDR)	Delete Rule

Displaying 3 items

Users

- Our main user is Atlas
- Atlas provide images and it is uploaded to image repository glance
- Atlas manages job submission and monitor VMs
- We have some customized images which is used for testing

openstack DASHBOARD

project

CURRENT PROJECT **gridpp-atlas**

Manage Compute

- Overview
- Instances
- Volumes
- Images & Snapshots
- Access & Security



Instances Used 9 of 20



VCPUs Used 36 of 46



RAM Used 72.0 GB of 78.1 GB



Floating IPs Used 1 of 10



Security Groups Used 0 of 10

Select a period of time to query its usage:

From: To: The date should be in YYYY-mm-dd format.

Active Instances: 9 Active RAM: 72GB This Period's VCPU-Hours: 120.71 This Period's GB-Hours: 12070.71

Usage Summary

[Download CSV Summary](#)

Instance Name	VCPUs	Disk	RAM	Uptime
Server c07fd332-5dfa-48e8-b5c0-f62f753e9a91	4	100	8GB	6 days, 14 hours
Server 52c4acdb-793d-4593-be95-d06ad94dab24	4	100	8GB	6 days, 14 hours
Server a3ebbf1-1f87-4c93-89e6-ee962b8c415b	4	100	8GB	6 days, 14 hours
Server 15137a63-25df-42ae-8046-96e946675b8a	4	100	8GB	2 days, 3 hours
Server 8ee41f75-28ef-4286-a01a-6f6c8f44e461	4	100	8GB	2 days, 3 hours
Server 98dcc455-4f25-4b8e-a65e-ca9d0f8a7efb	4	100	8GB	2 days, 1 hour
Server c85b6642-6953-47e2-a249-fd30239ef08b	4	100	8GB	1 day, 18 hours
Server 521222d0-afdc-4b4d-8864-56aaa5cd3e7a	4	100	8GB	1 day, 18 hours
Server f92113b2-03ac-4fd1-96d5-94797fe1d27b	4	100	8GB	1 day, 18 hours

Displaying 9 items

Future Plans

- Move to OpenStack Network service Neutron
 - It support Software defined networking
- IPv6
- EGI Federated Cloud
- Running Condor jobs on OpenStack cloud

Thanks you