

Reference Document

English

<http://docs.ceph.com/docs/master/rbd/rbd-mirroring/>

or

https://access.redhat.com/documentation/en-us/red_hat_ceph_storage/3/html/block_device_guide/block_device_mirroring

Chinese

<https://ceph.com/planet/rbd-mirror%E9%85%8D%E7%BD%AE%E6%8C%87%E5%8D%97-%E5%8D%95%E5%90%91%E5%A4%87%E4%BB%BD/>

I. Mars200 Environment Setup

1. Two mars200 Clusters:

- local mars200 CEPH cluster (called cluster_local)
- remote mars200 CEPH cluster (called cluster_remote)

2. Two X86 Servers:

- X86 server running rbd-mirror for cluster_local (called x86_local)
- X86 server running rbd-mirror for cluster_remote (called x86_remote)

Note: In two-way replication, each instance of rbd-mirror must be able to connect to the other Ceph cluster simultaneously

II. Steps

1. Use UVS to create two mars200 CEPH clusters, both will use the default cluster name “ceph”.

2. Edit /etc/ceph/ceph.conf to change cluster rbd_default_features setting to 71 (0x47) for default feature “layering, exclusive-lock, journaling”. (Otherwise you need manually change the image feature after create the image).

Note:

- This only work for manually created images from console, the images created by UVS will still have “layering” feature only. (Need Modify UVS to support these features).
- Need to check if work for images created by openstack.

Procedures:

- Modify the /etc/ceph/ceph.conf on monitors node of cluster_local and cluster_remote, add “rbd_default_feature = 71”, copy the modified ceph.conf to other monitor nodes for both clusters.
3. Install Centos 7.5 and configure rbd-mirror on x86_local and x86_remote

a. Install Centos 7.5

b. Disable SELinux

edit /etc/sysconfig/selinux , change SELINUX setting to “SELINUX=disabled”, and reboot the machine

c. disable firewallld

systemctl stop firewalld

systemctl disable firewalld

d. enable ceph and epel repository

[yum](#) -y install epel-release yum-plugin-priorities \

<https://download.ceph.com/rpm-jewel/el7/noarch/ceph-release-1-1.el7.noarch.rpm>

sed -i -e "s/enabled=1/enabled=1\npriority=1/g" /etc/yum.repos.d/ceph.repo

e. install rbd-mirror and ceph-common packages

yum -y install ceph-common rbd-mirror

f. copy ceph config file and keyring from clusters to x86 machines.

on cluster_local's internal mon node:

scp /etc/ceph/ceph.conf x86_local:/etc/ceph/ceph.conf

scp /etc/ceph/ceph.client.admin.keyring x86_local:/etc/ceph/ceph.client.admin.keyring

on cluster_remote's internal mon node:

scp /etc/ceph/ceph.conf x86_remote:/etc/ceph/ceph.conf

scp /etc/ceph/ceph.client.admin.keyring x86_remote:/etc/ceph/ceph.client.admin.keyring

g. copy ceph config file and keyring to remote clusters

On x86_local machine:

#copy to remote

scp /etc/ceph/ceph.conf x86_remote:/etc/ceph/local.conf

scp /etc/ceph/ceph.client.admin.keyring x86_remote:/etc/ceph/local.client.admin.keyring

#local

cp /etc/ceph/ceph.conf /etc/ceph/local.conf

cp /etc/ceph/ceph.client.admin.keyring /etc/ceph/local.client.admin.keyring

On x86_remote machine:

#copy to local

scp /etc/ceph/ceph.conf x86_local:/etc/ceph/remote.conf

scp /etc/ceph/ceph.client.admin.keyring x86_local:/etc/ceph/remote.client.admin.keyring

#local

cp /etc/ceph/ceph.conf /etc/ceph/remote.conf

cp /etc/ceph/ceph.client.admin.keyring /etc/ceph/remote.client.admin.keyring

h. Change File permissions

On x86_local:

chown ceph:ceph -R /etc/ceph

On x86_remote:

chown ceph:ceph -R /etc/ceph

i. Verify Setting

On x86_local:

```
ceph --cluster local mon stat
```

```
ceph --cluster remote mon stat
```

On x86_remote:

```
ceph --cluster local mon stat
```

```
ceph --cluster remote mon stat
```

j. Add peer pool

Format: "rbd mirror pool peer add <pool-name> <client-name>@<cluster-name>"

On x86_local:

```
rbd --cluster local mirror pool peer add pool1 client.admin@remote
```

```
rbd --cluster remote mirror pool peer add pool1 client.admin@remote
```

Then, Follow reference documents to enable and start the rbd-mirror daemon and check the status.

Since we use the admin key, so don't need to create other user keys.