



LCI workshop

on high performance clustered computing

Linux Clusters Institute: OpenStack Non-Orthogonal Cloud Services

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Non-Orthogonal Cloud Services

- Horizon
- S3/Swift
- Heat
- Magnum
- Manila
- Sahara

Horizon

- Web interface for OpenStack deployed with Apache
- Configuration file
 - `/etc/openstack_dashboar/localsettings.py`
- Use memcache for session engine, fast and lets you load balance with shared sessions
- Extra projects may need packages installed usually named `openstack-<project>-ui`

S3/Swift

- Provides object storage similar to AWS S3
- Use radosgw from Ceph, having a good swift deployment is challenging and redundant if you are already using swift
- Not all users have figured out how to use object storage
- Integrating radosgw with horizon and issuing AWS style credentials let you use stock tools like Cyberduck
- <http://docs.ceph.com/docs/mimic/radosgw/keystone/>

Heat

- Orchestration service
- Components
 - API
 - Engine
- Configuration files
 - `/etc/heat/heat.conf`
- If using galera and haproxy, master/backup/backup is recommended to prevent deadlocks

Magnum

- Uses Heat to deploy Kubernetes, Swarm, Mesos
- Components
 - API
 - Conductor
- Configuration files
 - `/etc/magnum/magnum.conf`
- Note the support matrix for your version, not all versions of container oriented distributions are supported

Manila

- Shared filesystem service
- Components
 - API
 - Scheduler
 - Share
- Configuration files
 - `/etc/manila/manila.conf`
- Wide variety of backends to manipulate enterprise NAS
- Cephfs supported natively or via nfs re-export
- Generic mode exports Cinder volumes via NFS

Sahara

- Uses Heat to deploy Hadoop style clusters
- Components
 - API
 - Engine
- Configuration files
 - `/etc/sahara/sahara.conf`

Resources

- Heat admin guide
<https://docs.openstack.org/heat/latest/admin/>
- Heat deployment guide
<https://docs.openstack.org/heat/latest/install/>
- Magnum Admin guide
<https://docs.openstack.org/magnum/latest/admin/>
- Magnum deployment guide
<https://docs.openstack.org/magnum/latest/install/>

Questions