

?? Linux ? SAN ??????

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- [Configure Multipath on CentOS/RedHat \(NetApp FAS2240\)](#)
- [iSCSI and multipath on CentOS 7](#)

Q & A

Q: ??? /dev/sda ? Local Disk ?? SAN Disk

```
#> lsscsi
[2:0:0:0] cd/dvd hp DVD-ROM DTA0N WBD0 /dev/sr0
state=running queue_depth=1 scsi_level=6 type=5 device_blocked=0 timeout=0
[3:0:0:0] tape IBM ULT3580-HH5 D2AD /dev/st0
state=running queue_depth=32 scsi_level=7 type=1 device_blocked=0 timeout=900
[3:0:1:0] tape IBM ULT3580-HH5 D2AD /dev/st1
state=running queue_depth=32 scsi_level=7 type=1 device_blocked=0 timeout=900
[3:0:1:1] mediumx IBM 3573-TL C.20 -
state=running queue_depth=32 scsi_level=6 type=8 device_blocked=0 timeout=0
[3:0:2:0] disk IBM 1726-4xx FAStT 0617 /dev/sda <=====
state=running queue_depth=32 scsi_level=6 type=0 device_blocked=0 timeout=60
[3:0:2:31] disk IBM Universal Xport 0617 -
state=running queue_depth=32 scsi_level=6 type=0 device_blocked=0 timeout=60
```

TIPS?

IBM FAStT ? IBM Storage ????

???? lsscsi ????? yum install lsscsi

Q: ??? HBA Card ? port WWN

???: ? systool

???yum install sysfsutils

```
#> systool -c fc_host -v
```

?

```
#> systool -c fc_transport -v
```

????

```
/sys/class/fc_host/{host#}/port_name
```

```
#> cat /sys/class/fc_host/host5/port_name
```

```
0x2100001b32837bcd
```

```

????
/proc/scsi/{adapter-type}/{host#}

#> cat /proc/scsi/qla2xxx/2

SCSI Device Information:
scsi-qla0-adapter-node=5001438004253c81;
scsi-qla0-adapter-port=5001438004253c80; <---- WWN
scsi-qla0-target-0=50001fe1500e28fd;
scsi-qla0-target-1=50001fe1500e28f9;
scsi-qla0-target-2=500a09829140a66c;

Q: ??? mpathX ??? Device Mapper(dm-X)
???? multipath??? LUN ?????? /dev/mapper/mpathX????? pvcreate ? LUN ??? PV ??? pvdisplay -C ?????
????? /dev/dm-X????????????????? mpathX ??? dm-X?

????

```

```

[root@bdb3 ~]# dmsetup ls
mpath1 (253, 4)
rootVG-varLV (253, 1)
rootVG-swapLV (253, 3)
rootVG-rootLV (253, 0)
rootVG-worktmpLV (253, 2)

```

TIPS:

```
mpath1 (253,4)?4 ????? /dev/dm-4
```

????

```

[root@cdb3-b ~]# multipath -ll
mpath1 (360a98000383035537824474d3936556a) dm-4 NETAPP,LUN <===== ??
[size=700G][features=3 queue_if_no_path pg_init_retries 50][hwhandler=0][rw]
\_ round-robin 0 [prio=4][active]
\_ 1:0:1:0 sdb 8:16 [active][ready]
\_ 2:0:1:0 sdd 8:48 [active][ready]
\_ round-robin 0 [prio=1][enabled]
\_ 1:0:0:0 sda 8:0 [active][ready]
\_ 2:0:0:0 sdc 8:32 [active][ready]

```

```

Q: ? mpathb ?? partition ??????????????????
???????

```

WARNING: Re-reading the partition table failed with error 22: Invalid argument.

The kernel still uses the old table. The new table will be used at the next reboot or after you run `partprobe(8)` or `kpartx(8)`

???????????????? partition ????

`partprobe /dev/mapper/mpathb`