

Re: How do I create a concat using Metadb?

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- *From:* dpatterson1976@xxxxxxxxxx
 - *Date:* 11 Oct 2006 19:00:41 -0700
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In this documentation you will be shown how to add and attach volumes to a Solaris environment from the EqualLogic SAN.

For consistency we will be using the following Disk for our Testing and Documentation.

2. c3t0d0 <EQLOGIC-100E-00-2.2 cyl 20813 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@0,0
3. c3t4d0 <EQLOGIC-100E-00-2.2 cyl 41628 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@4,0
4. c3t5d0 <EQLOGIC-100E-00-2.2 cyl 20813 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@5,0

ESTABLISH CONNECTION FROM SERVER TO EQUALLOGIC SAN AND SETUP DISKS

On your Solaris System run the following command.

```
# /usr/bin/iscli
```

```
iscli Main Menu  
main Interactive Menu
```

```
Current QLA4010 HBA/Port Information:  
HBA Ser. Num.: FS20616B39474 HBA Port: 0  
IP Address: 10.0.59.225 Link: Up  
Port Name: iqn.2000-04.com.qlogic:qla4010.fs20616b39474  
Port Alias:
```

1. Display General System Information
2. Display Program Version Information
3. List All QLogic iSCSI HBAs detected
4. HBA Options Menu
5. HBA Information
6. Reset HBA
7. Target Menu

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8. Diagnostic Menu
 9. Display VPD Information
 10. Set Working Adapter
 11. Exit
- enter selection: 7

1. List Targets
 2. Bind Target
 3. Unbind Target (persistent targets only)
 4. Configure Target Parameters
 5. Add A Target
 6. Configure Target Authentication Menu
 7. List LUN information
 8. Save Target/CHAP changes
 9. Set Working Adapter
 10. Refresh
 11. Exit
- enter selection: 5

TGT_iSCSI_Name []
:iqn.2001-05.com.equallogic:6-8a0900-2b5f93001-a79000000a8452be-sandbox-test-2
TGT_Port [3260] :
TGT_TargetIPAddress [0.0.0.0] :10.0.59.229

If no CHAP entries exist create one by selection option 6.

enter selection: 6

CHAPName [] :tsiuser
CHAPSecret [] : c1a55icc1a55ic
CHAPBidi [off] :

If a CHAP entry exist attach it to your Target

enter selection: 3

Target ID: 3 IP: 10.0.59.229 Port: 3260
ISCSI Name:
iqn.2001-05.com.equallogic:6-8a0900-2b5f93001-a79000000a8452be-sandbox-test-2
Alias: Sandbox-Test-2
State: Session Active
Target ID: 4 IP: 10.0.59.229 Port: 3260
ISCSI Name:
iqn.2001-05.com.equallogic:6-8a0900-450f93001-a750000007f446c9-sandbox-test
Alias: Sandbox-Test
State: Session Active
Target ID: 5 IP: 10.0.59.229 Port: 3260
ISCSI Name:

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iqn.2001-05.com.equallogic:6-8a0900-519f93001-2d9000000ab452c1-sandbox-test-3
Alias: Sandbox-Test-3
State: Session Active
Enter a Target ID:2
CHAP TABLE
Entry: 1
Name: tsiuser
Secret: c1a55icc1a55ic
CHAP Entry Number (0 for no CHAP) : 1

Save your changes

1. Display CHAP Table
2. Display Targets Using CHAP Entries
3. Assign a CHAP Entry to a Target
4. Add a CHAP entry
5. Add a Default BIDI CHAP
6. Edit a CHAP entry
7. Delete a CHAP entry
8. Set Working Adapter
9. Save Target/CHAP changes
10. Refresh
11. Exit

enter selection: 9

enter selection: 11

enter selection: 11

enter selection: 11

ADD NEW DISK TO SYSTEM

devfsadm

format

Searching for disks...done

AVAILABLE DISK SELECTIONS:

0. c1t0d0 <SUN146G cyl 14087 alt 2 hd 24 sec 848>
/pci@8,600000/SUNW,qlc@4/fp@0,0/ssd@w2100000c507c32f7,0
 1. c1t1d0 <SUN146G cyl 14087 alt 2 hd 24 sec 848>
/pci@8,600000/SUNW,qlc@4/fp@0,0/ssd@w21000011c627708b,0
 2. c3t0d0 <EQLOGIC-100E-00-2.2 cyl 20813 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@0,0
 3. c3t4d0 <EQLOGIC-100E-00-2.2 cyl 41628 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@4,0
 4. c3t5d0 <EQLOGIC-100E-00-2.2 cyl 20813 alt 2 hd 16 sec 63>
/pci@8,700000/pci1077,114@3,1/sd@5,0
- Specify disk (enter its number): 2

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Select the new disk

```
format>Disk not labeled. Label it now? yes
```

Format the disk by creating a 64MB space on Slice 4 and allocating the remaining space to Slice 0

```
format>partition
```

```
partition> print
```

Current partition table (original):

Total disk cylinders available: 20813 + 2 (reserved cylinders)

Part	Tag	Flag	Cylinders	Size	Blocks
0	root	wm	0 – 20682	9.94GB	(20683/0/0)
20848464					
1	unassigned	wu	0 0	(0/0/0)	
0					
2	backup	wu	0 – 20812	10.00GB	(20813/0/0)
20979504					
3	unassigned	wm	0 0	(0/0/0)	
0					
4	unassigned	wm	20684 – 20812	63.49MB	(129/0/0)
130032					
5	unassigned	wm	0 0	(0/0/0)	
0					
6	unassigned	wm	0 0	(0/0/0)	
0					
7	unassigned	wm	0 0	(0/0/0)	
0					

Once you get the filesystem laid out label to disk to save your changes

```
partition> label
```

You will need to do this for every disk that you added in the SAN iSCLI Utility.

SETTING UP THE ISCSI VOLUMES

Once the disk have been formatted you will need to setup the metadevices

```
# metainit -a -f -c 2 c3t0d0s4 c3t4d0s4
```

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```
# metadb
flags first blk block count
a u 16 1034
/dev/dsk/c3t4d0s4
a u 1050 1034
/dev/dsk/c3t4d0s4
a u 16 1034
/dev/dsk/c3t0d0s4
a u 1050 1034
/dev/dsk/c3t0d0s4
```

Next you need to create the logical volume by executing the following command

```
# metainit -f d8 2 1 c3t0d0s0 1 c3t2d0s0
d0: Concat/Stripe is setup
```

```
# metastat

d8: Concat/Stripe
Size: 83522880 blocks
Stripe 0:
Device Start Block Dbase
c3t4d0s0 0 No
Stripe 1:
Device Start Block Dbase
c3t0d0s0 1008 No
```

Once the Concatenation is setup you will need to modify the /etc/vfstab file

```
# vi /etc/vfstab

/dev/dsk/c3t4d0s0 /dev/rdisk/c3t4d0s0 /u01 ufs - yes
-
TO
/dev/md/dsk/d8 /dev/md/rdisk/d8 /u01 ufs - yes -
```

```
# df -k /u01
```

```
Filesystem kbytes used avail capacity Mounted on
/dev/dsk/c3t4d0s0 41098241 9 40892416 1% /u01
```

```
# umount /u01
```

```
# mount /u01
```

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```
# df -k /u01
```

```
Filesystem kbytes used avail capacity Mounted on  
/dev/md/dsk/d8 30839956 9 30634131 1% /u01
```

Now you can grow the filesystem to include both of the volumes you previously setup

```
# growfs -M /u01 /dev/md/rdisk/d8
```

```
# df -k /u01
```

```
Filesystem kbytes used avail capacity Mounted on  
/dev/md/dsk/d8 30839956 9 30634131 1% /u01
```

INCREASING AN EXISTING CONCATENATED VOLUME

Make sure the disk is able to be seen by the system using the ISCLI Utility and then FORMAT the disk.

```
# metattach d8 c3t5d0s0  
d8: component is attached
```

```
# growfs -M /u01 /dev/md/rdisk/d8
```

```
# df -k /u01
```

```
Filesystem kbytes used avail capacity Mounted on  
/dev/md/dsk/d8 41098241 9 40892416 1% /u01
```

kaka.hui@xxxxxxxxx wrote:

I would like to use metadb and metainit to concat the disk 2, 3, 4 from below. Could someone please point to the correct approach? Thanks!

AVAILABLE DISK SELECTIONS:

- 0. c1t0d0 <SUN72G cyl 14087 alt 2 hd 24 sec 424>
/pci@1c,600000/scsi@2/sd@0,0
- 1. c1t1d0 <SUN72G cyl 14087 alt 2 hd 24 sec 424>

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/pci@1c,600000/scsi@2/sd@1,0
2. c2t10d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
/pci@1c,600000/scsi@2,1/sd@a,0
3. c2t11d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
/pci@1c,600000/scsi@2,1/sd@b,0
4. c2t12d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
/pci@1c,600000/scsi@2,1/sd@c,0