

Windows服务器2003年对MDS/IPS-8配置示例的iSCSI主机

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Introduction

思科的iSCSI驱动器，在服务器驻留，是iSCSI解决方案的一个关键组件。这些iSCSI驱动器拦截SCSI命令集，封装他们到IP信息包，并且重定向他们对Cisco SN 5420、Cisco SN 5428，Cisco SN5428-2或者Cisco MDS/IPS-8。本文为Solaris iSCSI主机提供配置示例给MDS/IPS-8。

[开始使用前](#)

[Conventions](#)

Cisco MDS 9000在的本文使用是指在MDS 9000系列(MD 9506的所有光纤信道(FC)交换产品，MDS9509，MDS9216)。

IPS前端是指IP存贮服务模块。有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

Prerequisites

安装是兼容对您的Windows服务器2003年版本的iSCSI驱动器。驱动程序的当前版本可以在[Windows服务器2003年](#)(仅限注册用户)页的[Cisco iSCSI驱动](#)找到在Cisco.com。README.txt文件在驱动程序zip(tar)文件包含。README包含关于许可证协议的信息、驱动安装和配置说明和驱动器体系结构的技术概要。

微软视窗的2003 Cisco iSCSI驱动要求Windows服务器2003年企业版或标准版或者网上版本。

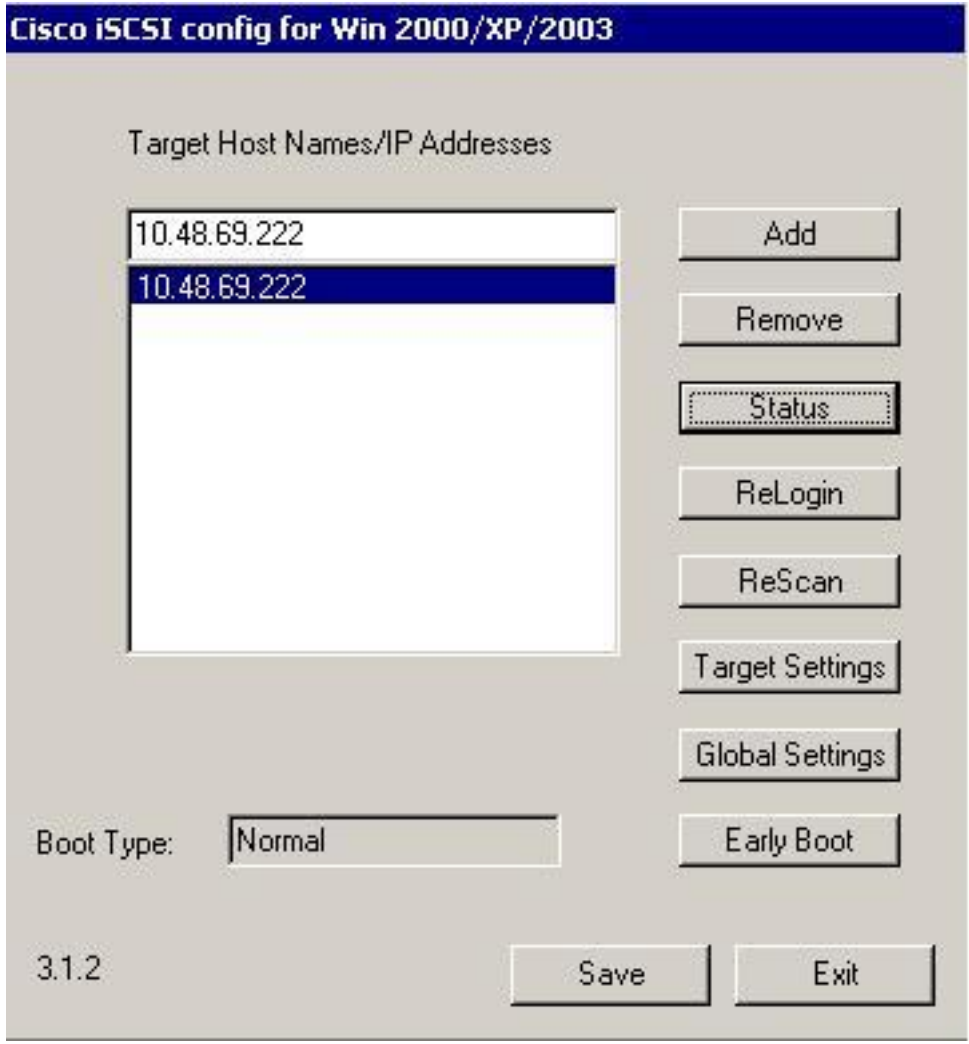
Components Used

本文档中的信息基于以下软件和硬件版本。

- 主机与Windows服务器2003年标准版



- Windows服务器的Cisco iSCSI驱动3.1.2 2003年。iSCSI驱动器版本能被看到在iSCSI Config窗口的左下。



- 有软件版本的1.2(1a) Cisco 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

```
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

```

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

```

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。All of the devices used in this document started with a cleared (default) configuration.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存储体提供IP主机访问对FC存储设备。IPS模块是DS-X9308-SMIP。它提供透明SCSI路由。IP主机使用iSCSI协议能透明访问在IP主机在iSCSI协议数据单元的FC网络的SCSI (FCP)目标(PDUs)发送SCSI命令集封装对在TCP/IP连接的一个MDS9000 IPS端口。在IPS模块上，连接提供以适当地配置的千兆以太网(GE)接口的形式。IPS模块enable (event)创建虚拟iSCSI目标的您和映射他们对物理FC目标可用在FC SAN。它提交FC目标到IP主机，好象物理目标本地附有了IP网络。

通过IPS模块要求对存贮的访问的每台iSCSI主机需要有安装的一个兼容的iSCSI驱动器。使用iSCSI协议，iSCSI驱动器允许iSCSI主机传输SCSI请求和回应IP网络。从操作系统的主机的角度，iSCSI驱动器看来是SCSI传输驱动程序类似于一条周边信道的一FC驱动程序在主机。从存储设备的角度，每台IP主机出现作为FC主机。

路由SCSI从IP主机到FC存储设备包括以下主要动作：

- 传输iSCSI请求和回应IP网络在主机和IPS模块之间。
- 路由SCSI请求和回应主机在IP网络和FC存储设备之间(转换iSCSI成FCP反之亦然)。此路由由IPS模块执行。
- 传输FCP请求或回应IPS模块和FC存储设备之间。

默认情况下IP存储体不导入FC目标iSCSI。在IPS模块安排FC目标可用iSCSI创始者前，动态或静态映射必须配置。当配置时两个，静态被映射的FC目标有一个被配置的名字。在此配置中您将参见静态映射示例。使用动态映射，每次iSCSI主机连接到IPS模块一个新的FC N端口被创建，并且为此

N端口和pWWNs分配的nWWNs可能是不同的。请使用静态映射方法，如果需要获得同样nWWNs，并且iSCSI的pWWNs主机它每次连接到IPS模块。静态映射在IPS模块可以用于访问有映射的访问控制和的LUN/根据创始者的pWWNs和nWWNs的屏蔽的配置的智能FC存储阵列。

您能通过指定将是做通告的IPS端口列表和指定iSCSI发起者允许的节点名列表控制对每个静态映射的iSCSI目标的访问访问它。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提供的两个机制。可以同时使用两个方法。在此配置默认值区域为特定VSAN允许。IPS模块使用基于域名的iSCSI的节点和FC基于分区的访问控制列表在iSCSI发现和iSCSI会话创建时强制执行访问控制。

- **iSCSI发现**：当iSCSI主机创建一次iSCSI发现会话和查询所有iSCSI目标的时，IPS模块回归iSCSI目标仅列表此iSCSI主机允许访问基于访问控制策略。
- **iSCSI会话创建**：当IP主机起动iSCSI会话时，IPS模块验证指定的iSCSI目标(在会话登录请求)是否是静态被映射的目标和，如果真，验证IP主机的iSCSI节点名是否允许访问目标。如果IP主机不访问，其登录被拒绝。

IP存储体创建一个FC虚拟N端口(N端口可能已经存在)此IP主机的并且执行由IP主机获取FC目标pwwn FCID的一次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pwwn的一次强制执行的区域查询并且回应查询。如果FCID由名称服务器返回，则iSCSI会话被接受。否则，登录请求被拒绝。

Configure

在此部分，向您介绍信息配置MDS9216和Cisco iSCSI驱动Solaris的。

Note:要寻找关于用于本文的命令的其他信息，请使用[Cisco MDS 9000系列命令参考](#)和[Cisco MDS 9000系列软件配置指南](#)。

Network Diagram

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

vuk

Catalyst 6500
VLAN 192

ge 2/5
10.48.69.222/26



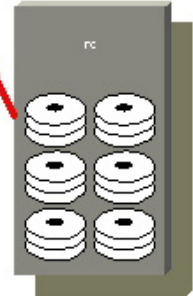
Cisco MDS 9216
Software Version 1.2.(1a)

canterbury

fc1/5

Seagate JBOD
pwwn: 21:00:00:04:cf:db:3e:a7

fc1/7



IBM Shark 2105F20
Licensed Internal Code 1.5.2.114
pwwn: 50:05:07:63:00:c4:94:4c

配置

本文档使用如下所示的配置。

- Vuk (Windows服务器2003)
- 坎特伯雷(MDS9216)

Vuk (Windows服务器2003)

初始配置任务包括以下动作：

- 设置的MDS9000系列系统的iSCSI Itarget IP地址驱动程序将访问。
- 设置iSCSI目标认证用户用户名和密码。
- 保存iSCSI目标配置和设置驱动程序的引导程序类型。

要配置驱动程序，请执行以下步骤：

1. 登录到计算机作为一个用户有管理员特权。
2. 点击**开始**，指向**设置**，点击**控制面板**然后双击**iSCSI设置**。**lscsi设置**程序造成Cisco iSCSI设置成功2000/XP/2003对话框的能显示。
3. 在Win 2000对话框的Cisco iSCSI设置，请配置SCSI路由实例的IP地址在MDS9000系列系统的如下：在**目标主机主机名/IP地址**文本框，请键入SCSI路由实例的IP地址在MDS9000系列系统的。在此配置示例中，IP地址是10.48.69.222。单击**Add**。IP地址在显示区显示在**目标主机主机名/IP地址**文本框之下。

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
Early Boot

Boot Type:

3.1.2

Save	Exit
------	------

4. 点击保存并且退出。
5. 重新启动计算机。

坎特伯雷(Cisco 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
```

!--- 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

```

Verify

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** -显示一特定VSAN名称服务器信息。
- **show flogi database vsan 222** -显示一特定VSAN的FLOGI服务器信息。
- **show vsan membership** -显示不同的VSAN接口信息。
- **show iscsi initiator detail** -显示iSCSI发起者信息。
- **show iscsi initiator iscsi-session detail** -显示iSCSI发起者会话详细信息。
- **show iscsi initiator fcp-session detail** -显示iSCSI发起者FCP会话详细信息。
- **show ips stats tcp interface gigabitethernet 2/5 detail** -显示特定GE接口的TCP统计数据。
- **show iscsi virtual-target configured** -显示在MDS9000被配置了的iSCSI虚拟目标。
- **show iscsi initiator configured** -显示在MDS9000被配置了的iSCSI创始者。
- **show ips arp interface gigabitethernet 2/5** -显示特定GE接口IPS arp信息。
- **show scsi-target lun vsan 222** -显示特定VSAN的SCSI设备(映射对iSCSI-LUN的FC-LUNs)。
- **show int iscsi 2/5** -显示iSCSI接口。
- **show iscsi stats iscsi 2/5** -显示iSCSI统计数据。
- **show int gigabitethernet 2/5** -显示GE接口。

- `show ip route` -显示IP路由信息。

Troubleshoot

本部分提供的信息可用于对配置进行故障排除。

Note:要寻找关于排除IP存贮问题故障的其他信息，请使用[Cisco MDS 9000系列故障排除指南](#)。

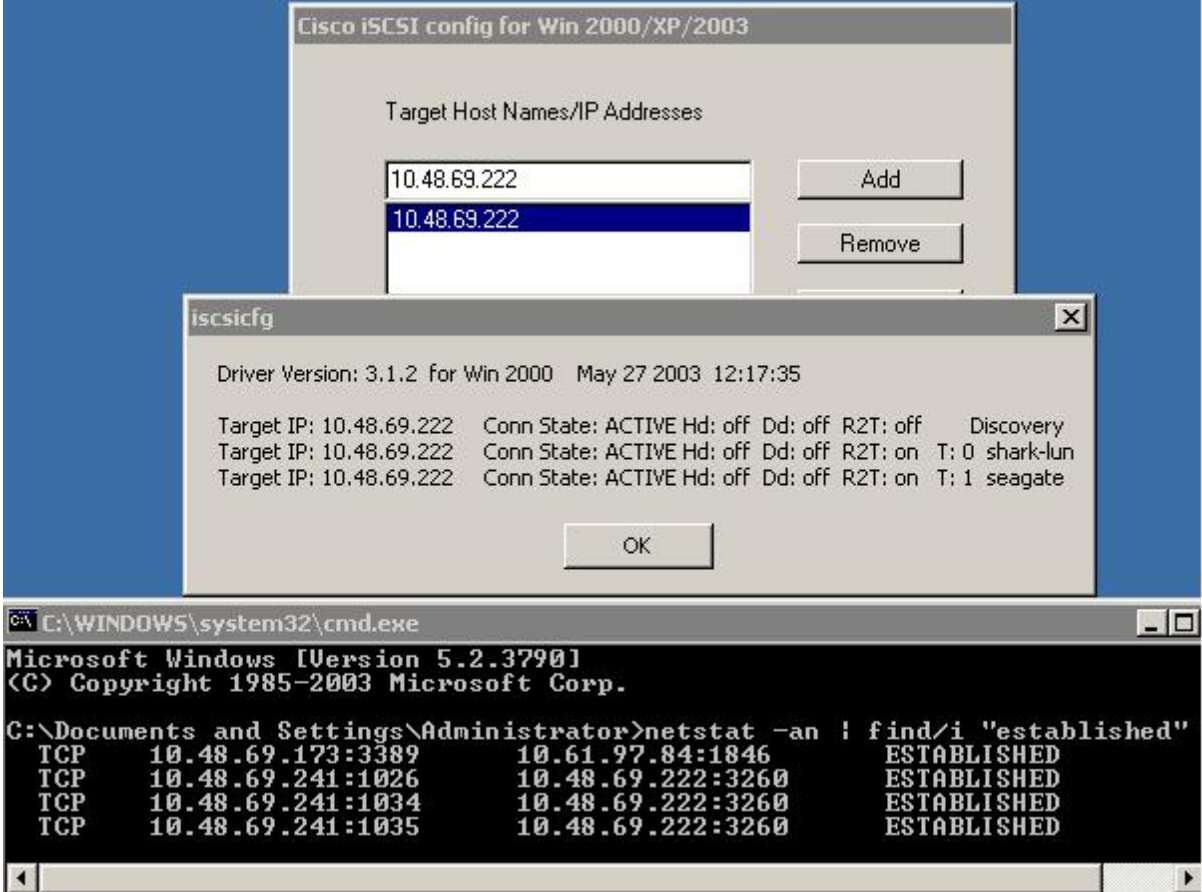
故障检修程序

下面故障排除信息与此配置有关。

- 从Vuk (Windows服务器显示2003)
- 从坎特伯雷Cisco MDS 9216显示

从Vuk (Windows服务器显示2003)

在Cisco iSCSI Config窗口，请点击状态检查主机是否顺利地记录了到iSCSI目标。在line命令，请发出`netstat -an | find/i`发现建立了在10.48.69.222之间的TCP会话。



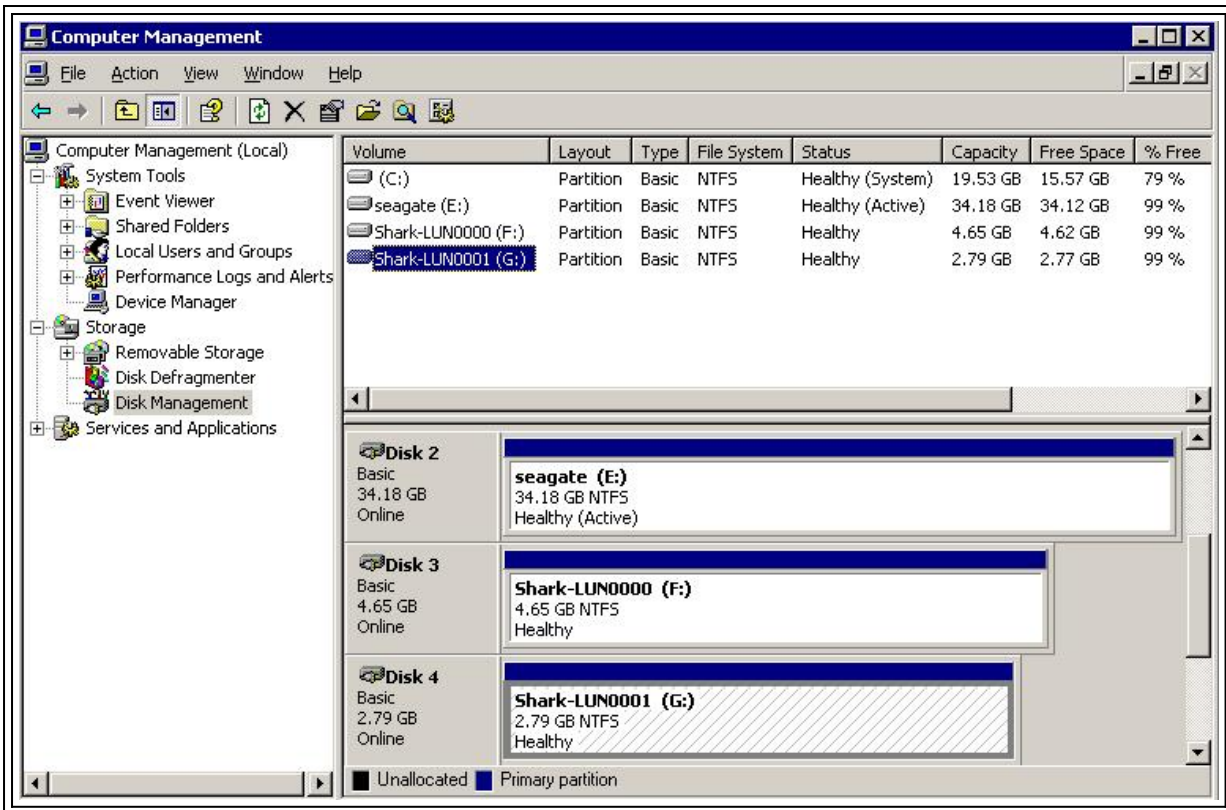
The screenshot displays two windows. The top window is titled "Cisco iSCSI config for Win 2000/XP/2003" and shows a list of "Target Host Names/IP Addresses" with two entries: "10.48.69.222". Below the list are "Add" and "Remove" buttons. The bottom window is a command prompt titled "C:\WINDOWS\system32\cmd.exe" showing the output of the command `netstat -an | find/i "established"`. The output lists four established TCP connections:

Protocol	Local Address	Foreign Address	State
TCP	10.48.69.173:3389	10.61.97.84:1846	ESTABLISHED
TCP	10.48.69.241:1026	10.48.69.222:3260	ESTABLISHED
TCP	10.48.69.241:1034	10.48.69.222:3260	ESTABLISHED
TCP	10.48.69.241:1035	10.48.69.222:3260	ESTABLISHED

要看到新的磁盘，请用鼠标右键单击我的在桌面上的计算机。双击计算机管理器。在系统工具下的控制台结构树，请点击设备管理器



对于适当作用在Windows 2003服务器下的驱动程序，驱动程序需要创建一个假磁盘驱动器。这将出现作为一张未知磁盘在磁盘管理MMC应用程序下。因为在任何情况下，不影响性能或作用系统用户能忽略此。不能删除它。
要管理存贮，请用鼠标右键单击我的在桌面上的计算机。双击计算机管理器。在存贮下的控制台结构树，请点击磁盘管理。



从坎特伯雷(Cisco MDS 9216)显示

```

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 iqn.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
```

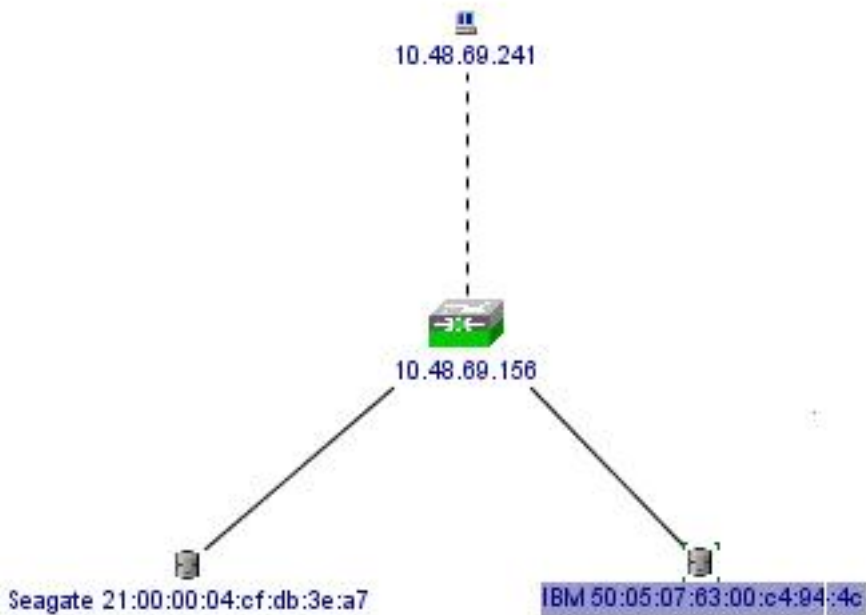
```
C 10.48.69.128/26 is directly connected, mgmt0
```

```
canterbury#
```

组织管理器和设备管理器显示

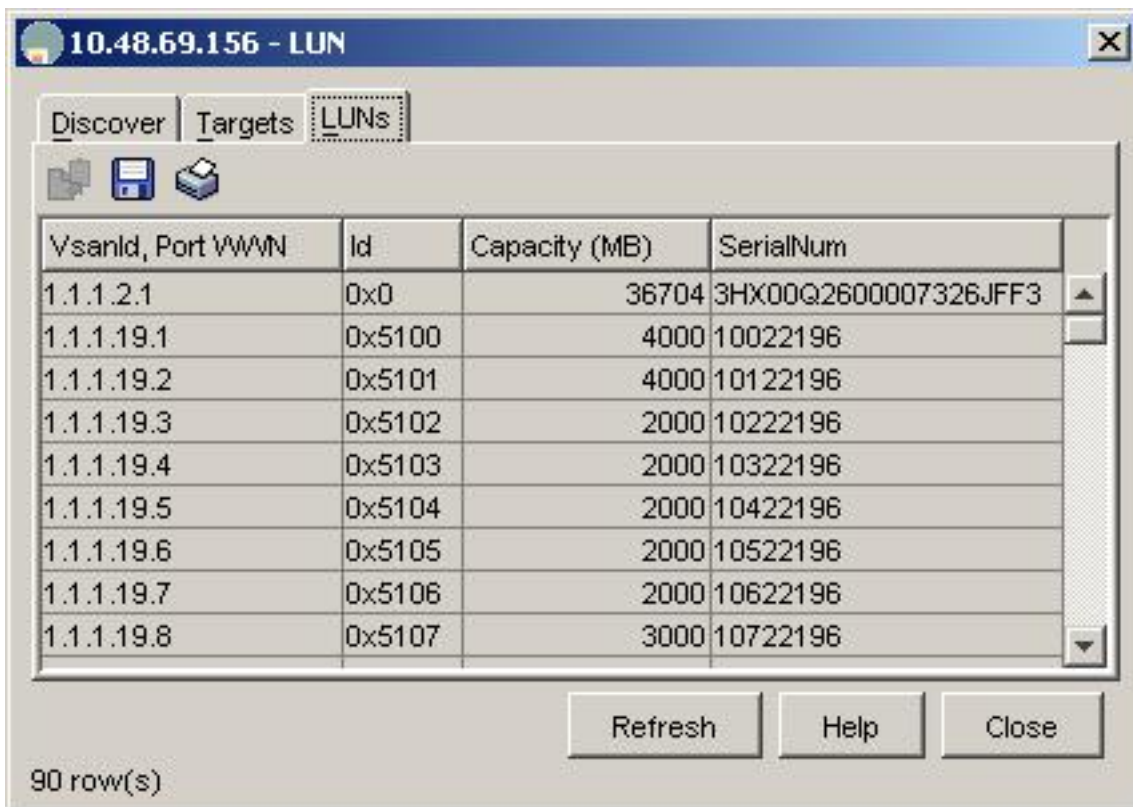
此部分提供从MD组织管理器1.2(2)和设备管理器的屏幕获取1.2(2)。

从组织管理器的拓扑图

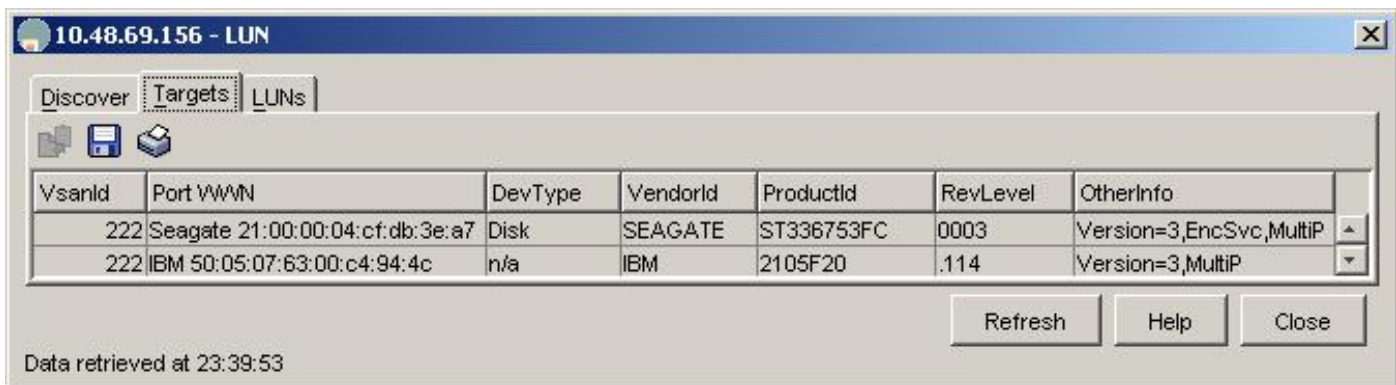




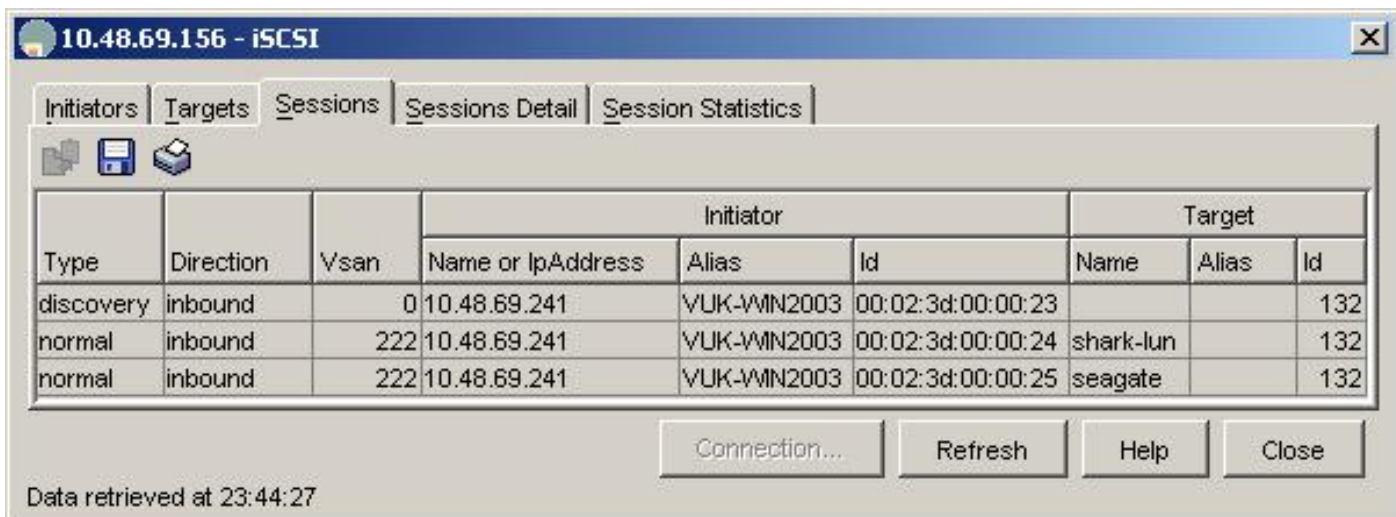
选择FC-LUNs显示pWWNs、LUN ID和您的从设备管理器的LUNs容量。



选择FC-LUNs显示从设备管理器的目标。



选择得ip-iscsi显示从设备管理器的iSCSI会话。



IBM鲨鱼定义

此部分提供从Enterprise Storage Server Specialist (ESSS)的屏幕获取。

为发起者被定义了的一台主机在与静态WWPN 21:03:00:0c:30:6c:24:42的ESS被定义了。两容量分配到此主机。

Specialist - shark1

Enterprise Storage Server Specialist

IBM

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

Related Information

- [Cisco iSCSI软件下载\(仅限注册用户\)](#)
- [Windows 2000常见问题的iSCSI驱动器](#)
- [Cisco Windows 2000 iSCSI驱动器的版本注释](#)
- [排除Windows 2000的iSCSI驱动器故障](#)
- [Cisco MDS 9000系列故障排除指南，版本1.2\(1a\)](#)
- [Technical Support & Documentation - Cisco Systems](#)