

# Configurar el host del iSCSI de Solaris al MDS/IPS-8

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## [Introducción](#)

Los drivers del Small Computer Systems Interface over IP (iSCSI) de Cisco son un componente crucial de la solución iSCSI. Estos drivers iSCSI residen en el servidor, donde:

- Comandos del iSCSI de la interceptación.
- Encapsule los comandos en los paquetes del IP.
- Reoriente los comandos al Cisco SN 5420, al Cisco SN 5428, a Cisco SN5428-2, o a Cisco MDS/IPS-8.

Este documento proporciona las configuraciones de muestra para el host del iSCSI de Solaris a Cisco MDS/IPS-8.

## [prerrequisitos](#)

### [Requisitos](#)

Asegúrese de cumplir estos requisitos antes de intentar esta configuración:

- Instale el driver iSCSI que es compatible con su versión de Solaris y después cree la configuración de iSCSI en el Cisco MDS 9000. Refiera a los [driveres iSCSI de Cisco \(clientes registrados solamente\)](#) para la mayoría de la versión actual del driver (solaris-iscsi-3.3.5.tar.Z). Un archivo de README.txt se incluye en el archivo de la CREMALLERA del

driver (ALQUITRÁN). El archivo de README.txt contiene: Información del acuerdo de licencia Instalación del driver y instrucciones de configuración Una descripción técnica general de la arquitectura del driver

- Refiera a las secciones de los requisitos del sistema en [driver iSCSI de Cisco para los Release Note de Sun Solaris](#) para el operating system (OS) y los requisitos de la corrección.
- El driver iSCSI de Cisco para Sun Solaris se ejecuta solamente en las máquinas de SPARC. El driver no funciona con ninguna otra tipos de procesador (por ejemplo, x86).

## Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- SunOs 5.9, SPARC Ultra-4 E450

```
#uname -a
```

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

- Driver iSCSI de Cisco 3.3.3 para Solaris

```
#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 MDS9216 con el Software Release 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>  
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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)

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener cualquier comando.

## Convenciones

Consulte [Convenciones de Consejos TécnicosCisco](#) para obtener más información sobre las convenciones del documento.

## Antecedentes

Módulo de almacenamiento de IP proporciona los host IP acceso a los dispositivos de almacenamiento del Fibre Channel (FC). Módulo de almacenamiento de IP es un DS-X9308-SMIP que proporciona la encaminamiento transparente del iSCSI. Los host IP que utilizan el protocolo iscsi pueden transparente acceder las blancos del iSCSI ([FCP] del protocolo FC) en la red FC. El host IP envía los comandos del iSCSI encapsulados en las unidades de datos del protocolo iscsi (PDU) a un puerto del almacenamiento IP del Cisco MDS 9000 sobre una conexión TCP/IP. Interfaces del Gigabit Ethernet (GE) que se configuran apropiadamente en módulo de almacenamiento de IP la Conectividad del proporcionar. Módulo de almacenamiento de IP:

- Le permite para crear los destinos iSCSI virtuales y los asocia a las blancos físicas FC

disponibles en el FC SAN

- Presenta las blancos FC a los host IP como si las blancos físicas localmente se asocian a la red del IP

Cada host del iSCSI que requiere el acceso al almacenamiento vía módulo de almacenamiento de IP debe tener un driver iSCSI compatible instalado. El driver iSCSI permite que un host del iSCSI transporte las peticiones y las respuestas del iSCSI sobre una red del IP con el protocolo iscsi. Desde la perspectiva de un host OS, el driver iSCSI aparece ser driver de transporte iSCSI similar a un driver FC para un canal periférico en el host. Cada host IP aparece como host FC desde la perspectiva del dispositivo de almacenamiento.

Complete estos pasos para rutear el iSCSI del host IP al dispositivo de almacenamiento FC:

- Transporte las peticiones y las respuestas del iSCSI sobre una red del IP entre los host y módulo de almacenamiento de IP.
- Utilice módulo de almacenamiento de IP para rutear las peticiones y las respuestas del iSCSI entre los host en una red del IP y el dispositivo de almacenamiento FC (iSCSI del convertido al FCP y vice versa).
- Transporte las peticiones o las respuestas FCP entre módulo de almacenamiento de IP y los dispositivos de almacenamiento FC.

Módulo de almacenamiento de IP no importa las blancos FC al iSCSI por abandono. Usted debe configurar dinámico o la correlación estática de modo que módulo de almacenamiento de IP ponga las blancos FC a disposición los iniciadores iSCSI. Las blancos estáticamente asociadas FC tienen un nombre configurado cuando se configuran ambos. Esta configuración proporciona los ejemplos de la correlación estática.

Cada vez que eso que el host del iSCSI conecta con módulo de almacenamiento de IP con la correspondencia dinámica:

- Se crea un nuevo puerto FC N.
- Los nombres mundiales del nodo (nWWNs) y los nombres mundiales del puerto (pWWNs) afectados un aparato para este puerto N pueden ser diferentes.

Utilice el método de la correlación estática si usted debe obtener el mismo nWWNs y el pWWNs para el iSCSI recibe cada vez que conecta con módulo de almacenamiento de IP. Usted puede utilizar la correlación estática en módulo de almacenamiento de IP para acceder los conjuntos de almacenamiento inteligentes FC que tienen:

- Control de acceso
- Asignación del número de unidad lógica (LUN) y configuración de enmascarado que se basan en el pWWNs o el nWWNs del iniciador

Especifique estos elementos para controlar el acceso a cada destino iSCSI estático-asociado:

- Una lista de almacenamiento IP vira hacia el lado de babor en cuál él se hace publicidad
- Una lista de Nombres del nodo del iniciador iSCSI que no se prohíben el acceso

El FC Establecimiento de zonas-basó el control de acceso y el control de acceso iSCSI-basado es los dos mecanismos por los cuales el control de acceso se puede proporcionar para el iSCSI. Usted puede utilizar ambos métodos simultáneamente. Han permitido al Establecimiento de zonas predeterminado para una red de área específica del almacenamiento virtual (VSAN) en esta configuración. Los módulos de almacenamiento IP utilizan las listas nombre-basadas y FC Establecimiento de zonas-basadas del nodo iSCSI de control de acceso para aplicar el control de acceso durante el descubrimiento iSCSI y la creación de sesión iSCSI.

El iniciador iSCSI se puede definir estáticamente por la dirección IP o por el nombre completo del iSCSI (IQN). Una opción del proxy-**iniciador** habilita la creación dinámica de los iniciadores iSCSI en SAN-IOS 1.3 para el Switches de Cisco MDS.

el descubrimiento iSCSI ocurre cuando un host del iSCSI crea una sesión de detección de iSCSI y las interrogaciones para todos los destinos iSCSI. Módulo de almacenamiento de IP devuelve solamente la lista de destinos iSCSI que las directivas del control de acceso permitan que el host del iSCSI acceda.

la creación de sesión iSCSI ocurre cuando un host IP inicia a una sesión iSCSI. Módulo de almacenamiento de IP verifica:

- Si el destino iSCSI especificado (en el pedido de registro de la sesión) es una blanco asociada los parásitos atmosféricos
- Que el nombre de nodo iSCSI del host IP está permitido acceder la blanco

Se rechaza el login si el host IP no tiene acceso.

Módulo de almacenamiento de IP entonces:

- Crea un puerto virtual FC N (el puerto N puede existir ya) para este host IP
- Hace una interrogación del Servidor de nombres FC para el Canal de fibra ID (FCID) del pWWN de la blanco FC que el host IP accede

Módulo de almacenamiento de IP utiliza el pWWN del puerto virtual del host IP N como el solicitante de la interrogación del Servidor de nombres. Así, el Servidor de nombres hace una consulta impuesta por zona para el pWWN y responde a la interrogación. Validan a la sesión iSCSI si el Servidor de nombres vuelve el FCID. Si no, se rechaza el pedido de registro.

## [Configurar](#)

En esta sección encontrará la información para configurar las funciones descritas en este documento.

**Note:** Use la herramienta [Command Lookup Tool](#) ([clientes registrados solamente](#)) para encontrar más información sobre los comandos usados en este documento.

## [Diagrama de la red](#)

En este documento, se utiliza esta configuración de red:

## [Configuraciones](#)

En este documento, se utilizan estas configuraciones:

- [babuino \(SunOs 5.9, SPARC E450\)](#)
- [Cantorbery \(Cisco MDS9216\)](#)

<b>babuino (SunOs 5.9, SPARC E450)</b>
Modifique estos archivos en el host de Solaris: <ul style="list-style-type: none"><li>• /etc/iscsi.conf</li></ul>

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

Esto es configuración de muestra hecha salir:

```
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.*

## Cantorbery (Cisco MDS9216)

```
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.
```

## Verificación

Use esta sección para confirmar que su configuración funciona correctamente.

[La herramienta Output Interpreter Tool \(clientes registrados solamente\)](#) (OIT) soporta ciertos comandos show. Utilice la OIT para ver un análisis del resultado del comando show.

- **el netstat - n** — verifica las conexiones TCP en el host de Solaris.
- **iscsi-ls - l** — muestra los dispositivos que están actualmente disponibles en el host de Solaris.
- **muestre el estatus de la zona** — Muestra información de la zona.
- **muestre la base de datos vsan 777 del fcns** — Muestra la información del Servidor de nombres para un VSAN específico.
- **muestre la base de datos vsan 777 del flogi** — Información del servidor del login de la tela de las demostraciones (FLOGI) para un VSAN específico.

- **muestre la calidad de miembro del vsan** — Muestra información de la interfaz para diversos VSAN.
- **muestre el detalle del iniciador del iscsi** — Muestra información del iniciador iSCSI.
- **muestre el detalle de la iscsi-sesión del iniciador del iscsi** — Muestra la información detallada para la sesión del iniciador de iSCSI.
- **muestre el detalle del fcp session del iniciador del iscsi** — Muestra la información detallada para el iniciador iSCSI de sesión FCP.
- **muestre a gigabitethernet de la interfaz tcp de las estadísticas de ips 2/1 detalle** — las estadísticas de las demostraciones TCP para una interfaz específica de GE.
- **muestre la virtual-blanco del iscsi configurada** — Muestra a iSCSI los blancos virtuales que se han configurado en el Cisco MDS 9000.
- **muestre el iniciador del iscsi configurado** — Muestra los iniciadores iSCSI que se han configurado en el Cisco MDS 9000.
- **show ips arp interface gigabitethernet 2/1** — Información del Address Resolution Protocol (ARP) del almacenamiento IP de las demostraciones para una interfaz específica de GE.
- **muestre los dispositivos vsan 777 del scsi-target** — Muestra los dispositivos iSCSI para un VSAN específico (asociar FC LUN al iSCSI LUN).
- **muestre el iscsi 2/1 internacional** — Muestra las interfaces del iSCSI.
- **muestre el iscsi 2/1 stats del iscsi** — Muestra las estadísticas del iSCSI.
- **muestre el gigabitethernet 2/1 internacional** — Muestra la interfaz de GE.
- **ruta de IP de la demostración** — Información de la ruta de IP de las demostraciones.

## Troubleshooting

Use esta sección para resolver problemas de configuración.

### Procedimiento de Troubleshooting

- [salida del babuino](#)
- [salida de Cantorbery Cisco MDS9216](#)
- [Salida del Fabric Manager y del administrador de dispositivo](#)

#### salida del babuino

```
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
```

## salida de Cantorbery Cisco MDS9216

```
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
```

## [Salida del Fabric Manager y del administrador de dispositivo](#)

Esta sección proporciona la salida de muestra del Fabric Manager MDS 1.1(2) y del administrador de dispositivo 1.1.(2).

### Diagrama de topología del Fabric Manager

Ésta es una captura de pantalla de la muestra de la opinión del administrador de dispositivo 1.1(2) sobre Cantorbery.

1. Seleccione **FC > los LUN** en la ventana de administrador de dispositivo para visualizar el pWWNs, las identificaciones de LUN, y la capacidad de sus LUN.
2. Seleccione **IP > iSCSI** para visualizar a las sesiones iSCSI.

## [Información Relacionada](#)

- [Soporte de tecnología del Small Computer Systems Interface over IP \(iSCSI\)](#)
- [Driveres iSCSI de Cisco \(clientes registrados solamente\)](#)
- [Release Note para el driver iSCSI del Cisco Sun Solaris](#)
- [Resolución de problemas de controladores iSCSI para Solaris](#)
- [Soporte Técnico y Documentación - Cisco Systems](#)