

Quick Command Reference

FCP Solaris /Data ONTAP /Native OS/Veritas

Solaris Host Utilities and Host Commands	
sanlun lun show [-v] [-d <host device filename> all <filer name> <filer name>:<path name>] sanlun lun show -p all <filer name> <filer name>:<pathname>]	Displays information about LUN(s) mapped to this host -v gives verbose output. -p includes multipathing information.
sanlun fcp show adapter [-c [-v] [<adapter name> all]]	Displays information about the host HBA(s) .
(Native OS) basic_config -ssd_set (Veritas) basic_config - m <cfmode>	(Native OS) Sets FCP driver parameters in <code>ssd.conf</code> . (Veritas) Sets parameters in the <code>lpfc.conf</code> and <code>/etc/system</code> file to default values.
To enable LUN access from a Solaris host	
1.Remove previous Attach Kit, if necessary. Native OS NOTE: If you had an iSCSI Support Kit installed, remove it, install the Native OS toolkit, and then execute mpxio_set -d .	2. (Native OS) Install the SAN Toolkit software. 2. (Veritas) Install HBA driver/ driver management software from manufacturer's site; install NetApp Host Utilities software.
3. (Native OS) Configure system parameters: basic_config -ssd_set 3. (Veritas) Configure system parameters basic_config -m <cfmode>	4. Map igroups and LUNs.
5. (Native OS) Go to step 6. 5. (Veritas) Create persistent bindings (<code>lputil</code> or <code>create_binding.pl -l <user:password> -n <filer> [-d]</code>)	6. (Native OS) Use stmsboot -e to modify the <code>ssd.conf</code> file to create an entry for the LUN.
7. (Native OS) Discover the LUNs using: <code>/usr/sbin/cfgadm -c configure cx</code> (x is HBA controller number for that LUN). 7. (Veritas) Discover the LUNs using reconfiguration <code>reboot -- -r</code> .	8. Label the LUNs (format utility)
FCP and Data ONTAP Commands	
fcp status	Displays status of FCP service.
fcp start stop	Starts and stops the FCP service.
fcp config [adapter [up down] [partner {adapter None } -partner] [mediatype { ptp auto loop }]]	Configures the FCP target adapters. For NearStore family you must put the ports into loop mode.
fcp show cdmode	Displays the storage system <code>cfmode</code> .
fcp show adapter [-v] [adapter]	Displays target adapter information.
fcp show initiator [-v] [adapter]	Displays information about initiators connected.
igroup create { -f -i } [-t ostype] initiator_group [node ...]	Creates a new initiator group ("-f" for fcp).
igroup show [-v] [initiator_group]	Displays the nodes in a given initiator group.
igroup add initiator_group node	Adds a node to a given initiator group.
igroup set igroup_name alua yes	Scripted LUN creation command (storage system).
lun create -s size [-t type] [-o noreserve] lun_path	LUN creation command (non-scripted).
lun create -b snapshot-lun-path lun_path	Creates (writable) LUN storage at this LUN path.
lun clone start lun_clone_path	Clones a LUN.
lun map lun_path initiator_group [lun_id]	Makes a LUN accessible to initiator(s) in the specified group, at the LUN ID specified.
lun show [-v -m -c] [all mapped offline online unmapped -g initiator_group lun_path]	Displays information about all/specified subset of LUN(s).
lun stats [-z -k] [lun_path]	Display or zero block-protocol access stats.
lun online offline lun_path	Enables, disables block-protocol access to a LUN.
Notes	
When setting up a LUN for FCP access, space reservations are on by default at the LUN level. To disable space reservation add the -o noreserve option to the lun create command. Turn off scheduled snapshots: snap sched vol_name 0 0 0 or vol options vol_name nosnap on When cloning a LUN make sure that the LUN is consistent; file system cache has been cleared and the application is in hot-backup mode for a DB or unmounted for other apps. FilerView can be used for most of the above commands (http://filer.ip.address.xx/na_admin)	

Solaris and Veritas commands (see the man pages for more information)			
devfsadm		Administration command for /dev entries .	
luxadm		Get information on disks (probe) or multipathing (display)	
metadb		Set up database (-a -c 3 -f /dev/dsk/name) or get status (-i)	
metainit		Create a meta device (volume)	
metastat		Get status or back up your configuration (-p)	
vxdiskadm		VxVM utility for managing disks/LUNs	
vxdisk list/scandisks vxdisk path 4.1 (me1) (MP2 only)		VxVM utility for listing disks (list) and checking the status of disks (scandisks), or multipathing (path)	
vxldg list/init name namedisk01=c#t#d# namedisk02=c#t#d#		VxVM disk group utility for listing disk groups and status as well adding disks to a given disk group	
vxassist -g netapp make netappvol1 10m layout=stripe		VxVM assistant that creates volumes from a given disk group. Options include size (10m) and layout (stripe)	
vxdctl init/enable/disable		VxVM daemon command (initialize, enable, disable)	
vxdisksetup -l c#t#d# ((online) initializing))		VxVM utility that initializes (puts under VxVM Control) a disk	
vxprint -g dg -ht		VxVM utility that provides status of a given disk group and its associated mirrors (plexes)	
vxresize		VxVM utility to resize a given volume	
vxdkmpadm		VxVM utility that administers Dynamic Multipathing (DMP)	
vxdkmpadm listenclosure all vxdkmsadm listenclosure dkmpnodename=enclos_name		VxVM command that lists enclosures and storage arrays. Each NetApp storage system is listed by modelname	
makefs -F vxfs /dev/rdisk/vx/vg/xxx		VxFS command to create a File System on a VxVM volume	
fsck -F vxfs		VxFS utility that checks and repairs a given file system	
fstyp (-v)		Solaris utility that determines and displays the file system type	
vxdkmpadm stat restore vxdkmpadm stop restore vxdkmpadm start restore policy=check_all interval=60		Veritas commands that set the DMP deamon to optimal values for failover	
Brocade SilkWorm Switch Commands (Default login is “admin” and password is “password”)			
ipaddrset/ipaddrshow	Set/Show the IP Address of the switch	portShow port_number	Displays port status
SwitchShow	Displays switch and port status	ErrShow	Displays error information
NsShow	Displays local Name Server Information	licenseShow	Displays current license keys
FabricShow	Displays fabric membership information	Version	Displays the FabricOS version
Troubleshooting Questions and Solutions			
Is FCP licensed and enabled? (fcpl status, fcpl config)			
Can the filer see the host HBA(s)? (fcpl show initiator)			
Is the HBA set up correctly? (sanlun fcpl show adapter -v, fcinfo hba-port, luxadm probe, luxadm display -v device_name)			
Do you have the system setup recommended on the NOW site? (OS, patch, driver, and firmware levels)			
Do you have the correct version of the Solaris operating system? (cat /etc/release)			
Are the LUN(s) mapped, online, and in a good state? (storage system: lun show -v mapped, host: sanlun lun show -p)			
Can the switch see the filer and the host? Check cables for a bad cable by checking LEDs on HBAs, and switches			
(Native OS) On Sparc systems, has MPxIO been enabled? (stmsboot -e)			
(Native OS) Is the Sun Volume Manager (SVM) set up correctly? (metastat -a)			
(Native OS) Is multipathing working? (luxadm display)			
(Native OS) Was ALUA enabled on the storage system before you mapped the LUNs to igroups? (igroup show -v, sanlun show -p)			
(Native OS) Are you using the correct FCode? (scli)			
(Veritas) Is Veritas installed and operational?			
Performance issues? Check LUN queues and HBA queues. Use NetApp diagnostic scripts to get information to review/send to support.			
Useful Resources			
NetApp NOW Site (http://now.netapp.com)		Key NetApp resource for support, documentation, software, and more	
Compatibility and Configuration Guide for NetApp FCP and iSCSI Products http://now.netapp.com/now/knowledge/docs/docs.shtm.		Contains the latest list of supported hardware and software for NetApp configured hosts	