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**On both master**

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# yum –y install pcs pacemaker

# passwd hacluster

# systemctl start pcsd.service

# systemctl status pcsd.service

# systemctl enable pcsd.service

# pcs cluster auth master master1 -- on master

# pcs cluster setup --name xCAT master master1 -- on master

# pcs cluster enable --all

# pcs cluster start --all

# pcs status

# rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org

# rpm -Uvh http://www.elrepo.org/elrepo-release-7.0-3.el7.elrepo.noarch.rpm

# yum install -y kmod-drbd90 drbd90-util

**Create LVM shared storage**

# pvcreate /dev/sdb

# vgcreate vg01 /dev/sdb

# vgdisplay vg01

# lvcreate –L 5G(size) –n drbd(name) vg01

# vgdisplay | grep -e Name -e Free

# lvcreate -L 20G -n drbd centos

**Configure DRBD**

# mv /etc/drbd.d/global\_common.conf /etc/drbd.d/global\_common.conf\_bk

# vi /etc/drbd.d/global\_common.conf

global {

usage-count yes;

}

common {

net {

protocol C;

allow-two-primaries no;

max-buffers 8000;

max-epoch-size 8000;

sndbuf-size 2M;

}

}

--

vi /etc/drbd.d/test1.res

----

resource test1 {

disk {

c-min-rate 80M;

c-max-rate 720M;

on master {

device /dev/drbd0;

disk /dev/vg01/drbd;

meta-disk internal;

resync-rate 40M;

}

address 192.168.5.1:7789;

}

on master1 {

device /dev/drbd0;

disk /dev/vg01/drbd;

meta-disk internal;

address 192.168.5.2:7789;

}

}

# drbdadm create-md test1

# drbdadm up test1

# lsblk

See their new shared storage add.

# drbdadm status test1

# drbdadm primary --force test1

# drbdadm status test1

**Mount file system**

# mkfs -t ext4 /dev/drbd0

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**On master**

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# mkfs -t ext4 /dev/drbd0

# pcs -f tmp-cib.xml property set stonith-enabled=false

# pcs -f tmp-cib.xml resource defaults migration-threshold=10 resource-stickiness=100 startdelay=45s

# pcs -f tmp-cib.xml resource create vip\_xCAT ocf:heartbeat:IPaddr2 cidr\_netmask=24 ip=192.168.5.100 op monitor interval=10s timeout=20s start interval=0s timeout=20s stop interval=0s timeout=20s

# pcs -f tmp-cib.xml resource create drbd\_fs ocf:linbit:drbd drbd\_resource=test1 op demote interval=0s timeout=90 monitor interval=60s notify interval=0s timeout=90 promote interval=0s timeout=90 reload interval=0s timeout=30 start interval=0s timeout=240 stop interval=0s timeout=100

# pcs -f tmp-cib.xml resource master drbd\_fs\_clone drbd\_fs master-node-max=1 clone-max=2 notify=true master-max=1 clone-node-max=1

# pcs -f tmp-cib.xml resource create xcatfs ocf:heartbeat:Filesystem device=/dev/drbd0 directory=/xCATdrbd fstype=ext4 op monitor interval=20s timeout=40s notify interval=0s timeout=60s start interval=0s timeout=60s stop interval=0s timeout=60s

# pcs -f tmp-cib.xml constraint colocation add xcatfs with master drbd\_fs\_clone

# pcs -f tmp-cib.xml constraint order promote drbd\_fs\_clone then xcatfs

# pcs -f tmp-cib.xml constraint location drbd\_fs\_clone prefers master=100

# pcs -f tmp-cib.xml constraint colocation add master drbd\_fs\_clone with vip\_xCAT

# pcs cluster cib-push tmp-cib.xml --config

**Copy all xCAT required data**

# cp -avr /etc/xcat /xCATdrbd/etc\_xcat

# cp -avr /opt/xcat /xCATdrbd/opt\_xcat

# cp -avr /tftpboot /xCATdrbd/xcat\_tftpboot

# cp -avr /root/.xcat /xCATdrbd/keys\_xcat

# cp -avr /etc/dhcp /xCATdrbd/dhcp\_xcat

# cp -avr /var/lib/dhcpd /xCATdrbd/xcat\_var\_lib\_dhcpd

# cp -avr /install /xCATdrbd/install\_xcat

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On both master

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# mv /etc/xcat /etc/xcat\_bk

# mv /etc/dhcp /etc/dhcp\_bk

# mv /opt/xcat /opt/xcat

# mv /opt/xcat /opt/xcat\_bk

# mv /install /install\_bk

# mv /tftpboot /tftpboot\_bk

# mv /root/.xcat /root/.xcat\_bk

# mv /var/lib/dhcpd /var/lib/dhcpd\_bk

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**On master**

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# pcs resource create tftpboot\_symlink ocf:heartbeat:symlink link=/tftpboot target=/xCATdrbd/xcat\_tftpboot

# pcs resource create etc\_xcat\_symlink ocf:heartbeat:symlink link=/etc/xcat target=/xCATdrbd/etc\_xcat

# pcs resource create install\_xcat\_symlink ocf:heartbeat:symlink link=/install target=/xCATdrbd/install\_xcat

# pcs resource create keys\_xcat\_symlink ocf:heartbeat:symlink link=/root/.xcat target=/xCATdrbd/keys\_xcat

# pcs resource create opt\_xcat\_symlink ocf:heartbeat:symlink link=/opt/xcat target=/xCATdrbd/opt\_xcat

# pcs resource create etcdhcp\_symlink ocf:heartbeat:symlink link=/etc/dhcp target=/xCATdrbd/dhcp\_xcat

# pcs resource create dhcplease\_symlink ocf:heartbeat:symlink link=/var/lib/dhcpd target=/xCATdrbd/xcat\_var\_lib\_dhcpd

# pcs resource group add Symblinks tftpboot\_symlink etc\_xcat\_symlink install\_xcat\_symlink keys\_xcat\_symlink opt\_xcat\_symlink etcdhcp\_symlink dhcplease\_symlink

# pcs resource create ser\_dhcp systemd:dhcpd op monitor interval=30s start interval=0s timeout=100 stop interval=0s timeout=100

# pcs resource group add Service ser\_dhcp

# pcs constraint location vip\_xCAT prefers master1=50

# pcs constraint location vip\_xCAT prefers master=100

# pcs constraint colocation add Symblinks with xcatfs

# pcs constraint colocation add Service with xcatfs

# pcs constraint order set vip\_xCAT drbd\_fs\_clone xcatfs Symblinks Service

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*DHCP service \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

Add interface file on both server for the virtual ip

# vim /etc/sysconfig/network-scripts/ifcfg-p4p1:0

TYPE=Ethernet

PROXY\_METHOD=none

BOOTPROTO=none

NAME=p4p1:0

DEVICE=p4p1:0 ----p4p1 is private interface name.

ONBOOT=no

#ifup p4p1:0

#ip a

\*\*\*\*\*\*\*

Master

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# pcs resource update vip\_xCAT nic=p4p1:0

# tabedite site (replace this ip with vip\_xCAT ip & interface)

"master","="192.168.10.100",, --->vip\_xCATip

"dhcpinterfaces","p4p1","p4p1:0",,

#tabedit networks (edit 4,5,6,7 entry)

netname, net, mask, mgtifname,gateway,dhcpserver,tftpserver

"192\_168\_10\_0-255\_255\_255\_0","192.168.10.0","255.255.255.0","p4p1:0","192.168.10.100","192.168.10.100","192.168.10.100",,

# makedhcp -n

# makedns -n

# nodeset

# systemctl restart xcatd

# pcs status

Online: [ master master1 ]

Full list of resources:

vip\_xCAT (ocf::heartbeat:IPaddr2): Started master

Master/Slave Set: drbd\_fs\_clone [drbd\_fs]

Masters: [ master ]

Slaves: [ master1 ]

xcatfs (ocf::heartbeat:Filesystem): Started master

Resource Group: Symblinks

tftpboot\_symlink (ocf::heartbeat:symlink): Started master

etc\_xcat\_symlink (ocf::heartbeat:symlink): Started master

install\_xcat\_symlink (ocf::heartbeat:symlink): Started master

keys\_xcat\_symlink (ocf::heartbeat:symlink): Started master

opt\_xcat\_symlink (ocf::heartbeat:symlink): Started master

etcdhcp\_symlink (ocf::heartbeat:symlink): Started master

dhcplease\_symlink (ocf::heartbeat:symlink): Started master

Resource Group: Service

ser\_dhcp (systemd:dhcpd): Started master

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failover testing

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pcs resource move vip\_xCAT master1

pcs status

---------> output

Online: [ master master1 ]

Full list of resources:

vip\_xCAT (ocf::heartbeat:IPaddr2): Started master1

Master/Slave Set: drbd\_fs\_clone [drbd\_fs]

Masters: [ master1 ]

Slaves: [ master ]

xcatfs (ocf::heartbeat:Filesystem): Started master1

Resource Group: Symblinks

tftpboot\_symlink (ocf::heartbeat:symlink): Started master1

etc\_xcat\_symlink (ocf::heartbeat:symlink): Started master1

install\_xcat\_symlink (ocf::heartbeat:symlink): Started master1

keys\_xcat\_symlink (ocf::heartbeat:symlink): Started master1

opt\_xcat\_symlink (ocf::heartbeat:symlink): Started master1

etcdhcp\_symlink (ocf::heartbeat:symlink): Started master1

dhcplease\_symlink (ocf::heartbeat:symlink): Started master1

Resource Group: Service

ser\_dhcp (systemd:dhcpd): Started master1