

Windows服务器2003年对MDS/IPS-8配置示例的iSCSI主机

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简介

Cisco的iSCSI驱动，在服务器上位于，是iSCSI解决方法的关键组件。这些iSCSI驱动程序会拦截SCSI命令，将其封装到IP数据包中，然后将其重定向到Cisco SN 5420、Cisco SN 5428-2或Cisco MDS/IPS-8。本文档提供Solaris iSCSI主机到MDS的示例配置/IPS-8。

开始使用前

规则

本文档中使用的Cisco MDS 9000是指MDS 9000系列(MDS 9506、MDS 9509、MDS 9216)中的任何光纤通道(FC)交换机产品。

IPS刀片是指IP存储服务模块。有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

先决条件

安装与Windows Server 2003版本兼容的iSCSI驱动程序。最新版本的驱动程序可在Cisco.com上的[Cisco iSCSI Driver for Windows Server 2003\(仅限注册客户\)](#)页面找到。README.txt文件包括在驱动程序zip(tar)文件中。README包含关于许可证协议的信息、驱动程序安装和配置说明以及驱动体系结构的技术概要。

用于Microsoft Windows 2003的思科iSCSI驱动程序需要Windows Server 2003企业版或标准版或Web版。

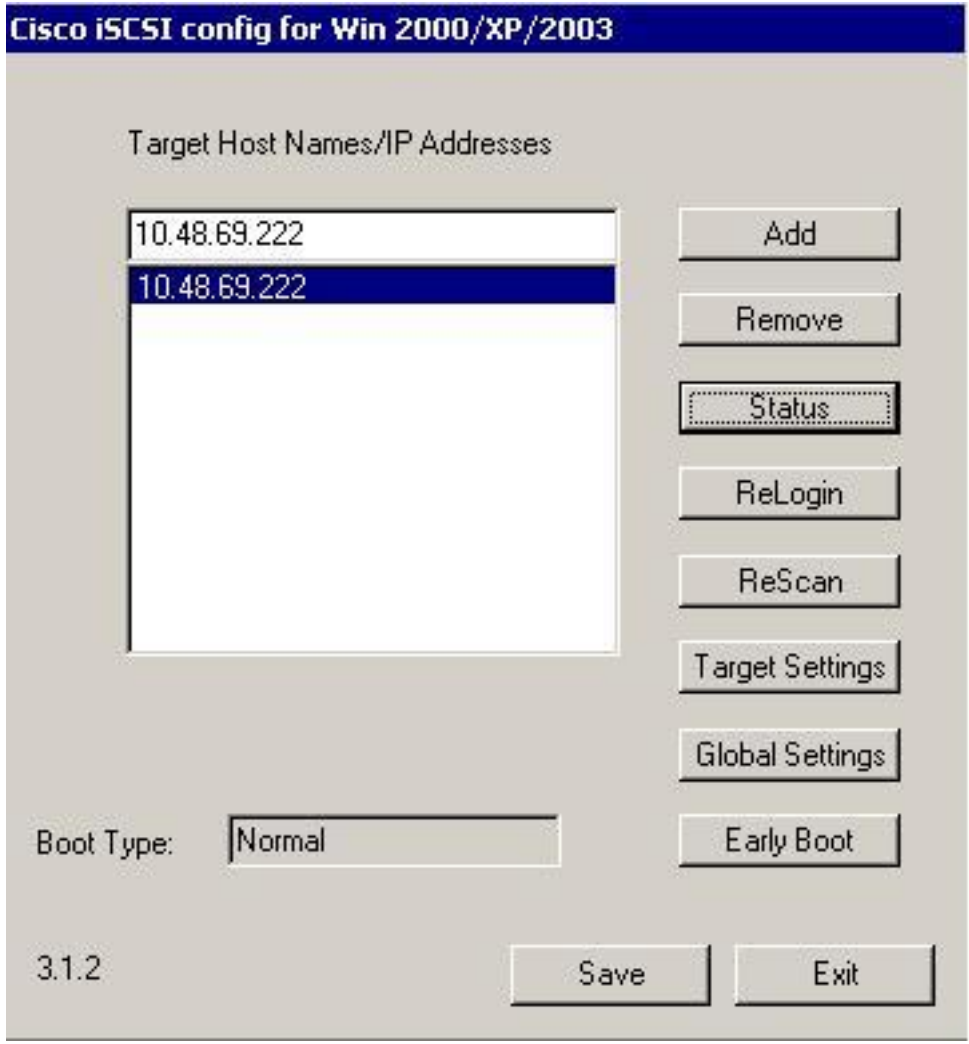
使用的组件

本文档中的信息基于以下软件和硬件版本。

- 装有Windows Server 2003标准版的主机



- 用于Windows Server 2003的Cisco iSCSI驱动程序3.1.2。iSCSI驱动程序版本可在iSCSI配置窗口左下角看到。



- 带软件版本1.2(1a)的思科MDS 9216

```
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 Services Module	DS-X9308-SMIP	ok

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	1.2(1a)	1.0	20:01:00:0c:30:6c:24:40 to 20:10:00:0c:30:6c:24:40
2	1.2(1a)	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 ver
```

```
Cisco Storage Area Networking Operating System (SAN-OS) Software
```

```
TAC support: http://www.cisco.com/tac
```

```
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```

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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 960080 kB
```

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

```
Canterbury uptime is 1 days 12 hours 3 minute(s) 29 second(s)
```

```
Last reset at 39578 usecs after Mon Oct 13 07:32:38 2003
Reason: Reset Requested by CLI command reload
System version: 1.2(1a)
```

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

背景理论

IP存储模块提供对FC存储设备的IP主机访问。IPS模块是DS-X9308-SMIP。它提供透明SCSI路由。使用iSCSI协议的IP主机可以透明地访问FC网络上的SCSI(FCP)目标IP主机通过TCP/IP连接将封装在iSCSI协议数据单元(PDU)中的SCSI命令发送到MDS 9000 IPS端口。在IPS模块上，以正确配置的千兆以太网(GE)接口形式提供连接。IPS模块使您创建虚拟iSCSI目标并且映射他们到在FC SAN上可用的物理FC目标。它将FC目标呈现给IP主机，就像物理目标本地连接到IP网络一样。

需要通过IPS模块访问存储的每台iSCSI主机都需要安装兼容的iSCSI驱动程序。使用iSCSI协议，iSCSI驱动程序允许iSCSI主机通过IP网络传输SCSI请求和响应。从主机操作系统的角度，iSCSI驱动看来是SCSI运输驱动程序，与主机中一条外围通道的FC驱动程序相似。从存储设备的角度，每台IP主机出现为一台FC主机。

将SCSI从IP主机路由到FC存储设备包括以下主要操作：

- 在主机和IPS模块之间通过IP网络传输iSCSI请求和响应。
- 在IP网络上的主机和FC存储设备之间路由SCSI请求和响应（将iSCSI转换为FCP，反之亦然）。此运输路线由IPS模块执行。
- 在IPS模块和FC存储设备之间传输FCP请求或响应。

默认情况下IP存储模块不导入FC目标到iSCSI。在IPS模块使FC目标可用于iSCSI启动器之前，必须配置动态或静态映射。当两个都被配置后，静态被映射的FC目标有一个配置的名称。在此配置中，您将看到静态映射的示例。使用动态映射时，每次iSCSI主机连接到IPS模块时都会创建新的FC N端口，为此N端口分配的nWWN和pWWN可能不同。请使用静态映射方法，如果您需要iSCSI主机

每次获得同样nWWN和pWWN，它接到IPS模块。静态映射可用于IPS模块，以访问具有基于启动器的pWWN和/或nWWN的访问控制和LUN映射/掩码配置的智能FC存储阵列。

您可以通过指定将通告每个静态映射的iSCSI目标的IPS端口列表并指定允许访问该目标的iSCSI启动器节点名称列表来控制对每个静态映射的iSCSI目标的访问。FC基于分区的访问控制和基于iSCSI的访问控制是访问控制可以为iSCSI提供的二个机制。可以同时使用两个方法。在此配置中，已允许特定VSAN使用默认分区。IPS模块使用基于iSCSI节点名称的访问控制列表和基于FC分区的访问控制列表，以在iSCSI发现和iSCSI会话创建期间实施访问控制。

- **iSCSI发现**：当iSCSI主机创建一个iSCSI发现会话并询问所有iSCSI目标时，IPS模块返回iSCSI目标列表此iSCSI主机允许基于接入控制策略的接入。
- **iSCSI会话创建**：当IP主机启动iSCSI会话时，IPS模块验证指定的iSCSI目标(在会议登录请求)是否静态映射到目标，如果是，验证IP主机的iSCSI节点名是否允许访问目标。如果IP主机没有权限，其登录被拒绝。

IP存储模块为此IP主机创建FC虚拟N端口（N端口可能已存在），并对IP主机正在访问的FC目标pWWN的FCID执行FC名称服务器查询。它使用IP主机虚拟N端口的pwwn作为名称服务器查询的请求方。因此，名称服务器执行的一次强制的pwwn区域查询并且回应查询。如果名称服务器返回FCID，则接受iSCSI会话。否则，登录请求被拒绝。

配置

在本节中，您将获得配置MDS 9216和Cisco iSCSI Driver for Solaris的信息。

注意：要查找有关本文档中使用的命令的其他信息，请使用[《Cisco MDS 9000系列命令参考》](#)和[《Cisco MDS 9000系列软件配置指南》](#)。

网络图

本文档使用下图所示的网络设置。

Windows Server 2003
Cisco iSCSI driver 3.1.2



LAN connection
10.48.69.241/26

Catalyst 6500
VLAN 192

ge 2/5
10.48.69.222/26

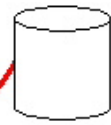


Cisco MDS 9216
Software Version 1.2.(1a)

canterbury

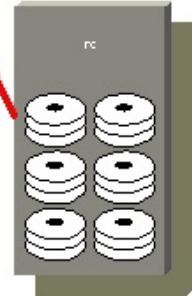
fc1/5

fc1/7



Seagate JBOD

wwwn: 21:00:00:04:cf:db:3e:a7



IBM Shark 2105F20

Licensed Internal Code 1.5.2.114
wwwn: 50:05:07:63:00:c4:94:4c

配置

本文档使用如下所示的配置。

- Vuk(Windows Server 2003)
- 坎特伯雷(MDS 9216)

Vuk(Windows Server 2003)

初始配置任务包括以下操作：

- 设置驱动程序将访问的MDS 9000系列系统的iSCSI目标IP地址。
- 设置iSCSI目标身份验证用户名和密码。
- 保存iSCSI目标配置并设置驱动程序的启动类型。

要配置驱动程序，请执行以下步骤：

1. 作为有管理员权限的一个用户登录到计算机。
2. 单击**Start**，指向**Settings**，单击**Control Panel**，然后双击**iSCSI Config**。iSCSI配置程序会显示Win 2000/XP/2003的**Cisco iSCSI配置对话框**。
3. 在Cisco iSCSI Config for Win 2000对话框中，配置MDS 9000系列系统中SCSI路由实例的IP地址，如下所示：在**目标主机名/IP地址**文本框中，键入MDS 9000系列系统中SCSI路由实例的IP地址。在本配置示例中，IP地址为10.48.69.222。单击**Add**。IP地址在**Target Host Names/IP Addresses**文本框下的显示区被显示。

Cisco iSCSI config for Win 2000/XP/2003

Target Host Names/IP Addresses

10.48.69.222

10.48.69.222

Add

Remove

Status

ReLogin

ReScan

Target Settings

Global Settings

Boot Type: Normal

Early Boot

3.1.2

Save

Exit

4. 点击保存并退出。

5. 重新启动计算机。

坎特伯雷 (思科MDS 9216)

```
vsan database
vsan 222 name ozden
!--- VSAN 222 has been used for iSCSI targets. vsan database vsan
222 interface fc1/5 !--- Seagate is connected to fc1/5. vsan 222
interface fc1/6 vsan 222 interface fc1/7 !--- IBM Shark is
connected to fc1/7. vsan 222 interface fc1/8 !--- System boot
variables. boot system bootflash:/s121a boot kickstart
bootflash:/k121a !--- IP configurations. ip domain-name cisco.com
ip name-server 144.254.10.123 ip default-gateway 10.48.69.129 ip
routing iscsi authentication none
```

```
!--- Identify the iSCSI initiator based on the IP address of your
host. !--- A static virtual N port is defined for each NIC or
network interface. !--- LUN-mapping and LUN-masking on the
storage device has to be done with the static pWWN !--- that you
have defined for the initiator. Refer to the Enterprise Storage
Server Specialist !--- (ESSS) screen capture in the Fabric
Manager and Device Manager Displays section !--- for more
information. iscsi initiator ip-address 10.48.69.241 static nWWN
22:01:00:0c:30:6c:24:42 static pWWN 21:03:00:0c:30:6c:24:42 !---
Targets via Vsan 222 are accesible by iSCSI initiators. vsan 222
!--- A virtual target has been defined for the JBOD. The target
has !--- been identified by it's pWWN. The target has been
advertised via !--- GE interface 2/5. Host 10.48.69.241 is the
only initiator. iscsi virtual-target name seagate pWWN
21:00:00:04:cf:db:3e:a7 fc-lun 0x0000 iscsi-lun 0x0000 advertise
```

```

interface GigabitEthernet2/5 initiator ip address 10.48.69.241
permit !--- A virtual target has been defined for the IBM Shark.
The target has been identified by the pWWN. !--- Do not specify
the LUN if you wish to map the entire FC target to an iSCSI
target. !--- In the virtual-target shark-lun, LUN-mapping options
have been used. FC-LUN 0x0000 has been !--- mapped to iSCSI-LUN
0x0000. It is also possible to map FC-LUN 0x0000 to a different
iSCSI-LUN number. iscsi virtual-target name shark-lun pWWN
50:05:07:63:00:c4:94:4c fc-lun 0x0000 iscsi-lun 0x0000 pWWN
50:05:07:63:00:c4:94:4c fc-lun 0x0001 iscsi-lun 0x0001 advertise
interface GigabitEthernet2/5 initiator ip address 10.48.69.241
permit line console exec-timeout 0 line vty exec-timeout 0 ntp
server 10.48.64.100 switchname canterbury
..
zone default-zone permit vsan 1
!--- Default zone policy is set to permit for VSAN 222. zone
default-zone permit vsan 222 interface GigabitEthernet2/5 ip
address 10.48.69.222 255.255.255.192 no shutdown ... interface
fc1/5 no shutdown interface fc1/6 interface fc1/7 no shutdown ...
interface mgmt0 ip address 10.48.69.156 255.255.255.192 !---The
iSCSI interface has to be set no shut. interface iscsi2/5 no
shutdown

```

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

- **show zone status** — 显示区域信息。
- **show fcns database vsan 222** — 显示特定VSAN的名称服务器信息。
- **show flogi database vsan 222** — 显示特定VSAN的FLOGI服务器信息。
- **show vsan membership** — 显示不同VSAN的接口信息。
- **show iscsi initiator detail** — 显示iSCSI启动器信息。
- **show iscsi initiator iscsi-session detail** — 显示iSCSI启动器会话的详细信息。
- **show iscsi initiator fcp-session detail** — 显示iSCSI启动器FCP会话的详细信息。
- **show ips stats tcp interface gigabitethernet 2/5 detail** — 显示特定GE接口的TCP统计信息。
- **show iscsi virtual-target configured** — 显示已在MDS 9000上配置的iSCSI虚拟目标。
- **show iscsi initiator configured** — 显示已在MDS 9000上配置的iSCSI启动器。
- **show ips arp interface gigabitethernet 2/5** — 显示特定GE接口的IPS arp信息。
- **show scsi-target lun vsan 222** — 显示特定VSAN的SCSI设备 (用于将FC-LUN映射到iSCSI-LUN) 。
- **show int iscsi 2/5** — 显示iSCSI接口。
- **show iscsi stats iscsi 2/5** — 显示iSCSI统计信息。
- **show int gigabitethernet 2/5** — 显示GE接口。
- **show ip route** — 显示IP路由信息。

故障排除

本部分提供的信息可用于对配置进行故障排除。

注意：要查找有关排除IP存储问题的其他信息，请使用[《Cisco MDS 9000系列故障排除指南》](#)。

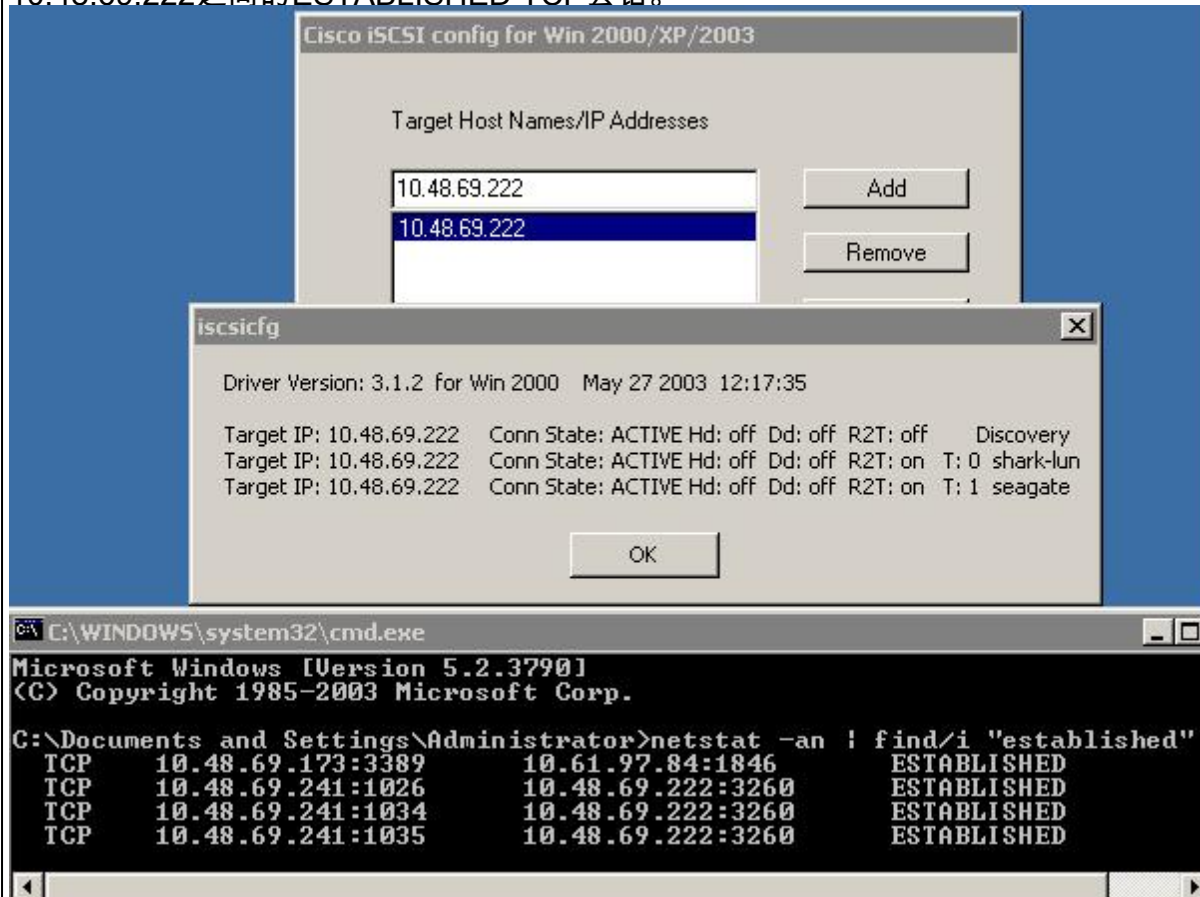
故障排除步骤

下面提供与本配置有关的故障排除信息。

- 从Vuk(Windows Server 2003)显示
- 从Canterbury Cisco MDS 9216显示

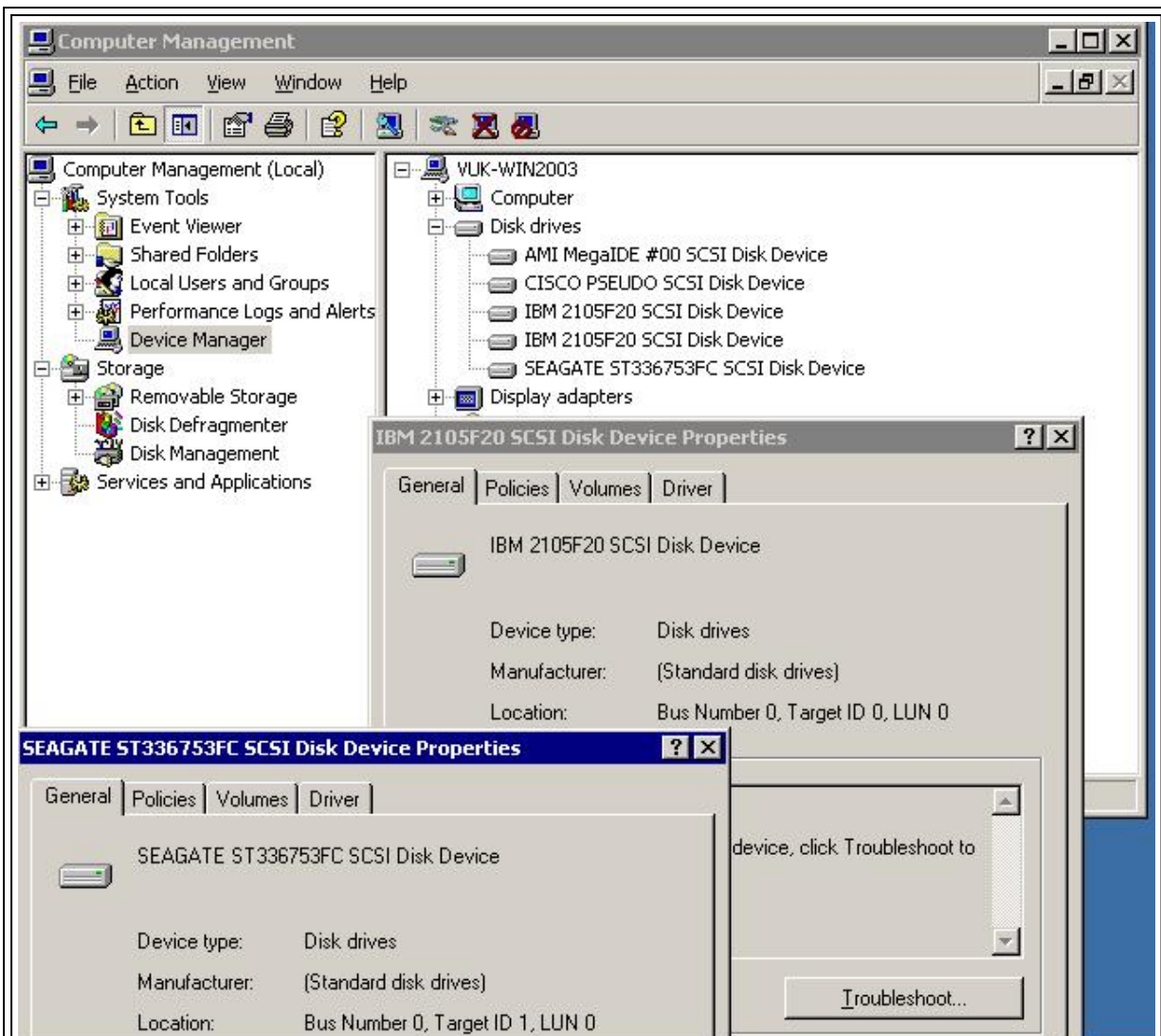
从Vuk(Windows Server 2003)显示

在“Cisco iSCSI config(Cisco iSCSI配置)”窗口中，单击Status (状态) 以检查主机是否已成功登录到iSCSI目标。在命令行上，发出netstat -an |find/i "established"查看10.48.69.222之间的ESTABLISHED TCP会话。



要查看新磁盘，请右键单击桌面上的“我的电脑”。双击“Computer Manager(计算机管理器)”。

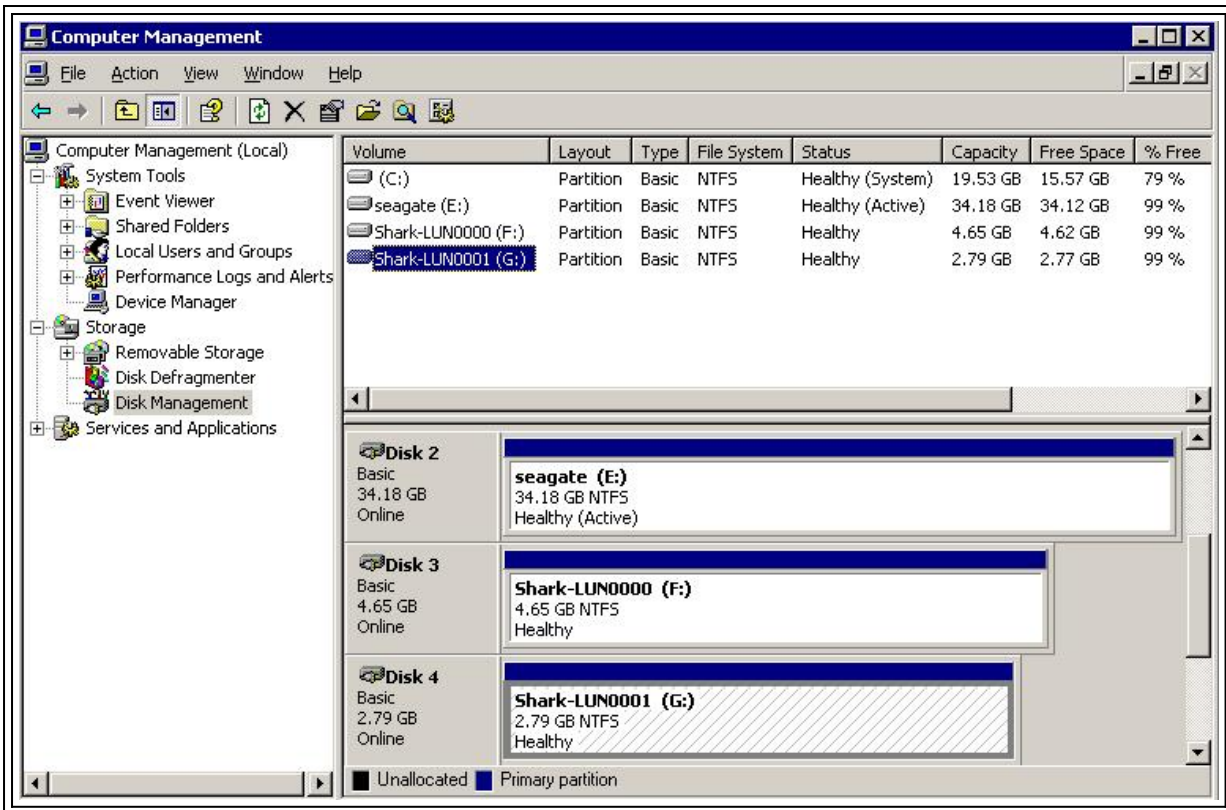
在控制台树的“系统工具”下，单击“设备管理器”



要使驱动程序在Windows 2003 Server下正常运行，驱动程序需要创建伪磁盘驱动器。这将在磁盘管理MMC应用下显示为未知磁盘。用户可以忽略此项，因为它不会以任何方式影响系统的性能或功能。不能删除它。

要管理存储，请右键单击桌面上的“我的电脑”。双击“Computer Manager(计算机管理器)”。

在控制台树的“存储”下，单击“磁盘管理”。



来自坎特伯雷的显示器 (思科MDS 9216)

```

canterbury#show vsan membership
vsan 1 interfaces:
  fc1/3 fc1/10 fc1/12 fc1/13 fc1/14 fc1/16

vsan 222 interfaces:
  fc1/5 fc1/6 fc1/7 fc1/8

vsan 4094(isolated_vsan) interfaces:

canterbury#show zone status
VSAN: 1 default-zone: permit distribute: active only Interop: 100
Full Zoning Database :
  Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
  Database Not Available
Status:

VSAN: 222 default-zone: permit distribute: active only Interop:
100
Full Zoning Database :
  Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
  Database Not Available
Status:

!--- VSAN 222 has been used for this configuration, default-zone
behavior has been set to permit. canterbury#show flogi database
vsan 222
-----
INTERFACE VSAN FCID PORT NAME NODE NAME

```

```
-----
fc1/5 222 0x62011e 21:00:00:04:cf:db:3e:a7
20:00:00:04:cf:db:3e:a7
fc1/7 222 0x620003 50:05:07:63:00:c4:94:4c
50:05:07:63:00:c0:94:4c
iscsi2/5 222 0x620001 21:03:00:0c:30:6c:24:42
22:01:00:0c:30:6c:24:42
```

Total number of flogi = 3.

!--- FCID 0X620001 is the virtual N port(HBA) for the iSCSI host Vuk. canterbury#**show fcns database vsan 222**

VSAN 222:

```
-----
FCID TYPE PWWN (VENDOR) FC4-TYPE:FEATURE
-----
```

```
0x620001 N 21:03:00:0c:30:6c:24:42 (Cisco) scsi-fcp:init isc..w
0x620003 N 50:05:07:63:00:c4:94:4c (IBM) scsi-fcp:target fc..
0x62011e NL 21:00:00:04:cf:db:3e:a7 (Seagate) scsi-fcp:target
```

Total number of entries = 3

canterbury#**show fcns database detail vsan 222**

```
-----
VSAN:222 FCID:0x620001
-----
```

```
port-wwn (vendor) :21:03:00:0c:30:6c:24:42 (Cisco)
node-wwn :22:01:00:0c:30:6c:24:42
class :2,3
```

node-ip-addr :10.48.69.241

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 :10.48.69.241 port-type :N port-ip-addr :0.0.0.0 fabric-
port-wwn :20:51:00:0c:30:6c:24:40 hard-addr :0x000000 -----
----- VSAN:222 FCID:0x620003 -----

```
port-wwn (vendor) :50:05:07:63:00:c4:94:4c (IBM) node-wwn
:50:05:07:63:00:c0:94:4c class :2,3 node-ip-addr :0.0.0.0 ipa :ff
ff ff ff ff ff ff fc4-types:fc4_features:scsi-fcp:target
fcsb2-ch-cu fcsb2-cu-ch 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 -----
```

```
---- VSAN:222 FCID:0x62011e ----- port-wwn
(vendor) :21:00:00:04:cf:db:3e:a7 (Seagate) node-wwn
:20:00:00:04:cf:db:3e:a7 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 :20:05:00:0c:30:6c:24:40 hard-addr
:0x000000 Total number of entries = 3 canterbury#show iscsi
```

session

Initiator 10.48.69.241

Initiator name ign.1987-05.com.cisco:02.9a74eb40e94d.vuk-win2003

Session #1

Discovery session, ISID 00023d000023, Status active

Session #2

Target shark-lun

VSAN 222, ISID 00023d000024, Status active, no reservation

Session #3

Target seagate

VSAN 222, ISID 00023d000025, Status active, no reservation

canterbury#show iscsi initiator

iSCSI Node name is 10.48.69.241

iSCSI Initiator name: iqn.1987-05.com.cisco:02.9a74eb40e94d.vuk-win2003

iSCSI alias name: VUK-WIN2003

Node WWN is 22:01:00:0c:30:6c:24:42 (dynamic)

Member of vsans: 222

Number of Virtual n_ports: 1

Virtual Port WWN is 21:03:00:0c:30:6c:24:42 (configured)

Interface iSCSI 2/5, Portal group tag: 0x84

VSAN ID 222, FCID 0x620001

canterbury#show iscsi initiator detail

iSCSI Node name is 10.48.69.241

iSCSI Initiator name: iqn.1987-05.com.cisco:02.9a74eb40e94d.vuk-win2003

iSCSI alias name: VUK-WIN2003

Node WWN is 22:01:00:0c:30:6c:24:42 (dynamic)

Member of vsans: 222

Number of Virtual n_ports: 1

Virtual Port WWN is 21:03:00:0c:30:6c:24:42 (configured)

Interface iSCSI 2/5, Portal group tag is 0x84

VSAN ID 222, FCID 0x620001

2 FC sessions, 2 iSCSI sessions

iSCSI session details

Target: seagate

Statistics:

PDU: Command: 16, Response: 16

Bytes: TX: 188, RX: 0

Number of connection: 1

TCP parameters

Local 10.48.69.222:3260, Remote 10.48.69.241:1035

Path MTU: 1500 bytes

Retransmission timeout: 350 ms

Round trip time: Smoothed 165 ms, Variance: 46

Advertized window: Current: 125 KB, Maximum: 125 KB, Scale: 1

Peer receive window: Current: 118 KB, Maximum: 118 KB, Scale: 1

Congestion window: Current: 9 KB

Target: shark-lun

Statistics:

PDU: Command: 2343, Response: 2343

Bytes: TX: 46363700, RX: 45494272

Number of connection: 1

TCP parameters

Local 10.48.69.222:3260, Remote 10.48.69.241:1034

Path MTU: 1500 bytes

Retransmission timeout: 390 ms

Round trip time: Smoothed 136 ms, Variance: 65

Advertized window: Current: 125 KB, Maximum: 125 KB, Scale: 1

Peer receive window: Current: 118 KB, Maximum: 118 KB, Scale: 1

Congestion window: Current: 11 KB

FCP Session details

Target FCID: 0x62011e (S_ID of this session: 0x620001)

pWWN: 21:00:00:04:cf:db:3e:a7, nWWN: 20:00:00:04:cf:db:3e:a7

Session state: LOGGED_IN

1 iSCSI sessions share this FC session

Target: seagate

Negotiated parameters

RcvDataFieldSize 1404 our_RcvDataFieldSize 1404

MaxBurstSize 0, EMPD: FALSE

Random Relative Offset: FALSE, Sequence-in-order: Yes

Statistics:

PDU: Command: 0, Response: 16
Target FCID: 0x620003 (S_ID of this session: 0x620001)
pWWN: 50:05:07:63:00:c4:94:4c, nWWN: 50:05:07:63:00:c0:94:4c
Session state: LOGGED_IN
1 iSCSI sessions share this FC session
Target: shark-lun
Negotiated parameters
RcvDataFieldSize 2048 our_RcvDataFieldSize 1404
MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-order: Yes
Statistics:
PDU: Command: 0, Response: 2343

canterbury#show iscsi initiator iscsi-session detail

iSCSI Node name is 10.48.69.241
iSCSI Initiator name: iqn.1987-05.com.cisco:02.9a74eb40e94d.vuk-win2003
iSCSI alias name: VUK-WIN2003
Node WWN is 22:01:00:0c:30:6c:24:42 (dynamic)
Member of vsans: 222
Number of Virtual n_ports: 1

Virtual Port WWN is 21:03:00:0c:30:6c:24:42 (configured)
Interface iSCSI 2/5, Portal group tag is 0x84
VSAN ID 222, FCID 0x620001
2 FC sessions, 2 iSCSI sessions
iSCSI session details
Target: seagate
Statistics:
PDU: Command: 16, Response: 16

Bytes: TX: 188, RX: 0
Number of connection: 1
TCP parameters
Local 10.48.69.222:3260, Remote 10.48.69.241:1035
Path MTU: 1500 bytes
Retransmission timeout: 350 ms
Round trip time: Smoothed 165 ms, Variance: 46
Advertized window: Current: 125 KB, Maximum: 125 KB, Scale: 1
Peer receive window: Current: 118 KB, Maximum: 118 KB, Scale: 1
Congestion window: Current: 9 KB
Target: shark-lun

Statistics:
PDU: Command: 2343, Response: 2343
Bytes: TX: 46363700, RX: 45494272
Number of connection: 1
TCP parameters
Local 10.48.69.222:3260, Remote 10.48.69.241:1034
Path MTU: 1500 bytes
Retransmission timeout: 390 ms
Round trip time: Smoothed 136 ms, Variance: 65
Advertized window: Current: 125 KB, Maximum: 125 KB, Scale: 1
Peer receive window: Current: 118 KB, Maximum: 118 KB, Scale: 1
Congestion window: Current: 11 KB

canterbury#show iscsi initiator fcp-session detail

iSCSI Node name is 10.48.69.241
iSCSI Initiator name: iqn.1987-05.com.cisco:02.9a74eb40e94d.vuk-win2003
iSCSI alias name: VUK-WIN2003
Node WWN is 22:01:00:0c:30:6c:24:42 (dynamic)
Member of vsans: 222
Number of Virtual n_ports: 1

Virtual Port WWN is 21:03:00:0c:30:6c:24:42 (configured)
Interface iSCSI 2/5, Portal group tag is 0x84
VSAN ID 222, FCID 0x620001
2 FC sessions, 2 iSCSI sessions

FCP Session details

Target FCID: 0x62011e (S_ID of this session: 0x620001)
pWWN: 21:00:00:04:cf:db:3e:a7, nWWN: 20:00:00:04:cf:db:3e:a7
Session state: LOGGED_IN
1 iSCSI sessions share this FC session

Target: seagate

Negotiated parameters

RcvDataFieldSize 1404 our_RcvDataFieldSize 1404
MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-order: Yes
Statistics:

PDU: Command: 0, Response: 16

Target FCID: 0x620003 (S_ID of this session: 0x620001)
pWWN: 50:05:07:63:00:c4:94:4c, nWWN: 50:05:07:63:00:c0:94:4c
Session state: LOGGED_IN
1 iSCSI sessions share this FC session

Target: shark-lun

Negotiated parameters

RcvDataFieldSize 2048 our_RcvDataFieldSize 1404
MaxBurstSize 0, EMPD: FALSE
Random Relative Offset: FALSE, Sequence-in-order: Yes
Statistics:

PDU: Command: 0, Response: 2343

canterbury#show ips stats tcp interface gigabitethernet 2/5

TCP Statistics for port GigabitEthernet2/5

Connection Stats

0 active openings, 345 accepts
0 failed attempts, 0 reset received, 345 established
Segment stats
160524 received, 158647 sent, 1 retransmitted
0 bad segments received, 1 reset sent

TCP Active Connections

Local Address	Remote Address	State	Send-Q	Recv-Q
10.48.69.222:3260	10.48.69.241:1026	ESTABLISH	0	0
10.48.69.222:3260	10.48.69.241:1034	ESTABLISH	0	0
10.48.69.222:3260	10.48.69.241:1035	ESTABLISH	0	0
0.0.0.0:3260	0.0.0.0:0	LISTEN	0	0

canterbury#show ips stats tcp interface gigabitethernet 2/5

detail

TCP Statistics for port GigabitEthernet2/5

TCP send stats

158647 segments, 132538432 bytes
113573 data, 44411 ack only packets
318 control (SYN/FIN/RST), 0 probes, 344 window updates
1 segments retransmitted, 48 bytes
1 retransmitted while on ethernet send queue, 0 packets split
29286 delayed acks sent

TCP receive stats

160524 segments, 102518 data packets in sequence, 125344708
bytes in sequence
0 predicted ack, 94889 predicted data
0 bad checksum, 0 multi/broadcast, 0 bad offset
0 no memory drops, 0 short segments
0 duplicate bytes, 0 duplicate packets
0 partial duplicate bytes, 0 partial duplicate packets
0 out-of-order bytes, 0 out-of-order packets

```
0 packet after window, 0 bytes after window
0 packets after close
58221 acks, 132539086 ack bytes, 0 ack toomuch, 6563 duplicate
acks
0 ack packets left of snd_una, 0 non-4 byte aligned packets
37322 window updates, 0 window probe
865 pcb hash miss, 171 no port, 1 bad SYN, 0 paws drops
TCP Connection Stats
0 attempts, 345 accepts, 345 established
342 closed, 341 drops, 0 conn drops
0 drop in retransmit timeout, 10 drop in keepalive timeout
0 drop in persist drops, 0 connections drained
TCP Miscellaneous Stats
26399 segments timed, 26398 rtt updated
1 retransmit timeout, 0 persist timeout
6702 keepalive timeout, 6692 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
345 entries, 345 connections completed, 0 entries timed out
0 dropped due to overflow, 0 dropped due to RST
0 dropped due to ICMP unreachable, 0 dropped due to bucket overflow
0 abort due to no memory, 0 duplicate SYN, 2 no-route SYN drop
0 hash collisions, 0 retransmitted

TCP Active Connections
Local Address Remote Address State Send-Q Recv-Q
10.48.69.222:3260 10.48.69.241:1026 ESTABLISH 0 0
10.48.69.222:3260 10.48.69.241:1034 ESTABLISH 0 0
10.48.69.222:3260 10.48.69.241:1035 ESTABLISH 0 0
0.0.0.0:3260 0.0.0.0:0 LISTEN 0 0
```

canterbury#show iscsi virtual-target configured

target: seagate

* Port WWN 21:00:00:04:cf:db:3e:a7 !--- The "*" means you have both discovery and target session. If there is no "*" in !--- front of the pWWN, it means either you only have discovery session or !--- you have no active session. Configured node No. of LU mapping: 1 iSCSI LUN: 0x0000, FC LUN: 0x0000 No. of advertised interface: 1 GigabitEthernet 2/5 No. of initiators permitted: 1 initiator 10.48.69.241/32 is permitted all initiator permit is disabled target: shark-lun * Port WWN 50:05:07:63:00:c4:94:4c Configured node No. of LU mapping: 2 iSCSI LUN: 0x0000, FC LUN: 0x0000 iSCSI LUN: 0x0001, FC LUN: 0x0001 No. of advertised interface: 1 GigabitEthernet 2/5 No. of initiators permitted: 1 initiator 10.48.69.241/32 is permitted all initiator permit is disabled canterbury#show iscsi initiator configured

iSCSI Node name is 10.48.69.241

Member of vsans: 222

No. of PWWN: 1

Port WWN is 21:03:00:0c:30:6c:24:42

canterbury#show ips arp interface gigabitethernet 2/5

```
Protocol Address Age (min) Hardware Addr Type Interface
Internet 10.48.69.200 0 0008.e21e.c7bc ARPA GigabitEthernet2/5
Internet 10.48.69.202 4 0202.3d30.45ca ARPA GigabitEthernet2/5
Internet 10.48.69.206 4 0202.3d30.45ce ARPA GigabitEthernet2/5
Internet 10.48.69.226 10 0060.08f6.bc1a ARPA GigabitEthernet2/5
Internet 10.48.69.229 10 0800.209e.edab ARPA GigabitEthernet2/5
Internet 10.48.69.232 5 0003.4796.34c3 ARPA GigabitEthernet2/5
Internet 10.48.69.238 5 0030.6e1b.6f51 ARPA GigabitEthernet2/5
```



```
Internet 10.48.69.239 11 0030.6e1c.a00b ARPA GigabitEthernet2/5
Internet 10.48.69.241 4 000b.cdaf.b4c3 ARPA GigabitEthernet2/5
Internet 10.48.69.248 2 0202.3d30.45f8 ARPA GigabitEthernet2/5
Internet 10.10.2.28 5 0202.3d0a.021c ARPA GigabitEthernet2/5
canterbury#show scsi-target devices vsan 222
```

```
-----
VSAN FCID PWWN VENDOR MODEL REV
-----
```

```
222 0x62011e 21:00:00:04:cf:db:3e:a7 SEAGATE ST336753FC 0003
222 0x620003 50:05:07:63:00:c4:94:4c IBM 2105F20 .114
```

```
!--- All LUNs that have been exported by the IBM Shark are not
shown in the display output. canterbury#show scsi-target lun vsan
222
```

```
- ST336753FC from SEAGATE (Rev 0003)
FCID is 0x62011e in VSAN 222, PWWN is 21:00:00:04:cf:db:3e:a7
-----
```

```
LUN Capacity Status Serial Number Device-Id
(MB)
-----
```

```
0x0 36704 Online 3HX00Q2600007326 C:1 A:0 T:3
20:00:00:04:cf:db:3e:a7
```

```
- 2105F20 from IBM (Rev .114)
FCID is 0x620003 in VSAN 222, PWWN is 50:05:07:63:00:c4:94:4c
-----
```

```
LUN Capacity Status Serial Number Device-Id
(MB)
-----
```

```
0x5100 4000 Online 10022196 C:2 A:0 T:1 IBM 2105
```

```
0x5101 4000 Online 10122196 C:2 A:0 T:1 IBM 2105
```

```
....
```

```
0x5011 5000 Online 01122196 C:2 A:0 T:1 IBM 2105
```

```
0x5012 5000 Online 01222196 C:2 A:0 T:1 IBM 2105
```

```
0x5013 5000 Online 01322196 C:2 A:0 T:1 IBM 2105
```

```
0x5014 5000 Online 01422196 C:2 A:0 T:1 IBM 2105
```

```
0x5400 3000 Online 40022196 C:2 A:0 T:1 IBM 2105
```

```
0x5401 5000 Online 40122196 C:2 A:0 T:1 IBM 2105
```

```
0x5200 3000 Online 20022196 C:2 A:0 T:1 IBM 2105
```

```
0x5201 3000 Online 20122196 C:2 A:0 T:1 IBM 2105
```

```
0x5202 3000 Online 20222196 C:2 A:0 T:1 IBM 2105
```

```
0x5203 3000 Online 20322196 C:2 A:0 T:1 IBM 2105
```

```
0x5204 3000 Online 20422196 C:2 A:0 T:1 IBM 2105
```

0x5205 3000 Online 20522196 C:2 A:0 T:1 IBM 2105

0x5206 3000 Online 20622196 C:2 A:0 T:1 IBM 2105

0x5207 3000 Online 20722196 C:2 A:0 T:1 IBM 2105

0x5208 3000 Online 20822196 C:2 A:0 T:1 IBM 2105

0x5209 3000 Online 20922196 C:2 A:0 T:1 IBM 2105

.....

canterbury#**show int iscsi 2/5**

```
iscsi2/5 is up
Hardware is GigabitEthernet
Port WWN is 20:51:00:0c: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: 3, Number of TCP connection: 3
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
QOS code point is 0
Forwarding mode: pass-thru
TMF Queueing Mode : disabled
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 132567 packets, 125344708 bytes
Command 8637 pdus, Data-out 117005 pdus, 118916096 bytes
Output 113573 packets, 132538432 bytes
Response 8439 pdus (with sense 10), R2T 3913 pdus
Data-in 93902 pdus, 127070632 bytes
```

canterbury#**show iscsi stats iscsi 2/5**

```
iscsi2/5
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
132567 packets input, 125344708 bytes
Command 8637 pdus, Data-out 117005 pdus, 118916096 bytes, 0
fragments
output 113573 packets, 132538432 bytes
Response 8439 pdus (with sense 10), R2T 3913 pdus
Data-in 93902 pdus, 127070632 bytes
```

canterbury#**show int gigabitethernet 2/5**

```
GigabitEthernet2/5 is up
Hardware is GigabitEthernet, address is 0005.3000.adea
Internet address is 10.48.69.222/26
MTU 1500 bytes
Port mode is IPS
Speed is 1 Gbps
Beacon is turned off
Auto-Negotiation is turned on
5 minutes input rate 224 bits/sec, 28 bytes/sec, 0 frames/sec
5 minutes output rate 80 bits/sec, 10 bytes/sec, 0 frames/sec
```

```
205453 packets input, 138346789 bytes
0 multicast frames, 0 compressed
0 input errors, 0 frame, 0 overrun 0 fifo
165673 packets output, 141485482 bytes, 0 underruns
0 output errors, 0 collisions, 0 fifo
0 carrier errors

canterbury#show ip route

Codes: C - connected, S - static

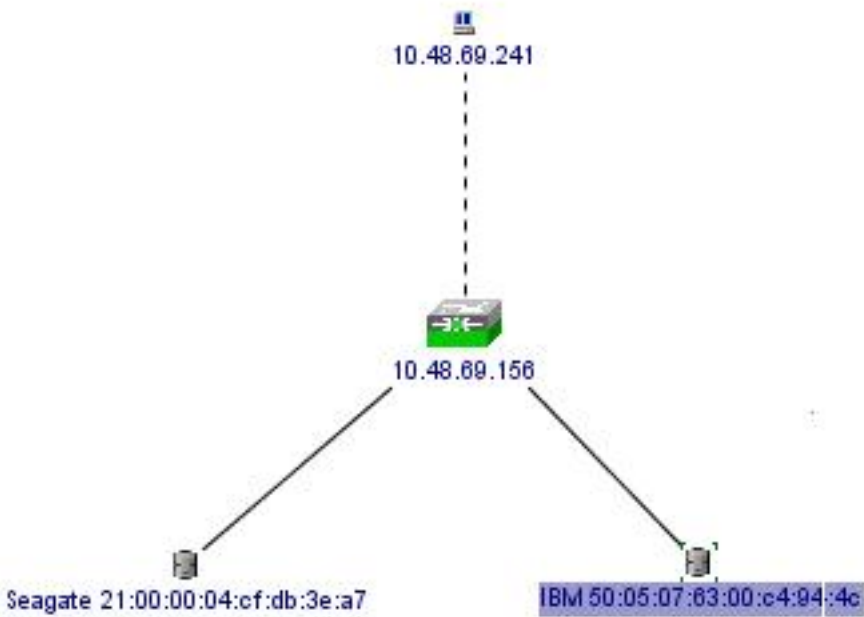
Gateway of last resort is 10.48.69.129

C 10.48.69.192/26 is directly connected, GigabitEthernet2/5
C 10.48.69.128/26 is directly connected, mgmt0
canterbury#
```

交换矩阵管理器和设备管理器显示

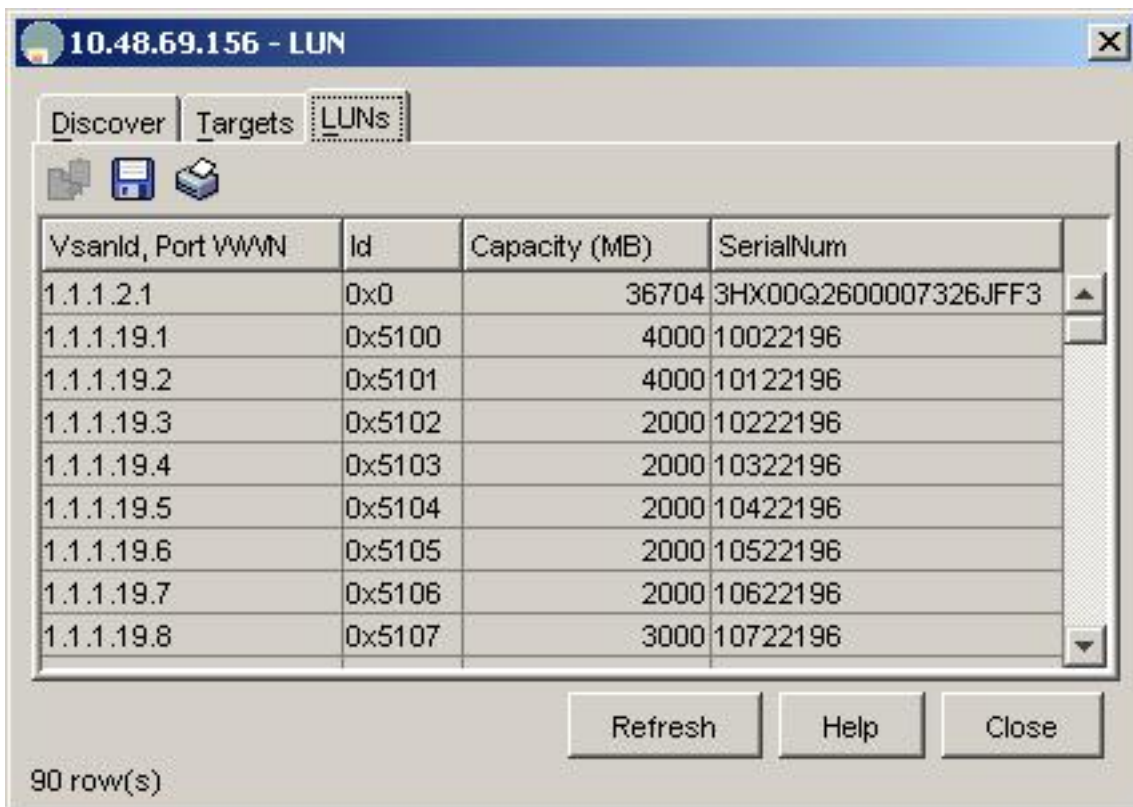
本节提供MDS Fabric Manager 1.2(2)和Device Manager 1.2(2)的屏幕截图。

交换矩阵管理器的拓扑图

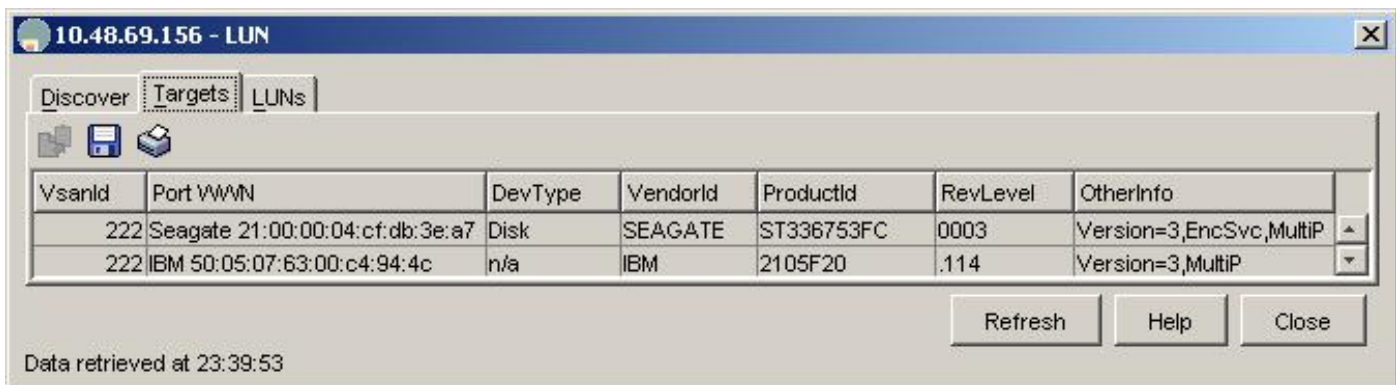




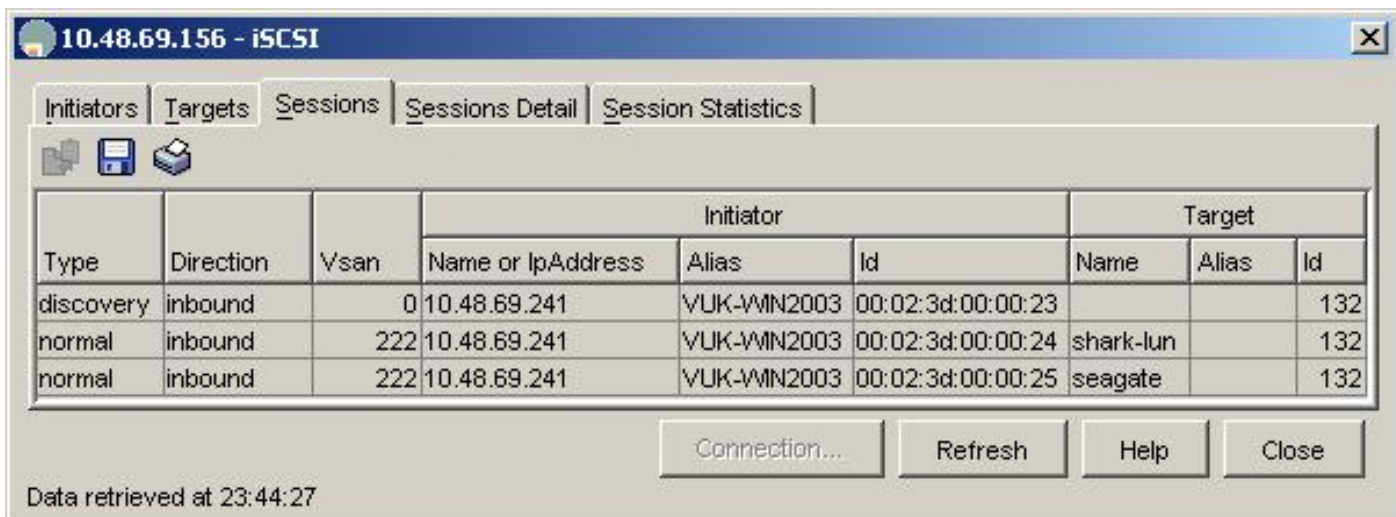
选择FC-LUN以显示设备管理器中的pWWN、LUN ID和LUN的容量。



选择FC-LUN以从设备管理器显示目标。



选择IP-iSCSI以显示“Device Manager (设备管理器)”中的iSCSI会话。



IBM Shark定义

本节提供企业存储服务器专家(ESS)的屏幕截图。

在ESS上定义了一台主机，该主机为启动器定义了静态WWPN 21:03:00:0c:30:6c:24:42。已为此主机分配了两个卷。

Specialist - shark1

Enterprise Storage Server Specialist

Open System Storage

Host Systems

Nickname	Host Type	Attachment	WWPN	Hostname/IP Address
sonja_fci1	PC Server (Win 2000 or Win NT 4.0)	FC	2800000653389EA0	sonja
sonja_fci2	PC Server (Win 2000 or Win NT 4.0)	FC	2900000653389EA0	sonja
vuk-iscsi	PC Server (Win 2000 or Win NT 4.0)	FC	2103000C306C2442	vuk

Assigned Volumes (Total: 2 volumes)

Volume	Vol Type	Size	Storage Type	Location	LSS	Shared
012-22196	Open System	05.0 GB	RAID Array	Device Adapter Pair 1 Cluster 1, Loop A Array 2, Vol 018	LSS: 0x010	Yes
209-22196	Open System	03.0 GB	RAID Array	Device Adapter Pair 2 Cluster 1, Loop A Array 2, Vol 009	LSS: 0x012	Yes

Java Applet Window

相关信息

- [Cisco iSCSI软件下载 \(仅限注册客户 \)](#)
- [Windows 2000 系统的 iSCSI 驱动器常见问题](#)
- [Cisco Windows 2000 iSCSI驱动程序版本说明](#)
- [用于 Windows 2000 的 iSCSI 驱动程序故障排除](#)
- [Cisco MDS 9000系列故障排除指南，版本1.2\(1a\)](#)
- [技术支持和文档 - Cisco Systems](#)