

Step1. Connect SAS cable between Host PC and CH1, CH2 SAS port of Nova 47S.

Step2. Create Logical disks with Lun Mapping from GUI

Step3. Input command to start booting multipathd service

```
#chkconfig multipathd on
```

Step4. Remove #rm /etc/multipath.conf if this file existed, and then input

```
#cd /sbin
```

```
#multipathconf --help
```

```
#multipathconf --enable --find_multipaths y --with_multipathd y --with_chkconfig y
```



```

root@localhost:~# cd /sbin/multipathconf --help
bash: cd: /sbin/multipathconf: Not a directory
root@localhost:~# cd /sbin/multipathconf
bash: cd: /sbin/multipathconf: Not a directory
root@localhost:~# cd /sbin
root@localhost:~# ls
accton          cciss_id        ethtool         init             logsave         mke2fs          parted          restorecon     tc
addpart        cfdisk          faillock        initctl          losetup         mkfs.btrfs      parts           rkill          telinit
agetty         cglclear        fdisk           insmod           lsinitrd        mkfs.btrfs      parts           rmmod          tune2fs
alsactl        cgconfigparser findfs           insmod.static   lsmod           mkfs.cramfs     pccardctl      rat            udadm
arp            cgrulesengd    fixfiles        install-info     lspci           mkfs.ext2       pidof           rngd           udevd
arping         chkconfig       fsadm           installkernel   lspcmcia        mkfs.ext3       pivot_root     route          umount.ecryptfs
arptables      clock           fsck            ip               lvchange        mkfs.ext4       plipconfig     rpcbind        umount.ecryptfs_private
arptables-restore consoletype     fsck.cramfs     iptables         lvconvert       mkfs.ext4dev   plymouth       rpc.statd      umount.hal
arptables-save crda            fsck.ext2       iptables-multi   lvcreate        mkfs.msdos      portrelease    rrestore       umount.nfs
audispd        cryptsetup     fsck.ext3       iptables-restore lvdisplay        mkfs.vfat       portreserve     rsyslogd      umount.nfs4
audispd-zos-remote ctrlaltdel     fsck.ext4       iptables-save   lvextend        mkhomedir_helper  poweroff       rtson          umount.udisks
audispd-remote debugfs         fsck.ext4dev    ipmaddr         lum             mkinitrd        ppp-watch      runlevel      unix_chkconfig
auditctl       delpart        fsck.modos      iptables         lvchange        mksquashfs     pvchange       runuser        unix_update
auditd         depmod         fsck.vfat       iptables-multi   lunconf         mkswap          pvck           scsi_id        vconfig
aureport       dhclient       fsfreeze        iptables-restore lvm2dmccan      modprobe        pvcreate       security       vgcfgbackup
ausearch       dhclient-script fstab-decode    iptables-save   lvm2dmp         modprobe        pvdisplay      service        vgcfgrestore
autrace        dm_dso_reg_tool fstrim          iptables         lvs             mount.cifs      pvmove         setfiles       vchange
badblocks      dmeventd       fuser           iscsiadm        lvmsar          mount.ecryptfs  puremove       setpci        vck
biosdevname    dmevent_tool   genhostid       iscsid           lvreduce        mount-iso       pvresize       setregdomain  vgconvert
blkid          dmraid         getkey           iscsi-iname     lvremove        mount.nfs        pvscan         setsysfont    vgcreate
blockdev       dmraid.static grub             iscsi          lvrename        mount.nfs4      quotacheck     sfdisk        vgdisplay
brcm_iscsiuio dmssetup       grubby          iscsi          lvresize        mount.nfs4      quotaoff       sgpio         vgexport
btrfs          dosfsck        grub-crypt      iw              lvs             mount.tmpfs     quotactl       shutdown     vgextend
btrfsck        dosfstlabel    grub-install    jaeconfig       lvsan           mpathconf       quotactl       slattach     vglimport
btrfs-convert dracut         grub-md5-crypt iwevent         MAKEDEV         multipath        rdisc          sln           vglimportclone
btrfsctl       dump           grub-terminfo   ipgetid         matchpathcon   multipathd      rdump          start         vgmmerge
btrfs-debug-tree dumpe2fs       halt            iwlist          mdadm           mtools          readahead      readahead     start_udev  vgmnodes
btrfs-image    e2fsck         hdparm          iwpriv          mison           netlabelctl     readahead-collector status        vgreduce
btrfs-map-logical e2image        hwclock         iwspy           microcode_ctl  nfs             reboot          readahead     stop         vgrename
btrfs-show     e2label       ifconfig        kdump          mii-diag        new-kernel-pkg  regdbdump     reload        sushell     vgs
btrfsune       e2undo        ifdown          killall5        mlogon          new-mentest-pkg request-key     resize2fs     swapoff     vgsan
btrfs-vol      e2tables      ifenslave       kpartx          mkbootdisk     nologin         request-key     resize2fs     switch_root vgsplit
busybox        e2tables-restore ifenslave       kpartx          mkdosfs         nologin         request-key     resize2fs     switch_root vgsplit
cachefilesd    e2tables-save ifrename        ldconfig        mkdosfs         nologin         request-key     resize2fs     switch_root vgsplit
cbq            ether-wake     ifup            load_policy     mkdumprd       nologin         request-key     resize2fs     switch_root vgsplit
[root@localhost ~]# multipathconf --help
usage: /sbin/multipathconf <command>

Commands:
Enable: --enable
Disable: --disable
Set user_friendly_names (Default n): --user_friendly_names <y|n>
Set find_multipaths (Default n): --find_multipaths <y|n>
Load the dm-multipath modules on enable (Default y): --with_module <y|n>
start/stop/reload multipathd (Default n): --with_multipathd <y|n>
chkconfig on/off multipathd (Default y): --with_chkconfig <y|n>

[root@localhost ~]# multipathconf --enable --find_multipaths y --with_multipathd y --with_chkconfig y
[root@localhost ~]#

```

Step5. Configure new multipath.conf to directory /etc/

```
devices {
```

```
device {
```

```

    vendor          "Arena"
    product         "Nova 47S"
    path_grouping_policy  multibus
    getuid_callout  "/lib/udev/scsi_id --whitelisted --device=/dev/%n"
    path_checker    tur

```

```

path_selector      "round-robin 0"
    failback        immediate
rr_min_io          100
no_path_retry      queue
}
}

```

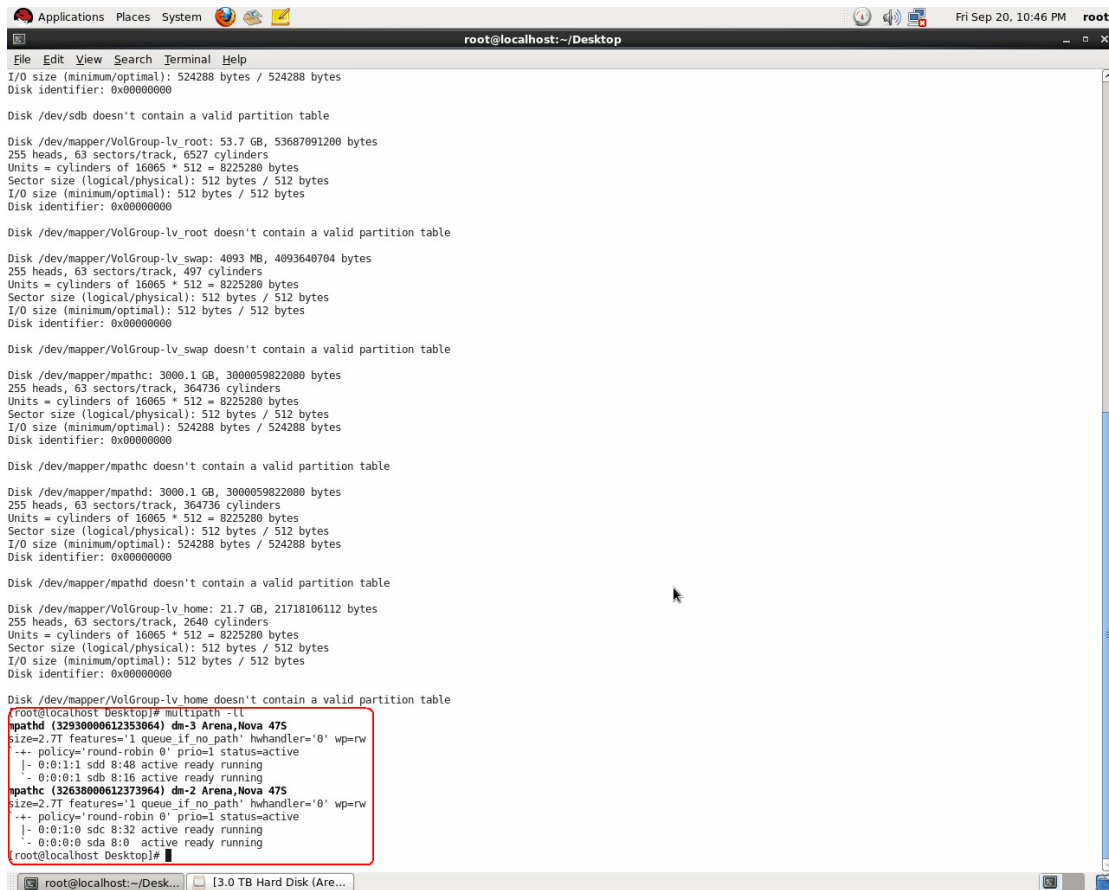
Step6. reboot RedHat6

#reboot

Step7. After boot finished, input command to check multipath device(Ex: /dev/dm-2, /dev/dm-3.....) or input command to check multipath volume state.

#fdisk -l

#multipath -ll



```

root@localhost Desktop
File Edit View Search Terminal Help
I/O size (minimum/optimal): 524288 bytes / 524288 bytes
Disk identifier: 0x00000000

Disk /dev/sdb doesn't contain a valid partition table

Disk /dev/mapper/VoLGroup-lv_root: 53.7 GB, 53687991200 bytes
255 heads, 63 sectors/track, 6527 cylinders
Units = cylinders of 16665 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

Disk /dev/mapper/VoLGroup-lv_root doesn't contain a valid partition table

Disk /dev/mapper/VoLGroup-lv_swap: 4093 MB, 4093640704 bytes
255 heads, 63 sectors/track, 497 cylinders
Units = cylinders of 16665 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

Disk /dev/mapper/VoLGroup-lv_swap doesn't contain a valid partition table

Disk /dev/mapper/mpathc: 3000.1 GB, 3000059822080 bytes
255 heads, 63 sectors/track, 364736 cylinders
Units = cylinders of 16665 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 524288 bytes / 524288 bytes
Disk identifier: 0x00000000

Disk /dev/mapper/mpathc doesn't contain a valid partition table

Disk /dev/mapper/mpathd: 3000.1 GB, 3000059822080 bytes
255 heads, 63 sectors/track, 364736 cylinders
Units = cylinders of 16665 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 524288 bytes / 524288 bytes
Disk identifier: 0x00000000

Disk /dev/mapper/mpathd doesn't contain a valid partition table

Disk /dev/mapper/VoLGroup-lv_home: 21.7 GB, 21718106112 bytes
255 heads, 63 sectors/track, 2640 cylinders
Units = cylinders of 16665 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

Disk /dev/mapper/VoLGroup-lv_home doesn't contain a valid partition table
root@localhost Desktop# multipath -ll
mpathd (32939000612353064) dm-3 Arena,Nova 475
size=2.7T features=1 queue_if_no_path hwhandler='0' wp=rw
+- policy='round-robin 0' prio=1 status=active
|- 0:0:1:1 sdb 8:48 active ready running
  - 0:0:0:1 sdb 8:16 active ready running
mpathc (32638000612373964) dm-2 Arena,Nova 475
size=2.7T features=1 queue_if_no_path hwhandler='0' wp=rw
+- policy='round-robin 0' prio=1 status=active
|- 0:0:1:0 sdc 8:32 active ready running
  - 0:0:0:0 sda 8:0 active ready running
root@localhost Desktop#

```