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Pacemaker with GFS2 RHEL 7

Install and initial cluster configuration

/etc/hosts configuration example on both nodes:

```
    192.168.122.10        cluster-1.exmaple.com    cluster-1
    192.168.122.15        cluster-2.example.com    cluster-2
```

Yum configuration on both nodes:

```
[cdrom]
name=cdrom
baseurl=file:///media
gpgcheck=0
enabled=1

[ha]
name=ha
baseurl=file:///media/addons/HighAvailability/
gpgcheck=0
enabled=1

[storage]
name=storage
baseurl=file:///media/addons/ResilientStorage/
gpgcheck=0
enabled=1
```

On both nodes:

```
sudo yum install pcs pacemaker fence-agents-all sbd lvm2-cluster gfs2-utils
sudo systemctl disable firewalld
sudo systemctl stop firewalld
echo 'manager' |sudo passwd hacluster --stdin
sudo systemctl start pcsd.service
sudo systemctl enable pcsd.service
```

On one node:

```
sudo pcs cluster auth -u hacluster ha1.gbmdc.dc ha2.gbmdc.dc
sudo pcs cluster setup --start --name spyderdb ha1.gbmdc.dc ha2.gbmdc.dc
sudo pcs cluster enable --all
```

Configure fencing

Edit /etc/modules-load.d/softdog.conf on both nodes:

```
softdog
```

Execute:

```
sudo systemctl enable systemd-modules-load
sudo systemctl start systemd-modules-load
sudo pcs stonith sbd device setup --device=/dev/sdb
sudo pcs cluster stop --all
sudo pcs stonith sbd enable
sudo pcs cluster start --all
sudo pcs property set stonith-watchdog-timeout=10
sudo pcs stonith create sbd fence_sbd devices=/dev/sdb
```

Edit /etc/sysconfig/sbd on both nodes:

```
SBD_DEVICE="/dev/sdb"
```

Reboot nodes. After check if the output of this command is correct:

```
ps aux | grep -e COMMAND -e "sbd: watcher: /dev" | grep -v grep
```

Configure File system

```
sudo pcs property set no-quorum-policy=freeze
sudo pcs resource create dlm ocf:pacemaker:controld op monitor interval=30s
on-fail=fence
```

On both nodes:

```
sudo /sbin/lvmconf --enable-cluster
sudo mkdir /spyderha
```

On one node:

```
sudo pcs resource create clvmd ocf:heartbeat:clvm op monitor interval=30s
on-fail=fence
sudo pcs constraint order start dlm then clvmd
sudo pcs constraint colocation add clvmd with dlm
sudo pvcreate /dev/sda
sudo vgcreate -Ay -cy spyderDB_VG /dev/sda
sudo lvcreate -L10G -n spyderDB_LV spyderDB_VG
sudo mkfs.ext4 /dev/mapper/spyderDB_VG-spyderDB_LV
sudo pcs resource create clusterfs Filesystem
device="/dev/mapper/spyderDB_VG-spyderDB_LV" directory="/spyderha"
fstype="ext4"
sudo pcs constraint order start clvmd then clusterfs
sudo pcs constraint colocation add clusterfs with clvmd
```

```
sudo pcs resource group add spyderdb dlm clvmd hafs VirtualIP
```

Problems

```
Skipping clustered volume group spyderDB_VG
vgchange -cn $vgname --config 'global {locking_type = 0}'
```

Resource HTTPd example

Edit /etc/sysconfig/selinux:

```
SELINUX=permissive
```

On both nodes:

```
sudo setenforce 0
sudo yum -y install httpd
sudo sed -i 's/\/var\/www/\/spyderha/g' /etc/httpd/conf/httpd.conf
```

On one node:

```
sudo mkdir /spyderha/cgi-bin
sudo mkdir /spyderha/html
sudo pcs resource defaults resource-stickiness=15000
sudo pcs resource create httpd systemd:httpd --group spyderdb
sudo pcs resource create VirtualIP IPaddr2 ip=192.168.122.20 cidr_netmask=24
--group spyderdb
sudo pcs constraint order clusterfs-clone then httpd
```

Disable monitoring of resources

```
pcs resource update httpd op monitor enabled=false
```

Monitor but do nothing

```
pcs resource update httpd op monitor on-fail=block
```

References

- https://access.redhat.com/solutions/1609883
- http://www.linux-ha.org/wiki/SBD_Fencing
- https://access.redhat.com/articles/3099231
- https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/global_file_system_2/ch-clustsetup-gfs2

- https://www.suse.com/documentation/sle-ha-12/book_sleha/data/sec_ha_storage_protect_fencing_setup.html#pro_ha_storage_protect_sbd_create
- https://access.redhat.com/articles/2943361
- https://docs.oracle.com/cd/E52668_01/E54669/html/ol7-pacemaker-stonith.html