

EMC – Training

Command Quick Reference Guide for

Symmetrix Local Replication “TimeFinder Solutions”

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1. Symcli

EMC - Base Symcli	
List symcli commands	symcli -v
List this hosts devices	symcli
Create symapi database	symcfg discover
Create regular device group	symcli create <group name>
Create an R1 device group	symcli -type RDL create <namedg>
Create an R2 device group	symcli -type RDF2 create <namedg>
List symcli gatekeepers	symgate list
Define a symcli gatekeeper	symgate define dev xxx
Add devices to a device group	symcli -g <namedg> add dev xxx
Display verbose output of a device group	symcli show <namedg>
Delete a device group	symcli -f -g <namedg> delete
Give verbose output for a Symmetrix device	symdev show <device>
List BCVs this host owns	symbcv list pd
Associate BCVs with a device group	symbcv -g <group name> associate <device>
Display general Symm information.	symcfg list

Display RA/RF information.	symcfg -RA all list
Control RA/RF link.	symcfg -RA all <online/offline>
Display Symmetrix statistics.	symstat -type <type> <-g dname> -i <#> - c<#>

2. EMC-SRDF

EMC – SRDF – Command Line Interface	
List RDF devices this host owns	<code>symrdf list pd</code>
Show RDF state of devices in a group	<code>symrdf -g <namedg> query</code>
Perform an SRDF establish	<code>symrdf -g <namedg> establish</code>
Perform an SRDF restore	<code>symrdf -g <namedg> restore</code>
Perform an SRDF split	<code>symrdf -g <namedg> split</code>
Perform an SRDF suspend	<code>symrdf -g <namedg> suspend</code>
Perform an SRDF resume	<code>symrdg -g <namedg> resume</code>
List the SRDF devices in the local Symmetrix	<code>symrdf list</code>
Perform an SRDF failover	<code>symrdf -g <namedg> failover</code>
Perform an SRDF fallback	<code>symrdf -g <namedg> fallback</code>
Perform an SRDF update	<code>symrdf -g <namedg> update</code>
Set the SRDF method for synchronizing volumes	<code>symrdf -g <namedg> set mode sync</code>
Set device group pairs to domino mode	<code>symrdf -g <namedg> set domino on</code>
Set device group pairs to adaptive copy disk mode.	<code>symrdf -g <namedg> set acp_disk skew xx</code>

3. EMC-TimeFinder

EMC - TimeFinder Command Line Interface	
Perform a full establish between 1 BCV pair in a device group	<code>symm1r -g <namedg> -full establish DEV xxx bcv DEV xxx</code>
Query the TimeFinder state of pairs in a device group	<code>symm1r -g <namedg> query</code>
Perform a TimeFinder split on one BCV in a device group	<code>symm1r -g <namedg> split DEV xxx</code>
Perform a full restore on the BCV pairs in a device group	<code>symm1r -g <namedg> -full restore</code>
Perform a full establish on the BCV pairs in the device group	<code>symm1r -g <namedg> -full establish</code>
Query the multi-BCV pair states in the device group	<code>symm1r -g <namedg> query -multi</code>
Perform a consistent instant split on the devices in the device group which comprise an Oracle database.	<code>symm1r -g <namedg> split -instant -dbtype oracle</code>

4. Veritas

Disk Operations - Veritas	
Initialize the disk	vxdisksetup -i <device> vxdiskadm option 1 "Add or Initialize one or more disks"
Uninitialize disk	vxdiskunsetup <device>
List disks	vxdisk list
List disk header	vxdisk list <diskname/device>
Ready disks for VxVM	vxddl enable

Disk Group Operations - Veritas	
Create disk group	vxvg init diskgroup diskname=<device>
Add disk to disk group	vxvg -g diskgroup adddisk diskname=<device>
Deport disk group	vxvg deport diskgroup
Import disk group	vxvg import diskgroup
Destroy disk group	vxvg destroy diskgroup
List disk group	vxvg list
List specific disk group details	vxvg list diskgroup
Remove disk from disk group	vxvg -g diskgroup rmdisk diskname

Subdisk Operations - Veritas	
Create a subdisk	vxmake -g diskname sd subdiskname diskname offset length
Remove a subdisk	vxedit - g diskgroup rm subdisk_name

Display subdisk info	vxprint -st vxprint -l subdisk name
Associate a subdisk to a plex	vxsd assoc plex_name subdisk_name
Dissociate a subdisk	vxsd disk subdisk_name

Plex Operations - Veritas	
Create a plex	vxmake -g diskgroup plex_name sd=subdisk name
Associate a plex to a Vol	vxplex -g diskgroup att volume_name plex_name
Dissociate a plex	vxplex dis plex_name
Remove a plex	vxedit -g diskgroup rm plex_name
List all plexes	vxprint -lp
Detach a plex	vxplex -g diskgroup det plex_name
Attach a plex	vxplex -g diskgroup att volume_name plex_name

Volume Operations - Veritas	
Create a volume	vxassist -g diskgroup make vol_name size layout=format disk_name vxmake -g diskgroup vol vol_name len=size plex plex_name
Remove a volume	vxedit -g diskgroup rm vol_name
Display a volume	vxprint -g diskgroup -vt volume_name vxprint -g diskgroup -l volume_name
Change volume attributes	vxedit -g diskgroup set field=value volume_name vxvol field=value , , volume_name
Resize a volume	vxassist -g diskgroup growto volume_name new_length vxassist -g diskgroup growby volume_name new_length vxassist -g diskgroup shrinkto volume_name new_length vxassist -g diskgroup shrinkby volume_name new_length

Change volume read policy	vxvol -g diskgroup rdpol round vol_name vxvol -g diskgroup rdpol prefer vol_name perferred_plex_name vxvol -g diskgroup rdpol select vol_name
Start/Stop volumes	vxvol start volume_name vxvol startall vxvol -g diskgroup startall vxvol stop volume_name vxvol stopall vxrecover -an volume_name
List unstartable vol's	vxinfo volume_name
Mirror an existing plex	vxassist -g diskgroup mirror volume_name vxmake -g diskgroup plex plex_name sd=subdisk_name vxplex -g diskgroup att volume_name plex_name
Snapshot a volume	vxassist -g diskgroup snapshot volume_name vxassist -g diskgroup snapshot volume_name new vol
Add a log to a volume	vxassist -g diskgroup addlog volume_name

Installing - Veritas	
View license keys	vxlicense -p
Add a license key	vxlicense -c
Install VxFS packages	pkgadd -d path_name product_packages Example # pkgadd -d /cdrom/CD_name/pkgs VRTS11c VRTSVxfs
Remove VxFS packages	pkgrm product_packages Example # pkgrm VRTS11c VRTSVxfs
List all inst. packages	pkginfo
List all Vx inst packages	pkginfo grep VRTS
Display package details	pkginfo -l product_package

Example # pkginfo -l VRTSVxfs	
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Setting up a File system- Veritas		
Create a Veritas file system Options -o N -o largefiles -o version=n -o bsize=size -o logsize=size Example mkfs -F vxfs /dev/vx/rdisk/datadg/datavol Check VxFS structure without writing to device. Create VxFS that supports large files. Create VxFS with different layout version. Create VxFS with a specific block size. (block size bytes) Create a VxFS with a specific logging area size.	Mount a VX file system Example mount -F vxfs /dev/vx/dsk/d_dg/d_vol /mount point [-r] special mount point specific_options mount [-F vxfs] [generic_options] [-o]	List mounted file systems mount -v df -k (sun) bdf (hp)

List mounted file systems in the vfstab format mount -p	Unmount a mounted file system Example umount /mount point umount [special mount point]	Unmount all mounted file systems umount -a	Determine the file system type fstyp [-v] special Example fstyp /dev/dsk/c0t1d1s0	Report free disk blocks df [-F vxfs] [generic_options] [-o s]
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and inodes	Example fstyp /mount point [special mount point]
Check / Repair a file system	Example fsck -F vxfs /dev/vx/rdisk/d dg/d vol [-n N] special fsck [-F vxfs] [generic_options] [-Y Y]

Online Administration - Veritas	
Resize a Veritas file system	Example rawdev mount_point /usr/lib/fs/fs_type/fsadm [-b newsize] [-r /dev/vx/rdisk/d dg/d vol /mount_point /etc/vx/bin/vxresize [-bsx] [-F vxfs] [-g diskgroup] volume new_length Example /etc/vx/bin/vxresize -F vxfs -g d dg 5g
Dump a file system	vxdump [options] mount_point
Restore a file system	vxrestore [options] mount_point
Create a snapshot file system	Example mount -F vxfs -o snapof=/dev/dsk/cxtxdxsx snapsize=32768 /dev/dsk/cxtxdxsx /snapmount mount -F vxfs -o snapof=/dev/vx/rdisk/d dg/d vol snapmount /dev/vx/dsk/d dg/snapvol /snapmount

Backup a snapshot file system	vxdump [options] snap_mount_point Example vxdump -cf /dev/rmt/00m /snapmount
Create a storage checkpoint	fsckptadm [-nrv] create ckpt_name mount_point

List storage checkpoints	<code>fscptadm [-c v] list mount_points</code>
Remove a storage checkpoint	<code>fscptadm [-sv] remove ckpt_name mount_point</code>
Mount a storage checkpoint	<code>mount -F vxfs -o ckpt=ckpt_name pseudo_device mount_pt mount_point</code>
Unmount a storage checkpoint	<code>umount mount_point</code>
Change checkpoint attributes	<code>fscptadm [-sv] set [nodata nomount remove ckpt_name</code>
Upgrade the Vxfs layout	<code>vxupgrade [-n new_version] [-r rawdev] mount_point vxupgrade -n 4 /mnt</code>
Display layout ver num	<code>vxupgrade /mnt</code>

5. Oracle

SQL - Oracle	
Startup or shut down the oracle database from the internal account	SQL> connect internal - startup/shutdown
List from a table	SQL > select <field one, field two> from <table/view> where <xxx=xxx>;
	SQL > select tablespace_name,status from dba tablespaces;
	SQL> select username from dba users;
Create an asci control file	SQL> alter database backup controlfile to trace;
List the Oracle data files	SQL> select * from v\$datafile;
List the table structure	SQL> desc <table/view>;
Delete all records from a table	SQL> truncate table <table name>;
Add a record to a table	SQL> insert into table <table name> ('xxx','xxx',null);
Modify an existing record in a table	SQL> update <table name> set <field name> = <xxx> where <field name> = <xxx>;
Remove a record from a table	SQL> delete from <table name> where <field name> = <xxx>;
To list the archive file list	SQL> archive log list
To activate Oracle archive	SQL> connect / as sysdba shutdown startup mount alter database archivelog; alter database open;
Invoke the sql loader utility	# sqlldr <user/password> <loader control file>

6. IBM - AIX (LVM)

IBM - AIX - (Volume Groups, Logical Volumes and Filesystem Creation)	
Initialize Physical Volume	(AIX will automatically add a PVID to a disk when it is added to a Volume Group, therefore this step is not necessary) chdev -l hdisk# -a pv=yes
Create Volume Group	smitty mkvg or mkvg -y myvg -s 16 hdisk# (The VGDA information is recorded on all the physical volumes)
Add additional Physical Volumes to Volume Group (optional)	extendvg myvg hdisk# hdisk#
Create Logical Volume	smitty mklv or mklv -y mylv myvg 16
Add File System to Logical Volume	smitty crfs or crfs -v jfs -d mylv -m /myfs
Mount a File System	mount /myfs
Unmount a File System	mount /myfs

IBM - AIX - (Activate, Deactivate, Export, Import and Remove Volume Groups)	
Activate Volume Group	varyonvg myvg
Deactivate Volume Group	varyoffvg myvg
Export Volume Group	exportvg myvg
Import Volume Group	importvg -y myvg -f /dev/hdisk#
IBM - AIX - (Accessing BCV data on the same host as the source volume)	

	Use the recreatevg utility to resolve the duplicate PVIDs on the BCVs and to create the Volume Group, logical volume and file system on the BCVs while preserving the existing data. <pre># recreatevg -Y mybcvg -L mybcv -I /mybcv hdisk# hdisk#</pre> The -y option specifies the name of the Volume Group on the BCVs. The -Y option specifies the pre-fix to be added to the names of the logical volumes that exist in the Volume Group on the BCVs. The -L option specifies the directory under which the mount point for the file system on the BCVs are to be created.
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7. HPux (LVM)

HPux (Volume Groups, Logical Volumes and File System Creation)	
Initialize Physical Volume	<code>pvccreate /dev/rdisk/c1t1d0</code>
Create Volume Group	Create directory entry in /dev for Volume Group <code>mkdir /dev/myv</code> Create group file for Volume Group <code>mkknod /dev/myvg/group c 64 0x010000 (Make sure VG minor number is unique)</code> Create Volume Group structures on disk <code>vgcreate -s 16 /dev/myvg /dev/dsk/c1t0d0</code>
Add additional Physical Volumes to Volume Group (optional)	<code>vgextend /dev/myvg /dev/dsk/c1t0d1 /dev/dsk/c1t0d2</code>
Create Logical Volume	<code>lvcreate -l 16 -n mylv /dev/myvg</code>
Add File System to Logical Volume	<code>newfs /dev/myvg/rmlylv</code>
Mount a File System	<code>mkdir /mys</code> <code>mount /dev/myvg/mylv /mys</code>
Unmount a File System	<code>umount /mys</code>

HPux (Activate, Deactivate, Export, Import and Remove Volume Groups)	
Activate Volume Group	<code>vgchange -a y myvg</code>
Deactivate Volume Group	<code>vgchange -a n myvg</code>
Export Volume Group	<code>vgexport mystdv</code>
Import Volume Group	<code>vgimport myvg /dev/dsk/c#t#d#</code> <code>/dev/dsk/c#t#d#</code>

	HPux (Accessing BCV data on the same host as the source volume) Change the Volume Group ID on all the BCVs that make up your Volume Group. Note: The "raw" device file must be used in the command line. <pre># vgchgid /dev/rdsd/c#t#d# /dev/rdsd/c#t#d#</pre>
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 File - BCR CG V21a.Doc
 Date - 26-Jul-2005

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