

Quick Command Reference for FC Solaris™ Host Utilities for Native OS and 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. -p includes multipathing information.
sanlun fcp show adapter [-c [-v] [<adapter name> all]]	Displays information about the host HBA(s). sanlun fcp show adapter -c provides the igroup command to enter on the storage system.
(Native OS for SPARC): basic_config [-ssd_set -ssd_unset -ssd_set_force -ssd_unset_force] (Native OS for AMD) basic_config [-sd_set -sd_unset -sd_set_force -sd_unset_force] (Veritas) basic_config -m <cfmode> -p -r -l -s -v (DMP/Native drivers) basic_config [-vxdmp_set -vxdmp_unset -vxdmp_set_force -vxdmp_unset_force]	(Native OS for SPARC/x86/x64) Sets FC driver parameters in correct file (ssd.conf or sd.conf). (Veritas) Sets parameters in the lpfc.conf, sd.conf, and /etc/system file to default values. (DMP/Native drivers) Sets FC driver parameters in ssd.conf.
(Native OS) mpxio_set -d	(SPARC): Removes symmetric access to LUNS
(Veritas) create_binding.pl -l <user:password> -n <filer> [-d]	Create persistent bindings
(Native OS for SPARC) stmsboot -e	SPARC and x86/64 (Solaris 10 Update 4 and higher) Use to set up MPxIO and force a reboot.
(Native OS) /usr/sbin/cfgadm -c configure cx (Veritas) reboot -- -r (Veritas) /usr/sbin/devfsadm	(Native OS) Discover the LUNs (x is HBA controller number for that LUN). (Veritas) Discover LUNs using a reconfiguration reboot or devfsadm command.
format	Label the LUNs.
FC and Data ONTAP Commands	
fcp status	Displays status of FC service.
fcp start stop	Starts and stops the FC service.
fcp config [adapter [up down] [partner {adapter None } -partner] [mediatype { ptp auto loop }]]	Configures the FC target adapters. For NearStore family you must put the ports into loop mode.
fcp show cfmode	Displays the storage system cfmode.
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 fc).
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	Enables ALUA on an igroup.
lun setup	Interactive LUN creation.
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 FC 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 probe/display	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 Solaris volume
diskset	Create a Solaris Volume Manager disk set
metastat	Get status of your Solaris volumes
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)
vx dg 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 tester make testervol1 10m layout=stripe	VxVM assistant that creates volumes from a given disk group. Options include size (10m) and layout (stripe)
vxctl 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 dmpnodename=enclos_name	VxVM command that lists enclosures and storage arrays. Each storage system is listed by modelname
makefs -F vxfs /dev/vx/rdisk/vg/xxx	Solaris command to create a File System on a VxVM volume
mpathadm list lu	Solaris command to view paths
fsck -F vxfs	Solaris 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 daemon to optimal values for failover. See the Release Notes for information on how to ensure the settings persist across reboots
Emulex commands (see the man pages for more information)	
lputil	Creates persistent bindings.
update_drv	Modifies the device driver attributes. Can be used to re-read the sd.conf file.
emlxadm	(Native OS) Administration program for the Emulex-Sun Light-Pulse Fibre Channel adapters.
hbacmd	(Veritas) Administration program for the Emulex Fibre Channel adapters.
Troubleshooting Questions and Solutions	
Is FC licensed and enabled? (fcp status , fcp config) Can the storage system see the host HBA(s)? (fcp show initiator)	
Is the HBA set up correctly? (sanlun fcp show adapter -v , fcinfo hba-port , luxadm probe , luxadm display -v device_name)	
Do you have the recommended system setup? (OS cat /etc/release), patch, driver, and firmware levels)	
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 storage system and the host? Check cables for a bad cable by checking LEDs on HBAs, and switches.	
(Native OS) Is the Sun Volume Manager (SVM) set up correctly (if you are using it)? (metastat -a) Are you using the correct FCode? (scli)	
(Native OS) Is multipathing working? (luxadm display ; to view paths: mpathadm list lu) On Sparc systems, has MPxIO been enabled? (stmsboot -e)	
(Native OS) Was ALUA enabled on the storage system before you mapped the LUNs to igroups? (igroup show -v , sanlun show -p)	
(Veritas) Is Veritas installed and operational? Is the Veritas volume manager set up correctly (if you are using it)? (vxdisk list)	
Performance issues? Check LUN queues and HBA queues. Use 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
Interoperability Matrix (now.netapp.com/matrix/mtx/login.do/)	Contains the latest list of NetApp supported hardware and software