Red Hat Enterprise Linux OpenStack Platform 5 Cloud Administrator Guide

Managing and troubleshooting a Red Hat Enterprise Linux OpenStack Platform environment

8 Jul 2014   Red Hat Documentation Team

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Abstract

This guide covers the software administrators can use to manage and troubleshoot a Red Hat Enterprise Linux OpenStack Platform cloud.

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1.1. Addressing discrepancies in reported volume sizes for EqualLogic storage

1.1.1. Problem

There is a discrepancy between both the actual volume size in EqualLogic (EQL) storage and the image size in the Image Service, with what is reported by the Red Hat Enterprise Linux OpenStack Platform databases. This could lead to confusion if a user is creating volumes from an image that was uploaded from an EQL volume (through the Image Service). The image size is slightly larger than the target volume size; this is because EQL size reporting accounts for additional storage used by EQL for internal volume metadata.

To illustrate:

> **Example 1.1. Demonstrating the effects of volume size reporting discrepancies for EQL storage**
>
> This procedure assumes that the EQL array is provisioned, and that appropriate configuration settings have been included in **/etc/cinder/cinder.conf** to connect to the EQL array.
>
> > **Note**
> >
> > Both the Block Storage and Image services should also be already configured to properly authenticate through the Identity service. For more information, see the *Installation and Configuration Guide*:
> >
> > - https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux_OpenStack_Platform/5/html/Installation_and_Configuration_Guide/sect-Common_Block_Storage_Configuration.html#Configuring_Authentication3
> > - https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux_OpenStack_Platform/5/html/Installation_and_Configuration_Guide/sect-Configuring_the_Image_Service.html#Creating_the_Image_Storage_Service_Endpoint
>
> 1. Create a new volume. Note the ID and size of the volume. In the following example, the ID and size are **74cf9c04-4543-47ae-a937-a9b7c6c921e7** and **1GB**, respectively:
>
>    ```
>    # cinder create --display—name volume1 1
>    +---------------------+--------------------------------------+
>    |     Property        |     Value                            |
>    +---------------------+--------------------------------------+
>    |    attachments      |     []                               |
>    |    availability zone|     nova                             |
>    |    bootable         |     false                            |
>    |    created_at       |     2014—03—21T18:31:54.248775       |
>    |    display_description|   None                             |
>    |    display_name     |     volume1                          |
>    |    id               |     74cf9c04—4543—47ae—a937—a9b7c6c921e7 |
>    |    metadata         |     {}                               |
>    |    size             |     1                                |
>    |    snapshot_id      |     None                             |
>    ```

```
|    source volid      |    None                                   |
|    status            |    creating                               |
|    volume type       |    None                                   |
+--------------------------------+----------------------------------+
```

2. The EQL command-line interface should display an actual size (**VolReserve**) as 1.01GB. The **EQL Group Manager** should also report a volume size of 1.01GB.

```
a2beqll2> volume select volume—74cf9c04-4543-47ae-a937-a9b7c6c921e7
a2beqll2 (volume_volume—74cf9c04—4543—47ae—a937—a9b7c6c921e7)> show
_____ Volume Information
_____
Name: volume-74cf9c04—4543—47ae-a937—a9b7c6c921e7
Size: 1GB
VolReserve: 1.01GB
VolReservelnUse: 0MB
ReplReservelnUse: 0MB
iSCSI Alias: volume-74cf9c04-4543-47ae-a937-a9b7c6c921e7
iSCSI Name: iqn.2001—05.com.equallogic:0-8a0906—19f91850c-
067000000b4532cl—volume-74cf9c04-4543-47ae-a937-a9b7c6c921e7
ActualMembers: 1
Snap-Warn: 10%
Snap-Depletion: delete—oldest
Description:
Snap—Reserve: 100%
Snap-Reserve—Avail: 100% (1.01GB)
Permission: read—write
DesiredStatus: online
Status: online
Connections: O
Snapshots: O
Bind:
Type: not-replicated
ReplicationReserveSpace: 0MB
```

3. Upload this volume to the Image service:

```
# cinder upload-to-image --disk-format raw \
   --container-format bare volume1 image_from_volume1
+--------------------+--------------------------------------+
|     Property       |                Value                 |
+--------------------+--------------------------------------+
|  container_format  |                 bare                 |
|    disk_format     |                  raw                 |
| display_description |                None                 |
|        id          | 74cf9c04-4543-47ae-a937-a9b7c6c921e7 |
|     image_id       | 3020a21d—ba37—4495-8899—07fc201161b9 |
|    image_name      |          image_from_volume1          |
|       size         |                  1                   |
|      status        |               uploading              |
|    updated_at      |       2014—03—21T18:31:55.000000      |
|   volume_type      |                 None                 |
+--------------------+--------------------------------------+
```

4. When you uploaded the volume in the previous step, the Image service reported the volume's size as **1** (GB). However, when using **glance image-list** to list the image, the displayed size is 1085276160 bytes, or roughly 1.01GB:

Table 1.1. Image settings reported by glance `image-list` for image ID

Name	Disk Format	Container Format	Size	Status
image_from_volume1	raw	bare	1085276160	active

5. Create a new volume using the previous image (**image_id 3020a21d-ba37-4495-8899-07fc201161b9** in this example) as the source. Set the target volume size to 1GB; this is the size reported by the **cinder** tool when you uploaded the volume to the Image service:

```
 # cinder create -—display-name volume2 \
    --image-id 3020a21d-ba37—4495—8899—07fc201161b9 1
 ERROR: Invalid input received: Size of specified image 2 is larger than
 volume size 1. (HTTP 400) (Request-ID: req-4b9369c0—dec5-4e16-a114-
 c0cdl6bSd210)
```

The attempt to create a new volume based on the size reported by the **cinder** tool will then fail.

1.1.2. Solution

To work around this, increase the target size of the new image to the next whole number. So in the problem example, if you created a 1GB volume to be used for a volume-backed image, a new volume using this volume-backed image should use a size of 2GB:

```
# cinder create -—display-name volume2 \
   --image-id 3020a21d-ba37—4495—8899—07fc201161b9 1
+--------------------+-------------------------------------+
|     Property       |                 Value               |
+--------------------+-------------------------------------+
|    attachments     |                  []                 |
| availability_zone  |                 nova                |
|     bootable       |                false                |
|    created_at      |       2014-03-21T19:25:31.564482     |
| display_description |                None                |
|    display_name    |               volume2               |
|        id          | 64e8eb18—d23f—437b—bcac—b3S2afa6843a |
|    image_id        | 3020a21d—ba37—4495—8899-07fc20116lb9 |
|    metadata        |                  []                 |
|      size          |                   2                 |
| snapshot_id        |                 None                |
| source_volid       |                 None                |
|     status         |               creating              |
| volume_type        |                 None                |
+--------------------+-------------------------------------+
```

> **Note**
>
> When using the dashboard to create a new volume based on a volume-backed image, the dashboard will suggest a suitable size for the volume.

You can then check this new volume into the EQL array:

```
 a2beqll2> volume select volume-64e8eb18-d23f-437b-bcac-b352afa6843a
```

```
a2beqll2 (volume_volume-61e8eb18-d23f-437b-bcac-b352afa6843a)> show
_____ Volume Information
_____
Name: volume-64e8eb18-d23f-437b-bcac-b352afa6843a
Size: 2GB
VolReserve: 2.01GB
VolReserveInUse: 1.01GB
ReplReserveInUse: 0MB
iSCSI Alias: volume-64e8eb18-d23f-437b-bcac-b352afa6843a
iSCSI Name: iqn.2001-05.com.equallogic:0-8a0906-e3091850e-eae000000b7S32cl-
volume—64e8eb18—d23f—437b—bcac—b3S2afa6Bl3a
ActualMembers: 1
Snap-Warn: 10%
Snap—Depletion: delete-oldest
Description:
Snap-Reserve: 100%
Snap-Reserve-Avail: 100% (2GB)
Permission: read—write
DesiredStatus: online
Status: online
Connections: 1
Snapshots: O
Bind:
Type: not-replicated
ReplicationReserveSpace: 0MB
```