

配置Solaris iSCSI主機到MDS/IPS-8

目錄

[簡介](#)

[必要條件](#)

[需求](#)

[採用元件](#)

[慣例](#)

[背景資訊](#)

[設定](#)

[網路圖表](#)

[組態](#)

[驗證](#)

[疑難排解](#)

[疑難排解程序](#)

[相關資訊](#)

簡介

Cisco Small Computer Systems Interface over IP(iSCSI)驅動程式是iSCSI解決方案的關鍵元件。這些iSCSI驅動程式駐留在伺服器上，它們在：

- 攔截iSCSI命令。
- 將命令封裝到IP資料包中。
- 將命令重定向至Cisco SN 5420、Cisco SN 5428、Cisco SN 5428-2或Cisco MDS/IPS-8。

本文檔提供從Solaris iSCSI主機到Cisco MDS/IPS-8的配置示例。

必要條件

需求

嘗試此組態之前，請確保符合以下要求：

- 安裝與Solaris版本相容的iSCSI驅動程式，然後在Cisco MDS 9000上建立iSCSI配置。有關驅動程式的最新版本(solaris-iscsi-3.3.5.tar.Z)，請參閱[Cisco iSCSI 驅動程式](#)(僅供註冊客戶使用)。驅動程式ZIP(TAR)檔案中包含一個README.txt檔案。README.txt檔案包含：許可協定資訊、驅動程式安裝和配置說明、驅動程式架構的技術概述。
- 有關作業系統(OS)和修補程式要求，請參閱[Cisco iSCSI Driver for Sun Solaris Release Notes](#)中的「系統要求」部分。
- 用於Sun Solaris的Cisco iSCSI驅動程式僅在SPARC電腦上運行。該驅動程式不適用於任何其他處理器型別(例如x86)。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- SunOS 5.9,SPARC Ultra-4 E450

```
#uname -a
```

```
SunOS baboon 5.9 Generic sun4u sparc SUNW,Ultra-4
```

- 適用於Solaris的Cisco iSCSI驅動程式3.3.3

```
#pkginfo -l CSCOiscsi
```

```
PKGINST: CSCOiscsi
NAME: Cisco iSCSI device driver
CATEGORY: system
ARCH: sparc
VERSION: 3.3.3
BASEDIR: /opt/CSCOiscsi
VENDOR: Cisco Systems, Inc.
DESC: Cisco iSCSI device driver 3.3.3
PSTAMP: solaris-920030807170521
INSTDATE: Aug 25 2003 23:41
HOTLINE: For contracted support, 1-800-553-2447,
Cisco Technical Assistance Center (TAC)
EMAIL: For online help, go to http://www.cisco.com/
STATUS: completely installed
FILES:      74 installed pathnames
           16 shared pathnames
           29 directories
           32 executables
           2182 blocks used (approx)
```

```
#iscsi-ls -v
```

```
iSCSI driver version: 3.3.3
```

- Cisco MDS 9216與軟體版本1.1.2

```
canterbury#show module
```

Mod	Ports	Module-Type	Model	Status
1	16	1/2 Gbps FC/Supervisor	DS-X9216-K9-SUP	active *
2	8	IP Storage Module	DS-X9308-SMIP	ok

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	1.1(2)	1.0	20:01:00:0c:30:6c:24:40 to 20:10:00:0c:30:6c:24:40
2	1.1(2)	0.3	20:41:00:0c:30:6c:24:40 to 20:48:00:0c:30:6c:24:40

Mod	MAC-Address(es)	Serial-Num
1	00-0b-be-f8-7f-08 to 00-0b-be-f8-7f-0c	JAB070804QK
2	00-05-30-00-ad-e2 to 00-05-30-00-ad-ee	JAB070806SB

```
* this terminal session
```

```
canterbury#show version
```

```
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2003 by Cisco Systems, Inc. All rights reserved.
The copyright for certain works contained herein are owned by
Andiamo Systems, Inc. and/or other third parties and are used and
distributed under license.
```

Software

```
BIOS:      version 1.0.7
loader:    version 1.0(3a)
kickstart: version 1.1(2)
system:    version 1.1(2)
```

```
BIOS compile time:      03/20/03
kickstart image file is: bootflash:/k112
kickstart compile time: 7/13/2003 20:00:00
system image file is:   bootflash:/s112
system compile time:    7/13/2003 20:00:00
```

Hardware

```
RAM 963112 kB
```

```
bootflash: 500736 blocks (block size 512b)
slot0:      0 blocks (block size 512b)
```

```
canterbury uptime is 16 days 20 hours 51 minute(s) 36 second(s)
```

```
Last reset at 684726 usecs after Mon Aug 11 13:53:17 2003
```

```
Reason: Reset Requested by CLI command reload
```

```
System version: 1.1(2)
```

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除 (預設) 的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

背景資訊

IP儲存模組為IP主機提供對光纖通道(FC)儲存裝置的訪問。IP儲存模組是可提供透明iSCSI路由的DS-X9308-SMIP。使用iSCSI協定的IP主機可以透明地訪問FC網路上的iSCSI (FC協定[FCP]) 目標。IP主機通過TCP/IP連線將封裝在iSCSI協定資料單元(PDU)中的iSCSI命令傳送到Cisco MDS 9000 IP儲存埠。IP儲存模組上正確配置的千兆乙太網(GE)介面提供連線。IP儲存模組：

- 使您能夠建立虛擬iSCSI目標並將它們對映到FC SAN中可用的物理FC目標
- 將FC目標呈現給IP主機，就像物理目標在本地連線到IP網路一樣

需要通過IP儲存模組訪問儲存的iSCSI主機必須安裝相容的iSCSI驅動程式。iSCSI驅動程式允許iSCSI主機使用iSCSI協定通過IP網路傳輸iSCSI請求和響應。從主機作業系統的角度來看，iSCSI驅動程式似乎是iSCSI傳輸驅動程式，類似於主機中外圍通道的FC驅動程式。從儲存裝置的角度來看，每個IP主機都顯示為FC主機。

完成以下步驟，將iSCSI從IP主機路由到FC儲存裝置：

- 通過IP網路在主機和IP儲存模組之間傳輸iSCSI請求和響應。
- 使用IP儲存模組在IP網路上的主機和FC儲存裝置之間路由iSCSI請求和響應 (將iSCSI轉換為FCP，反之亦然) 。
- 在IP儲存模組和FC儲存裝置之間傳輸FCP請求或響應。

預設情況下，IP儲存模組不會將FC目標匯入iSCSI。必須配置動態或靜態對映，以便IP儲存模組使FC目標可用於iSCSI啟動器。靜態對映的FC目標在配置兩者時都有一個已配置的名稱。此配置提供了靜態對映的示例。

每次iSCSI主機使用動態對映連線到IP儲存模組時：

- 建立新的FC N埠。
- 為此N個埠分配的節點全球通用名稱(nWWN)和埠全球通用名稱(pWWN)可以不同。

如果每次連線到IP儲存模組時，必須為iSCSI主機獲取相同的nWWN和pWWN，請使用靜態對映方法。可以使用IP儲存模組上的靜態對映訪問具有以下特徵的智慧FC儲存陣列：

- 訪問控制
- 基於啟動器的pWWN或nWWN的邏輯單元號(LUN)對映和掩蔽配置

指定以下專案以控制對每個靜態對映的iSCSI目標的訪問：

- 通告它們的IP儲存埠的清單
- 允許訪問的iSCSI啟動器節點名稱清單

基於FC分割槽的訪問控制和基於iSCSI的訪問控制是為iSCSI提供訪問控制的兩種機制。可以同時使用這兩種方法。在此配置中，允許對特定虛擬儲存區域網路(VSAN)進行預設分割槽。IP儲存模組使用基於iSCSI節點名稱的訪問控制清單和基於FC分割槽的訪問控制清單，在iSCSI發現和iSCSI會話建立期間實施訪問控制。

可以通過IP地址或iSCSI限定名稱(IQN)靜態定義iSCSI啟動器。**proxy-initiator**選項允許在SAN-IO 1.3中為Cisco MDS交換機動態建立iSCSI啟動器。

iSCSI發現發生在iSCSI主機為所有iSCSI目標建立iSCSI發現會話和查詢時。IP儲存模組僅返回訪問控制策略允許iSCSI主機訪問的iSCSI目標清單。

iSCSI會話建立在IP主機發起iSCSI會話時進行。IP儲存模組驗證：

- 如果指定的iSCSI目標（在會話登入請求中）是靜態對映目標
- 允許IP主機的iSCSI節點名稱訪問目標

如果IP主機沒有存取許可權，則會拒絕登入。

接著IP儲存模組：

- 為此IP主機建立一個FC虛擬N埠（N埠可能已經存在）
- FC名稱伺服器查詢IP主機訪問的FC目標pWWN的光纖通道ID(FCID)

IP儲存模組使用IP主機虛擬N埠的pWWN作為名稱伺服器查詢的請求者。因此，名稱伺服器對pWWN執行區域強制查詢並響應查詢。如果名稱伺服器返回FCID，則接受iSCSI會話。否則，登入請求將被拒絕。

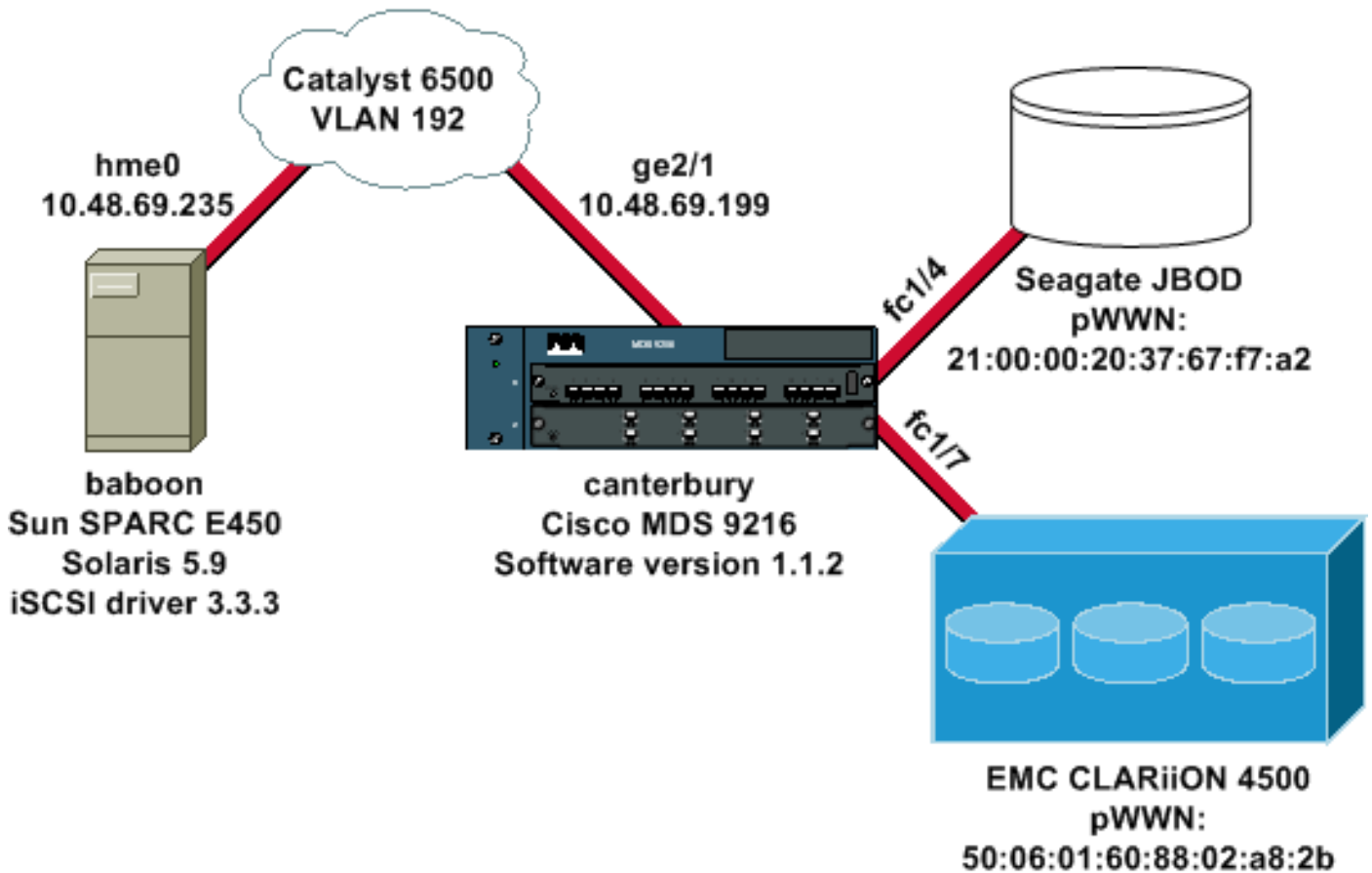
設定

本節提供用於設定本文中所述功能的資訊。

註：使用[Command Lookup Tool](#)(僅限[註冊](#)客戶)查詢有關本文檔中使用的命令的更多資訊。

網路圖表

本檔案會使用以下網路設定：



組態

本檔案會使用以下設定：

- [狒狒模型\(SunOS 5.9、SPARC E450\)](#)
- [坎特伯里\(Cisco MDS 9216\)](#)

狒狒模型(SunOS 5.9、SPARC E450)

在Solaris主機上修改以下檔案：

- /etc/iscsi.conf
- /etc/iscsi.bindings
- /kernel/drv/sd.conf

以下是組態輸出範例：

```
bash-2.05#cat /etc/iscsi.conf

# iSCSI configuration file - see iscsi.conf(4)

# DiscoveryAddress Settings
# -----
# Add "DiscoveryAddress=xxx" entries for each iSCSI
router instance.
# The driver will attempt to discover iSCSI targets at
that address
# and make as many targets as possible available for
use.
# 'xxx' can be an IP address or a hostname. A TCP port
number can be
# specified by appending a colon and the port number to
the address.
# All entries have to start in column one and must not
```

```

contain any
# whitespace.
#
# Example:
#
# DiscoveryAddress=scsirouter1
DiscoveryAddress=10.48.69.199
  !--- Configure the IP address of the GE interface that
accepts iSCSI !--- requests from your host. # The
DiscoveryAddress Settings can take following entry. # #
1) Authentication Settings # 2) ConnectionTimeout
Settings !--- Other required driver parameters can be
changed in the iscsi.conf file. !--- Output is
suppressed. bash-2.05#cat /etc/iscsi.bindings

# iSCSI bindings, file format version 1.0.
# NOTE: this file is automatically maintained by the
iSCSI daemon.
# You should not need to edit this file under most
circumstances.
# If iSCSI targets in this file have been permanently
deleted, you
# may wish to delete the bindings for the deleted
targets.
#
# Format:
# bus  target  iSCSI
# id   id       TargetName
#
0      0        san-fc-jbod-1
0      1        clariion
0      2        clariion-lun-3-4-5
!--- The iSCSI driver discovery daemon process looks up
each discovered target !--- in the /etc/iscsi.bindings
file. !--- The corresponding iSCSI target ID is assigned
to the target if an entry exists in the file for the
target. !--- The smallest available iSCSI target ID !---
is assigned if no entry exists for the target, and an
entry is written to the /etc/iscsi.bindings file for !--
- this target. !--- Note that the /etc/iscsi.bindings
file permanently contains entries !--- for all iSCSI
targets ever logged into from this host. !--- You can
manually edit the file and remove !--- entries so that
the obsolete target no longer consumes an iSCSI target
ID if a target is no longer available to a host. !---
Add an entry manually if you know the iSCSI target name
!--- in advance and want it to be assigned a particular
iSCSI target ID. !--- Stop the iSCSI driver before you
edit the /etc/iscsi.bindings !--- file. Issue the !---
/etc/init.d/iscsi start command to manually start the
iSCSI driver. !--- Issue the /etc/init.d/iscsi stop
command to manually stop the iSCSI driver.

bash-2.05#cat /kernel/drv/sd.conf

name="sd" class="scsi" class_prop="ataapi"
target=0 lun=0;

name="sd" class="scsi" target=1 lun=0;
name="sd" class="scsi" target=1 lun=1;
name="sd" class="scsi" target=1 lun=2;

# Start iSCSI auto-generated configuration -- do NOT
alter or delete this line

```

```

# You may need to add additional lines to probe for
additional LUNs
# or targets. You SHOULD delete any lines that represent
iSCSI targets
# or LUNs that are not used.
name="sd" parent="iscsi" target=0 lun=0;
name="sd" parent="iscsi" target=1 lun=0;
name="sd" parent="iscsi" target=1 lun=1;
name="sd" parent="iscsi" target=1 lun=2;
name="sd" parent="iscsi" target=2 lun=3;
name="sd" parent="iscsi" target=2 lun=4;
name="sd" parent="iscsi" target=2 lun=5;
name="sd" parent="iscsi" target=2 lun=0;

# End iSCSI auto-generated configuration -- do NOT alter
or delete this line

!--- The corresponding entries for these devices must
be made in the standard device configuration files !---
if the targets that get discovered by the iSCSI driver
at any point in time !--- do not have a corresponding
entry in the standard device configuration files (for
example, /kernel/drv/sd.conf or /kernel/drv/st.conf). !-
-- Then reboot the system and issue the standard Solaris
administrative commands !--- (devfsadm, drvconfig) once
the system comes up. !--- You do not need to reboot the
system if the entries in the device configuration files
are already present. However, the standard device
configuration !--- commands (devfsadm, drvconfig, and so
on) must be issued to configure the !--- new iSCSI
devices in the system.

```

坎特伯里(Cisco MDS 9216)

```

!--- Output is suppressed. vsan database vsan 777 !---
VSAN 777 has been used for iSCSI targets. !--- Output is
suppressed. vsan database vsan 777 interface fc1/4 vsan
777 interface fc1/7 !--- Output is suppressed. boot
system bootflash:/s112 boot kickstart bootflash:/k112 ip
domain-name cisco.com ip name-server 144.254.10.123 ip
default-gateway 10.48.69.129 ip routing iscsi
authentication none iscsi initiator ip-address
10.48.69.235 !--- Identifies the iSCSI initiator based
on the IP address. A virtual N port is !--- created for
each network interface card (NIC) or network interface.
vsan 777 !--- VSAN 777 has been used for iSCSI targets.
Configure the initiator IP address. !--- Targets via
VSAN 777 are accessible by iSCSI initiators. iscsi
virtual-target name san-fc-jbod-1 pWWN
21:00:00:20:37:67:f7:a2 advertise interface
GigabitEthernet2/1 initiator ip address 10.48.69.235
permit !--- Create a static iSCSI virtual target for LUN
0, 1, and 2 of CLARiiON. iscsi virtual-target name
clariion pWWN 50:06:01:60:88:02:a8:2b fc-lun 0000 iscsi-
lun 0000 pWWN 50:06:01:60:88:02:a8:2b fc-lun 0001 iscsi-
lun 0001 pWWN 50:06:01:60:88:02:a8:2b fc-lun 0002 iscsi-
lun 0002 advertise interface GigabitEthernet2/1
initiator ip address 10.48.69.235 permit !--- Create a
static iSCSI virtual target for LUN 3, 4, and 5 of
CLARiiON. iscsi virtual-target name clariion-lun-3-4-5
pWWN 50:06:01:60:88:02:a8:2b fc-lun 0003 iscsi-lun 0003

```

```
pWWN 50:06:01:60:88:02:a8:2b fc-lun 0004 iscsi-lun 0004
pWWN 50:06:01:60:88:02:a8:2b fc-lun 0005 iscsi-lun 0005
advertise interface GigabitEthernet2/1 initiator ip
address 10.48.69.235 permit !--- Output is suppressed.
switchname canterbury !--- Output is suppressed. zone
default-zone permit vsan 777 !--- Output is suppressed.
interface GigabitEthernet2/1 ip address 10.48.69.199
255.255.255.192 iscsi authentication none switchport mtu
2156 no shutdown !--- Output is suppressed. interface
fcl/4 no shutdown !--- Output is suppressed. interface
fcl/7 no shutdown interface mgmt0 ip address
10.48.69.156 255.255.255.192 interface iscsi2/1 no
shutdown
```

驗證

使用本節內容，確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供已註冊客戶使用)(OIT)支援某些show命令。使用OIT檢視show命令輸出的分析

。

- **netstat -n** — 驗證Solaris主機上的TCP連線。
- **iscsi-ls -l** — 顯示Solaris主機上當前可用的裝置。
- **show zone status** — 顯示區域資訊。
- **show fcns database vsan 777** — 顯示特定VSAN的名稱伺服器資訊。
- **show flogi database vsan 777** — 顯示特定VSAN的交換矩陣登入(FLOGI)伺服器資訊。
- **show vsan membership** — 顯示不同VSAN的介面資訊。
- **show iscsi initiator detail** — 顯示iSCSI啟動器資訊。
- **show iscsi initiator iscsi-session detail** — 顯示iSCSI啟動器會話的詳細資訊。
- **show iscsi initiator fcp-session detail** — 顯示iSCSI啟動器FCP會話的詳細資訊。
- **show ips stats tcp interface gigabitethernet 2/1 detail** — 顯示特定GE介面的TCP統計資訊。
- **show iscsi virtual-target configured** — 顯示已在Cisco MDS 9000上配置的iSCSI虛擬目標。
- **show iscsi initiator configured** — 顯示已在Cisco MDS 9000上配置的iSCSI啟動器。
- **show ips arp interface gigabitethernet 2/1** — 顯示特定GE介面的IP儲存位址解析通訊協定(ARP)資訊。
- **show scsi-target devices vsan 777** — 顯示特定VSAN的iSCSI裝置 (將FC LUN對映到iSCSI LUN) 。
- **show int iscsi 2/1** — 顯示iSCSI介面。
- **show iscsi stats iscsi 2/1** — 顯示iSCSI統計資訊。
- **show int gigabitethernet 2/1** — 顯示GE介面。
- **show ip route** — 顯示IP路由資訊。

疑難排解

使用本節內容，對組態進行疑難排解。

疑難排解程序

- [狒狒輸出](#)
- [Canterbury Cisco MDS 9216輸出](#)

• [交換矩陣管理器和裝置管理器輸出](#)

排排輸出

bash-2.05# /etc/init.d/iscsi stop

iSCSI is stopping.
Aug 28 09:42:08 baboon iscsimod: iSCSIs: closing
connection to target 2 at 10.48.69.199
Aug 28 09:42:08 baboon iscsimod: iSCSIs: closing
connection to target 1 at 10.48.69.199
Aug 28 09:42:08 baboon iscsimod: iSCSIs: closing
connection to target 0 at 10.48.69.199

bash-2.05# /etc/init.d/iscsi start

iSCSI is starting.

bash-2.05#bash-2.05# netstat -n

TCP: IPv4

Local Address	Remote Address	Swind	Send-Q	Rwind	Recv-Q	State
10.48.69.235.32797	10.48.69.199.3260	65535	0	49172	0	ESTABLISHED
10.48.69.235.32798	10.48.69.199.3260	9379072	0	263152	0	ESTABLISHED
10.48.69.235.32799	10.48.69.199.3260	9379072	0	263152	0	ESTABLISHED

Active UNIX domain sockets

Address	Type	Vnode	Conn	Local Addr	Remote Addr
30002d95c88	dgram	30000205828	00000000	/tmp/portal	

/etc/iscsi.bindings

```
#
0      0      san-fc-jbod-1
0      1      clariion
```

bash-2.05# devfsadm

Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 0, Cmd 0x4d, Sense:
Aug 28 09:45:04 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 0, Cmd 0x5e, Sense:
Aug 28 09:45:04 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 1, Cmd 0x00, Sense:
Aug 28 09:45:04 baboon iscsimod: 70000600 0000000a
00000000 29000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 1, Cmd 0x4d, Sense:
Aug 28 09:45:04 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000

```

Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 1, Cmd 0x5e, Sense:
Aug 28 09:45:04 baboon iscsimod:      70000500 0000000a
00000000 20000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 2, Cmd 0x00, Sense:
Aug 28 09:45:04 baboon iscsimod:      70000600 0000000a
00000000 29000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 2, Cmd 0x4d, Sense:
Aug 28 09:45:04 baboon iscsimod:      70000500 0000000a
00000000 20000000 0000
Aug 28 09:45:04 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 1 lun 2, Cmd 0x5e, Sense:
Aug 28 09:45:04 baboon iscsimod:      70000500 0000000a
00000000 20000000 0000
Aug 28 09:45:05 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 0 lun 0, Cmd 0x1c, Sense:
Aug 28 09:45:05 baboon iscsimod:      70000500 0000000a
00000000 35010300 0000

```

bash-2.05# format output

```

AVAILABLE DISK SELECTIONS:
    0. c0t0d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
       /pci@1f,4000/scsi@3/sd@0,0
    1. c0t1d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
       /pci@1f,4000/scsi@3/sd@1,0
    2. c3t0d0 <SEAGATE-ST318203FC-0004 cyl 9770 alt 2
hd 12 sec 303>
       /iscsipseudo/iscsi@0/sd@0,0
    3. c3t1d0 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
       /iscsipseudo/iscsi@0/sd@1,0
    4. c3t1d1 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
       /iscsipseudo/iscsi@0/sd@1,1
    5. c3t1d2 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
       /iscsipseudo/iscsi@0/sd@1,2
    6. c3t2d0 <drive not available>
       /iscsipseudo/iscsi@0/sd@2,0

```

!--- After you add the clariion-lun-3-4-5 virtual target on the Cisco MDS 9216. /etc/iscsi.bindings

```

0      0      san-fc-jbod-1
0      1      clariion
0      2      clariion-lun-3-4-5

```

bash-2.05#bash-2.05# netstat -n

```

TCP: IPv4
  Local Address      Remote Address      Swind Send-Q
Rwind Recv-Q  State
-----
10.48.69.235.32797  10.48.69.199.3260  65535    0
49172      0 TIME_WAIT
10.48.69.235.32798  10.48.69.199.3260  9379072  0
263152     0 ESTABLISHED
10.48.69.235.32799  10.48.69.199.3260  9379072  0
263152     0 ESTABLISHED
10.48.69.235.32800  10.48.69.199.3260  65535    0
49108     0 ESTABLISHED

```

```
10.48.69.235.32801 10.48.69.199.3260 9379072 0
263152 0 ESTABLISHED
```

Active UNIX domain sockets

```
Address Type Vnode Conn Local Addr
Remote Addr
30002d95c88 dgram 30000205828 00000000 /tmp/portal
```

bash-2.05# devfsadm

```
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 3, Cmd 0x00, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000600 0000000a
00000000 29000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 3, Cmd 0x4d, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 3, Cmd 0x5e, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 4, Cmd 0x00, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000600 0000000a
00000000 29000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 4, Cmd 0x5e, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 5, Cmd 0x00, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000600 0000000a
00000000 29000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 5, Cmd 0x4d, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
Aug 28 09:47:58 baboon iscsimod: NOTICE: iSCSIs: bus 0
tgt 2 lun 5, Cmd 0x5e, Sense:
Aug 28 09:47:58 baboon iscsimod: 70000500 0000000a
00000000 20000000 0000
```

And the **format** output:

```
0. c0t0d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
   /pci@1f,4000/scsi@3/sd@0,0
1. c0t1d0 <SUN18G cyl 7506 alt 2 hd 19 sec 248>
   /pci@1f,4000/scsi@3/sd@1,0
2. c3t0d0 <SEAGATE-ST318203FC-0004 cyl 9770 alt 2
hd 12 sec 303>
   /iscsipseudo/iscsi@0/sd@0,0
3. c3t1d0 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
   /iscsipseudo/iscsi@0/sd@1,0
4. c3t1d1 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
   /iscsipseudo/iscsi@0/sd@1,1
5. c3t1d2 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
   /iscsipseudo/iscsi@0/sd@1,2
6. c3t2d0 <drive not available>
   /iscsipseudo/iscsi@0/sd@2,0
7. c3t2d3 <DGC-RAID0-0632 cyl 10920 alt 2 hd 3
sec 128>
```

```

        /iscsipseudo/iscsi@0/sd@2,3
    8. c3t2d4 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
        /iscsipseudo/iscsi@0/sd@2,4
    9. c3t2d5 <DGC-RAID0-0632 cyl 5459 alt 2 hd 3 sec
128>
        /iscsipseudo/iscsi@0/sd@2,5
!--- Issue the iscsi-ls -v command to see iSCSI driver
version.

bash-2.05# iscsi-ls -v

iSCSI driver version: 3.3.3
!--- Issue the iscsi-ls -l or iscsi-ls commands to see
the devices that are currently available.

bash-2.05# iscsi-ls -l

*****
*****
TARGET NAME san-fc-jbod-1
TARGET ID 0:
    ADDRESS = 10.48.69.199:3260, 128
    STATUS = Connected 10.48.69.235:32798<-
>10.48.69.199:3260 8/28/2003 09:43:59
    SESSION = ISID 00023d000001 TSID 128 PID 463
    LUN 0 = DISK c3t0d0 (sd296) 'SEAGATE-ST318203FC-
0004' SERIAL# LRE80915
        BLOCKS: 35566479 BLOCK SIZE: 512
*****
*****
TARGET NAME clariion
TARGET ID 1:
    ADDRESS = 10.48.69.199:3260, 128
    STATUS = Connected 10.48.69.235:32799<-
>10.48.69.199:3260 8/28/2003 09:43:59
    SESSION = ISID 00023d000001 TSID 128 PID 464
    LUN 0 = DISK c3t1d0 (sd297) 'DGC-RAID 0-0632'
SERIAL# 008E080000CL
        BLOCKS: 2097023 BLOCK SIZE: 512
    LUN 1 = DISK c3t1d1 (sd298) 'DGC-RAID 0-0632'
SERIAL# 0127AB0000CL
        BLOCKS: 2097023 BLOCK SIZE: 512
    LUN 2 = DISK c3t1d2 (sd299) 'DGC-RAID 0-0632'
SERIAL# 02E4180000CL
        BLOCKS: 2097023 BLOCK SIZE: 512
*****
*****
TARGET NAME clariion-lun-3-4-5
TARGET ID 2:
    ADDRESS = 10.48.69.199:3260, 128
    STATUS = Connected 10.48.69.235:32801<-
>10.48.69.199:3260 8/28/2003 09:46:42
    SESSION = ISID 00023d000001 TSID 128 PID 482
    LUN 0 : SCSI Inquiry failed - Bad file number
    LUN 3 = DISK c3t2d3 (sd371) 'DGC-RAID 0-0632'
SERIAL# 03E0A1E330CL
        BLOCKS: 4194047 BLOCK SIZE: 512
    LUN 4 = DISK c3t2d4 (sd372) 'DGC-RAID 0-0632'
SERIAL# 04E9A1E330CL
        BLOCKS: 2097023 BLOCK SIZE: 512
    LUN 5 = DISK c3t2d5 (sd373) 'DGC-RAID 0-0632'
SERIAL# 0594B1E330CL
        BLOCKS: 2097023 BLOCK SIZE: 512

```

```
*****
*****
!-- Issue the iscsi-ls -c command to see detailed
statistics for currently established iSCSI sessions.

bash-2.05# iscsi-ls -c

*****
*****
TARGET NAME san-fc-jbod-1
TARGET ID 0:
  ADDRESS = 10.48.69.199:3260, 128
  STATUS = Connected 10.48.69.235:32798<-
>10.48.69.199:3260 8/28/2003 09:43:59
  SESSION = ISID 00023d000001 TSID 128 PID 463
  InitialR2T = Yes
  MaxRecvDataSegmentLength = 131072 Bytes
  MaxXmitDataSegmentLength = 2048 Bytes
  FirstBurstLength = 262144 Bytes
  MaxBurstLength = 16776192 Bytes
  LoginTimeout = 15 Seconds
  AuthTimeout = 45 Seconds
  ActiveTimeout = 5 Seconds
  IdleTimeout = 60 Seconds
  PingTimeout = 5 Seconds
  HeaderDigest = None
  DataDigest = None
  ConnFailTimeout = Default
  MultiPath = None
*****
*****
TARGET NAME clariion
TARGET ID 1:
  ADDRESS = 10.48.69.199:3260, 128
  STATUS = Connected 10.48.69.235:32799<-
>10.48.69.199:3260 8/28/2003 09:43:59
  SESSION = ISID 00023d000001 TSID 128 PID 464
  InitialR2T = Yes
  MaxRecvDataSegmentLength = 131072 Bytes
  MaxXmitDataSegmentLength = 2048 Bytes
  FirstBurstLength = 262144 Bytes
  MaxBurstLength = 16776192 Bytes
  LoginTimeout = 15 Seconds
  AuthTimeout = 45 Seconds
  ActiveTimeout = 5 Seconds
  IdleTimeout = 60 Seconds
  PingTimeout = 5 Seconds
  HeaderDigest = None
  DataDigest = None
  ConnFailTimeout = Default
  MultiPath = None
*****
*****
TARGET NAME clariion-lun-3-4-5
TARGET ID 2:
  ADDRESS = 10.48.69.199:3260, 128
  STATUS = Connected 10.48.69.235:32801<-
>10.48.69.199:3260 8/28/2003 09:46:42
  SESSION = ISID 00023d000001 TSID 128 PID 482
  InitialR2T = Yes
  MaxRecvDataSegmentLength = 131072 Bytes
  MaxXmitDataSegmentLength = 2048 Bytes
  FirstBurstLength = 262144 Bytes
  MaxBurstLength = 16776192 Bytes
```

```

LoginTimeout           = 15 Seconds
AuthTimeout            = 45 Seconds
ActiveTimeout          = 5 Seconds
IdleTimeout            = 60 Seconds
PingTimeout            = 5 Seconds
HeaderDigest           = None
DataDigest             = None
ConnFailTimeout        = Default
MultiPath              = None
*****
*****
!--- You can see these iSCSI connections in the
/var/adm/messages or dmesg:

Aug 28 09:43:59 baboon iscsid[454]: [ID 702911
daemon.notice]
    version 3.3.3 ( 7-Aug-2003)
Aug 28 09:43:59 baboon iscsid[463]: [ID 702911
daemon.notice]
    iSCSI normal session to san-fc-jbod-1 established
Aug 28 09:43:59 baboon iscsid[463]: [ID 702911
daemon.notice]
    logged into target san-fc-jbod-1 -- id 0, Initiator
sid 00023d000001, target sid 128
Aug 28 09:43:59 baboon iscsid[464]: [ID 702911
daemon.notice]
    iSCSI normal session to clariion established
Aug 28 09:43:59 baboon iscsid[464]: [ID 702911
daemon.notice]
    logged into target clariion -- id 1, Initiator sid
00023d000001, target sid 128
Aug 28 09:45:23 baboon iscsi: [ID 318680 kern.notice]
NOTICE:
    tran_start disabled to bus 0, target 2, lun 0
Aug 28 09:46:42 baboon iscsid[482]: [ID 702911
daemon.notice]
    iSCSI normal session to clariion-lun-3-4-5
established
Aug 28 09:46:42 baboon iscsid[482]: [ID 702911
daemon.notice]
    logged into target clariion-lun-3-4-5 -- id 2,
Initiator sid 00023d000001,
target sid 128

```

Canterbury Cisco MDS 9216輸出

```

canterbury#show zone status

VSAN: 1 default-zone: permit distribute: active only
Interop: Off
Full Zoning Database :
    Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
    Database Not Available
Status: Deactivation completed at Fri Aug 22 11:47:53
2003

VSAN: 777 default-zone: permit distribute: active only
Interop: Off.
Full Zoning Database :
    Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
    Database Not Available

```

Status: Default zoning policy changed to permit at Mon
Aug 25 20:19:31 2003

*!--- VSAN 777 has been used for this configuration, and
default-zone behavior has been !--- set to permit.*

canterbury#show flogi da vsan 777

```
-----  
-----  
INTERFACE  VSAN    FCID                PORT NAME  
NODE NAME  
-----  
-----  
fc1/4      777    0x7000e8  21:00:00:20:37:67:f7:a2  
20:00:00:20:37:67:f7:a2  
fc1/7      777    0x700103  50:06:01:60:88:02:a8:2b  
50:06:01:60:11:02:a8:2b  
iscsi2/1   777    0x700100  21:02:00:0c:30:6c:24:42  
21:01:00:0c:30:6c:24:42
```

Total number of flogi = 3.

canterbury#show fcns database vsan 777

VSAN 777:

```
-----  
-----  
FCID        TYPE  PWWN                (VENDOR)  
FC4-TYPE:FEATURE  
-----  
-----  
0x7000e8    NL    21:00:00:20:37:67:f7:a2 (Seagate)  
scsi-fcp:target  
0x700100    N     21:02:00:0c:30:6c:24:42 (Cisco)  
scsi-fcp:init isc..w  
0x700103    N     50:06:01:60:88:02:a8:2b (Clariion)  
scsi-fcp:target
```

Total number of entries = 3

*!--- FCID 0X700100 is the virtual N port (HBA) for the
iSCSI host.* canterbury#show fcns database detail vsan

777

```
-----  
VSAN:777    FCID:0x7000e8  
-----  
port-wwn (vendor)      :21:00:00:20:37:67:f7:a2 (Seagate)  
node-wwn                :20:00:00:20:37:67:f7:a2  
class                    :3  
node-ip-addr            :0.0.0.0  
ipa                      :ff ff ff ff ff ff ff ff  
fc4-types:fc4_features:scsi-fcp:target  
symbolic-port-name      :  
symbolic-node-name      :  
port-type                :NL  
port-ip-addr            :0.0.0.0  
fabric-port-wwn         :20:04:00:0c:30:6c:24:40  
hard-addr                :0x000000
```

```
-----  
VSAN:777    FCID:0x700100  
-----  
port-wwn (vendor)      :21:02:00:0c:30:6c:24:42 (Cisco)  
node-wwn                :21:01:00:0c:30:6c:24:42  
class                    :2,3  
node-ip-addr            :10.48.69.235
```

```
ipa                :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw
!--- Virtual N port for host. symbolic-port-name :
symbolic-node-name :10.48.69.235 port-type :N port-ip-
addr :0.0.0.0 fabric-port-wwn :20:41:00:0c:30:6c:24:40
hard-addr :0x000000 ----- VSAN:777
FCID:0x700103 ----- port-wwn (vendor)
:50:06:01:60:88:02:a8:2b (Clariion) node-wwn
:50:06:01:60:11:02:a8:2b class :3 node-ip-addr :0.0.0.0
ipa :ff ff ff ff ff ff ff ff fc4-
types:fc4_features:scsi-fcp:target symbolic-port-name :
symbolic-node-name : port-type :N port-ip-addr :0.0.0.0
fabric-port-wwn :20:07:00:0c:30:6c:24:40 hard-addr
:0x000000 Total number of entries = 3 canterbury#show
```

vsan membership

```
vsan 777 interfaces:
    fc1/4    fc1/7
```

canterbury#show iscsi initiator

```
iSCSI Node name is 10.48.69.235
    iSCSI Initiator name: iqn.1987-
05.com.cisco:01.894b196796e7
    iSCSI alias name: baboon
    Node WWN is 21:01:00:0c:30:6c:24:42 (dynamic)
    Member of vsans: 777
    Number of Virtual n_ports: 1
    Virtual Port WWN is 21:02:00:0c:30:6c:24:42
(dynamic)
    Interface iSCSI 2/1, Portal group tag: 0x80
    VSAN ID 777, FCID 0x700100
```

canterbury#show iscsi initiator detail

```
iSCSI Node name is 10.48.69.235
    iSCSI Initiator name: iqn.1987-
05.com.cisco:01.894b196796e7
    iSCSI alias name: baboon
    Node WWN is 21:01:00:0c:30:6c:24:42 (dynamic)
    Member of vsans: 777
    Number of Virtual n_ports: 1

    Virtual Port WWN is 21:02:00:0c:30:6c:24:42
(dynamic)
    Interface iSCSI 2/1, Portal group tag is 0x80
    VSAN ID 777, FCID 0x700100
    2 FC sessions, 3 iSCSI sessions
    iSCSI session details
        Target: san-fc-jbod-1
        Statistics:
            PDU: Command: 24, Response: 24
            Bytes: TX: 3504, RX: 0
            Number of connection: 1
        TCP parameters
            Local 10.48.69.199:3260, Remote
10.48.69.235:32798
            Path MTU: 1500 bytes
            Retransmission timeout: 300 ms
            Round trip time: Smoothed 4 ms, Variance: 6
            Advertized window: Current: 256 KB, Maximum:
257 KB, Scale: 3
            Peer receive window: Current: 9159 KB,
Maximum: 9159 KB, Scale: 8
```



```
Congestion window: Current: 11 KB
Target: clariion-lun-3-4-5
Statistics:
  PDU: Command: 73, Response: 73
  Bytes: TX: 9740, RX: 0
  Number of connection: 1
TCP parameters
  Local 10.48.69.199:3260, Remote
10.48.69.235:32801
  Path MTU: 1500 bytes
  Retransmission timeout: 300 ms
  Round trip time: Smoothed 7 ms, Variance: 13
  Advertized window: Current: 256 KB, Maximum:
257 KB, Scale: 3
  Peer receive window: Current: 9159 KB,
Maximum: 9159 KB, Scale: 8
  Congestion window: Current: 11 KB
Target: clariion
Statistics:
  PDU: Command: 101, Response: 101
  Bytes: TX: 14828, RX: 0
  Number of connection: 1
TCP parameters
  Local 10.48.69.199:3260, Remote
10.48.69.235:32799
  Path MTU: 1500 bytes
  Retransmission timeout: 300 ms
  Round trip time: Smoothed 2 ms, Variance: 1
  Advertised window: Current: 256 KB, Maximum:
257 KB, Scale: 3
  Peer receive window: Current: 9159 KB,
Maximum: 9159 KB, Scale: 8
  Congestion window: Current: 11 KB

FCP Session details
  Target FCID: 0x7000e8 (S_ID of this session:
0x700100)
  pWWN: 21:00:00:20:37:67:f7:a2, nWWN:
20:00:00:20:37:67:f7:a2
  Session state: LOGGED_IN
  1 iSCSI sessions share this FC session
  Target: san-fc-jbod-1
  Negotiated parameters
  RcvDataFieldSize 2048 our_RcvDataFieldSize
2048
  MaxBurstSize 0, EMPD: FALSE
  Random Relative Offset: FALSE, Sequence-in-
order: Yes
  Statistics:
  PDU: Command: 0, Response: 24
  Target FCID: 0x700103 (S_ID of this session:
0x700100)
  pWWN: 50:06:01:60:88:02:a8:2b, nWWN:
50:06:01:60:11:02:a8:2b
  Session state: LOGGED_IN
  2 iSCSI sessions share this FC session
  Target: clariion-lun-3-4-5
  Target: clariion
  Negotiated parameters
  RcvDataFieldSize 1024 our_RcvDataFieldSize
2048
  MaxBurstSize 0, EMPD: FALSE
  Random Relative Offset: FALSE, Sequence-in-
order: Yes
```

Statistics:

PDU: Command: 0, Response: 174

canterbury#show iscsi initiator iscsi-session detail

iSCSI Node name is 10.48.69.235

iSCSI Initiator name: iqn.1987-05.com.cisco:01.894b196796e7

iSCSI alias name: baboon

Node WWN is 21:01:00:0c:30:6c:24:42 (dynamic)

Member of vsans: 777

Number of Virtual n_ports: 1

Virtual Port WWN is 21:02:00:0c:30:6c:24:42 (dynamic)

Interface iSCSI 2/1, Portal group tag is 0x80

VSAN ID 777, FCID 0x700100

2 FC sessions, 3 iSCSI sessions

iSCSI session details

Target: san-fc-jbod-1

Statistics:

PDU: Command: 24, Response: 24

Bytes: TX: 3504, RX: 0

Number of connection: 1

TCP parameters

Local 10.48.69.199:3260, Remote 10.48.69.235:32798

Path MTU: 1500 bytes

Retransmission timeout: 300 ms

Round trip time: Smoothed 4 ms, Variance: 6

Advertized window: Current: 256 KB, Maximum: 257 KB, Scale: 3

Peer receive window: Current: 9159 KB, Maximum: 9159 KB, Scale: 8

Congestion window: Current: 11 KB

Target: clariion-lun-3-4-5

Statistics:

PDU: Command: 73, Response: 73

Bytes: TX: 9740, RX: 0

Number of connection: 1

TCP parameters

Local 10.48.69.199:3260, Remote 10.48.69.235:32801

Path MTU: 1500 bytes

Retransmission timeout: 300 ms

Round trip time: Smoothed 7 ms, Variance: 13

Advertized window: Current: 256 KB, Maximum: 257 KB, Scale: 3

Peer receive window: Current: 9159 KB, Maximum: 9159 KB, Scale: 8

Congestion window: Current: 11 KB

Target: clariion

Statistics:

PDU: Command: 101, Response: 101

Bytes: TX: 14828, RX: 0

Number of connection: 1

TCP parameters

Local 10.48.69.199:3260, Remote 10.48.69.235:32799

Path MTU: 1500 bytes

Retransmission timeout: 300 ms

Round trip time: Smoothed 2 ms, Variance: 1

Advertized window: Current: 256 KB, Maximum: 257 KB, Scale: 3

Peer receive window: Current: 9159 KB,
Maximum: 9159 KB, Scale: 8
Congestion window: Current: 11 KB

canterbury#**show iscsi initiator fcp-session detail**

iSCSI Node name is 10.48.69.235
iSCSI Initiator name: iqn.1987-
05.com.cisco:01.894b196796e7
iSCSI alias name: baboon
Node WWN is 21:01:00:0c:30:6c:24:42 (dynamic)
Member of vsans: 777
Number of Virtual n_ports: 1

Virtual Port WWN is 21:02:00:0c:30:6c:24:42
(dynamic)
Interface iSCSI 2/1, Portal group tag is 0x80
VSAN ID 777, FCID 0x700100
2 FC sessions, 3 iSCSI sessions

FCP Session details
Target FCID: 0x7000e8 (S_ID of this session:
0x700100)
pWWN: 21:00:00:20:37:67:f7:a2, nWWN:
20:00:00:20:37:67:f7:a2
Session state: LOGGED_IN
1 iSCSI sessions share this FC session
Target: san-fc-jbod-1
Negotiated parameters
RcvDataFieldSize 2048 our_RcvDataFieldSize
2048
MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-
order: Yes
Statistics:
PDU: Command: 0, Response: 24
Target FCID: 0x700103 (S_ID of this session:
0x700100)
pWWN: 50:06:01:60:88:02:a8:2b, nWWN:
50:06:01:60:11:02:a8:2b
Session state: LOGGED_IN
2 iSCSI sessions share this FC session
Target: clariion-lun-3-4-5
Target: clariion
Negotiated parameters
RcvDataFieldSize 1024 our_RcvDataFieldSize
2048
MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-
order: Yes
Statistics:
PDU: Command: 0, Response: 174

canterbury#**show ips stats tcp interface gigabitethernet
2/1 detail**

TCP Statistics for port GigabitEthernet2/1
TCP send stats
28621 segments, 4231096 bytes
15842 data, 12335 ack only packets
168 control (SYN/FIN/RST), 0 probes, 210 window
updates
66 segments retransmitted, 63724 bytes
66 retransmitted while on ethernet send queue,

```

1127 packets split
  480 delayed acks sent
TCP receive stats
  36728 segments, 12911 data packets in sequence,
2668162 bytes in sequence
  0 predicted ack, 12050 predicted data
  0 bad checksum, 0 multi/broadcast, 0 bad offset
  0 no memory drops, 0 short segments
  48 duplicate bytes, 1 duplicate packets
  0 partial duplicate bytes, 0 partial duplicate
packets
  0 out-of-order bytes, 164 out-of-order packets
  0 packet after window, 0 bytes after window
  0 packets after close
  12621 acks, 3486850 ack bytes, 0 ack toomuch,
11652 duplicate acks
  0 ack packets left of snd_una, 6 non-4 byte
aligned packets
  8333 window updates, 0 window probe
  624 pcb hash miss, 79 no port, 0 bad SYN, 0 paws
drops
TCP Connection Stats
  0 attempts, 231 accepts, 231 established
  227 closed, 14 drops, 0 conn drops
  0 drop in retransmit timeout, 2 drop in keepalive
timeout
  0 drop in persist drops, 0 connections drained
TCP Miscellaneous Stats
  11761 segments timed, 12027 rtt updated
  51 retransmit timeout, 304 persist timeout
  10452 keepalive timeout, 10450 keepalive probes
TCP SACK Stats
  0 recovery episodes, 0 data packets, 0 data bytes
  0 data packets retransmitted, 0 data bytes
retransmitted
  0 connections closed, 0 retransmit timeouts
TCP SYN Cache Stats
  233 entries, 231 connections completed, 1 entries
timed out
  0 dropped due to overflow, 1 dropped due to RST
  0 dropped due to ICMP unreachable, 0 dropped due to
bucket overflow
  0 abort due to no memory, 4 duplicate SYN, 76 no-
route SYN drop
  0 hash collisions, 0 retransmitted

TCP Active Connections
  Local Address      Remote Address      State
Send-Q  Recv-Q
  10.48.69.199:3260  10.48.69.235:32798
ESTABLISH 0      0
  10.48.69.199:3260  10.48.69.235:32799
ESTABLISH 0      0
  10.48.69.199:3260  10.48.69.235:32800
ESTABLISH 0      0
  10.48.69.199:3260  10.48.69.235:32801
ESTABLISH 0      0
  0.0.0.0:3260      0.0.0.0:0          LISTEN
0      0

canterbury#show iscsi virtual-target configured

target: san-fc-jbod-1
* Port WWN 21:00:00:20:37:67:f7:a2

```

!--- The * means that you have both discovery and target sessions. !--- You only have a discovery session if there is no * in front of the pWWN.

Configured node

No. of advertised interface: 1

GigabitEthernet 2/1

No. of initiators permitted: 3

initiator iqn.1987-

05.com.cisco.02.89451e183581.mcandegew2k1 is permitted

initiator 10.48.69.235/32 is permitted

initiator 10.48.69.232/32 is permitted

all initiator permit is disabled

target: clariion

* Port WWN 50:06:01:60:88:02:a8:2b

Configured node

No. of LU mapping: 3

iSCSI LUN: 0000, FC LUN: 0000

iSCSI LUN: 0001, FC LUN: 0001

iSCSI LUN: 0002, FC LUN: 0002

No. of advertised interface: 1

GigabitEthernet 2/1

No. of initiators permitted: 1

initiator 10.48.69.235/32 is permitted

all initiator permit is disabled

target: clariion-lun-3-4-5

* Port WWN 50:06:01:60:88:02:a8:2b

Configured node

No. of LU mapping: 3

iSCSI LUN: 0003, FC LUN: 0003

iSCSI LUN: 0004, FC LUN: 0004

iSCSI LUN: 0005, FC LUN: 0005

No. of advertised interface: 1

GigabitEthernet 2/1

No. of initiators permitted: 1

initiator 10.48.69.235/32 is permitted

all initiator permit is disabled

canterbury#show iscsi initiator configured

iSCSI Node name is 10.48.69.235

Member of vsans: 777

canterbury#show ips arp interface gigabitethernet 2/1

Protocol Type	Address Interface	Age (min)	Hardware Addr
Internet	10.48.69.200	0	0008.e21e.c7bc
ARPA	GigabitEthernet2/1		
Internet	10.48.69.206	7	0005.9ba6.95ff
ARPA	GigabitEthernet2/1		
Internet	10.48.69.209	4	0009.7c60.561f
ARPA	GigabitEthernet2/1		
Internet	10.48.69.226	0	0060.08f6.bc1a
ARPA	GigabitEthernet2/1		
Internet	10.48.69.229	15	0800.209e.edab
ARPA	GigabitEthernet2/1		
Internet	10.48.69.233	0	0010.4200.7d5b
ARPA	GigabitEthernet2/1		
Internet	10.48.69.235	9	0800.20b6.6559
ARPA	GigabitEthernet2/1		
Internet	10.48.69.238	5	0030.6e1b.6f51

```

ARPA GigabitEthernet2/1
Internet 10.48.69.239 12 0030.6e1c.a00b
ARPA GigabitEthernet2/1
Internet 10.48.69.248 5 0202.3d30.45f8
ARPA GigabitEthernet2/1
Internet 10.48.69.252 1 0202.3d30.45fc
ARPA GigabitEthernet2/1
Internet 10.10.2.28 9 0202.3d0a.021c
ARPA GigabitEthernet2/1

```

canterbury#show scsi-target devices vsan 777

```

-----
VSAN      FCID      PWWN      VENDOR
MODEL          REV
-----
777      0x7000e8  21:00:00:20:37:67:f7:a2  SEAGATE
ST318203FC 0004
777      0x700103  50:06:01:60:88:02:a8:2b  DGC
RAID 0          0632

```

canterbury#show scsi-target lun vsan 777

```

- ST318203FC from SEAGATE (Rev 0004)
  FCID is 0x7000e8 in VSAN 777, PWWN is
21:00:00:20:37:67:f7:a2

```

```

-----
LUN      Capacity Status  Serial Number  Device-Id
      (MB)
-----
0x0      18210   Online  LRE8091500007039 C:1 A:0 T:3
20:00:00:20:37:67:f7:a2

```

```

- RAID from DGC (Rev 0632)
  FCID is 0x700103 in VSAN 777, PWWN is
50:06:01:60:88:02:a8:2b

```

```

-----
LUN      Capacity Status  Serial Number  Device-Id
      (MB)
-----
0x0      1074    Online  f60004202091    C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

```

```

da:05:b6:a9:b6:9d:7b:00
                                C:1 A:0 T:0
00:00:00:00

```

```

0x1      1074    Online  f60004202091    C:1 A:0 T:3
60:06:01:60:88:02:a8:2b
6a:66:0d:74:cb:33:88:6c
                                C:1 A:0 T:0
00:01:00:00

```

```

0x2      1074    Online  f60004202091    C:1 A:0 T:3
60:06:01:60:88:02:a8:2b
ec:81:5b:a2:c4:43:0d:8a
                                C:1 A:0 T:0
00:02:00:00

```

```

0x3      2147    Online  f60004202091    C:1 A:0 T:3

```

60:06:01:60:88:02:a8:2b				
e0:47:b3:be:3b:00:e0:d5				C:1 A:0 T:0
00:03:00:00				
0x4 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
00:51:5b:7f:3d:9a:7b:ce				C:1 A:0 T:0
00:04:00:00				
0x5 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
ab:b1:ae:80:59:c0:fc:f0				C:1 A:0 T:0
00:05:00:00				
0x6 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
ad:91:58:af:d2:fd:c7:47				C:1 A:0 T:0
00:06:00:00				
0x7 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
b1:ef:e7:6c:44:5c:16:97				C:1 A:0 T:0
00:07:00:00				
0x8 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
84:4f:09:60:30:1e:fc:50				C:1 A:0 T:0
00:08:00:00				
0x9 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
aa:6d:e2:0e:ce:7a:cc:21				C:1 A:0 T:0
00:09:00:00				
0xa 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
5b:66:67:89:6c:f2:d1:56				C:1 A:0 T:0
00:0a:00:00				
0xb 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
a9:32:bd:04:4a:bb:3d:9b				C:1 A:0 T:0
00:0b:00:00				
0xc 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
cd:d9:96:f7:57:3f:07:0c				C:1 A:0 T:0
00:0c:00:00				
0xd 1074	Online	f60004202091		C:1 A:0 T:3
60:06:01:60:88:02:a8:2b				
0c:e5:ba:39:68:ca:d6:f0				C:1 A:0 T:0

```

00:0d:00:00
 0xe 1074 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

60:6e:ee:76:98:fc:ab:97
C:1 A:0 T:0
00:0e:00:00
 0xf 1074 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

8b:58:80:7b:12:fb:6b:12
C:1 A:0 T:0
00:0f:00:00
 0x10 1074 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

a1:2f:6d:b0:c3:d6:c2:46
C:1 A:0 T:0
00:10:00:00
 0x11 1074 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

2c:48:c4:74:25:4b:26:dd
C:1 A:0 T:0
00:11:00:00
 0x20 5369 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

ba:18:6a:40:22:40:94:75
C:1 A:0 T:0
00:20:00:00
 0x21 3221 Online f60004202091 C:1 A:0 T:3
60:06:01:60:88:02:a8:2b

74:d2:42:9e:31:8d:ff:86
C:1 A:0 T:0
00:21:00:00

```

canterbury#**show interface iscsi 2/1**

```

iscsi2/1 is up
  Hardware is GigabitEthernet
  Port WWN is 20:41:00:0c:30:6c:24:40
  Admin port mode is ISCSI
  Port mode is ISCSI
  Speed is 1 Gbps
  iSCSI initiator is identified by name
  Number of iSCSI session: 4, Number of TCP
connection: 4
  Configured TCP parameters
    Local Port is 3260
    PMTU discover is enabled, reset timeout is 3600
sec
    Keepalive-timeout is 60 sec
    Minimum-retransmit-time is 300 ms
    Max-retransmissions 4
    Sack is disabled
    Maximum allowed bandwidth is 800000 kbps
    Minimum available bandwidth is 800000 kbps
    Estimated round trip time is 100000 usec
  5 minutes input rate 168 bits/sec, 21 bytes/sec, 0
frames/sec
  5 minutes output rate 728 bits/sec, 91 bytes/sec, 0
frames/sec

```



```

iSCSI statistics
  Input 12209 packets, 2668348 bytes
    Command 3282 pdus, Data-out 1038 pdus, 1989664
bytes
  Output 14762 packets, 3486596 bytes
    Response 3059 pdus (with sense 77), R2T 153 pdus
    Data-in 3215 pdus, 2744116 bytes

canterbury#show iscsi stats iscsi 2/1

iscsi2/1
  5 minutes input rate 168 bits/sec, 21 bytes/sec, 0
frames/sec
  5 minutes output rate 728 bits/sec, 91 bytes/sec, 0
frames/sec
  iSCSI statistics
    12209 packets input, 2668348 bytes
    Command 3282 pdus, Data-out 1038 pdus, 1989664
bytes, 0 fragments
    output 14762 packets, 3486596 bytes
    Response 3059 pdus (with sense 77), R2T 153 pdus
    Data-in 3215 pdus, 2744116 bytes

canterbury#show interface gigabitethernet 2/1

GigabitEthernet2/1 is up
  Hardware is GigabitEthernet, address is
0005.3000.ade6
  Internet address is 10.48.69.199/26
  MTU 2156 bytes
  Port mode is IPS
  Speed is 1 Gbps
  Beacon is turned off
  Auto-Negotiation is turned on
  iSCSI authentication: NONE
  5 minutes input rate 392 bits/sec, 49 bytes/sec, 0
frames/sec
  5 minutes output rate 64 bits/sec, 8 bytes/sec, 0
frames/sec
  126128 packets input, 12476013 bytes
    2 multicast frames, 0 compressed
    0 input errors, 0 frame, 0 overrun 0 fifo
  43443 packets output, 6256174 bytes, 0 underruns
    0 output errors, 0 collisions, 0 fifo
    0 carrier errors

canterbury#show ip route

Codes: C - connected, S - static

Gateway of last resort is 10.48.69.129

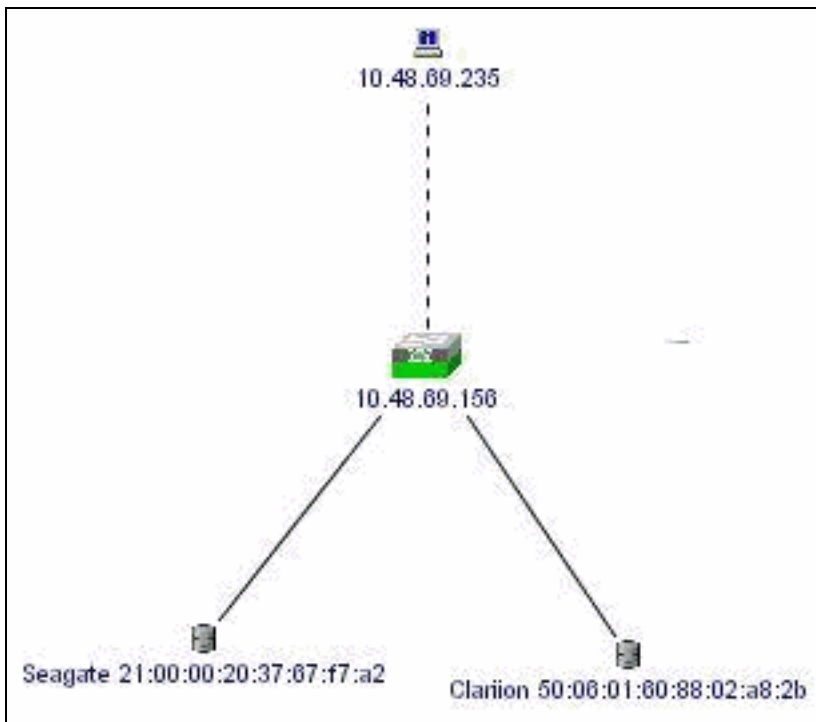
C 10.48.69.192/26 is directly connected,
gigabitethernet2-1
C 10.48.69.128/26 is directly connected, mgmt0

```

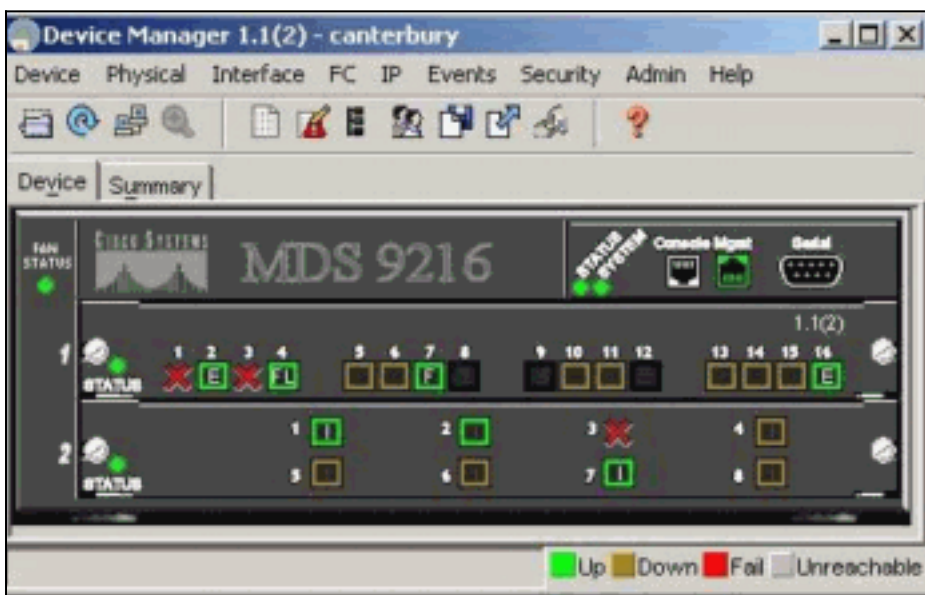
[交換矩陣管理器和裝置管理器輸出](#)

本節提供MDS交換矩陣管理器1.1(2)和裝置管理器1.1(2)的輸出示例。

Fabric Manager中的拓撲圖



這是Canterbury上裝置管理器1.1(2)檢視的示例螢幕快照。



1. 在「裝置管理器」視窗中選擇FC > LUN，以顯示LUN的pWWN、LUN ID和容量。

canterbury - LUN

Discover Targets LUNs

Vsanid, Port WWN	Id	Capacity (MB)	SerialNum
777, Seagate 21:00:00:20:37:67:17:a2	0x0	18210	LRE8091500007039HLT6
777, Clarion 50:06:01:60:88:02:a8:2b	0x0	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x1	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x2	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x3	2147	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x4	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x5	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x6	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x7	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x8	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x9	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xa	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xb	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xc	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xd	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xe	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0xf	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x10	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x11	1074	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x20	5369	f60004202091
777, Clarion 50:06:01:60:88:02:a8:2b	0x21	3221	f60004202091

Refresh Help Close

Data retrieved at 10:03:45

2. 選擇IP > iSCSI以顯示iSCSI會話。

canterbury - iSCSI

Initiators Targets Sessions Sessions Detail Session Statistics

Type	Direction	Initiator			Target		
		Name or IpAddress	Alias	Id	Name	Alias	Id
normal	inbound	10.48.69.235	baboon	00:02:3d:00:00:01	san-fc-ibod-1		128
normal	inbound	10.48.69.235	baboon	00:02:3d:00:00:01	clarion		128
discovery	inbound	10.48.69.235	baboon	00:02:3d:00:00:01			128
normal	inbound	10.48.69.235	baboon	00:02:3d:00:00:01	clarion-lun-3-4-5		128

Connection... Refresh Help Close

4 row(s)

相關資訊

- [透過IP傳輸的小型電腦系統介面\(iSCSI\)技術支援](#)