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EMC Clariion 2 comments

Tress pass all luns ot the other SPA

```
naviseccli -h ss1_spa trespass all
```

Tress pass to the default owner

```
naviseccli -h ss1_spa trespass mine
```

```
naviseccli -h ss1_spb trespass mine
```

```
naviseccli -h 10.80.56.10 getlun -owner |egrep 'SP A' |wc -l  
1446
```

```
naviseccli -h 10.80.56.11 getlun -owner |egrep 'SP B' |wc -l  
892
```

Remove or Unregister host from the Clariion through the Naviseccli

```
naviseccli -h 10.34.83.82 port -removeHBA -o -host vcmcollect1
```

SP Reboot and Shutdown GUI

```
naviseccli -h 10.99.100.101 rebootsp
```

```
naviseccli -h 10.99.100.101 resetandhold
```

Creating a RAID Group

```
naviseccli -h 10.99.100.101 createrg 0 2_0_0 2_0_1 2_0_2 2_0_3 2_0_4 -rm no -pri med (same  
Enclosure)
```

-rm (remove/destroy Raid Group after the last LUN is unbound for the Raid Group) -pri (priority/rate of expansion/defragmentation of the Raid Group)

```
naviseccli -h 10.99.100.101 createrg 1 1_0_0 2_0_0 1_0_1 2_0_1 1_0_2 2_0_2 -raidtype r1_0 (for RAID  
1_0 across enclosures)
```

Storage System Properties- Memory Tab

```
naviseccli -h 10.99.100.101 setcache -wsz 2500 -rsza 100 -rszb 100
```

```
naviseccli -h 10.99.100.101 setcache -wsz 3072 -rsza 3656 -rszb 3656 (maximum amount of cache for  
CX3-80)
```

RAID Group Properties – General

```
naviseccli -h 10.99.100.101 getrg 0
```

RAID Group Properties – Disks

```
naviseccli -h 10.99.100.101 getrg 0 -disks
```

Binding a LUN

```
naviseccli -h 10.99.100.101 bind r5 0 -rg 0 -rc 1 -wc 1 -sp a -sq gb -cap 10
```

bind raid type (r0, r1, r1_0, r3, r5, r6) -rg (raid group) -rc / -wc (read and write cache) -sp (storage

processor) -sq (size qualifier – mb, gb, tb, bc (block count) -cap (size of the LUN)

RAID Group Properties – Partitions

naviseccli -h 10.99.100.101 getrg 0 -lunlist

LUN Properties

naviseccli -h 10.99.100.101 getlun 0

naviseccli -h 10.99.100.101 chglun -l 0 -name Exchange_Log_Lun_0

Destroying a RAID Group

naviseccli -h 10.99.100.101 removerg 0

Creating a Storage Group

navicli -h 10.99.100.101 storagegroup -create -gname HostName

Storage Group Properties – Hosts

navicli -h 10.99.100.101 storagegroup -connecthost -host HostName -gname HostName

Storage Group Properties – LUNs with Host ID

navicli -h 10.99.100.101 storagegroup -addhlu -gname HostName -alu 7 -hlu 7

navicli -h 10.99.100.101 storagegroup -addhlu -gname HostName -alu 25 -hlu 25

Destroying Storage Groups

navicli -h 10.99.100.101 storagegroup -destroy -gname HostName

Creating/binding and meta lun creation with block size

naviseccli -h 101.4.8.9 bind r1_0 3018 -rg 30 -sp a -sq bc -cap 209710080

naviseccli -h 101.4.8.9 bind r1_0 3118 -rg 31 -sp a -sq bc -cap 209710080

naviseccli -h 101.4.8.9 bind r1_0 4117 -rg 41 -sp a -sq bc -cap 209710080

naviseccli -h 101.4.8.9 bind r1_0 4217 -rg 42 -sp a -sq bc -cap 209710080

naviseccli -h 101.4.8.9 bind r1_0 4317 -rg 43 -sp a -sq bc -cap 209710080

naviseccli -h 101.4.8.9 metalun -expand -base 4117 -lus 3118 3018 4217 4317 -defaultowner A

Additional metalun Commands

- 1) List metaLUNs and the component LUNs (private LUNs)

naviseccli -h <SPA or B> metalun -list -components

- 2) List current default and current owner of metahead

naviseccli -h <SPA or B> metalun -list -currentowner -defaultowner

[-or-]

```
naviseccli -h <SPA or B> getlun <metahead> -owner -default
```

4) List current and default owner of component LUNs

```
naviseccli -h <SPA or B> getlun <component> -owner -default
```

[repeat for each component LUN]

As mentioned above, you will find the following:

a) Current owner will align to metahead

b) Default owner of component LUNs remain the same as what it was when originally created

5) Then trespass the metaLUN

```
naviseccli -h <SPA or B> trespass lun <metalun>
```

6) Observe the current and default owner

```
naviseccli -h <SPA or B> getlun <LUN ID> -owner -default
```

[repeat for the metahead and each component LUN]

What are the differences between failover modes on a CLARiiON array? (<http://www.emcstorageinfo.com/2007/07/what-are-differences-between-failover.html>)

What are the differences between failover modes on a CLARiiON array?

A CLARiiON array is an Active/Passive device and uses a LUN ownership model. In other words, when a LUN is bound it has a default owner, either SP-A or SP-B. I/O requests traveling to a port SP-A can only reach LUNs owned by SP-A and I/O requests traveling to a port on SP-B can only reach LUNs owned SP-B. It is necessary to have different failover methods because in certain situations a host will need to access a LUN on the non-owning SP.

The following failover modes apply:

Failover Mode 0 –

LUN Based Trespass Mode This failover mode is the default and works in conjunction with the Auto-trespass feature. Auto-trespass is a mode of operation that is set on a LUN by LUN basis. If Auto-Trespass is enabled on the LUN, the non-owning SP will report that the LUN exists and is available for access. The LUN will trespass to the SP where the I/O request is sent. Every time the LUN is trespassed a Unit Attention message is recorded. If Auto-trespass is disabled, the non-owning SP will report that the LUN exists but it is not available for access. If an I/O request is sent to the non-owning SP, it is rejected and the LUN's ownership will not change.

Note: The combination of Failover Mode 0 and Auto-Trespass can be dangerous if the host is sending I/O requests to both SP-A and SP-B because the LUN will need to trespass to fulfill each request. This

combination is most commonly seen on an HP-UX server using PV-Links. The Auto-trespass feature is enabled through the Initiator Type setting of HP-AutoTrespass. A host with no failover software should use the combination of Failover Mode 0 and Auto-trespass disabled.

Failover Mode 1 – Passive Not Ready Mode In this mode of operation the non-owning SP will report that all non-owned LUNs exist and are available for access. Any I/O request that is made to the non-owning SP will be rejected. A Test Unit Ready (TUR) command sent to the non-owning SP will return with a status of device not ready. This mode is similar to Failover Mode 0 with Auto-Trespass disabled. Note: This mode is most commonly used with PowerPath. To a host without PowerPath, and configured with Failover Mode 1, every passive path zoned, for example, a path to SP-B for a LUN owned by SP-A, will show to the server as Not Ready. This will show as with offline errors on a Solaris server, SC_DISK_ERR2 errors with sense bytes 0102, 0700, and 0403 on an AIX server or buffer to I/O errors on a Linux server. If PowerPath is installed, these types of messages should not occur.

Failover Mode 2 – DMP Mode In this mode of operation the non-owning SP will report that all non-owned LUNs exist and are available for access. This is similar to Failover Mode 0 with Auto-trespass Enabled. Any I/O requests made to the non-owning SP will cause the LUN to be trespassed to the SP that is receiving the request. The difference between this mode and Auto-trespass mode is that Unit Attention messages are suppressed. Note: This mode is used for some Veritas DMP configurations on some operating systems. Because of the similarities to Auto-Trespass, this mode has been known to cause “Trespass Storms.” If a server runs a script that probes all paths to the Clariion, for instance format on a Solaris server, the LUN will trespass to the non owning SP when the I/O request is sent there. If this occurs for multiple LUNs, a significant amount of trespassing will occur.

Failover Mode 3 – Passive Always Ready Mode In this mode of operation the non-owning SP will report that all non-owned LUNs exist and are available for access. Any I/O requests sent to the Non-owning SP will be rejected. This is similar to Failover Mode 1. However, any Test Unit Ready command sent from the server will return with a success message, even to the non-owning SP. Note: This mode is only used on AIX servers under very specific configuration parameters and has been developed to better handle a CLARiiON non-disruptive upgrade (NDU) when AIX servers are attached.

Steps to Configure SAN with EMC CLARiiON and New VNX Arrays

The following major configuration steps for the storage, server and switches necessary for implementing the CLARiiON.

1. Install Fibre Channel HBAs in all systems
2. Install EMC CLARiiON LP8000 port driver (For Emulex) on all system
3. Connect each host to both switches (Broace/Cisco/McData)
4. Connect SP1-A and SP2-A to the first switch
5. Connect SP1-B and SP2-B to the second switch
6. Note:- You can use cross SP connection for HA and connect SPA1 and SPB1 to first switch and SPB2 and SPA2 to the second switch.
7. Install Operating System on windows/solaris/linux/Vmware hosts
8. Connect all hosts to the Ethernet LAN
9. Install EMC CLARiiON Agent Configurator/Navisphere Agent on all hosts
10. Install EMC CLARiiON ATF software on all hosts if you are not using EMC powerpath fail-over software otherwise install supported version EMC Powerpath on all hosts.
11. Install the Navisphere Manager on one of the NT hosts
12. Configure Storage Groups using the Navisphere Manager
13. Assign Storage groups to hosts as dedicated storage/Cluster/Shared Storage
14. Install cluster software on host.

15. Test the cluster for node failover
16. Create Raid Group with protection as application required(raid5,raid1/0 etc)
17. Bind LUN according to application device layout requirement.
18. Add LUN to storage Group.
19. Zone SP port and Host HBA on both switch
20. Register Host on CLARiiON using Navisphere Manager.
21. Add all hosts to storage group.
22. Scan the devices on host.
23. Label and Format the device on host.

Posted September 4, 2011 by [g6237118](#)

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