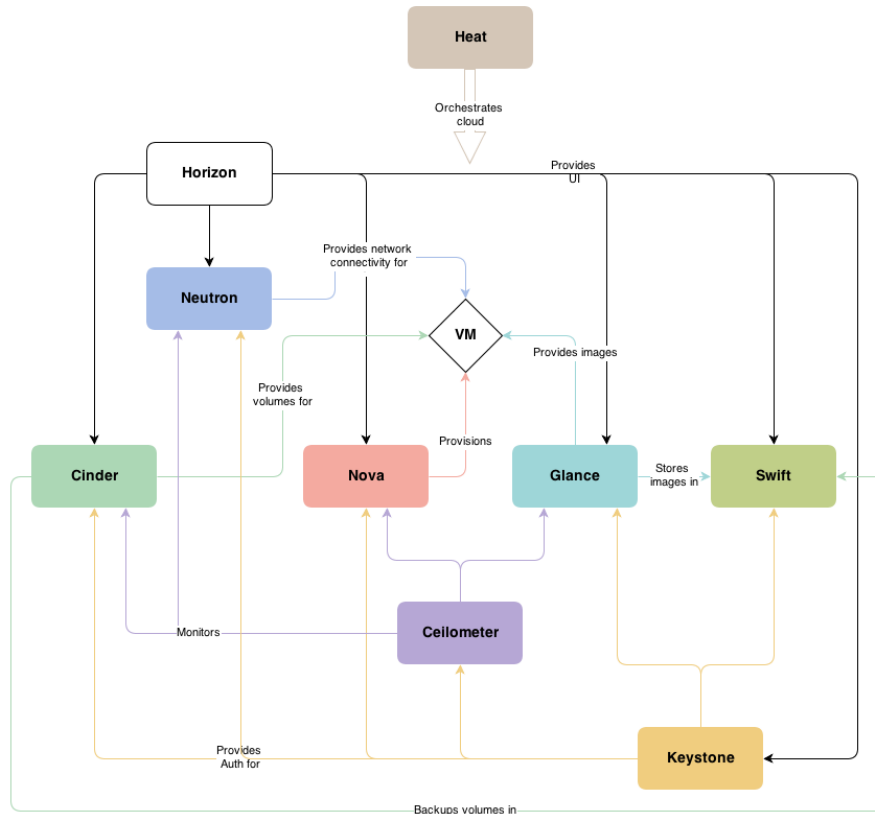


OpenStack Image Service

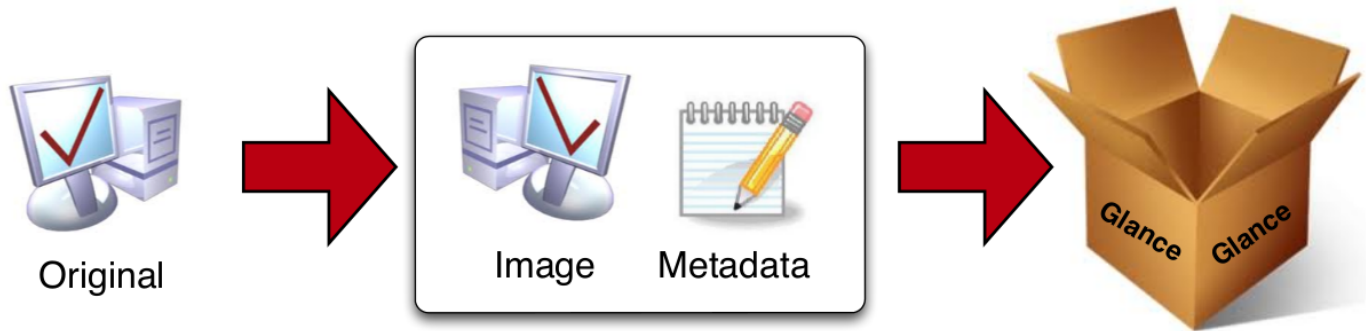
Codename: Glance



Glance Overview



Insert Into Glance

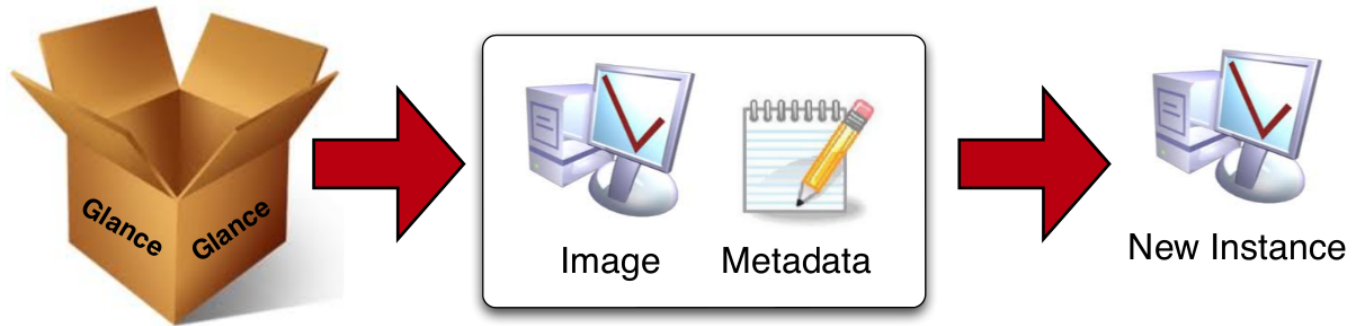


im-age

n.

1. A reproduction of the form of a person or object, especially a sculptured likeness.
2. One that closely or exactly resembles another; a double:

Retrieve From Glance



Glance Components

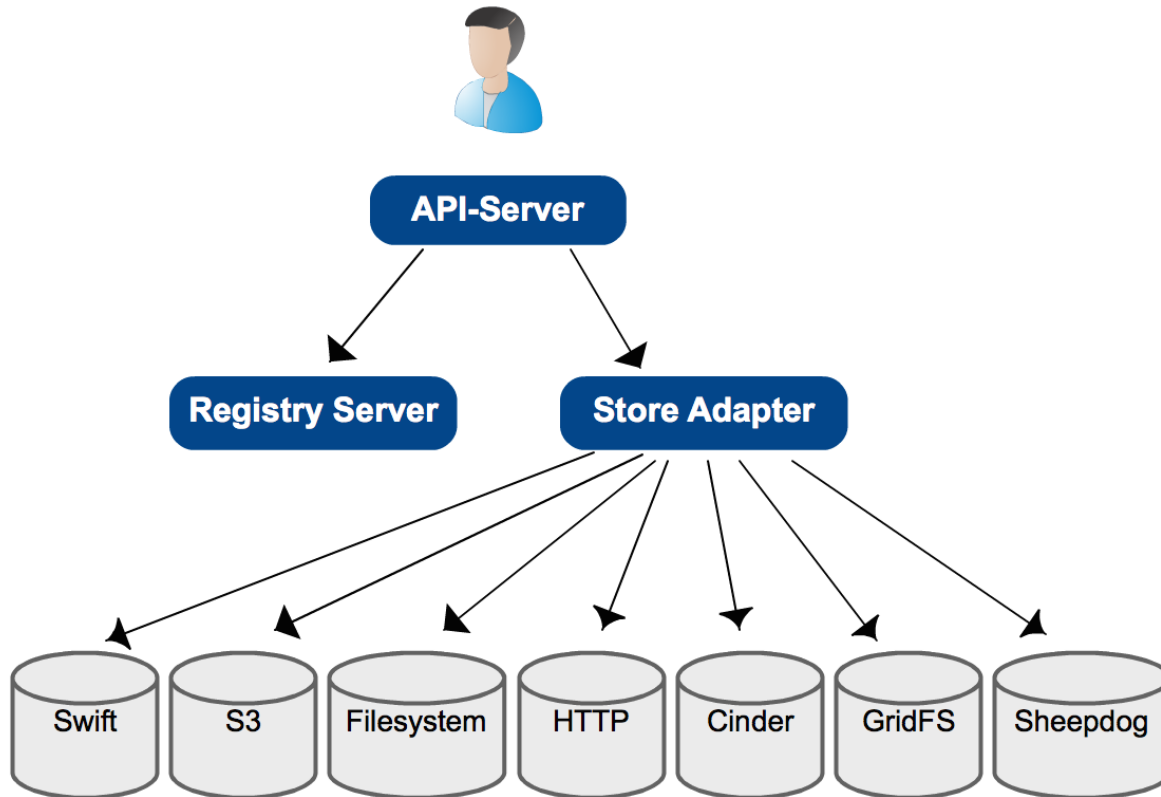
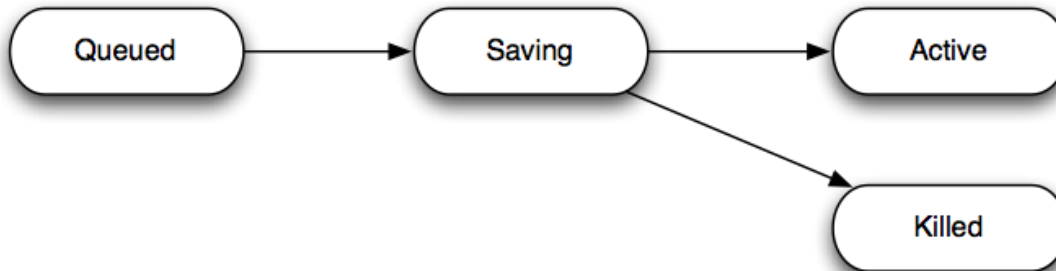


Image Status

Adding Images



Removing Images



Disk Formats

raw	This is an unstructured disk image format
vhd, vhdx	These are disk formats introduced by Microsoft and supported by a wide variety of virtualization platforms. VHD is older, introduced with Virtual PC. VHDX was introduced with Windows 8.
vmdk	Another common disk format supported by many common virtual machine monitors
vdi	A disk format supported by VirtualBox virtual machine monitor and the QEMU emulator
iso	An archive format for the data contents of an optical disc (e.g. CDROM)
qcow2	A disk format supported by the QEMU emulator that can expand dynamically and supports Copy on Write
aki	This indicates what is stored in Glance is an Amazon kernel image
ari	This indicates what is stored in Glance is an Amazon ramdisk image
ami	This indicates what is stored in Glance is an Amazon machine image

- Compatibility may depend on hypervisor.

Container Formats

ami	Amazon Machine Image - Pointers to kernel and ramdisk.
bare	This indicates there is no container or metadata envelope for the image.
ovf *	Open Virtual Format - Typically contains an XML file which includes description of virtual machine resources and pointers to virtual disks.

* OpenStack Compute does not currently have support for OVF packages, so you will need to extract the image file(s) from an OVF package if you wish to use it with OpenStack. Glance will only extract image data from OVF.

Create Images

qemu-img:

qemu disk-image utility

virt-install:

utilizes libvirt mgmt library to provision VMs

Example:

```
# qemu-img create -f qcow2 /data/centos-6.4.qcow2 10G
# virt-install --virt-type kvm --name centos-6.4 --ram 1024 \
--cdrom=/data/CentOS-6.4-x86_64-netinstall.iso \
--disk path=/data/centos-6.4.qcow2,size=10,format=qcow2 \
--network network=default \
--graphics vnc,listen=0.0.0.0 --noautoconsole \
--os-type=linux --os-variant=rhel6
```

Starting install...

Creating domain...

| 0 B 00:00

Domain installation still in progress. You can reconnect to
the console to complete the installation process.

Converting Images

qemu-img:

Qemu disk-image utility

Example:

```
$ qemu-img info centos64.vmdk
$ qemu-img convert -f vmdk -O raw centos64.vmdk centos64.img
```

Editing Images

libguestfs:

cli tools for accessing and modifying virtual machine disk images.

libguestfs includes:

- **guestfish** for modifying files inside a virtual image via shell.
- **virt-edit** for editing a file inside of an image.
- **virt-df** for displaying free space inside of an image.
- **virt-resize** for resizing an image.
- **virt-sysprep** for preparing an image for distribution (e.g., delete SSH host keys, remove MAC address info, remove user accounts).
- **virt-sparsify** for making an image sparse
- **virt-p2v** for converting a physical machine to an image that runs on KVM
- **virt-v2v** for converting Xen and VMWare images to KVM images

Populating Images

- Add Images:

```
glance image-create --name "My Image" \  
  --disk-format <FORMAT> \  
  --container-format <FORMAT> \  
  --is-public True \  
  --file <FILENAME>
```

```
glance image-list
```

```
glance image-show <IMAGE_ID>
```

- Image Access:

```
glance member-create --can-share True <IMAGE_ID> <TENANT_ID>
```

```
glance member-list
```

Glance v2 API

Havana comes with both v1 and v2 of the Glance API

python-glanceclient currently supports v1 although v2 support is currently in progress.

Glance v2 API adds:

- Share images must be accepted before being available for use.
- Image tagging
- Using Glance v2:

```
glance --os-image-api-version 2 <your command>
```