Volumes

Tuesday, March 5, 2019   3:53 PM

Static volumes are used for persistent data. This can mean an OS disk like root on linux or the 'C drive' in Windows. However, it can also mean a data drive you connect to an instance strictly to access data. (like a usb drive)

Volumes can only be accessed by one instance at a time. (While it is possible to 'multiattach' a volume) meaning attach it to multiple instances, openstack does not provide any 'locking' mechanism such as a traditional shared filesystem would.

<mark>Warning</mark>

<mark>It is the responsibility of the user to ensure that a multiattach or clustered file system is used on the volumes. Otherwise there may be a high probability of data corruption.</mark>
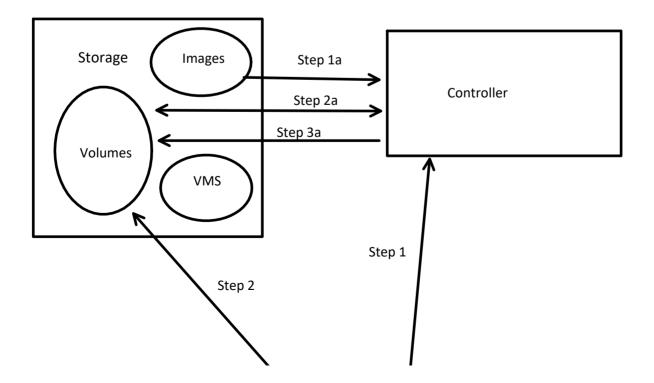
To launch a volume based instance:

First - create a volume:
   1a. Controller downloads an image from the 'images' pool
   2a. Controller provisions a virtual disk on the storage in the 'volumes' pool
   3a. Controller uploads the downloaded image to the 'volumes' pool virtual disk

Second - Launch an instance based on the volume:
   1) Controller informs compute host address of the volume in the 'volumes' pool
   2) Compute host connects to the 'virtual disk' in the 'volumes' pool
   3) Instance is launched
   4) **When the instance is deleted, the 'virtual disk' is retained in the 'volumes' pool**

Storage

Images

Step 1a

Controller

Step 2a

Step 3a

Volumes

VMS

Step 1

Step 2

Compute