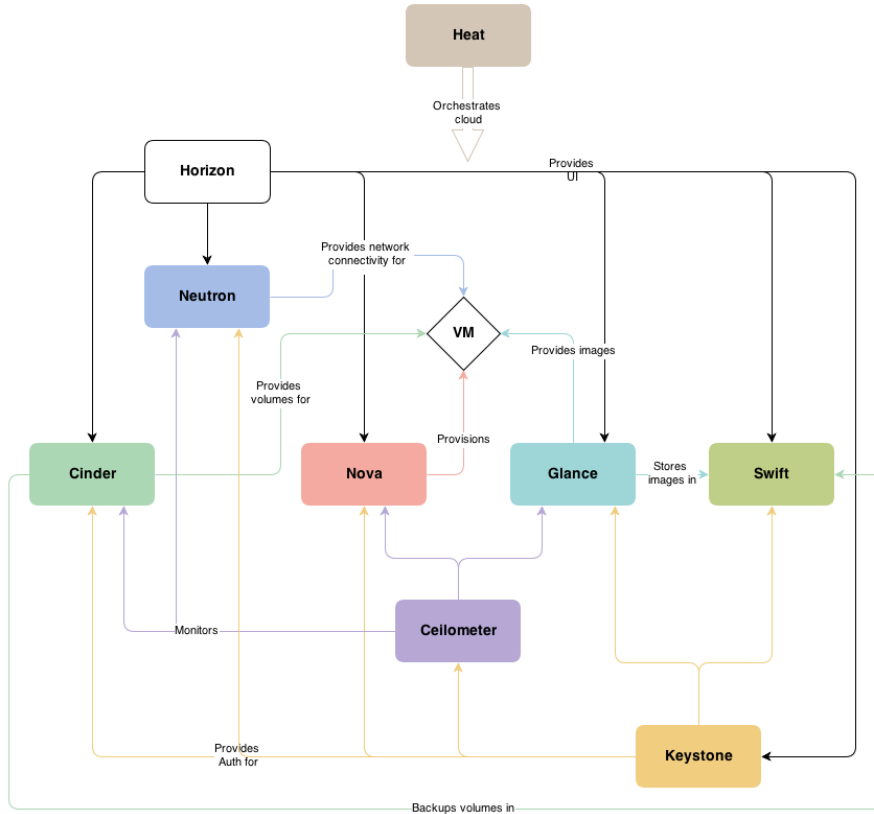


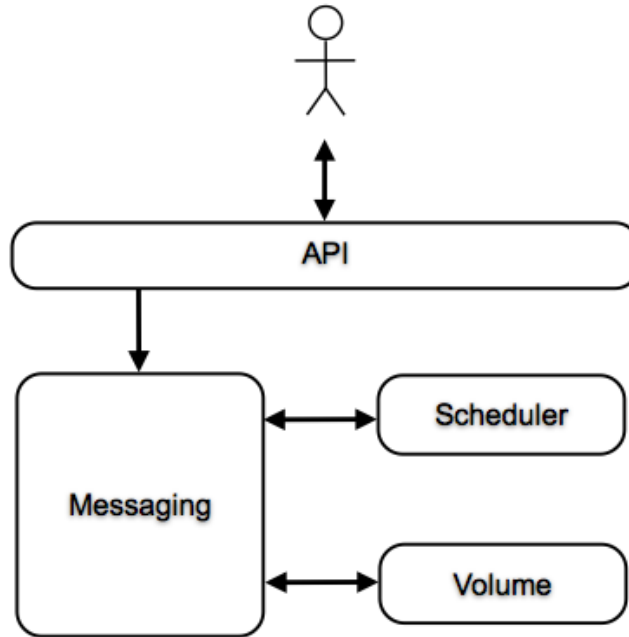
OpenStack Block Storage Service

Codename: Cinder

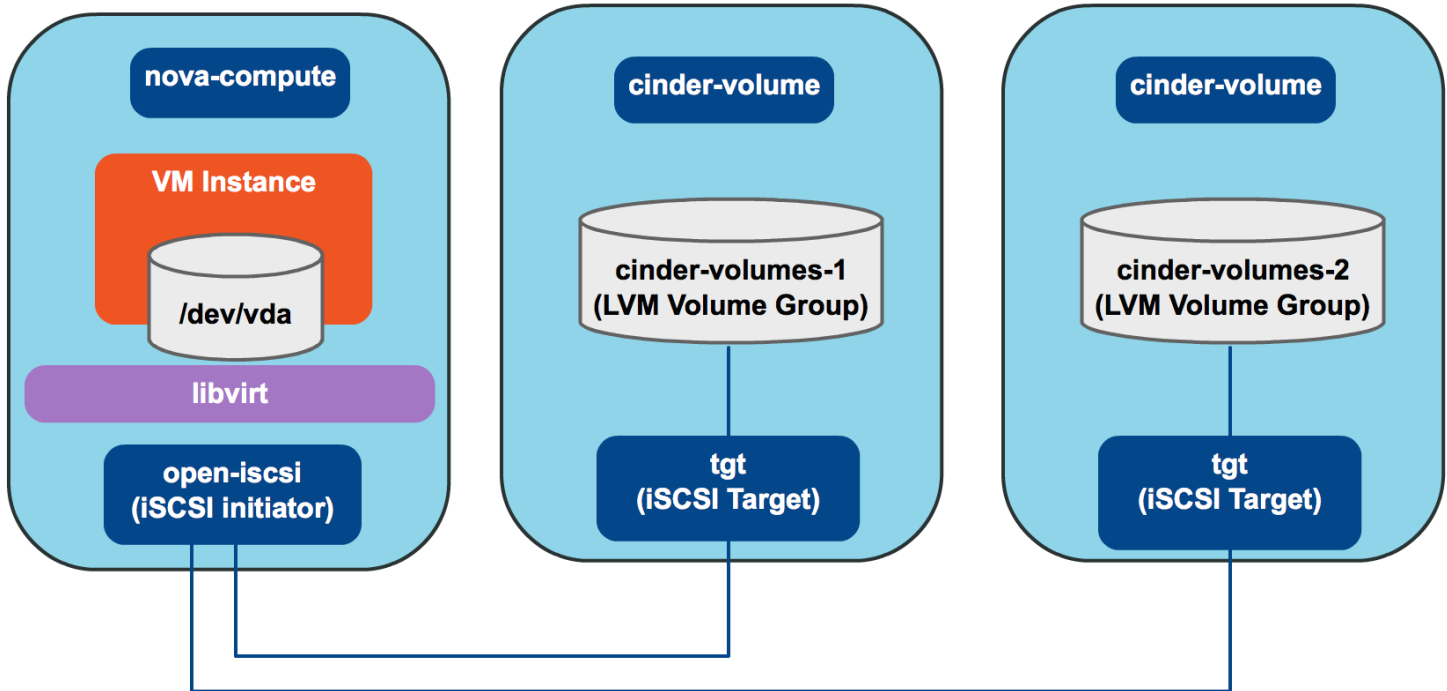
Cinder Overview



Cinder Components



Multiple-Backends



Cinder Drivers

LVM

NFS

GlusterFS

Ceph (RBD)

NetApp

Dell EqualLogic

EMC V-Max

Solidfire

Managing Volumes

- **Create a new volume**

```
cinder create <size in GB> --display-name <name>
```

- **Attach a volume to a VM**

```
nova volume-attach <instance id> <volume id> <device>
```

- **Detach a volume from a VM**

```
nova volume-detach <instance id> <volume id>
```

- **Remove a volume (must be detached)**

```
cinder delete <volume name or id>
```

Additional Features

- **Encrypt Volume**

Encryption is done by Nova using dm-crypt

- **Volume Migration**

`cinder migrate <volume-id> <target>`

- **Volume Rate Limiting**

Allows rate limiting per volume

- **Use VMDK as Cinder Volume**

Useful when using VMware ESXi compute hosts

Exercise

Cinder Installation & Setup