

# Technical Geeking Out :-D

Configuration of 2 solaris hosts serving as backup for each other

Configuration of iscsi san for allocating block storage (win/nix)

NAS sharing via smb/nfs shares

## Home Setup

Iscsi san

Block storage / lun creations / parity & non parity raidsets

NAS shares

Storage io statistics

Connectivity of nix/win/mac systems

2 solaris hosts serving as backup for each other, in addition to one iscsi san allocating block storage (win/nix) and smb/nfs share 😊

```
root@vnx-solaris-storage:~# zpool status
  pool: rpool
state: ONLINE
  scan: none requested
config:
```

NAME	STATE	READ	WRITE	CKSUM
rpool	ONLINE	0	0	0
c1t0d0	ONLINE	0	0	0

errors: No known data errors

```
pool: stor-pool
state: ONLINE
  scan: none requested
config:
```

NAME	STATE	READ	WRITE	CKSUM
stor-pool	ONLINE	0	0	0
raidz1-0	ONLINE	0	0	0
c3t0d0	ONLINE	0	0	0
c3t1d0	ONLINE	0	0	0
c3t2d0	ONLINE	0	0	0
c3t3d0	ONLINE	0	0	0

errors: No known data errors

```
root@vnx-solaris-storage:~# zfs list -rH stor-pool
stor-pool 592G 2.09T 68.8K /stor-pool
stor-pool/iscsi-san 578G 2.09T 62.8K /stor-pool/iscsi-san
stor-pool/iscsi-san/zvols 578G 2.09T 65.8K /stor-pool/iscsi-san/zvols
stor-pool/iscsi-san/zvols/nix 413G 2.09T 59.8K /stor-pool/iscsi-san/zvols/nix
stor-pool/iscsi-san/zvols/nix/v1 103G 2.19T 6.93G -
stor-pool/iscsi-san/zvols/nix/v2 103G 2.18T 7.02G -
stor-pool/iscsi-san/zvols/nix/v3 103G 2.18T 7.02G -
stor-pool/iscsi-san/zvols/nix/v4 103G 2.19T 6.93G -
stor-pool/iscsi-san/zvols/win 165G 2.09T 59.8K /stor-pool/iscsi-san/zvols/win
stor-pool/iscsi-san/zvols/win/v1 20.6G 2.11T 4.94G -
stor-pool/iscsi-san/zvols/win/v2 20.6G 2.11T 694M -
stor-pool/iscsi-san/zvols/win/v3 20.6G 2.11T 4.94G -
stor-pool/iscsi-san/zvols/win/v4 20.6G 2.11T 4.94G -
stor-pool/iscsi-san/zvols/win/v5 20.6G 2.11T 4.45M -
stor-pool/iscsi-san/zvols/win/v6 20.6G 2.11T 4.38M -
stor-pool/iscsi-san/zvols/win/v7 20.6G 2.11T 4.53M -
stor-pool/iscsi-san/zvols/win/v8 20.6G 2.11T 4.52M -
stor-pool/shares 12.7G 2.09T 12.7G /stor-pool/shares
stor-pool/vm-datastore 74.1K 2.09T 74.1K /stor-pool/vm-datastore
```

```
root@vnx-solaris-storage:~# stmfadm list-hg -v
Host Group: nix-solaris
    Member: iqn.1986-03.com.sun:01:k-vnx-solaris
Host Group: win-w2k12r2
    Member: iqn.1991-05.com.microsoft:vnx-win-host
```

```
root@vnx-solaris-storage:~# stmfadm list-state
Operational Status: online
Config Status   : initialized
ALUA Status    : disabled
ALUA Node      : 0
```

```
root@vnx-solaris-storage:~# stmfadm list-target -v
Target: iqn.1986-03.com.sun:02:storpool-target
  Operational Status    : Online
  Provider Name        : iscsit
  Alias                : -
  Protocol             : iSCSI
  Sessions             : 2
  Initiator: iqn.1991-05.com.microsoft:vnx-win-host
    Alias: -
    Logged in since: Fri Jul 15 10:31:03 2016
  Initiator: iqn.1986-03.com.sun:01:k-vnx-solaris
    Alias: -
    Logged in since: Thu Jun 30 16:42:31 2016
```

```
root@vnx-solaris-storage:~# stmfadm list-tg -v
Target Group: storpool-tg
  Member: iqn.1986-03.com.sun:02:storpool-target
```

```
root@vnx-solaris-storage:~# itadm list-initiator
INITIATOR NAME          CHAPUSER SECRET
iqn.1991-05.com.microsoft:vnx-win-host      chap      set
iqn.1986-03.com.sun:01:k-vnx-solaris       chap      set
```

```
root@vnx-solaris-storage:~# itadm list-target -v
TARGET NAME           STATE SESSIONS
iqn.1986-03.com.sun:02:storpool-target      online 2
alias: -
auth:      chap
targetchapuser: chap
targetchapsecret: set
tpg-tags:   default
```

```
root@vnx-solaris-storage:~# iscsiadm list initiator-node
Initiator node name: iqn.1986-03.com.sun:01:e00000000000.5765b11a
Initiator node alias: vnx-solaris-storage
Login Parameters (Default/Configured):
  Header Digest: NONE/-
  Data Digest: NONE/-
  Max Connections: 65535/-
  Authentication Type: NONE
  RADIUS Server: NONE
  RADIUS Access: disabled
Tunable Parameters (Default/Configured):
  Session Login Response Time: 60/-
  Maximum Connection Retry Time: 180/-
  Login Retry Time Interval: 60/-
Configured Sessions: 1
```

```
root@vnx-solaris-storage:~# cat /etc/dfs/sharetab
/var/smb/cvol c$ smb - Default Share
- IPC$ smb - Remote IPC
/stor-pool stor-pool nfs sec=sys,rw
/stor-pool stor-pool smb -
/stor-pool/iscsi-san stor-pool_iscsi-san nfs sec=sys,rw
/stor-pool/iscsi-san stor-pool_iscsi-san smb -
/stor-pool/iscsi-san/zvols stor-pool_iscsi-san_zvols nfs sec=sys,rw
/stor-pool/iscsi-san/zvols stor-pool_iscsi-san_zvols smb -
/stor-pool/iscsi-san/zvols/nix stor-pool_iscsi-san_zvols_nix nfs sec=sys,rw
/stor-pool/iscsi-san/zvols/nix stor-pool_iscsi-san_zvols_nix smb -
/stor-pool/iscsi-san/zvols/win stor-pool_iscsi-san_zvols_win nfs sec=sys,rw
/stor-pool/iscsi-san/zvols/win stor-pool_iscsi-san_zvols_win smb -
/stor-pool/shares stor-pool_shares nfs sec=sys,rw
/stor-pool/shares stor-pool_shares smb -
/stor-pool/vm-datastore stor-pool_vm-datastore nfs sec=sys,rw
/stor-pool/vm-datastore stor-pool_vm-datastore smb -
```

```
root@vnx-solaris-storage:~# stmfadm list-lu
LU Name: 600144F03E9782000000574FD81B0001
LU Name: 600144F03E9782000000574FD81F0002
LU Name: 600144F03E9782000000574FD8210003
LU Name: 600144F03E9782000000574FD8250004
LU Name: 600144F03E9782000000574FD82C0005
LU Name: 600144F03E9782000000574FD82F0006
LU Name: 600144F03E9782000000574FD8320007
LU Name: 600144F03E9782000000574FD8350008
LU Name: 600144F03E9782000000574FD8410009
LU Name: 600144F03E9782000000574FD843000A
LU Name: 600144F03E9782000000574FD847000B
LU Name: 600144F03E9782000000574FD849000C
```

```
root@vnx-solaris-storage:~# stmfadm list-lu -v
LU Name: 600144F03E9782000000574FD81B0001
  Operational Status    : Online
  Provider Name        : sbd
  Alias                : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v1
  View Entry Count     : 1
  Data File            : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v1
  Meta File            : not set
  Size                 : 21474836480
  Block Size           : 512
  Management URL       : not set
  Vendor ID            : SUN
  Product ID           : COMSTAR
  Serial Num           : not set
  Write Protect         : Disabled
  Write Cache Mode Select: Enabled
  Writeback Cache       : Enabled
  Access State          : Active
```

```
LU Name: 600144F03E9782000000574FD81F0002
  Operational Status    : Online
  Provider Name        : sbd
  Alias                : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v2
  View Entry Count     : 1
  Data File            : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v2
  Meta File            : not set
  Size                 : 21474836480
  Block Size           : 512
  Management URL       : not set
  Vendor ID            : SUN
  Product ID           : COMSTAR
  Serial Num           : not set
  Write Protect         : Disabled
  Write Cache Mode Select: Enabled
  Writeback Cache       : Enabled
  Access State          : Active
```

LU Name: 600144F03E9782000000574FD8210003

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v3  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v3  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD8250004

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v4  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v4  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD82C0005

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v5  
View Entry Count : 0  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v5  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD82F0006

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v6  
View Entry Count : 0  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v6  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD8320007

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v7  
View Entry Count : 0  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v7  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD8350008

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v8  
View Entry Count : 0  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v8  
Meta File : not set  
Size : 21474836480  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD8410009

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v1  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v1  
Meta File : not set  
Size : 107374182400  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD843000A

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v2  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v2  
Meta File : not set  
Size : 107374182400  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD847000B

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v3  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v3  
Meta File : not set  
Size : 107374182400  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

LU Name: 600144F03E9782000000574FD849000C

Operational Status : Online  
Provider Name : sbd  
Alias : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v4  
View Entry Count : 1  
Data File : /dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v4  
Meta File : not set  
Size : 107374182400  
Block Size : 512  
Management URL : not set  
Vendor ID : SUN  
Product ID : COMSTAR  
Serial Num : not set  
Write Protect : Disabled  
Write Cache Mode Select: Enabled  
Writeback Cache : Enabled  
Access State : Active

```
root@vnx-solaris-storage:~# sbdadm list-lu
```

Found 12 LU(s)

GUID	DATA SIZE	SOURCE
600144f03e9782000000574fd81b0001	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v1
600144f03e9782000000574fd81f0002	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v2
600144f03e9782000000574fd8210003	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v3
600144f03e9782000000574fd8250004	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v4
600144f03e9782000000574fd82c0005	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v5
600144f03e9782000000574fd82f0006	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v6
600144f03e9782000000574fd8320007	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v7
600144f03e9782000000574fd8350008	21474836480	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/win/v8
600144f03e9782000000574fd8410009	107374182400	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v1
600144f03e9782000000574fd843000a	107374182400	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v2
600144f03e9782000000574fd847000b	107374182400	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v3
600144f03e9782000000574fd849000c	107374182400	/dev/zvol/rdsk/stor-pool/iscsi-san/zvols/nix/v4

```
root@vnx-solaris-storage:~# ls /mnt/  
r610-shares-backup
```

```
root@vnx-solaris-storage:~# ls /mnt/r610-shares-backup/  
solaris-test-file-for-mounts.txt test2 test4  
test1 test3 test5
```

```
root@k-vnx-solaris-mobile-cart:~# zpool status
pool: r610p-146gb
state: ONLINE
scan: none requested
config:
```

NAME	STATE	READ	WRITE	CKSUM
r610p-146gb	ONLINE	0	0	0
raidz1-0	ONLINE	0	0	0
c2t2d0	ONLINE	0	0	0
c2t3d0	ONLINE	0	0	0
c2t4d0	ONLINE	0	0	0
c2t5d0	ONLINE	0	0	0

```
errors: No known data errors
```

```
pool: rpool
state: ONLINE
scan: none requested
config:
```

NAME	STATE	READ	WRITE	CKSUM
rpool	ONLINE	0	0	0
c2t0d0	ONLINE	0	0	0

```
errors: No known data errors
```

```
pool: storpool-zvol
state: ONLINE
scan: none requested
config:
```

NAME	STATE	READ	WRITE	CKSUM
storpool-zvol	ONLINE	0	0	0
mirror-0	ONLINE	0	0	0
c0t600144F03E9782000000574FD843000Ad0	ONLINE	0	0	0
c0t600144F03E9782000000574FD847000Bd0	ONLINE	0	0	0
mirror-1	ONLINE	0	0	0
c0t600144F03E9782000000574FD849000Cd0	ONLINE	0	0	0
c0t600144F03E9782000000574FD8410009d0	ONLINE	0	0	0

```
errors: No known data errors
```

```
root@k-vnx-solaris-mobile-cart:~# zfs list -rH r610p-146gb
r610p-146gb 214K 401G 62.8K /r610p-146gb
r610p-146gb/storpool-shares-backup 70.3K 400G 70.3K /r610p-146gb/storpool-shares-backup
```

```
root@k-vnx-solaris-mobile-cart:~# ls /r610p-146gb/storpool-shares-backup/
solaris-test-file-for-mounts.txt test2 test4
test1 test3 test5
```

```
root@k-vnx-solaris-mobile-cart:~# zfs list -rH storpool-zvol
storpool-zvol 12.8G 183G 12.7G /storpool-zvol
```

```
root@k-vnx-solaris-mobile-cart:~# ls /mnt/
stor-pool vm-datastore
```

root@k-vnx-solaris-mobile-cart:~# ls -ls /mnt/stor-pool/

total 26591631

```
858 -rwxrwxrwx 1 nobody staff 427680 Aug 22 2013 bootmgr
  4 -rwxrwxrwx 1 nobody staff 1 Jun 18 2013 BOOTNXT
632181 -rw-r--r-- 1 nobody nobody 330301440 Jun 22 13:31 debian-8.2.0-i386-netinst.iso
7750575 -rw-r--r-- 1 nobody nobody 3994091520 Jun 22 13:34 debian-8.4.0-amd64-DVD-1.iso
9113654 -rw-r--r-- 1 nobody nobody 4674091008 Jun 22 13:39 debian-8.4.0-amd64-DVD-2.iso
9094305 -rw-r--r-- 1 nobody nobody 4663099392 Jun 22 13:43 debian-8.4.0-amd64-DVD-3.iso
  5 -rwxrwxrwx 1 nobody staff 479 Jul 14 11:00 drive-scans.txt
  11 -rwxrwxrwx 1 nobody staff 8371 Jun 30 20:04 jf-d1689-post-ica.txt
  11 -rwxrwxrwx 1 nobody staff 8866 Jun 30 21:46 jf-d1689-post-nas.txt
  5 -rwxrwxrwx 1 nobody staff 459 Apr 14 02:33 post-nas-install-commands.txt
  4 -rwxrwxrwx 1 root root 0 Jun 20 16:00 solaris-storage-text-file-for-mounts.txt
  7 drwxr-xr-x 2 nobody nobody 7 Jun 20 22:25 test-folder
  4 -rwxrwxrwx 1 nobody staff 5242880000 Jul 15 09:54 test1
  7 drwxrwxrwx+ 2 nobody staff 6 Jun 21 23:27 testing-windows
```

root@k-vnx-solaris-mobile-cart:~# ls -ls /mnt/vm-datastore/

total 3

```
3 drwxr-xr-x 5 vnxadmin staff 5 Jun 30 15:09 vms
```

root@k-vnx-solaris-mobile-cart:~# ls -ls /mnt/vm-datastore/vms/

total 9

```
3 drwxr-xr-x 3 vnxadmin staff 6 Jun 30 14:06 debian-v8x64
  3 drwxr-xr-x 2 vnxadmin staff 5 Jun 30 14:01 test
  3 drwxr-xr-x 3 vnxadmin staff 5 Jul 11 16:07 test2
```

```
root@k-vnx-solaris-mobile-cart:~# iscsiadadm list target -v
Target: iqn.1986-03.com.sun:02:storpool-target
  Alias: -
  TPGT: 1
  ISID: 4000002a0000
  Connections: 1
    CID: 0
      IP address (Local): 172.16.100.3:36702
      IP address (Peer): 172.16.100.4:3260
      Transport Type: socket
      Discovery Method: SendTargets
      Login Parameters (Negotiated):
        Data Sequence In Order: yes
        Data PDU In Order: yes
        Default Time To Retain: 20
        Default Time To Wait: 2
        Error Recovery Level: 0
        First Burst Length: 65536
        Immediate Data: yes
        Initial Ready To Transfer (R2T): yes
        Max Burst Length: 262144
        Max Outstanding R2T: 1
        Max Receive Data Segment Length: 32768
        Max Connections: 32
        Header Digest: NONE
        Data Digest: NONE
```

```
root@k-vnx-solaris-mobile-cart:~# iscsiadadm list initiator-node
```

```
Initiator node name: iqn.1986-03.com.sun:01:k-vnx-solaris
```

```
Initiator node alias: k-vnx-solaris-mobile-cart
```

```
    Login Parameters (Default/Configured):
```

```
        Header Digest: NONE/-
```

```
        Data Digest: NONE/-
```

```
        Max Connections: 65535/-
```

```
    Authentication Type: CHAP
```

```
        CHAP Name: chap
```

```
    RADIUS Server: NONE
```

```
    RADIUS Access: disabled
```

```
    Tunable Parameters (Default/Configured):
```

```
        Session Login Response Time: 60/-
```

```
        Maximum Connection Retry Time: 180/-
```

```
        Login Retry Time Interval: 60/-
```

```
    Configured Sessions: 1
```

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# Home Setup (always working progress)

Setup of iscsi san

Creating block/luns  
(parity, non-parity)

Assigning luns to windows/mac host

Creating Shares

Storage stats

personally crimped cables

```
root@      solaris11      /zstor2tb# stmfadm list-hg
Host Group: mac-group
Host Group: win-group
root@      solaris11      :/zstor2tb# stmfadm list-hg -v
Host Group: mac-group
    Member: iqn.2003-12.com.small-tree:expensive-rotten-fruit
Host Group: win-group
    Member: iqn.1991-05.com.microsoft: [REDACTED]
```

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```
root@      debian:/# vi /etc/fstab
root@      debian:/# mount -a
root@      debian:/# ls /mnt/zstor
data-vol1  data-vol2  data-vol3  data-vol4  data-vol-temp
```

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```
LU Name: 600144F012F0A00000055396F84001B
  Operational Status      : Online
  Provider Name          : sbd
  Alias                  : mac-v000-no-chap-auth
  View Entity Count      : 1
  Data File              : /dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-000
  Meta File              : not set
  Size                   : 107374182400
  Block Size             : 4096
  Management URL         : not set
  Vendor ID              : SUN
  Product ID             : COMSTAR
  Serial Num             : not set
  Write Protect          : Disabled
  Write Cache Mode Select: Enabled
  Writeback Cache        : Enabled
  Access State           : Active
```

root@ solaris11 :/zstor2tb# sbdadm list-lu

Found 20 LU(s)

GUID	DATA SIZE	SOURCE
600144f012f08a0000005533024a0001	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-005
600144f012f08a000000553302610002	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-006
600144f012f08a000000553302740003	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-007
600144f012f08a000000553302830004	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-008
600144f012f08a0000005533028f0005	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-009
600144f012f08a00000055331a880006	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-005
600144f012f08a00000055331afe0007	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-006
600144f012f08a00000055331b1e0008	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-007
600144f012f08a00000055331b3f0009	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-008
600144f012f08a00000055331b74000a	10737418240	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-009
600144f012f08a000000553371be0011	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-001
600144f012f08a000000553371cd0012	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-002
600144f012f08a000000553371d90013	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-003
600144f012f08a000000553371e50014	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-004
600144f012f08a0000005533ca8a0015	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-000
600144f012f08a0000005533ca980016	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-001
600144f012f08a0000005533caa20017	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-002
600144f012f08a0000005533caaee0018	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-003
600144f012f08a0000005533cab90019	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/win-vols/vol-004
600144f012f08a00000055396f84001b	107374182400	/dev/zvol/rdsk/zstor2tb/iscsi-san/mac-vols/vol-000

root@ -solaris11 :/zstor2tb# stmfadm list-lu

LU Name: 600144F012F08A0000005533024A0001

LU Name: 600144F012F08A000000553302610002

LU Name: 600144F012F08A000000553302740003

LU Name: 600144F012F08A000000553302830004

LU Name: 600144F012F08A0000005533028F0005

LU Name: 600144F012F08A00000055331A880006

LU Name: 600144F012F08A00000055331AFE0007

LU Name: 600144F012F08A00000055331B1E0008

LU Name: 600144F012F08A00000055331B3F0009

LU Name: 600144F012F08A00000055331B74000A

LU Name: 600144F012F08A000000553371BE0011

LU Name: 600144F012F08A000000553371CD0012

LU Name: 600144F012F08A000000553371D90013

LU Name: 600144F012F08A000000553371E50014

LU Name: 600144F012F08A0000005533CA8A0015

LU Name: 600144F012F08A0000005533CA980016

LU Name: 600144F012F08A0000005533CAA20017

LU Name: 600144F012F08A0000005533CAAE0018

LU Name: 600144F012F08A0000005533CAB90019

LU Name: 600144F012F08A00000055396F84001B

```
root@ solaris11 :/zstor2tb# zfs list zstor2tb
NAME      USED  AVAIL  REFER  MOUNTPOINT
zstor2tb  3.85T  5.01T   104K  /zstor2tb
root@ solaris11 :/zstor2tb# zfs list zstor320gb
NAME      USED  AVAIL  REFER  MOUNTPOINT
zstor320gb  728G  1.00T   140K  /zstor320gb
```

```
pool: zstor2tb
state: ONLINE
  scan: none requested
config:

  NAME          STATE    READ WRITE CKSUM
  zstor2tb      ONLINE    0     0     0
    raidz3-0    ONLINE    0     0     0
      c0t5000CCA221E7E1DBd0  ONLINE    0     0     0
      c0t5000CCA221E77A36d0  ONLINE    0     0     0
      c0t5000CCA222D2930Fd0  ONLINE    0     0     0
      c0t5000CCA229C2152Ed0  ONLINE    0     0     0
      c0t5000CCA229DDFB3Cd0  ONLINE    0     0     0
      c0t5000CCA369F456E6d0  ONLINE    0     0     0
      c0t50014EE25DB0C362d0  ONLINE    0     0     0
      c0t50014EE2085B9A64d0  ONLINE    0     0     0
  spares
    c0t5000CCA222D22B8E©Kim Tran  UNAVAIL
    c0t5000CCA222D6243d0  UNAVAIL

errors: No known data errors
```

```
pool: zstor320gb
state: ONLINE
  scan: resilvered 126G in 1h28m with 0 errors on Sun Apr  5 23:36:32 2015
config:

  NAME          STATE    READ WRITE CKSUM
  zstor320gb    ONLINE    0     0     0
    raidz2-0    ONLINE    0     0     0
      c9t5001E678B0589FE1d0  ONLINE    0     0     0
      c9t5001E678B0589FE2d0  ONLINE    0     0     0
      c9t5001E678B0589FE3d0  ONLINE    0     0     0
      c0t50014EE0AB52FCF5d0  ONLINE    0     0     0
      c0t50014EE156F34C8Bd0  ONLINE    0     0     0
      c0t50014EE1029F6FA5d0  ONLINE    0     0     0
      c0t50014EE1591D38AFd0  ONLINE    0     0     0
      c0t50014EE2B15A5E1Cd0  ONLINE    0     0     0
  spares
    c0t50014EE25C049A06d0  UNAVAIL
    c0t50014EE1591F92C7d0  UNAVAIL
```

zstor2tb/pool-fs-backup	1.43T	5.01T	122K
zstor2tb/pool-fs-backup/data-vol-temp	512G	5.01T	512G
zstor2tb/pool-fs-backup/data-vol1	249G	5.01T	249G
zstor2tb/pool-fs-backup/data-vol2	99.4K	5.01T	99.4K
zstor2tb/pool-fs-backup/data-vol3	705G	5.01T	705G
zstor2tb/pool-fs-backup/data-vol4	99.4K	5.01T	99.4K
zstor320gb	728G	1.00T	140K
zstor320gb/data-vol-temp	104K	1.00T	104K
zstor320gb/data-vol1	104K	1.00T	104K
zstor320gb/data-vol2	104K	1.00T	104K
zstor320gb/data-vol3	722G	1.00T	722G
zstor320gb/data-vol4	104K	1.00T	104K

zstor2tb	.85T	5.01T	104K
zstor2tb/iscsi-san	2.41T	5.01T	114K
zstor2tb/iscsi-san/mac-vols	552G	5.01T	94.4K
zstor2tb/iscsi-san/mac-vols/vol-000	100G	5.08T	34.1G
zstor2tb/iscsi-san/mac-vols/vol-001	100G	5.09T	22.6G
zstor2tb/iscsi-san/mac-vols/vol-002	100G	5.09T	22.6G
zstor2tb/iscsi-san/mac-vols/vol-003	100G	5.11T	134M
zstor2tb/iscsi-san/mac-vols/vol-004	100G	5.11T	134M
zstor2tb/iscsi-san/mac-vols/vol-005	10.3G	5.02T	44.0M
zstor2tb/iscsi-san/mac-vols/vol-006	10.3G	5.02T	39.8K
zstor2tb/iscsi-san/mac-vols/vol-007	10.3G	5.02T	39.8K
zstor2tb/iscsi-san/mac-vols/vol-008	10.3G	5.02T	39.8K
zstor2tb/iscsi-san/mac-vols/vol-009	10.3G	5.02T	39.8K
zstor2tb/iscsi-san/nix-vols	103G	5.01T	94.4K
zstor2tb/iscsi-san/nix-vols/vol-001	103G	5.11T	39.8K
zstor2tb/iscsi-san/test-vols	1.23T	5.01T	94.4K
zstor2tb/iscsi-san/test-vols/vol-001	103G	5.11T	39.8K
zstor2tb/iscsi-san/test-vols/vol-002	1.03T	6.04T	39.8K
zstor2tb/iscsi-san/test-vols/vol-003	1.03G	5.01T	39.8K
zstor2tb/iscsi-san/test-vols/vol-004	103G	5.11T	39.8K
zstor2tb/iscsi-san/win-vols	552G	5.01T	94.4K
zstor2tb/iscsi-san/win-vols/vol-000	100G	5.11T	41.3M
zstor2tb/iscsi-san/win-vols/vol-001	100G	5.11T	43.7M
zstor2tb/iscsi-san/win-vols/vol-002	100G	5.11T	51.0M
zstor2tb/iscsi-san/win-vols/vol-003	100G	5.11T	43.0M
zstor2tb/iscsi-san/win-vols/vol-004	100G	5.11T	52.0M
zstor2tb/iscsi-san/win-vols/vol-005	10.3G	5.02T	614K
zstor2tb/iscsi-san/win-vols/vol-006	10.3G	5.02T	605K
zstor2tb/iscsi-san/win-vols/vol-007	10.3G	5.02T	723K
zstor2tb/iscsi-san/win-vols/vol-008	10.3G	5.02T	538K
zstor2tb/iscsi-san/win-vols/vol-009	10.3G	5.02T	12.0M

```
root@      solaris11    :/zstor2tb# stmfadm list-state
Operational Status: online
Config Status     : initialized
ALUA Status       : disabled
ALUA Node         : 0
```

```
root@      solaris11    :/zstor2tb# stmfadm list-target
Target: iqn.1986-03.com.sun:02:target-chap-authentication
Target: iqn.1986-03.com.sun:01:target-no-chap-authentication
root@      solaris11    :/zstor2tb# stmfadm list-target -v
Target: iqn.1986-03.com.sun:02:target-chap-authentication
    Operational Status      : Online
    Provider Name          : iscsit
    Alias                  : -
    Protocol               : iSCSI
    Sessions               : 2
    Initiator: iqn.1991-05.com.microsoft: [REDACTED]
        Alias: -
        Logged in since: Thu Apr 23 23:40:41 2015
    Initiator: iqn.2003-12.com.small-tree:expensive-rotten-fruit
        Alias: -
        Logged in since: Thu Apr 23 22:51:18 2015
Target: iqn.1986-03.com.sun:01:target-no-chap-authentication
    Operational Status      : Online
    Provider Name          : iscsit
    Alias                  : -
    Protocol               : iSCSI
    Sessions               : 2
    Initiator: iqn.1991-05.com.microsoft: [REDACTED]
        Alias: -
        Logged in since: Thu Apr 23 23:40:39 2015
    Initiator: iqn.2003-12.com.small-tree:expensive-rotten-fruit
        Alias: -
        Logged in since: Thu Apr 23 22:18:45 2015
```

```
root@      solaris11    :/zstor2tb# stmfadm list-tg
Target Group: test-tg
Target Group: test-tg1
root@      solaris11    :/zstor2tb# stmfadm list-tg -v
Target Group: test-tg
    Member: iqn.1986-03.com.sun:01:target-no-chap-authentication
Target Group: test-tg1
    Member: iqn.1986-03.com.sun:02:target-chap-authentication
```

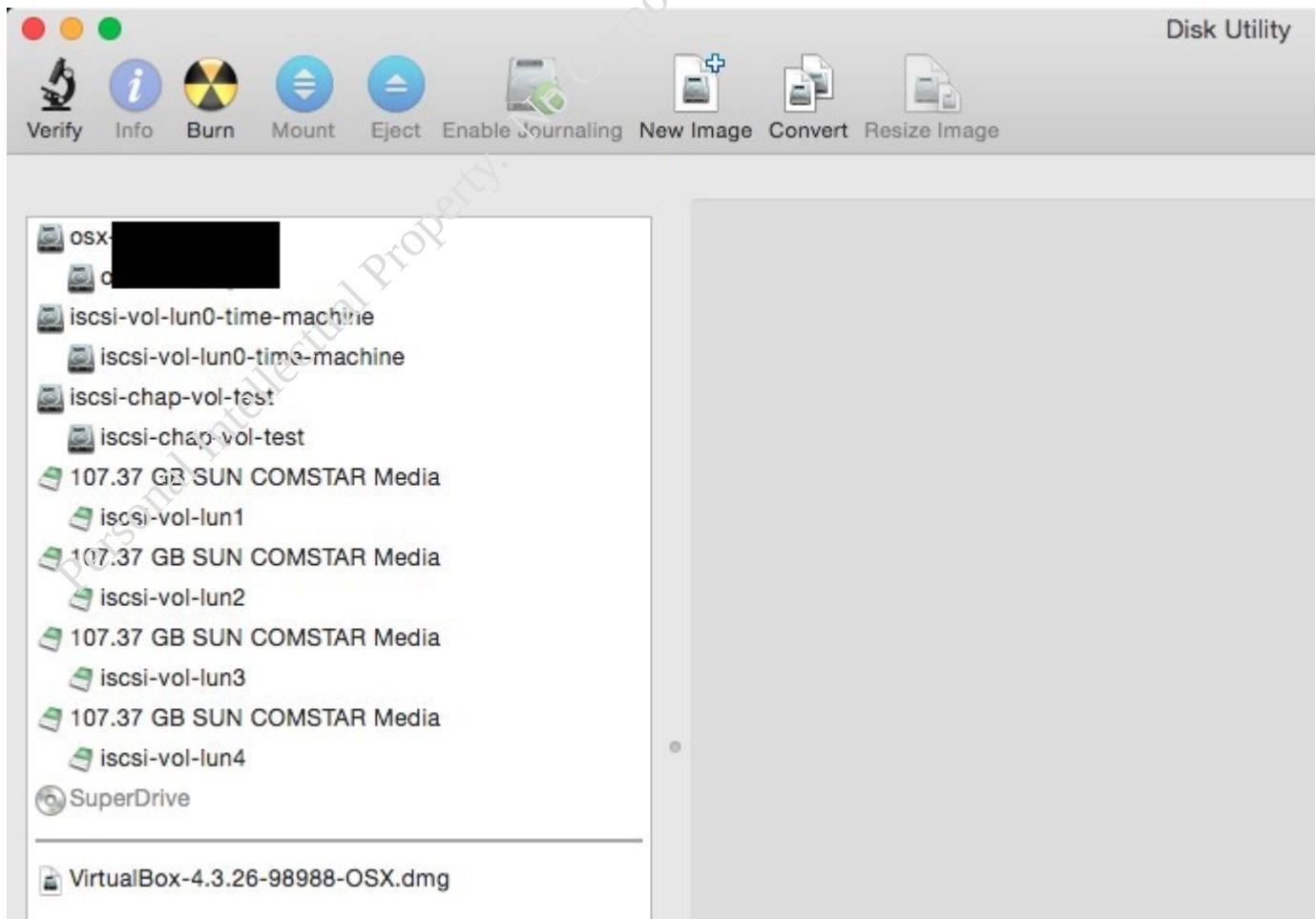
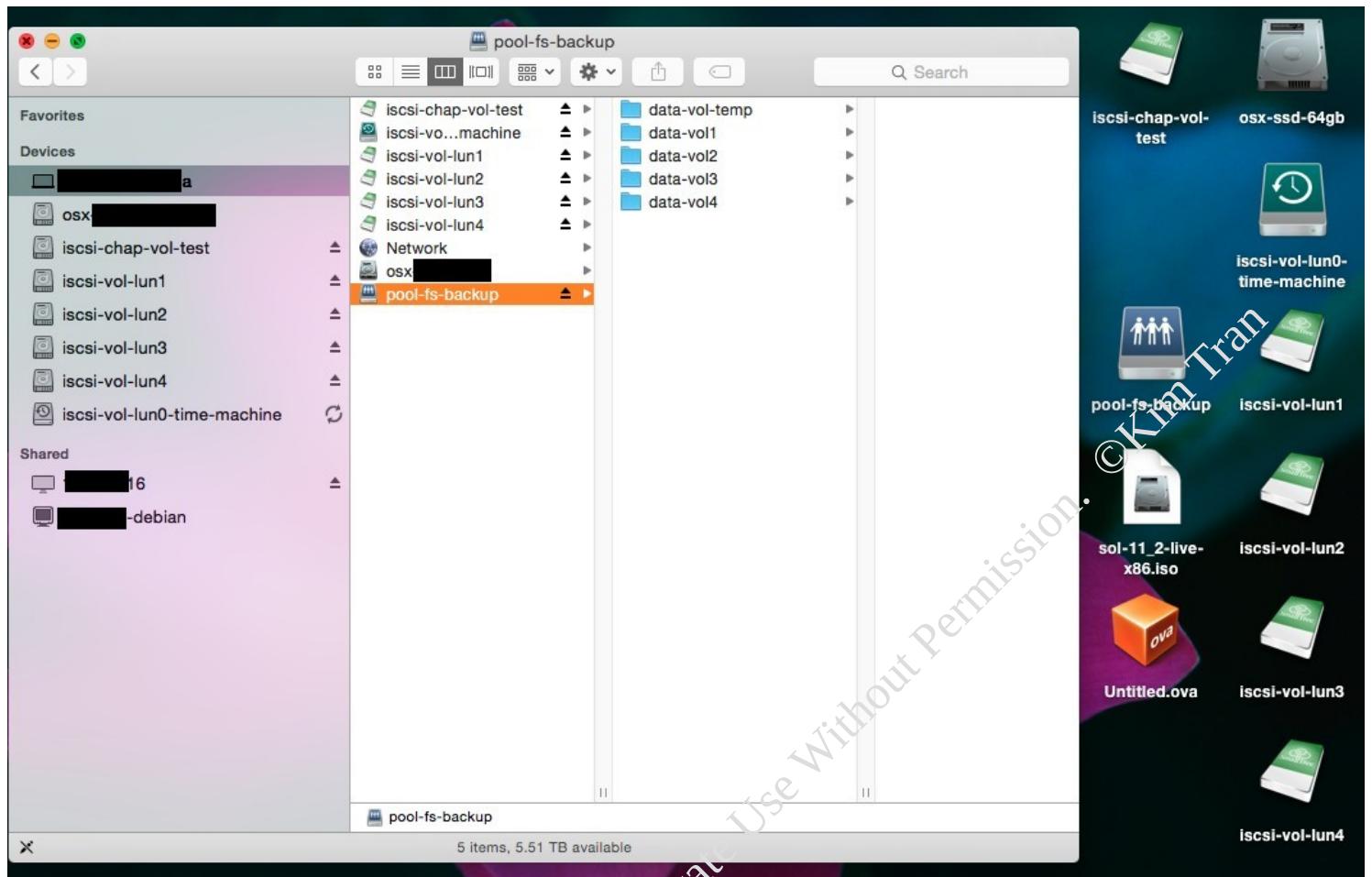
```

root@      -solaris11      :/zstor2tb# itadm list-target
TARGET NAME                                     STATE   SESSIONS
iqn.1986-03.com.sun:02:target-chap-authentication    online   1
iqn.1986-03.com.sun:01:target-no-chap-authentication   online   1
root@      -solaris11      :/zstor2tb# itadm list-target -v
TARGET NAME                                     STATE   SESSIONS
iqn.1986-03.com.sun:02:target-chap-authentication    online   1
  alias:          -
  auth:           chap
  targetchapuser: test-chap-user
  targetchapsecret: set
  tpg-tags:       test-tpg1 = 2
iqn.1986-03.com.sun:01:target-no-chap-authentication   online   1
  alias:          testing-with-no-chap-authentication
  auth:           none
  targetchapuser: -
  targetchapsecret: unset
  tpg-tags:       default

```

zstor2tb	1.20T	13.3T	66	126K	89.5K	70.0M
zstor2tb	1.20T	13.3T	49	125K	66.5K	56.5M
zstor2tb	1.20T	13.3T	72	84	98.0K	72.1M
zstor2tb	1.20T	13.3T	65	270	87.9K	95.0M
zstor2tb	1.20T	13.3T	5	2.38K	7.89K	308M
zstor2tb	1.20T	13.3T	1	2.54K	3.00K	326M
zstor2tb	1.20T	13.3T	4	2.53K	5.01K	327M
zstor2tb	1.20T	13.3T	38	1.51K	53.5K	234M
zstor2tb	1.20T	13.3T	61	74	87.0K	74.0M
zstor2tb	1.20T	13.3T	43	1.18K	56.5K	48.4M
zstor2tb	1.20T	13.3T	68	78	91.0K	78.0M
zstor2tb	1.20T	13.3T	68	87	91.5K	76.1M
zstor2tb	1.20T	13.3T	69	87	95.0K	76.0M
zstor2tb	1.20T	13.3T	60	72	84.0K	72.0M
zstor2tb	1.20T	13.3T	39	1.20K	54.0K	50.4M
zstor2tb	1.20T	13.3T	72	75	96.5K	75.0M
zstor2tb	1.20T	13.3T	70	90	98.0K	76.6M
zstor2tb	1.20T	13.3T	70	87	97.0K	73.2M

zstor2tb	1.23T	13.3T	0	201	0	25.2M
zstor2tb	1.23T	13.3T	23	1.66K	33.0K	233M
zstor2tb	1.23T	13.3T	70	82	98.5K	63.5M
zstor2tb	1.23T	13.3T	52	704	74.0K	116M
zstor2tb	1.23T	13.3T	64	897	90.0K	61.5M
zstor2tb	1.23T	13.3T	0	171	0	21.5M
zstor2tb	1.23T	13.3T	24	27	32.5K	19.4M
zstor2tb	1.23T	13.3T	56	556	77.5K	41.6M
zstor2tb	1.23T	13.3T	0	206	0	24.0M



Small Tree iSCSI Manager

Discover Connect & Mount Disconnect Session Parameters Initiator Options

Targets Sessions

Target | Mount At Boot?

iqn.1986-03.com.sun:01:target-no-chap-authentication-[REDACTED]	:3260	<input checked="" type="checkbox"/>
iqn.1986-03.com.sun:02:target-chap-authentication-[REDACTED]	:3261	<input checked="" type="checkbox"/>

Small Tree iSCSI Manager

Discover Connect & Mount Disconnect Session Parameters Initiator Options

Targets Sessions

Target

- ▼ iqn.1986-03.com.sun:01:target-no-chap-authentication  
[REDACTED] 6:3260
- ▼ iqn.1986-03.com.sun:02:target-chap-authentication  
[REDACTED] 6:3261

iSCSI Initiator Properties

Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration

Quick Connect:  
To discover and log on to a target using a basic connection, type the IP address or DNS name of the target and then click Quick Connect.

Target: [REDACTED] Quick Connect...

Discovered targets Refresh

Name	Status
iqn.1986-03.com.sun:01:target-no-chap-authentication	Connected
iqn.1986-03.com.sun:02:target-chap-authentication	Connected

Computer Management (Local)

- System Tools
- Task Scheduler
- Event Viewer
- Shared Folders
- Performance
- Device Manager
- Storage
- Disk Management
- Services and Application

Volume	Layout	Type	File System	Status	Capacity	Free Space	% Free
	Simple	Basic	Healthy (EFI System Partition)		100 MB	100 MB	100 %
	Simple	Basic	Healthy (Recovery Partition)		8.00 GB	8.00 GB	100 %
10g-disks (E:)	Simple	Basic	NTFS	Healthy (Primary Partition)	44.87 GB	44.78 GB	100 %
100g-disks (D:)	Simple	Basic	NTFS	Healthy (Primary Partition)	328.87 GB	328.74 GB	100 %
OS (C:)	Simple	Basic	NTFS	Healthy (Boot, Page File, Crash Dump, Wim Boot, Primary Partition)	20.90 GB	5.13 GB	25 %

**Disk 0**  
Basic  
29.00 GB  
Online

100 MB Healthy (EFI System)	OS (C) 20.90 GB NTFS Healthy (Boot, Page File, Crash Dump, Wim Boot, Primary Partition)	8.00 GB Healthy (Recovery Partition)
--------------------------------	---	---

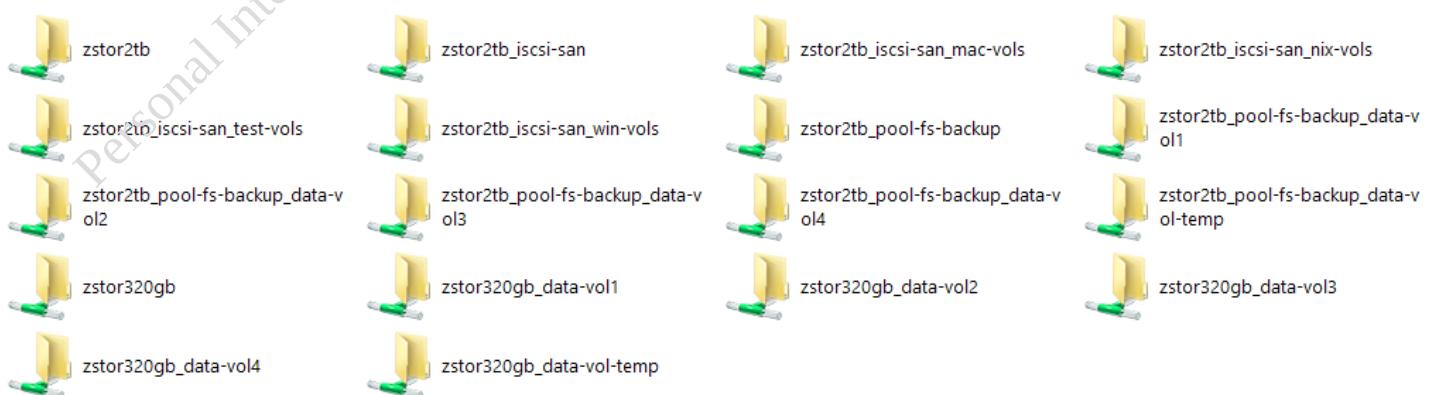
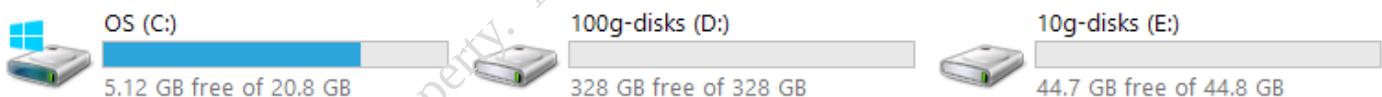
**Disk 11**  
Basic  
328.88 GB  
Online

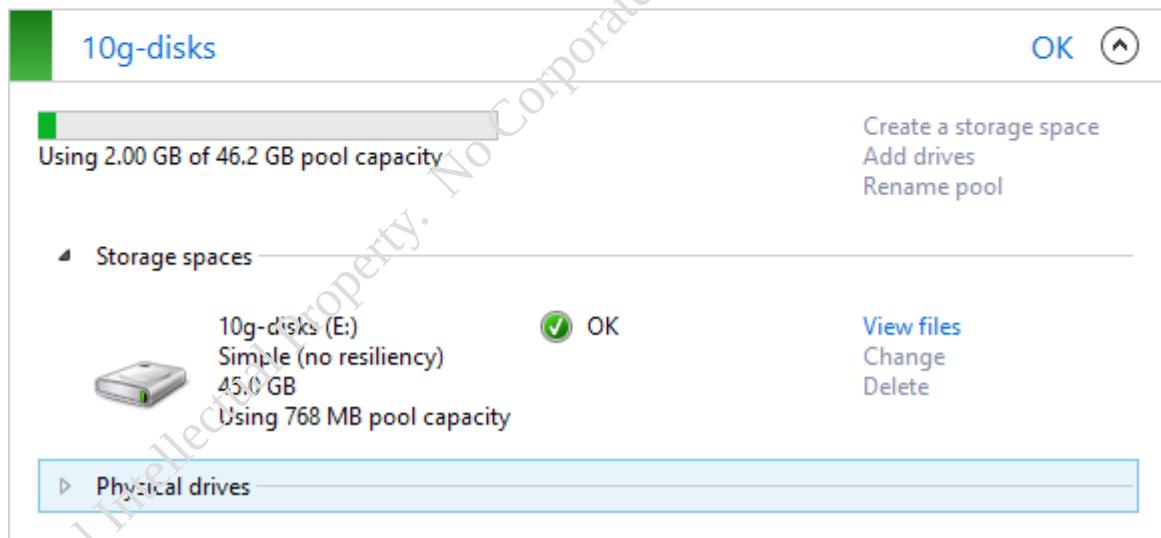
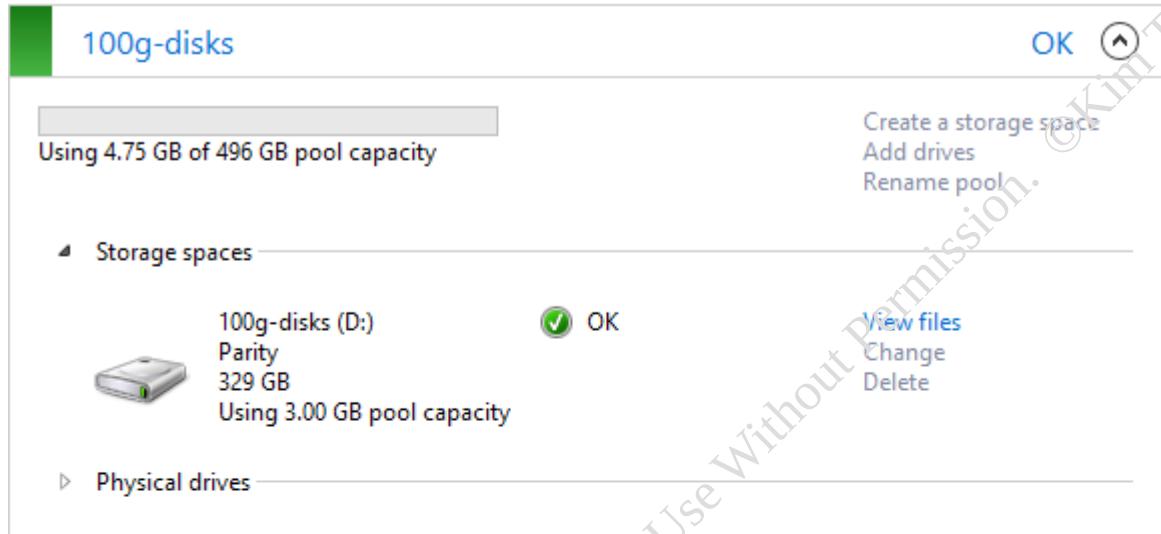
**Disk 12**  
Basic  
44.88 GB  
Online

Unallocated   Primary partition

## This PC

- Folders (6)
- Devices and drives (3)





## 10g-disks

OK 

Using 2.00 GB of 46.2 GB pool capacity

Create a storage space  
Add drives  
Rename pool

### Storage spaces



10g-disks (E:  
Simple (no resiliency)  
45.0 GB  
Using 768 MB pool capacity

 OK

[View files](#)  
[Change](#)  
[Delete](#)

### Physical drives



SUN COMSTAR SCSI Disk ...  OK  
Attached via iSCSI  
2.70 % used  
Providing 9.25 GB pool capacity

[Rename](#)  
[Remove](#)



SUN COMSTAR SCSI Disk ...  OK  
Attached via iSCSI  
5.40 % used  
Providing 9.25 GB pool capacity

[Rename](#)



SUN COMSTAR SCSI Disk ...  OK  
Attached via iSCSI  
2.70 % used  
Providing 9.25 GB pool capacity

[Rename](#)  
[Remove](#)



SUN COMSTAR SCSI Disk ...  OK  
Attached via iSCSI  
8.10 % used  
Providing 9.25 GB pool capacity

[Rename](#)



SUN COMSTAR SCSI Disk ...  OK  
Attached via iSCSI  
2.70 % used  
Providing 9.25 GB pool capacity

[Rename](#)  
[Remove](#)

## 100g-disks

OK 

Using 4.75 GB of 496 GB pool capacity

Create a storage space  
Add drives  
Rename pool

### Storage spaces

100g-disks (D:)

 OK

[View files](#)  
[Change](#)  
[Delete](#)

Parity

329 GB

Using 3.00 GB pool capacity

### Physical drives

SUN COMSTAR SCSI Disk ...

 OK

[Rename](#)

Attached via iSCSI

0.75 % used

Providing 99.2 GB pool capacity

SUN COMSTAR SCSI Disk ...

 OK

[Rename](#)

Attached via iSCSI

1.00 % used

Providing 99.2 GB pool capacity

SUN COMSTAR SCSI Disk ...

 OK

[Rename](#)

Attached via iSCSI

1.00 % used

Providing 99.2 GB pool capacity

SUN COMSTAR SCSI Disk ...

 OK

[Rename](#)

Attached via iSCSI

1.00 % used

Providing 99.2 GB pool capacity

SUN COMSTAR SCSI Disk ...

 OK

[Rename](#)

Attached via iSCSI

1.00 % used

Providing 99.2 GB pool capacity

