

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

## Contenido

[Introducción](#)

[prerrequisitos](#)

[Requisitos](#)

[Componentes Utilizados](#)

[Convenciones](#)

[Antecedentes](#)

[Configurar](#)

[Diagrama de la red](#)

[Configuraciones](#)

[Verificación](#)

[Troubleshooting](#)

[Procedimiento de Troubleshooting](#)

[Información Relacionada](#)

## [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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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)

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 devuelve el FCID. Si no, se rechaza el pedido de registro.

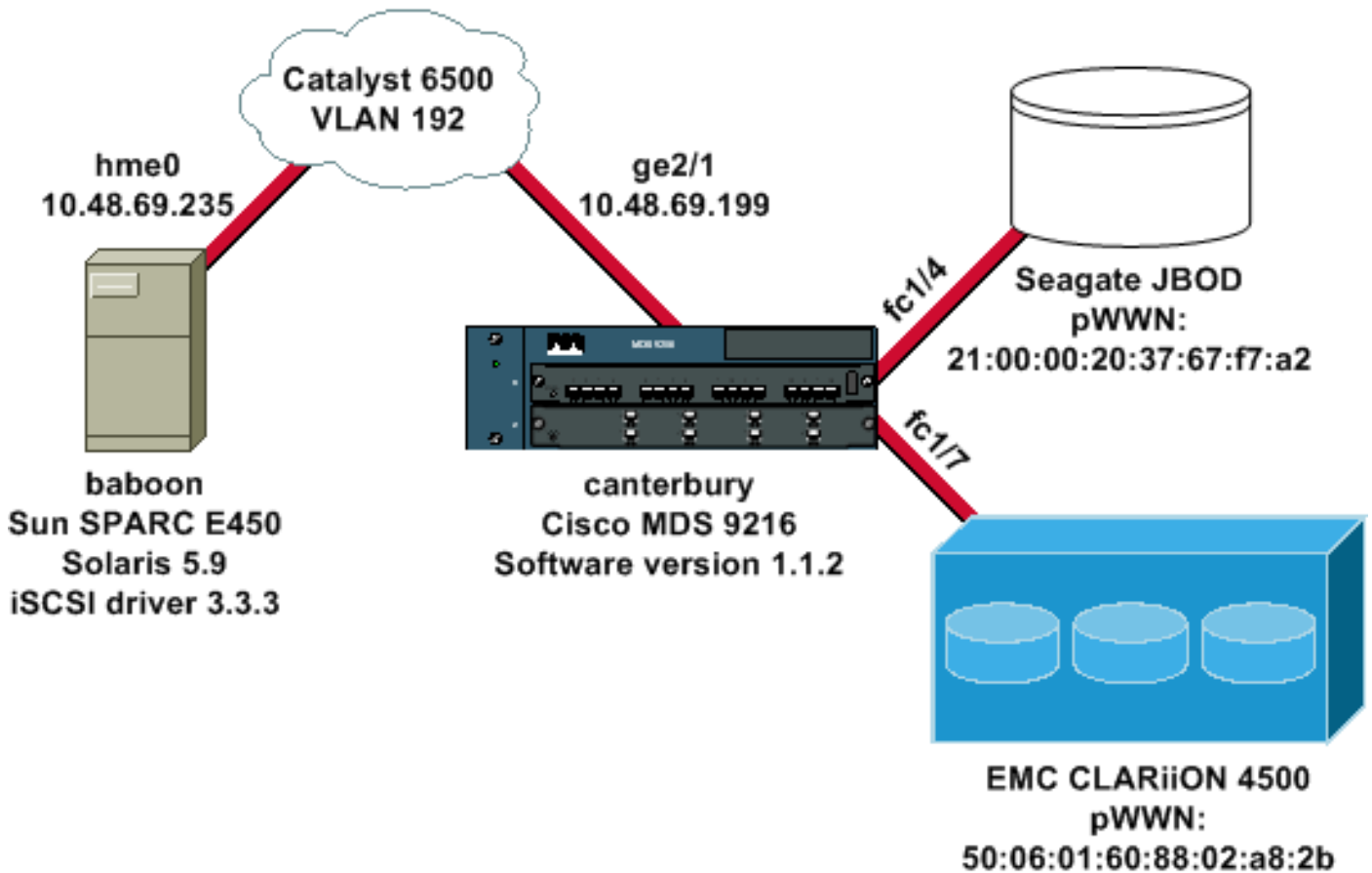
## [Configurar](#)

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

**Nota:** 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 \(Cisco MDS9216\)](#)

### **babuino (SunOs 5.9, SPARC E450)**

Modifique estos archivos en el host de Solaris:

- /etc/iscsi.conf
- /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.

```

## Cantorbry (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 las 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 MODEL	FCID	PWWN REV	VENDOR
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 (MB)	Status	Serial Number	Device-Id
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 (MB)	Status	Serial Number	Device-Id
-----	---------------	--------	---------------	-----------



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

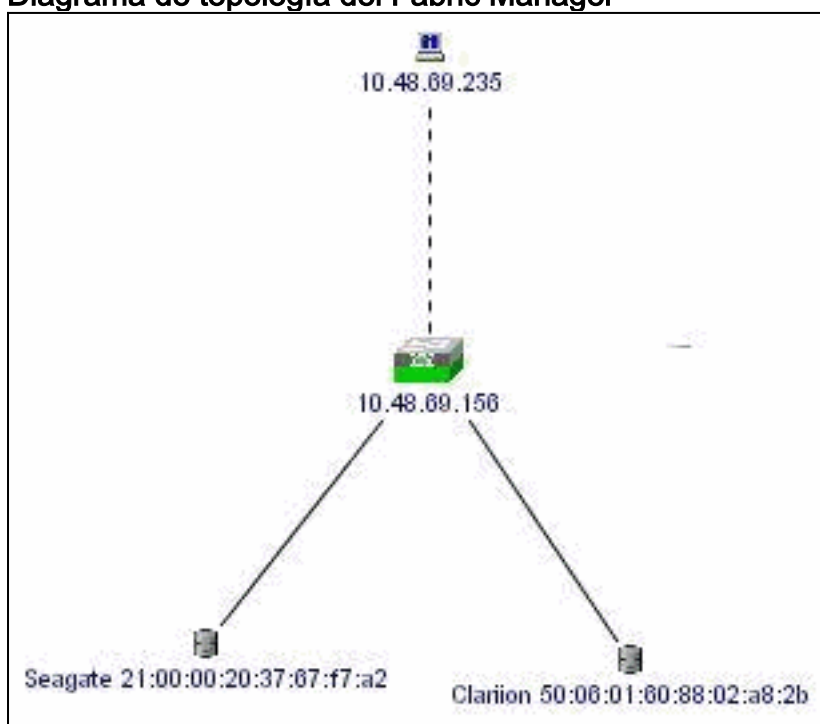
Gateway of last resort is 10.48.69.129

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

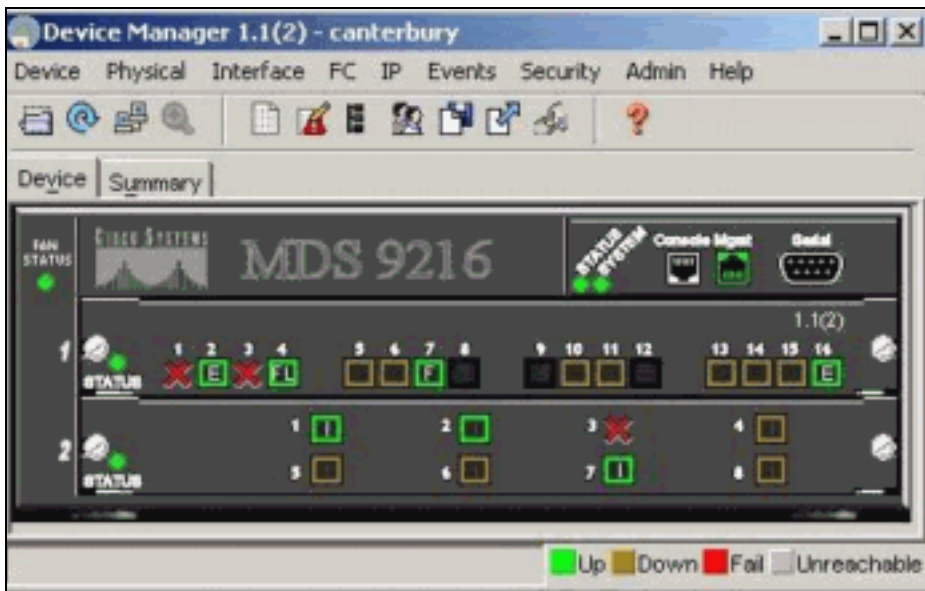
## Salida del Fabric Manager y del administrador de dispositivo

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

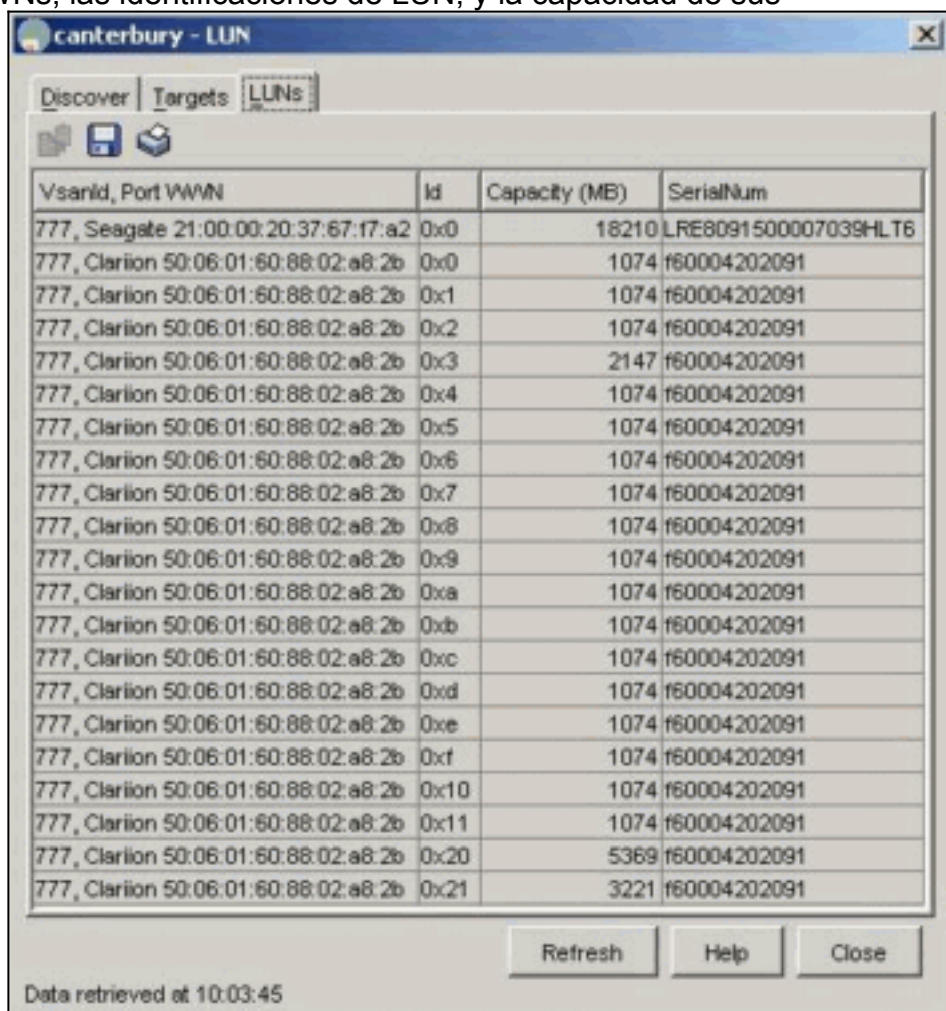
### Diagrama de topología del Fabric Manager



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.

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

4 row(s)

Connection... Refresh Help Close

## Información Relacionada

- [Soporte de tecnología del Small Computer Systems Interface over IP \(iSCSI\)](#)