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SWITCH SAN

MDS-SERIES (CISCO) COMMANDS

MDS-SERIES Switch Commands

```
ip address 191.168.123.234   255.255.255.0
View =          show running-config
show environment    shows status of all installed hardware components
show flogi database shows database list of all FLOGI events
show fcns database  shows database list of all N-ports logged in
show vsan membership    shows list of VSAN members
show interface brief    lists the interfaces and status
```

MDS-SERIES Zoning Commands

```
config terminal                 Enters configuration terminal
zone name TestZone1 vsan 4          creates a zone
member pwwn 10:01:10:01:10:ab:cd:ef     adds node to the zone above
no member pwwn <colon separated wwn>      deletes member from zone
zoneset name Zoneset1 vsan 4            creates a zoneset
member <zone name>                adds zone to the ZoneSet above
no zone name <zone name> vsan <vsan Id>     Deletes a zone
zoneset activate name Zoneset1 vsan 4
zone copy active-zoneset full-Zoneset1 vsan 4
copy running-config start-up config     copy from source to startup configuration
vsan database                   go into vsan configuration mode
vsan 4 interface fc3/21             move port 21 on module 3 to vsan 4
show zoneset                    shows all zonesets that are active
show zone vsan <#>                shows all zones active in vsan
show zoneset active             displays the active zoneset
show vsan                   shows the vsans on the switch
show zoneset active vsan <vsan Id>        Shows active zoneset
```

B-SERIES (BROCADE) COMMANDS

B-SERIES Switch Commands

```
switchDisable       offline
ipAddrSet       set the IP address of a Brocade switch
switchShow      display switch info
supportShow     full detailed switch info
portShow #      display port info
nsShow          Name server contents
nsAllShow       NS for full fabric
fabricShow      fabric information
ad --create     create a new Admin Domain.
ad –apply       enforce the new Admin Domain configuration.
```

B-SERIES Zoning Commands

```
aliCreate “Alias”, “20:00:00:e0:69:40:07:08”
zoneCreate “Zone1”, “20:00:00:e0:69:40:07:08; 50:06:04:82:b8:90:c1:8d”
cfgCreate “Test_cfg”, “Zone1;  Zone2”
cfgSave             saves zoning information across reboots
cfgEnable “Test_cfg”
zoneShow or cfgShow     shows defined and effective zones and configurations
zoneAdd             adds a member to a zone
zoneRemove          removes a member from a zone
zoneDelete          deletes a zone
cfgAdd              adds a zone to a zone configuration
cfgRemove           removes a zone from a zone configuration
cfgDelete           deletes a zone from a zone configuration
cfgClear            clears all zoning information/ must disable the effective configuration
```

M-SERIES (McDATA) COMMANDS

M-SERIES Switch Commands

```
View=               config ip show
Config> ip           (new IP and Subnet mask)
Show> switch
Show> switch
Show > system
Show> nameserver
Show> loginServer
Show> nameServer
Show.Fabric> nodes
Maint > system > setOnlineState
```

M-SERIES Zoning Commands

```
Config.Zoning> addWwnMem: <zoneName> <wwn>
Config.Zoning> addZone           add a new zone to the working area
Config.Zoning> activateZoneset       activation of changes
Config.Zoning> showactive        shows actively connected running zoneset
Config.Zoning> clearZone     clear WWNs in a zone
Config.Zoning> deletezone        remove zone from the running config
Config.Zoning> showPending       show pending zones
Config.Zoning> renameZone:<oldzonename><newzonename>
Config.Zoning> deleteWwnMem      <zonename><wwn>
Config.Zoning> renameZoneSet     <zoneSetName>
```

Veritas VM HOST COMMANDS

- http://www.symantec.com/business/support/documentation.jsp?language=english&view=manuals&pid=15273

Veritas VM Device Commands

```
vxdisk list     List all disks under volume manager control and give there status.
vxdiskadd c1t2d3    add or bring a disk under volume manager control
vxdiskadmin     Interactive front end to the vxdisk program
```

Veritas VM Filesystem commands

```
vxdisk init             Initialize Physical Volume
vxdg init mydg mydg-01=c1t11d0      Create Disk Group
vxassist -g mydg make myvol  <size>   Create Logical Volume
mkfs -F vxfs /dev/vx/rdsk/mydg/myvol    create file system
vxvol -g mydg stopall           stop a volume
vxdg deport mydg            deport disk group
vxdg import mydg            import disk group
vxvol -g mydg startall          starting a imported volume
```

VMware ESX HOST COMMANDS

- http://www.b2v.co.uk/b2vguide2vmware.htm
- http://b2v.co.uk/b2vguide2vmware3.htm

VMware ESX Device Commands

```
esxcfg-rescan  <vmkernel adpter>  scan for new disks
esxcfg-swiscsi –e           enable iSCSI initiator
more /proc/scsi/lpfc/X          wwn of HBA
esxcfg-vswitch
```

VMware ESX Filesystem Commands

```
vmkfstools                  ~
```

AIX/IBM HOST COMMANDS

- http://publib.boulder.ibm.com/infocenter/pseries/v5r3/index.jsp?topic

AIX Software Installation

```
/usr/lpp            Software Directory
lslpp -L all            List installed software
lslpp -f fileset        List all files
instfix –i          List installed patches
cp *.lpp /usr/sys/inst.images   copy lpp software to the install directory
smit installp           Install a software package
rmdev               Remove a device
```

AIX Device Commands

```
lscfg           lists all comfigured components
smit or smitty      system management utility
lscfg –v l <interface>    lists all attributes (WWN's) for a device
emc_cfgmgr      configures symmetrix devices
mkbcv           makes BCV visable to AIX to avoid locking during boot
(1) chdev -l fcsX -a init_link=pt2pt –P         "To change INIT Link flags parameter"
(2) chdev -l fscsiX -a fc_err_recov=fast_fail –P    "Fabric Event Error RECOVERY Policy"
(3) cfgmgr –v       configures devices and optionally installs device software
```

AIX iSCSI Commands

```
smit iscsi
```

HP/UX HOST COMMANDS

- http://www.docs.hp.com/en/B2355-90681/index.html

HP/UX Software Installation

```
sysdef          analyzes current running system
swlist –l bundle    displays version and type of HP-UX
swlist -l patch     List installed patches
swreg –l depot /full/path/to/your/depot_file    Register a depot package for install
swinstall       Install the Software depot
```

HP/UX Device Commands

```
insf –e         install special device files
ioscan  -fnC disk   scans system hardware
sam         System administration tool
dd if=/dev/rdsk/c34t15d0 of=/dev/zero count=1   makes HP register with a Clariion thru LUNZ device
navicli –h <SP IP>  register          registers host with Clariion and tests agent install
lsdev –C disk       list device drivers in the system
mknod           makes a directory, special, or ordinary file
/stand/system       system configuration file
```

HP SAN Commands

```
fcmsutil /dev/fcd0  List HBA wwn
tdutil /dev/td0     List HBA wwn
```

HP iSCSI Commands

- http://docs.hp.com/en/T1452-90011/T1452-90011.pdf

PROCEDURES

zone hp server to symm

```
symmask list hba –v         to list your servers paths to the symm
symmask –wwn –dir –p add dev        (use wwn, dir, p  values from above command) run command for each hba to FA zone
symmask –wwn –dir –p set heterogeneous on HP_UX     use wwn from the (symmask list hba –v )
symmask refresh
ioscan –fnC disk
insf –e
symcfg dis
sympd list
```

- To get HPUX to register with Clariion if using NaviAgent

```
Install NaviAgent
Edit agent.config  file
ioscan –fnC disk
insf –e
/sbin/init.d/agent stop
rm /etc/log/HostIdFile.txt
/sbin/init.d/agent start
dd if=/dev/rdsk/c34t15d0 of=/dev/zero count=1       makes HP register with a Clariion thru LUNZ device
navicli –h <SP IP>  register              registers host with Clariion and tests agent install

# rmsf path ( The paths are showing NO_HW or not sensing).
# ioscan -fnc disk (check)
# insf -e
# symcfg discover
# powermt display ( check for any dead path)
# powermt check (checks and corrects dead path).
# powermt config
# powermt save
```

Linux HOST COMMANDS

- http://www.redhat.com/docs/manuals/enterprise/RHEL-5-manual/en-US/

Linux Device Commands

```
modprobe -l *lpfc*          List Emulex modules
modprobe –r             discover new disk
/sys/class/scsi_host/host1/issue_lip    discover new disk
/sys/class/scsi_host/host1/scan     discover new disk
/usr/sbin/lpfc  lun_scan all
```

Linux FC SAN Commands

```
more /proc/scsi/lpfc/X              wwn on RHEL3
more /sys/class/scsi_host/hostX/port_name   wwn on RHEL4
more /sys/class/fc_host/hostX/port_name     wwn on RHEL5
 (X is the instance number of the HBA)
```

Linux iSCSI Commands

```
yum install iscsi-initiator-utils       install iSCSI soft initiator
rpm -q srvadmin-deng iscsi-initiator-utils  install iSCSI soft initiator
rpm -ql iscsi-initiator-utils           confiure iSCSI soft initiator
iscsiadm -m discovery -t -p 192.168.1.100   discover iSCSI target
iscsiadm --mode node --targetname iqn
```

SUN/SOLARIS HOST COMMANDS

- http://developers.sun.com/openstorage/articles/opensolaris_storage_server.html

SOLARIS Software Installation

```
ptree –a    Shows all running processes in a tree format
showrev –p  Displays currently installed Solaris patches
prtconf     prints system configurations
pkginfo     lists installed software packages
pkgadd      install software packages
pkgrm       removes installed software packages
```

Solaris Device Commands

```
cfgadm –a       list all
cfgadm –c configure c4  configure StorEdge Leadville driver.(Search for new devices)
devfsadm –vC        searches for devices and also cleans up old
update_drv -f sd -d –I  searches for devices
devinfo         print device specific information about disk devices
drvconfig       generates special device files
reboot   --   -r    reboots system to discover configuration changes, and rebuild special files
/etc/system     system files
/kernel/drv/sd.conf lists of available target ids and luns
/kernel/drv/lpfc.conf   used for persistent binding on Emulex  (qla22xx.conf for Qlogic)
/var/adm/messages   system messages
```

Solaris iSCSI Commands

```
iscsiadm add static-config iqn.1999-08.com.array:sn.01234567,192.168.1.3:3260   map target
iscsiadm add discovery-address 192.168.1.13:3260
iscsiadm modify discovery --isns enable
iscsiadm list target –vS Target: iqn.1986-03.com
devfsadm -Cv -i iscsi
```

Solaris FC SAN Commands

```
fcinfo hba-port                 Lists information and WWNs
fcinfo remote-port -p 10000000c937694f –ls  Lists the remote-port information
```

SOLUTIONS ENABLER COMMANDS

Commands to see devices

```
syminq         ~ list all devides seen by host OS
syminq  -cids                   ~ list Clariion devices
syminq hba –fibre           ~ list HBA
syminq –pdevfile           ~List the location of devices
sympd list         ~  lists the Symmetrix devices that the host OS can see
sympd list –vcm         ~  lists all the physical device name in the device masking database
symdev list pd              ~ lists the Symmetrix devices that the host OS can see
symdisk
```

Symdev Commands

```
symdev list          ~ list all devices on symm
symdev –sa –p list            ~ list devices maped to that one FA
symdev list –bcv or –rdf1           ~ list all bcv or rdf1 volumes
symdev list –noport                ~  list devices not mapped to any FE ports
symdev list –clariion
symdev show 0123   -v          ~  vebose listing of one device
symdev list -RANGE 0001:0123  –v          ~ vebose listing of a rage of devices
symdev list pd          ~ list devices this host can see
```

Symcfg Commands

```
symcfg discover         ~  discover the storage environment
symcfg list          ~ list local and remote symmetrixes
symcfg list –clariion      ~ list clariions
symcfg list –v         ~  lists whether the Symmetrix director has device masking turned on
symcfg list –FA all list         ~  lists all fibre directors in a Symmetrix system
symcfg list -dir all -address -sid 6196          ~  identify the address information for devices
symcfg list -dir all -address -available         ~ sid 6196          ~ returns the next available LUN address
symcfg list -lockn all            ~  list of visible Symm exclusive locks
symcfg -sid 098712341357 -lockn 15 release            ~  release a lock on a Symmetrix array.
```

Symconfigure Commands

```
symconfigure –sid <sid> -f <filename> preview         ~  checks file to make sure it is ok to exe
symconfigure –sid <sid> -f <filename> commit         ~  makes the changes from file
symconfigure –sid <sid> -f <filename>  prepare
```

Symmaskdb Commands

```
symmaskdb list devs         ~  lists all devices accessible to an HBA on a specified Symmetrix system
symmaskdb remove         ~  removes the meta member devices
symmaskdb restore         ~  restores a database from a specified file
symmaskdb backup         ~  backs up a database to a specified file
symmaskdb init         ~  deletes and creates a new VCMDB
symmaskdb list assignment        ~lists deives already assigned
symmaskdb list no_assignment ~lists deives not yet assigned
```

Symmask Commands

```
symmask add devs         ~  adds a device to the list of devices that a WWN can access in the database
symmask remove devs         ~  removes a device from the list of devices that a WWN can access in  the database
symmask delete         ~  deletes all access rights for a WWN in the database
symmask replace         ~  allows one HBA to replace another
symmask refresh         ~  refresh vcmdb to all FA ports
symmask login         ~  lists for each Fibre director which hosts and HBA’s are logged in to a  Symmetrix system
symmask list HBA’s         ~  lists the WWN of the Fibre HBAs on this host
symmask -sid 381 -wwn 50060B000024F9F6  -dir 16C -p 1 set heterogeneous on HP_UX
symmask -sid SymmID set lunoffset on offset base \ -awwn awwn -dir # -p #          ~ offset high lun numbers
```

Other SYMCLI Commands

```
symsan             ~list ports and LUN WWNs seen from a specific Symmetrix director and port
symdg          ~ creates/deletes/renames device groups
symld           ~  addes & removes devices to a deivce group
symbcv         ~ associates/disassociate  BCV with device groups
symmir         ~ performs (split/establish/restore) BCV mirror commands against device groups
symclone         ~ performs (split/establish/restore/activate/terminate/recreate)
symsnap         ~ performs (restore/activate/terminate/recreate)
symrdf          ~ performs (split/establish/restore/failover/update/failback/suspend/resume)  against RDF device groups
symcg         ~  Performs operations on a Symmetrix RDF composite group
symrslv         ~  Displays logical-to-physical mapping information about a logical object that is stored on a disk.
symstat         ~  Displays statistics information about a Symmetrix, any or all directors, a device group, a disk, or a device.
```

```
symioctl         ~  sends I/O control commands to application
```

NAVICLI COMMANDS

```
navicli -h <host> getall  --> Lots of useful and not so useful information
navicli –h <SP IP> getsp         ~ verify connectivity
navicli –h <SP IP> register      ~registers host with Clariion and tests agent install
navicli –h <SP IP> storagegroup         ~ list all info about existing groups
navicli –h <SP IP> getrg  -lunlist         ~ list all existing raid groups and LUNS
navicli –h <SP IP> getdisk         ~ shows numbers of disks in storage array
navicli –h <SP IP> getrg <rg id>         ~  shows the number of raid groups
navicli –h <SP IP> getlun <lun id>         ~  lists all the disks
navicli –h <SP IP> storagegroup -list         ~ displays storage groups
navicli –h <SP IP> getcache         ~ shows the cache
navicli –h <SP IP> storagegroup –create –gname <name>         ~  creates a new storage group
navicli –h <SP IP> storagegroup –addhlu –gname <name> -hlu <#> -alu <#>         ~  assigns LUNs to storage group
navicli –h <SP IP> storagegroup –connecthost –host <hname> -gname <gname>         ~  assigns host to storage group
```

POWERPATH COMMANDS

```
powermt         ~  manage powerpath environment
powercf         ~  configure powerpath devices
emcpreg         ~  manage powerpath license registration
emcpupgrade     ~  convert powerpath configuration files
```

INQ COMMANDS

```
inq –h                                ~ list options and syntax
inq –hba                             ~ list hba wwn
inq –btl                              ~ display Bus Target and Lun
inq –show_vol                       ~ display Symmetrix Volume Number.
inq –winvol                          ~ show Windows filesystems
inq –dev ## –page0              ~ Raw unformatted data on a single device
inq -clariion                         ~ display CLARiiON device information
```