

Host del iSCSI HP-UX al ejemplo de configuración MDS/IPS-8

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[Introducción](#)

Los driveres iSCSI de Cisco, que residen en el servidor, son un componente crucial de una solución iSCSI. Estos driveres iSCSI interceptan los **comandos Small Computer System Interface (SCSI)**, los encapsulan en los paquetes del IP, y los reorientan al Cisco SN 5420, Cisco SN 5428, Cisco SN5428-2, o el documento de Cisco MDS/IPS-8. This proporciona las configuraciones de muestra para el host del iSCSI HP-UX al SN5428.

[prerrequisitos](#)

[Requisitos](#)

Antes de que usted intente esta configuración, asegúrese que usted cumple estos requisitos:

- Instale el driver iSCSI que es compatible a su versión HP-UX. La mayoría de la versión actual del driver se puede encontrar en la página de la descarga del [driver iSCSI de Cisco \(clientes registrados solamente\)](#) en el cisco.com. El archivo de README.txt se incluye en el archivo del zip(tar) del driver. El README contiene la información sobre el acuerdo de licencia, instalación del driver y las instrucciones de configuración, y una descripción técnica general de la arquitectura del driver.

- Los requisitos del sistema operativo y los requisitos de la corrección se describen en la sección de los *requisitos del sistema del [driver iSCSI de Cisco para los Release Note HP-UX.](#)*

Componentes Utilizados

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

- Servidor A500 HP-UX 9000/800 con dos procesadores. **Nota:** En esta configuración de laboratorio, no hay adaptador Ethernet separado para el iSCSI, y el que está funcionando es 100 Mb. En cualquier entorno realista, usted tiene un adaptador separado del Gigabit Ethernet (GE) como su iniciador iSCSI.


```
[/]#opt/ignite/bin/print_manifest[...] System
Hardware Model: 9000/800/A500-5X Main Memory: 1024 MB Processors: 2 OS mode: 64 bit LAN
hardware ID: 0x00306E1B6F51 Software ID: 586760518 Keyboard Language: Not_Applicable Storage
devices HW Path Interface SEAGATE ST318404LC 17366 Mb 0/0/1/1.15.0 SCSI C896 Ultra Wide
Single-Ended SEAGATE ST318203LC 17366 Mb 0/0/2/1.15.0 SCSI C875 Ultra Wide Single-Ended I/O
Interfaces Class H/W Path Driver Description lan 0/0/0/0 btlan3 HP PCI 10/100Base-TX Core
ext_bus 0/0/1/0 c720 SCSI C896 Ultra Wide LVD ext_bus 0/0/1/1 c720 SCSI C896 Ultra Wide
Single-Ended ext_bus 0/0/2/0 c720 SCSI C875 Fast Wide Single-Ended ext_bus 0/0/2/1 c720 SCSI
C875 Ultra Wide Single-Ended tty 0/0/4/0 asio0 PCI Serial (103c1048) tty 0/0/5/0 asio0 PCI
Serial (103c1048) fc 0/2/0/0 td HP Tachyon XL2 Fibre Channel Mass Storage Adapter Installed
Software Your system was installed with HP-UX version B.11.00. Your system has the following
software products installed and configured on the system disk drive(s). Product Revision
Description A6795A B.11.00.10 PCI Tachyon TL/TS/XL2 Fibre Channel BUNDLE B.11.00 Patch
Bundle HPUXEng64RT B.11.00.01 English HP-UX 64-bit Runtime Environment HWE1100
B.11.00.0203.5 Hardware Enablement Patches for HP-UX 11.00, March 2002 OnlineDiag
B.11.00.20.09 HPUX 11.0 Support Tools Bundle, Mar 2002 UXCoreMedia B.11.00.02 HP-UX Media
Kit (Reference Only. See Description) UnlimUserLic B.11.00.02 HP-UX Unlimited-User License
XSWGR1100 B.11.00.47.08 General Release Patches, November 1999 (ACE) [...]
```
- El driver iSCSI de Cisco 3.3.3 para el HP-UX se ha utilizado. Se recomienda que usted también instala (por lo menos) la corrección acumulativa del último transporte estable del protocolo Protocolo de resolución de la dirección (ARP) (ARPA) de HP. Cuando este documento fue escrito, éste estaba PHNE_28538. Esta corrección tiene varias dependencias, así que usted tiene que instalarlas a medida que esté necesitado. Para más información de la instalación, visite


```
[/]#swlist # Initializing... # Contacting target "ape"... # # Target: ape:/
# # # Bundle(s): # A6795A B.11.00.10 PCI Tachyon TL/TS/XL2 Fibre Channel BUNDLE B.11.00
Patch Bundle HPUXEng64RT B.11.00.01 English HP-UX 64-bit Runtime Environment HWE1100
B.11.00.0203.5 Hardware Enablement Patches for HP-UX 11.00, March 2002 OnlineDiag
B.11.00.20.09 HPUX 11.0 Support Tools Bundle, Mar 2002 QPK1100 B.11.00.56.5 Quality Pack for
HP-UX 11.00, March 2002 UXCoreMedia B.11.00.02 HP-UX Media Kit (Reference Only. See
Description) UnlimUserLic B.11.00.02 HP-UX Unlimited-User License XSWGR1100 B.11.00.47.08
General Release Patches, November 1999 (ACE) # # Product(s) not contained in a Bundle: #
ISCSI 3.3.3 ISCSI software bison 1.875 bison flex 2.5.4a flex gcc 3.2.3 gcc gettext 0.11.5
gettext less 376 less libiconv 1.9 libiconv make 3.80 make ncurses 5.2 ncurses termcap 1.3.1
termcap zsh 4.0.7 zsh [/]# swlist BUNDLE # Initializing... # Contacting target "ape"... # #
Target: ape:/ # # BUNDLE B.11.00 Patch Bundle BUNDLE.PHCO_23651 1.0 fsck_vxfs(1M) cumulative
patch BUNDLE.PHKL_28496 1.0 SCSI IO Subsystem Cumulative Patch BUNDLE.PHKL_27980 1.0 VxFS
3.1 cumulative patch: CR_EIEM BUNDLE.PHKL_22840 1.0 IDS/9000; syscalls related to
file/socket BUNDLE.PHCO_28505 1.0 user/group(add/mod/del)(1M) cumulative patch
BUNDLE.PHKL_28150 1.0 LVM Cumulative Patch w/Performance Upgrades BUNDLE.PHNE_28538 1.0
cumulative ARPA Transport patch BUNDLE.PHNE_28143 1.0 LAN product cumulative patch
BUNDLE.PHNE_27902 1.0 Cumulative STREAMS Patch BUNDLE.PHKL_29434 1.0 POSIX
AIO;getdirentries;MVFS;rcp;mmmap/IDS; BUNDLE.PHKL_28766 1.0 Probe, IDDS, PM, VM, PA-
8700, AIO, T600, FS, PDC, CLK BUNDLE.PHKL_28004 1.0 Fibre Channel Mass Storage Driver Patch
BUNDLE.PHKL_27729 1.0 ioscan -u incorrect display (kernel patch). BUNDLE.PHKL_24187 1.0
ioscan performance gain for SCSI Subsystem BUNDLE.PHKL_24165 1.0 Kernel Patch For "ioscan -
k" Performance BUNDLE.PHKL_23409 1.0 NFS, Large Data Space, kernel memory leak
BUNDLE.PHKL_20016 1.0 2nd CPU not recognized in G70/H70/I70 BUNDLE.PHKL_18543 1.0
```

```
PM/VM/UFS/async/scsi/io/DMAPI/JFS/perf patch BUNDLE.PHCO_27818 1.0 ioscan(1M) cumulative
patch BUNDLE.PHCO_27375 1.0 cumulative SAM/ObAM patch
```

- **Cisco MDS9216 con la versión de software 1.2(1a).**

```
vatican#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 1.2(1a) 1.0 20:01:00:0c:30:57:5e:c0 to 20:10:00:0c:30:57:5e:c0 2 1.2(1a) 0.2
20:41:00:0c:30:57:5e:c0 to 20:48:00:0c:30:57:5e:c0 Mod MAC-Address(es) Serial-Num --- -----
----- 1 00-0b-be-f8-7f-00 to 00-0b-be-f8-7f-04
JAB070804Q3 2 00-05-30-00-a8-56 to 00-05-30-00-a8-62 JAB070205AM * this terminal session
vatican# show version Cisco Storage Area Networking Operating System (SAN-OS) Software TAC
support: http://www.cisco.com/tac Copyright (c) 2002-2003 by Cisco Systems, Inc. All rights
reserved. The copyright for certain works contained herein are owned by Andiamo Systems,
Inc. and/or other third parties and are used and distributed under license. Software BIOS:
version 1.0.8 loader: version 1.1(2) kickstart: version 1.2(1a) system: version 1.2(1a) BIOS
compile time: 08/07/03 kickstart image file is: bootflash:/k121a kickstart compile time:
9/1/2003 17:00:00 system image file is: bootflash:/s121a system compile time: 9/1/2003
17:00:00 Hardware RAM 963108 kB bootflash: 500736 blocks (block size 512b) slot0: 0 blocks
(block size 512b) vatican uptime is 1 days 6 hours 17 minute(s) 25 second(s) Last reset at
955065 usecs after Wed Sep 10 08:13:50 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

El Cisco MDS 9000 que se utiliza en este documento refiere a cualquier Switch Product del Fibre Channel (el FC) en la familia MDS9000 (MDS 9506, MDS9509, MDS9216). La cuchilla del (IPS) del Cisco Intrusion Prevention System refiere al Módulo de servicios de almacenamiento IP. Para obtener más información sobre las convenciones del documento, consulte las [Convenciones de Consejos Técnicos de Cisco](#).

Antecedentes

El módulo del (IPS) del Cisco Intrusion Prevention System proporciona los host IP acceso a los dispositivos de almacenamiento del Fibre Channel (FC). El módulo ips es DS-X9308-SMIP. Proporciona el SCSI Routing transparente. Los host IP que utilizan el protocolo iscsi pueden transparente acceder los destinos iSCSI en la red FC que el host IP envía los comandos SCSI encapsuló en las unidades de datos del protocolo iscsi (PDU) a un puerto MDS9000 IPS sobre una conexión TCP/IP. En el módulo ips, la Conectividad se proporciona bajo la forma de interfaces de GE que se configuren apropiadamente. El módulo ips 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 fueran asociadas a la red del IP.

Cada host del iSCSI que requiere el acceso al almacenamiento con las necesidades del módulo ips tener un driver iSCSI compatible instalado. Con la ayuda del protocolo iscsi, el driver iSCSI permite que un host del iSCSI transporte las peticiones y las respuestas de SCSI sobre una red del IP. Desde la perspectiva de un sistema operativo del host, el driver iSCSI aparece ser driver de transporte SCSI similar a un driver FC para un canal periférico en el host. Desde la perspectiva del dispositivo de almacenamiento, cada host IP aparece como host FC. Rutear SCSI del host IP al dispositivo de almacenamiento FC consiste en estas acciones principales:

- Transporte de las peticiones y de las respuestas del iSCSI sobre una red del IP entre los host y el módulo ips
- Rutear las peticiones y las respuestas de SCSI entre los host en una red del IP y el dispositivo de almacenamiento FC (convirtiendo el iSCSI al FCP y al FCP al iSCSI). Esta encaminamiento es realizada por el módulo ips.
- Transporte de las peticiones o de las respuestas FCP entre el módulo ips y los dispositivos de almacenamiento FC

El módulo ips no importa las blancos FC al iSCSI por abandono. Dinámico o correlación estática debe ser configurado antes de que el módulo ips ponga las blancos FC a disposición los iniciadores iSCSI. Cuando se configuran ambos, las blancos estáticamente asociadas FC tienen un nombre configurado. Este documento proporciona un ejemplo de la correlación estática. Con la correspondencia dinámica, cada vez que eso que el host del iSCSI conecta con el módulo ips, se crea un nuevo puerto FC N y el nWWNs y el pWWNs afectados un aparato para este puerto N pueden ser diferentes. Utilice el método de la correlación estática si usted necesita obtener el mismo nWWNs y el pWWNs para el iSCSI lo recibe conecta cada vez con el módulo ips. La correlación estática se puede utilizar en el módulo ips para acceder los conjuntos de almacenamiento inteligentes FC que tienen configuraciones del control de acceso y de los números de unidad lógica (LUN) que asocian y del enmascarado basadas en el pWWNs o el nWWNs del iniciador.

Usted puede controlar el acceso a cada destino iSCSI estático-asociado con la creación de una lista específica de puertos IPS en los cuales se haga publicidad la blanco y la creación de una lista de Nombres del nodo del iniciador iSCSI permitidos accederla. 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. Ambos métodos se pueden utilizar simultáneamente. En este valor por defecto de la configuración permiten al Establecimiento de zonas para el VSAN específico. Los módulos IPS 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.

- **descubrimiento iSCSI:** Cuando un host del iSCSI crea una sesión de detección de iSCSI y las interrogaciones para todos los destinos iSCSI, el módulo ips devuelve solamente la lista de destinos iSCSI que este host del iSCSI se permite acceder basado en las directivas del control de acceso.
- **creación de sesión iSCSI:** Cuando un host IP inicia a una sesión iSCSI, el módulo ips verifica si el destino iSCSI especificado (en el pedido de registro de la sesión) es una blanco asociada los parásitos atmosféricos, y si es verdad, verifica si el nombre del nodo iSCSI del host IP se permite acceder la blanco. Si el host IP no tiene acceso, se rechaza su login.

El módulo ips, después crea un puerto virtual FC N (el puerto N puede existir ya) para este host IP y hace una interrogación del Servidor de nombres FC para el FCID del pWWN de la blanco FC que es accedido por el host 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. Si el FCID es vuelto por el Servidor de nombres, después validan a la sesión iSCSI. Si no, se rechaza el pedido de registro.

[Configurar](#)

En esta sección, le presentan con la información para configurar el MDS9216 y el driver iSCSI de Cisco para Linux.

Nota: Para encontrar la información adicional en los comandos usados en este documento, utilice la [guía de configuración de la referencia de comandos Family del Cisco MDS 9000](#) y del [software de la familia del Cisco MDS 9000](#).

Diagrama de la red

Este documento utiliza la configuración de red que se muestra en este diagrama:

Configuraciones

Este documento utiliza las configuraciones mostradas aquí:

- Mono (HP 9000/800 A500 HP-UX 11.00)
- Vatican (MDS9216)

Mono (HP 9000/800 A500 HP-UX 11.00)

```
On the HP-UX host only the file /etc/iscsi.conf has to
be modified:

[/]# cat /etc/iscsi.conf # iSCSI configuration file -
see iscsi.conf(4) # DiscoveryAddress Settings # -----
----- # Add "DiscoveryAddress=xxx" entries
for each iSCSI router instance. # The driver attempts 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=10.48.69.242 !--- Configure the IP
address of the GE interface that accepts iSCSI request
from your host. # The DiscoveryAddress Settings can take
following entry. # # 1) Authentication Settings # 2)
ConnectionTimeout Settings !--- Other required driver
parameters could be changed in the iscsi.conf file.
..... [/]# cat /etc/iscsi.bindings # iSCSI bindings,
file format version 1.0. # NOTE: this file is
automatically maintained by the iSCSI daemon. # You do
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 10 seagate 0 11 spa-vt !--- The
iSCSI driver discovery daemon process looks up each
discovered !--- target in the /etc/iscsi.bindings file.
If an entry exists in the file for the target, !--- the
corresponding SCSI target ID is assigned to the target.
If no entry !--- exists for the target, the smallest
available SCSI target ID is assigned !--- 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. If a target is !--- no
longer available to a host, you can manually edit the
file and remove !--- entries so that the obsolete target
no longer consumes a SCSI target ID. !--- If you know
the iSCSI target name of a target in advance, and you
want !--- it to be assigned a particular SCSI target ID,
you can add an entry !--- manually. You must stop the
```

iSCSI driver before editing the !--- /etc/iscsi.bindings file. The maximum number of targets is 14. !--- Enter [/#/sbin/init.d/iscsi start to manually start the iSCSI driver. !--- Enter [/#/sbin/init.d/iscsi stop to manually stop the iSCSI driver.

Vatican (Cisco MDS9216)

!--- If you are starting from the factory default configuration, you !--- need to setup the IP address and mask of the management interface. !--- This would normally be done during the initial setup . interface mgmt0 ip address 10.48.69.156 255.255.255.192 !--- In this configuration example, all the iSCSI targets are in a single vsan . vsan database vsan 1016 vsan 1016 interface fc1/3 vsan 1016 interface fc1/7 !--- These are the boot variables. boot system bootflash:/sl11a boot kickstart bootflash:/kl11a # Simple IP configuration ip domain-name cisco.com ip name-server 144.254.10.123 ip default-gateway 10.48.69.129 !--- Declare that the iSCSI initiator with the IP address of the host. # It belongs to the vsan of our choice iscsi authentication none iscsi initiator ip-address 10.48.69.238 vsan 1016 !--- Define the first virtual target, it is a JBOD. Identify the target !--- by its pWWN, advertise it on a GE interface, and allow access to the initiator. iscsi virtual-target name seagate pWWN 21:00:00:20:37:67:f7:a2 advertise interface GigabitEthernet2/1 initiator ip address 10.48.69.238 permit !--- The second target is a Clariion disk array. Since the maximum LUN number that you !--- can have under HP-UX without additional software is 7, define a mapping from FC LUN numbers !--- to the iSCSI LUN numbers you are going to present to the host. iscsi virtual-target name spa-vt pWWN 50:06:01:60:88:02:a8:2b fc-lun 0020 iscsi-lun 0003 pWWN 50:06:01:60:88:02:a8:2b fc-lun 0021 iscsi-lun 0004 advertise interface GigabitEthernet2/1 initiator ip address 10.48.69.238 permit !--- Permit access to the targets on the FC level. Create a simple zone configuration to do this. !--- Alternatively, you could have simply set the default zoning policy in vsan 1016 to permit. zone name jbod vsan 1016 member pwwn 21:00:00:20:37:67:f7:a2 member symbolic-nodename 10.48.69.238 zone name spa vsan 1016 member pwwn 50:06:01:60:88:02:a8:2b member symbolic-nodename 10.48.69.238 zoneset name iscsidoc vsan 1016 member jbod member spa zoneset activate name iscsidoc vsan 1016 !--- Set the IP address and mask of the GE interface and enable it. interface GigabitEthernet2/1 ip address 10.48.69.242 255.255.255.192 iscsi authentication none no shutdown # Lastly we bring up the iSCSI interface up interface iscsi2/1 no shutdown

Verificación

Esta sección proporciona la información que usted puede utilizar para confirmar sus trabajos de la configuración correctamente y para resolverlos problemas en caso de que usted note los problemas.

[La herramienta de búsqueda de comandos \(clientes registrados solamente\)](#) soportan a los ciertos comandos show, que permite que usted vea una análisis de la salida del comando show.

Comandos host HP-UX

- **netstat-n** o **lsof** — verifica las conexiones TCP.
- **iscsi-ls** — muestra los dispositivos actualmente disponibles.
- **dmesg** — recoge los mensajes de diagnóstico.

Comandos MDS/IPS-8

- **zona de la demostración** — información de zona de las visualizaciones.
- **muestre la base de datos del flogi** — información del servidor del FLOGI de las visualizaciones.
- **muestre la base de datos del fcns** — información del Servidor de nombres de las visualizaciones para un VSAN específico.
- **muestre la calidad de miembro del vsan** — información de la interfaz de las visualizaciones para diversos VSAN.
- **iscsi de la demostración** — diversa información iSCSI de las visualizaciones.
- **demostración IPS** — diversa información de las visualizaciones sobre los Servicios IP.
- **scsi-target de la demostración** — dispositivos SCSI de las visualizaciones para el VSAN específico (para asociar el FC LUN al iscsi LUN).
- **interfaz de la demostración** — información de las visualizaciones sobre las diversas interfaces.
- **ruta de IP de la demostración** — información de la ruta de IP de las visualizaciones.

Troubleshooting

En esta sección encontrará información que puede utilizar para solucionar problemas de configuración.

Aquí está la información de Troubleshooting relevante a esta configuración:

- Visualizaciones del mono (HP 9000/800 A500 HP-UX 11.00)
- Visualizaciones del Vatican (MDS9216)
- Visualizaciones del Fabric Manager y del administrador de dispositivo

Mono (HP 9000/800 A500 HP-UX 11.00)

```
# /sbin/init.d/iscsi stop Waiting for iscsid to
terminate ..... Waiting for iscsid to terminate .....
Waiting for iscsid to terminate ..... Waiting for iscsid
to terminate ..... Waiting for iscsi_[tr]x_threads to
terminate ..... [/# /sbin/init.d/iscsi start Number of
indices in scsi_isc table used by System: 5 Index used
by iSCSI controller: 255 Number of free indices: 251
[/# netstat -n | grep '10.48.69.242' tcp 0 0
10.48.69.238.49501 10.48.69.242.3260 ESTABLISHED tcp 0 0
10.48.69.238.49500 10.48.69.242.3260 ESTABLISHED tcp 0 0
10.48.69.238.49499 10.48.69.242.3260 ESTABLISHED !--- If
you have lsof, you can also try the following: [/# lsof
-i @10.48.69.242 COMMAND PID USER FD TYPE DEVICE
SIZE/OFF NODE NAME iscsid 2836 root lu inet 0x41aa9268
0t1300 TCP ape.cisco.com:49499->10.48.69.242:3260
(ESTABLISHED) !--- Note that ioscan does not report
iSCSI devices. To see the list !--- of available iSCSI
```

```

devices from the host, issue the iscsi-ls command. [/]#
iscsi-ls -l
#####
##### TARGET NAME = seagate TARGET ID = 10 ADDRESS =
10.48.69.242:3260,128 STATUS = CONNECTED
10.48.69.238:49501 <-> 10.48.69.242:3260 9/19/2003
15:40:42 SESSION = ISID 00023d000001 TSID 80 LUN 0 =
DISK c255t10d0 'SEAGATE ST318203FC 0004' BLOCKS :
35566479 BLOCKSIZE : 512 CAPACITY : 17366.00MB
#####
##### TARGET NAME = spa-vt TARGET ID = 11 ADDRESS =
10.48.69.242:3260,128 STATUS = CONNECTED
10.48.69.238:49500 <-> 10.48.69.242:3260 9/19/2003
15:40:42 SESSION = ISID 00023d000001 TSID 80 LUN 4 =
DISK c255t11d4 'DGC RAID 1 0632' BLOCKS : 6291419
BLOCKSIZE : 512 CAPACITY : 3071.00MB LUN 3 = DISK
c255t11d3 'DGC RAID 1 0632' BLOCKS : 10485607 BLOCKSIZE
: 512 CAPACITY : 5119.00MB !--- To see detailed
statistics for currently established iSCSI sessions, use
this: [/]# iscsi-ls -c
#####
##### TARGET NAME = seagate TARGET ID = 10 ADDRESS =
10.48.69.242:3260,128 STATUS = CONNECTED
10.48.69.238:49501 <-> 10.48.69.242:3260 9/19/2003
15:40:42 SESSION = ISID 00023d000001 TSID 80 InitialR2T
= Yes FirstBurstLength = 262144 Bytes MaxBurstLength =
16776192 Bytes Header Digest = 1 Data Digest = 1 Login
Timeout = 15 Seconds Auth Timeout = 45 Seconds Active
Timeout = 5 Seconds Idle Timeout = 60 Seconds Ping
Timeout = 5 Seconds
#####
##### TARGET NAME = spa-vt TARGET ID = 11 ADDRESS =
10.48.69.242:3260,128 STATUS = CONNECTED
10.48.69.238:49500 <-> 10.48.69.242:3260 9/19/2003
15:40:42 SESSION = ISID 00023d000001 TSID 80 InitialR2T
= Yes FirstBurstLength = 262144 Bytes MaxBurstLength =
16776192 Bytes Header Digest = 1 Data Digest = 1 Login
Timeout = 15 Seconds Auth Timeout = 45 Seconds Active
Timeout = 5 Seconds Idle Timeout = 60 Seconds Ping
Timeout = 5 Seconds !--- Here are some of the entries
you can expect to find in the syslog: [/]# dmesg [...]
iSCSI: session 0x4179b000 target 11 accepted the
preferred value (None) DataDigest=CRC32C iSCSI: session
0x41a64800 target 10 accepted the preferred value (None)
DataDigest=CRC32C iSCSI: Direct Access Device found at
lun 3 on target 11 Vendor Id : DGC Product Id : RAID 1
Product Rev: 0632 iSCSI: Direct Access Device found at
lun 0 on target 10 Vendor Id : SEAGATE Product Id :
ST318203FC Product Rev: 0004 iSCSI: Direct Access Device
found at lun 4 on target 11 Vendor Id : DGC Product Id :
RAID 1 Product Rev: 0632 iSCSI: iscsi_recv_cmd: session
(0x4179b000) recv_cmd(sc) (0x41844800), Cmd 0x25, status
0x2, senselen 18, sense key 06, ASC/ASCQ 29/00, task
(0x40718b00) to (host 255 target 11 lun 3), TargetAlias
spa-vt Sense 70000600 0000000a 00000000 29000000 0000
READ_CAPACITY result = 0x2 Target = 0xb LUN = 0x3 iSCSI:
iscsi_recv_cmd: task (0x40718b00) itt 9 to (host 255
target 11 lun 3), Cmd 0x25, U(Overflow/Underflow)
underflow, received 0(task->rxdata), residual 8,
expected 8 iSCSI: iscsi_recv_cmd: session (0x4179b000)
recv_cmd(sc) (0x41844800), Cmd 0x25, status 0x2,
senselen 18, sense key 06, ASC/ASCQ 29/00, task
(0x40718c00) to (host 255 target 11 lun 4), TargetAlias
spa-vt Sense 70000600 0000000a 00000000 29000000 0000

```



```
READ_CAPACITY result = 0x2 Target = 0xb LUN = 0x4 iSCSI:
iscsi_recv_cmd: task (0x40718c00) itt 11 to (host 255
target 11 lun 4), Cmd 0x25, U(Overflow/Underflow)
underflow, received 0(task->rxdata), residual 8,
expected 8
```

Visualizaciones del Vatican (MDS9216)

```
vatican# show zone status vsan 1016 VSAN: 1016 default-
zone: deny distribute: active only Interop: Off Full
Zoning Database : Zonesets:1 Zones:3 Aliases: 0 Active
Zoning Database : Name: iscsidoc Zonesets:1 Zones:3
Status: Activation completed at Wed Sep 17 13:03:56 2003
vatican# show zone active vsan 1016 zone name jbod vsan
1016 * fcid 0x7902e8 [pwwn 21:00:00:20:37:67:f7:a2] *
fcid 0x790100 [symbolic-nodename 10.48.69.238] zone name
spa vsan 1016 * fcid 0x790104 [pwwn
50:06:01:60:88:02:a8:2b] * fcid 0x790100 [symbolic-
nodename 10.48.69.238] zone name spb vsan 1016 * fcid
0x790105 [pwwn 50:06:01:68:88:02:a8:2b] * fcid 0x790100
[symbolic-nodename 10.48.69.238] vatican# show flogi
database vsan 1016 -----
----- INTERFACE VSAN
FCID PORT NAME NODE NAME -----
----- fc1/3 1016
0x7902e8 21:00:00:20:37:67:f7:a2 20:00:00:20:37:67:f7:a2
fc1/7 1016 0x790104 50:06:01:60:88:02:a8:2b
50:06:01:60:11:02:a8:2b fc1/11 1016 0x790105
50:06:01:68:88:02:a8:2b 50:06:01:60:11:02:a8:2b iscsi2/1
1016 0x790100 20:03:00:0c:30:57:5e:c2
20:02:00:0c:30:57:5e:c2 Total number of flogi = 4.
vatican# show fcns database vsan 1016 VSAN 1016: -----
----- FCID TYPE PWWN (VENDOR) FC4-TYPE:FEATURE ---
-----
----- 0x790100 N 20:03:00:0c:30:57:5e:c2
(Cisco) scsi-fcp:init isc..w 0x790104 N
50:06:01:60:88:02:a8:2b (Clariion) scsi-fcp:target
0x790105 N 50:06:01:68:88:02:a8:2b (Clariion) scsi-
fcp:target 0x7902e8 NL 21:00:00:20:37:67:f7:a2 (Seagate)
scsi-fcp:target Total number of entries = 4 --- FCID
0x790100 is the virtual N port(HBA) for the iSCSI host.
vatican# show fcns database detail vsan 1016 -----
----- VSAN:1016 FCID:0x790100 -----
----- port-wwn (vendor) :20:03:00:0c:30:57:5e:c2
(Cisco) node-wwn :20:02:00:0c:30:57:5e:c2 class :2,3
node-ip-addr :10.48.69.238 ipa :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw symbolic-
port-name : symbolic-node-name :10.48.69.238 port-type
:N port-ip-addr :0.0.0.0 fabric-port-wwn
:20:41:00:0c:30:57:5e:c0 hard-addr :0x000000 -----
----- VSAN:1016 FCID:0x790104 -----
----- 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:30:57:5e:c0 hard-addr
:0x000000 ----- VSAN:1016
FCID:0x790105 ----- port-wwn (vendor)
:50:06:01:68:88:02: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 :20:0b:00:0c:30:57:5e:c0 hard-addr
:0x000000 ----- VSAN:1016
FCID:0x7902e8 ----- 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 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 :20:03:00:0c:30:57:5e:c0 hard-addr
:0x000000 Total number of entries = 4 vatican# show
iscsi initiator iSCSI Node name is 10.48.69.238 iSCSI
Initiator name: iqn.1987-
05.com.cisco.01.a06c4e2b8b247cadceb8afla8474dale iSCSI
alias name: ape Node WWN is 20:02:00:0c:30:57:5e:c2
(dynamic) Member of vsans: 1016 Number of Virtual
n_ports: 1 Virtual Port WWN is 20:03:00:0c:30:57:5e:c2
(dynamic) Interface iSCSI 2/1, Portal group tag: 0x80
VSAN ID 1016, FCID 0x790100 vatican# show iscsi
initiator configured iSCSI Node name is 10.48.69.238
Member of vsans: 1016 vatican# show iscsi initiator
detail iSCSI Node name is 10.48.69.238 iSCSI Initiator
name: iqn.1987-
05.com.cisco.01.a06c4e2b8b247cadceb8afla8474dale iSCSI
alias name: ape Node WWN is 20:02:00:0c:30:57:5e:c2
(dynamic) Member of vsans: 1016 Number of Virtual
n_ports: 1 Virtual Port WWN is 20:03:00:0c:30:57:5e:c2
(dynamic) Interface iSCSI 2/1, Portal group tag is 0x80
VSAN ID 1016, FCID 0x790100 2 FC sessions, 2 iSCSI
sessions iSCSI session details Target: spa-vt
Statistics: PDU: Command: 10, Response: 10 Bytes: TX:
416, RX: 0 Number of connection: 1 TCP parameters Local
10.48.69.242:3260, Remote 10.48.69.238:49500 Path MTU:
1500 bytes Retransmission timeout: 300 ms Round trip
time: Smoothed 62 ms, Variance: 3 Advertized window:
Current: 256 KB, Maximum: 256 KB, Scale: 3 Peer receive
window: Current: 576 KB, Maximum: 576 KB, Scale: 4
Congestion window: Current: 4 KB Target: seagate
Statistics: PDU: Command: 4, Response: 4 Bytes: TX: 304,
RX: 0 Number of connection: 1 TCP parameters Local
10.48.69.242:3260, Remote 10.48.69.238:49501 Path MTU:
1500 bytes Retransmission timeout: 300 ms Round trip
time: Smoothed 62 ms, Variance: 3 Advertized window:
Current: 256 KB, Maximum: 256 KB, Scale: 3 Peer receive
window: Current: 576 KB, Maximum: 576 KB, Scale: 4
Congestion window: Current: 4 KB FCP Session details
Target FCID: 0x790104 (S_ID of this session: 0x790100)
pWWN: 50:06:01:60:88:02:a8:2b, nWWN:
50:06:01:60:11:02:a8:2b Session state: LOGGED_IN 1 iSCSI
sessions share this FC session Target: spa-vt Negotiated
parameters RcvDataFieldSize 1024 our_RcvDataFieldSize
1392 MaxBurstSize 0, EMPD: FALSE Random Relative Offset:
FALSE, Sequence-in-order: Yes Statistics: PDU: Command:
0, Response: 10 Target FCID: 0x7902e8 (S_ID of this
session: 0x790100) 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: seagate
Negotiated parameters RcvDataFieldSize 1392
our_RcvDataFieldSize 1392 MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-order: Yes
Statistics: PDU: Command: 0, Response: 4 vatican# show
iscsi initiator iscsi-session detail iSCSI Node name is
10.48.69.238 iSCSI Initiator name: iqn.1987-
05.com.cisco.01.a06c4e2b8b247cadceb8afla8474dale iSCSI
alias name: ape Node WWN is 20:02:00:0c:30:57:5e:c2
```

```
(dynamic) Member of vsans: 1016 Number of Virtual
n_ports: 1 Virtual Port WWN is 20:03:00:0c:30:57:5e:c2
(dynamic) Interface iSCSI 2/1, Portal group tag is 0x80
VSAN ID 1016, FCID 0x790100 2 FC sessions, 2 iSCSI
sessions iSCSI session details Target: spa-vt
Statistics: PDU: Command: 10, Response: 10 Bytes: TX:
416, RX: 0 Number of connection: 1 TCP parameters Local
10.48.69.242:3260, Remote 10.48.69.238:49500 Path MTU:
1500 bytes Retransmission timeout: 300 ms Round trip
time: Smoothed 62 ms, Variance: 2 Advertized window:
Current: 256 KB, Maximum: 256 KB, Scale: 3 Peer receive
window: Current: 576 KB, Maximum: 576 KB, Scale: 4
Congestion window: Current: 4 KB Target: seagate
Statistics: PDU: Command: 4, Response: 4 Bytes: TX: 304,
RX: 0 Number of connection: 1 TCP parameters Local
10.48.69.242:3260, Remote 10.48.69.238:49501 Path MTU:
1500 bytes Retransmission timeout: 300 ms Round trip
time: Smoothed 62 ms, Variance: 2 Advertized window:
Current: 256 KB, Maximum: 256 KB, Scale: 3 Peer receive
window: Current: 576 KB, Maximum: 576 KB, Scale: 4
Congestion window: Current: 4 KB vatican# show iscsi
initiator fcp-session detail iSCSI Node name is
10.48.69.238 iSCSI Initiator name: iqn.1987-
05.com.cisco.01.a06c4e2b8b247cadceb8afla8474dale iSCSI
alias name: ape Node WWN is 20:02:00:0c:30:57:5e:c2
(dynamic) Member of vsans: 1016 Number of Virtual
n_ports: 1 Virtual Port WWN is 20:03:00:0c:30:57:5e:c2
(dynamic) Interface iSCSI 2/1, Portal group tag is 0x80
VSAN ID 1016, FCID 0x790100 2 FC sessions, 2 iSCSI
sessions FCP Session details Target FCID: 0x790104 (S_ID
of this session: 0x790100) pWWN:
50:06:01:60:88:02:a8:2b, nWWN: 50:06:01:60:11:02:a8:2b
Session state: LOGGED_IN 1 iSCSI sessions share this FC
session Target: spa-vt Negotiated parameters
RcvDataFieldSize 1024 our_RcvDataFieldSize 1392
MaxBurstSize 0, EMPD: FALSE Random Relative Offset:
FALSE, Sequence-in-order: Yes Statistics: PDU: Command:
0, Response: 10 Target FCID: 0x7902e8 (S_ID of this
session: 0x790100) 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: seagate
Negotiated parameters RcvDataFieldSize 1392
our_RcvDataFieldSize 1392 MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-order: Yes
Statistics: PDU: Command: 0, Response: 4 vatican# show
iscsi virtual-target configured target: seagate * Port
WWN 21:00:00:20:37:67:f7:a2 == The "*" means you have
both discovery and target session. If there is no "*" in
front of the pWWN, it means you only have discovery
session. Configured node No. of LU mapping: 1 iSCSI LUN:
0000, FC LUN: 0000 No. of advertised interface: 1
GigabitEthernet 2/1 No. of initiators permitted: 1
initiator 10.48.69.238/32 is permitted all initiator
permit is disabled target: spa-vt * Port WWN
50:06:01:60:88:02:a8:2b Secondary PWWN
50:06:01:68:88:02:a8:2b Configured node No. of LU
mapping: 2 iSCSI LUN: 0003, FC LUN: 0020 iSCSI LUN:
0004, FC LUN: 0021 No. of advertised interface: 1
GigabitEthernet 2/1 No. of initiators permitted: 1
initiator 10.48.69.238/32 is permitted all initiator
permit is disabled vatican# show iscsi stats iscsi 2/1
iscsi2/1 5 minutes input rate 16 bits/sec, 2 bytes/sec,
0 frames/sec 5 minutes output rate 16 bits/sec, 2
bytes/sec, 0 frames/sec iSCSI statistics 50932 packets
```

```

input, 60370640 bytes Command 3659 pdus, Data-out 41069
pdus, 56533832 bytes, 2476 fragments output 115926
packets, 112863536 bytes Response 3374 pdus (with sense
206), R2T 1897 pdus Data-in 103999 pdus, 106404584 bytes
vatican# show ips arp interface gigabitethernet 2/1
Protocol Address Age (min) Hardware Addr Type Interface
Internet 10.48.69.200 0 0008.e21e.c7bc ARPA
GigabitEthernet2/1 Internet 10.48.69.201 5
0202.3d30.45c9 ARPA GigabitEthernet2/1 Internet
10.48.69.206 5 0202.3d30.45ce ARPA GigabitEthernet2/1
Internet 10.48.69.209 3 0202.3d30.45d1 ARPA
GigabitEthernet2/1 Internet 10.48.69.226 2
0060.08f6.bcl1a ARPA GigabitEthernet2/1 Internet
10.48.69.229 4 0800.209e.edab ARPA GigabitEthernet2/1
Internet 10.48.69.231 1 0002.b3c1.7dab ARPA
GigabitEthernet2/1 Internet 10.48.69.233 0
0010.4200.7d5b ARPA GigabitEthernet2/1 Internet
10.48.69.238 0 0030.6e1b.6f51 ARPA GigabitEthernet2/1
Internet 10.48.69.239 10 0030.6e1c.a00b ARPA
GigabitEthernet2/1 Internet 10.48.69.241 0
000b.cdaf.b4c3 ARPA GigabitEthernet2/1 Internet
10.48.69.248 4 0202.3d30.45f8 ARPA GigabitEthernet2/1
Internet 10.48.69.252 1 0202.3d30.45fc ARPA
GigabitEthernet2/1 Internet 10.10.2.28 7 0202.3d0a.021c
ARPA GigabitEthernet2/1 vatican# show ips stats tcp
interface gigabitethernet 2/1 detail TCP Statistics for
port GigabitEthernet2/1 TCP send stats 261205 segments,
117757220 bytes 140632 data, 51907 ack only packets 2655
control (SYN/FIN/RST), 0 probes, 2639 window updates
63382 segments retransmitted, 90885612 bytes 63382
retransmitted while on ethernet send queue, 1 packets
split 13327 delayed acks sent TCP receive stats 249073
segments, 72669 data packets in sequence, 61525764 bytes
in sequence 2335 predicted ack, 68605 predicted data 0
bad checksum, 0 multi/broadcast, 0 bad offset 0 no
memory drops, 0 short segments 4396 duplicate bytes, 205
duplicate packets 0 partial duplicate bytes, 0 partial
duplicate packets 0 out-of-order bytes, 2625 out-of-
order packets 0 packet after window, 0 bytes after
window 0 packets after close 80504 acks, 117762158 ack
bytes, 0 ack toomuch, 96274 duplicate acks 0 ack packets
left of snd_una, 7 non-4 byte aligned packets 54199
window updates, 0 window probe 6343 pcb hash miss, 709
no port, 6 bad SYN, 0 paws drops TCP Connection Stats 0
attempts, 2718 accepts, 2718 established 2716 closed, 15
drops, 0 conn drops 3 drop in retransmit timeout, 10
drop in keepalive timeout 0 drop in persist drops, 0
connections drained TCP Miscellaneous Stats 37062
segments timed, 41787 rtt updated 817 retransmit
timeout, 1 persist timeout 22654 keepalive timeout,
22643 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 2720
entries, 2718 connections completed, 0 entries timed out
0 dropped due to overflow, 2 dropped due to RST 0
dropped due to ICMP unreachable, 0 dropped due to bucket
overflow 0 abort due to no memory, 2 duplicate SYN, 183
no-route SYN drop 0 hash collisions, 0 retransmitted TCP
Active Connections Local Address Remote Address State
Send-Q Recv-Q 10.48.69.242:3260 10.48.69.238:49499
ESTABLISH 0 0 10.48.69.242:3260 10.48.69.238:49500
ESTABLISH 0 0 10.48.69.242:3260 10.48.69.238:49501
ESTABLISH 0 0 0.0.0.0:3260 0.0.0.0:0 LISTEN 0 0 vatican#

```

```

discover scsi-target local discovery started vatican#
show scsi-target devices vsan 1016 -----
-----
--- VSAN FCID PWWN VENDOR MODEL REV -----
-----
---- 1016 0x790104 50:06:01:60:88:02:a8:2b DGC RAID 0
0632 1016 0x7902e8 21:00:00:20:37:67:f7:a2 SEAGATE
ST318203FC 0004 vatican# show scsi-target lun vsan 1016
- RAID from DGC (Rev 0632) FCID is 0x790104 in VSAN
1016, 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 - ST318203FC from SEAGATE (Rev
0004) FCID is 0x7902e8 in VSAN 1016, 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 vatican# show interface
iscsi 2/1 iscsi2/1 is up Hardware is GigabitEthernet
Port WWN is 20:41:00:0c:30:57:5e:c0 Admin port mode is

```

```
ISCSI Port mode is ISCSI Speed is 1 Gbps iSCSI initiator
is identified by name Number of iSCSI session: 0, Number
of TCP connection: 0 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 500000 kbps Minimum
available bandwidth is 500000 kbps Estimated round trip
time is 10000 usec 5 minutes input rate 16 bits/sec, 2
bytes/sec, 0 frames/sec 5 minutes output rate 16
bits/sec, 2 bytes/sec, 0 frames/sec iSCSI statistics
Input 50920 packets, 60370032 bytes Command 3659 pdus,
Data-out 41069 pdus, 56533832 bytes fragments 2476
Output 115914 packets, 112862928 bytes Response 3374
pdus (with sense 206), R2T 1897 pdus Data-in 103999
pdus, 106404584 bytes vatican# show interface
gigabitethernet 2/1 GigabitEthernet2/1 is up Hardware is
GigabitEthernet, address is 0005.3000.a85a Internet
address is 10.48.69.242/26 MTU 1500 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 440 bits/sec, 55 bytes/sec, 0
frames/sec 5 minutes output rate 80 bits/sec, 10
bytes/sec, 0 frames/sec 850346 packets input, 127958119
bytes 6488 multicast frames, 0 compressed 0 input
errors, 0 frame, 0 overrun 0 fifo 289960 packets output,
201600774 bytes, 0 underruns 0 output errors, 0
collisions, 0 fifo 0 carrier errors vatican# show ip
route Codes: C - connected, S - static Default gateway
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
```

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

Esta sección proporciona a las capturas de pantalla del Fabric Manager MDS 1.2(1a) y del administrador de dispositivo 1.2(1a).

Diagrama de topología del Fabric Manager

El administrador de dispositivo

Seleccione **FC** -> los **LUN** en el administrador de dispositivo para visualizar el pWWNs, las identificaciones de LUN, y la capacidad de sus LUN.

Seleccione **IP** > - **iSCSI** en el administrador de dispositivo para visualizar a las sesiones iSCSI.

[Información Relacionada](#)

- [driver iSCSI para las preguntas frecuentes HP-UX 11.00](#)
- [Descargas del software del iSCSI de Cisco](#)
- [Resolver problemas el driver iSCSI para HP-UX 11.00](#)
- [Soporte Técnico - Cisco Systems](#)