

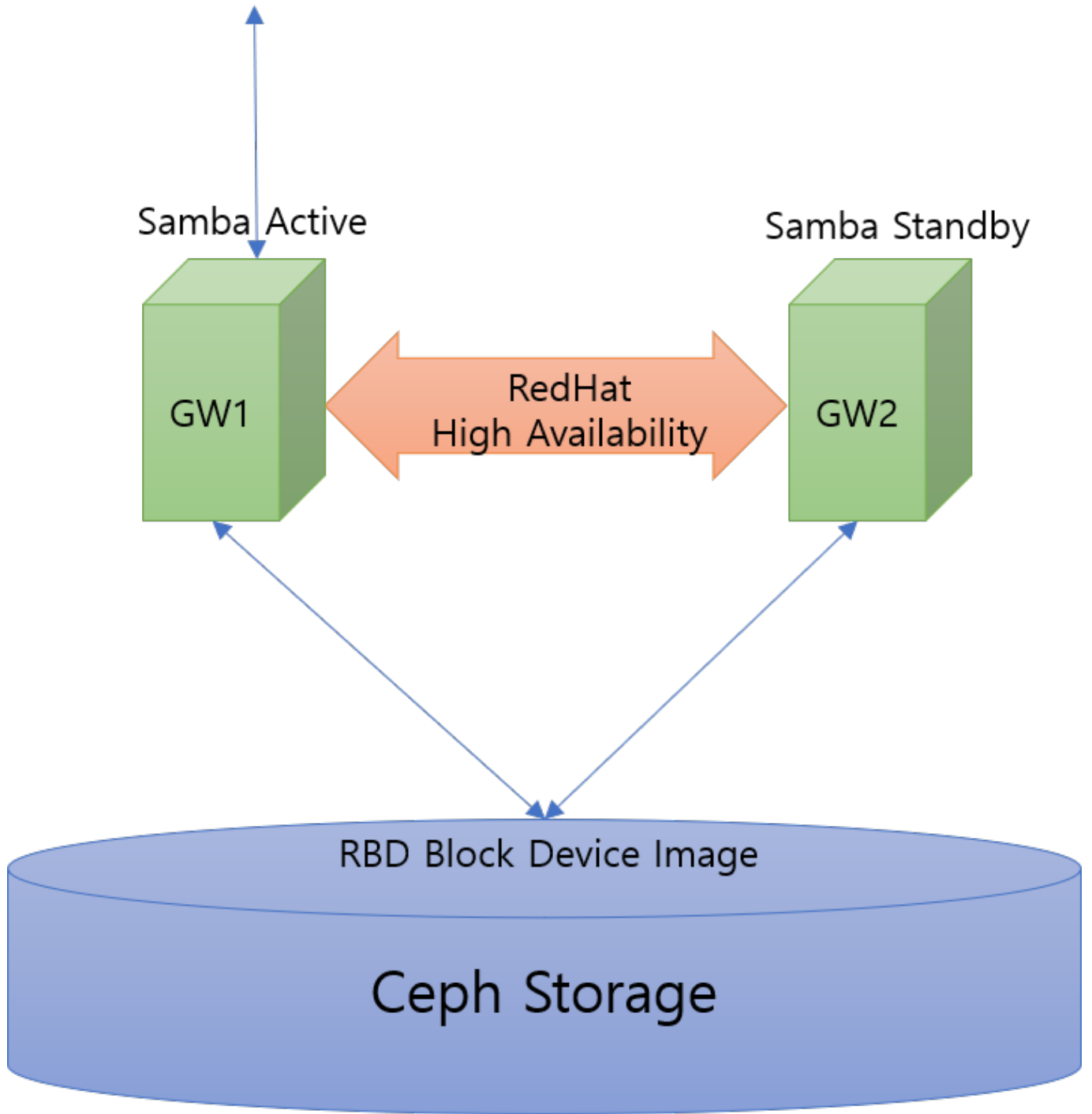
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- Ceph RBD with Samba HA (Pacemaker,LVM)

— 2018/12/06 13:25

Ceph RBD BackStore Storage Samba CIFS HA

- RedHat Enterprise Linux 7.6 with High Availability
- RedHat Ceph Storage 3.1 (Ceph Community 12.2.5 Luminous)



Ceph Storage	RBD	LVM	Samba
CIFS	.	NFS	
가	.		
	가 (High Availability)		가
	RedHat High Availability(pacemaker)		
CTDB, Ganesha, HAProxy		가	.

Ceph RBD

Ceph Storage 가 . Ceph

Ceph Storage Samba CIFS

```
[root@ceph-mon1 ~]# ceph osd pool create rbd 64 64
pool 'rbd' created

[root@ceph-mon1 ~]# ceph osd pool application enable rbd rbd
enabled application 'rbd' on pool 'rbd'

[root@ceph-mon1 ~]# ceph osd pool ls detail
pool 1 '.rgw.root' replicated size 3 min_size 2 crush_rule 0 object_hash
rjenkins pg_num 8 pgp_num 8 last_change 28 flags hashspool stripe_width 0
application rgw
pool 2 'default.rgw.control' replicated size 3 min_size 2 crush_rule 0
object_hash rjenkins pg_num 8 pgp_num 8 last_change 30 flags hashspool
stripe_width 0 application rgw
pool 3 'default.rgw.meta' replicated size 3 min_size 2 crush_rule 0
object_hash rjenkins pg_num 8 pgp_num 8 last_change 32 flags hashspool
stripe_width 0 application rgw
pool 4 'default.rgw.log' replicated size 3 min_size 2 crush_rule 0
object_hash rjenkins pg_num 8 pgp_num 8 last_change 34 flags hashspool
stripe_width 0 application rgw
pool 5 'rbd' replicated size 3 min_size 2 crush_rule 0 object_hash rjenkins
pg_num 64 pgp_num 64 last_change 84 flags hashspool stripe_width 0
application rbd
```

rbd pool . rbd pool 10GB .

```
[root@ceph-mon1 ~]# rbd create cifsvol --size 10G
[root@ceph-mon1 ~]# rbd ls -l
NAME      SIZE PARENT FMT PROT LOCK
cifsvol 10240M      2
```

Ceph storage .

Gateway

Samba Gateway 가 2 RedHat High Availability

Gateway 2 가 .

- rhcs1.local.domain
- rhcs2.local.domain

Pacemaker .

```
[root@rhcs1 cib]# pcs cluster auth rhcs1.local.domain rhcs2.local.domain
rhcs2.local.domain: Already authorized
rhcs1.local.domain: Already authorized

[root@rhcs1 cib]# pcs cluster setup --start --name HACL rhcs1.local.domain
rhcs2.local.domain
Destroying cluster on nodes: rhcs1.local.domain, rhcs2.local.domain...
rhcs1.local.domain: Stopping Cluster (pacemaker)...
rhcs2.local.domain: Stopping Cluster (pacemaker)...
rhcs1.local.domain: Successfully destroyed cluster
rhcs2.local.domain: Successfully destroyed cluster

Sending 'pacemaker_remote authkey' to 'rhcs1.local.domain',
'rhcs2.local.domain'
rhcs1.local.domain: successful distribution of the file 'pacemaker_remote
authkey'
rhcs2.local.domain: successful distribution of the file 'pacemaker_remote
authkey'
Sending cluster config files to the nodes...
rhcs1.local.domain: Succeeded
rhcs2.local.domain: Succeeded

Starting cluster on nodes: rhcs1.local.domain, rhcs2.local.domain...
rhcs1.local.domain: Starting Cluster (corosync)...
rhcs2.local.domain: Starting Cluster (corosync)...
rhcs1.local.domain: Starting Cluster (pacemaker)...
rhcs2.local.domain: Starting Cluster (pacemaker)...

Synchronizing pcsd certificates on nodes rhcs1.local.domain,
rhcs2.local.domain...
rhcs2.local.domain: Success
rhcs1.local.domain: Success
Restarting pcsd on the nodes in order to reload the certificates...
rhcs2.local.domain: Success
rhcs1.local.domain: Success

[root@rhcs1 cib]# pcs cluster enable --all
rhcs1.local.domain: Cluster Enabled
rhcs2.local.domain: Cluster Enabled

[root@rhcs1 cib]# pcs status
Cluster name: HACL

WARNINGS:
No stonith devices and stonith-enabled is not false

Stack: corosync
Current DC: rhcs2.local.domain (version 1.1.19-8.el7_6.1-c3c624ea3d) -
partition with quorum
```

```
Last updated: Tue Dec 4 17:51:27 2018
Last change: Tue Dec 4 17:39:03 2018 by hacluster via crmd on
rhcs2.local.domain
```

```
2 nodes configured
0 resources configured
```

```
Online: [ rhcs1.local.domain rhcs2.local.domain ]
```

```
No resources
```

```
Daemon Status:
corosync: active/enabled
pacemaker: active/enabled
pcsd: active/enabled
```

RBD

Ceph Storage

```
Ceph Storage          cifsvol
      .                rbdmap
      RBD Image
```

```
# RbdDevice      Parameters
rbd/cifsvol id=admin,keyring=/etc/ceph/ceph.client.admin.keyring
```

가

```
# systemctl start rbdmap
# lsblk
[root@rhcs1 ceph]# lsblk
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0    0   20G  0 disk
├─sda1                8:1    0    1G  0 part /boot
└─sda2                8:2    0   19G  0 part
   ├─rhel_rhcs1-root 253:0   0   17G  0 lvm  /
   └─rhel_rhcs1-swap 253:1   0    2G  0 lvm  [SWAP]
sdb                  8:16   0   20G  0 disk
└─sdb1                8:17   0   20G  0 part
sr0                  11:0   1   4.2G  0 rom
rbd0                 252:0   0   10G  0 disk
```

```
rbd0 가 . rbd0 LVM . LVM
```

```
[root@rhcs1 ceph]# lsblk
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0    0   20G  0 disk
├─sda1                8:1    0    1G  0 part /boot
└─sda2                8:2    0   19G  0 part
   └─rhel_rhcs1-root 253:0   0   17G  0 lvm  /
      └─rhel_rhcs1-swap 253:1   0    2G  0 lvm  [SWAP]
sdb                  8:16   0   20G  0 disk
└─sdb1                8:17   0   20G  0 part
sr0                  11:0   1   4.2G  0 rom
rbd0                 252:0   0   10G  0 disk
└─rbd0p1             252:1   0   10G  0 part
   └─vg_rbd-lv_rbd    253:2   0   10G  0 lvm  /rbd  <--
```

umount

```
# umount /rbd
# vgchange -an vg_rbd
# systemctl stop rbdmap

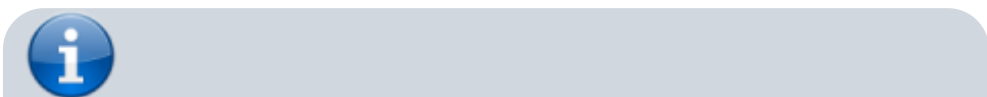
# lsblk
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0    0   20G  0 disk
├─sda1                8:1    0    1G  0 part /boot
└─sda2                8:2    0   19G  0 part
   └─rhel_rhcs1-root 253:0   0   17G  0 lvm  /
      └─rhel_rhcs1-swap 253:1   0    2G  0 lvm  [SWAP]
sdb                  8:16   0   20G  0 disk
└─sdb1                8:17   0   20G  0 part
sr0                  11:0   1   4.2G  0 rom
```


LVM (Tagging) Active/Standby 가 LVM HA LVM HA

```
# lvmconf --enable-halvm --services --startstopservices
```

volume_list dracut initramfs

- https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/high_availability_add-on_administration/s1-exclusiveactive-haaa



	Active/Active GFS2	clvmd
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pacemaker

Pacemaker resource

Pacemaker 2

```
# pcs resource create rbdmap systemd:rbdmap --group RBDGRP
# pcs resource create rbdvg LVM volgrpname=vg_rbd exclusive=true --group RBDGRP
# pcs resource create rbdofs Filesystem device="/dev/vg_rbd/lv_rbd"
directory="/rbd" fstype="ext4" --group RBDGRP

# pcs resource
Resource Group: RBDGRP
  rbdmap (systemd:rbdmap):    Started rhcs1.local.domain
  rbdvg (ocf::heartbeat:LVM): Started rhcs1.local.domain
  rbdofs (ocf::heartbeat:Filesystem): Started rhcs1.local.domain
```

- https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/high_availability_add-on_administration/index
- https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/logical_volume_manager_administration/index

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