配置Microsoft Windows XP对MDS/IPS-8的 iSCSI主机

目录

简介

Cisco的iSCSI驱动器（驻留在服务器上）是iSCSI 解决方案的关键组件。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。本文档提供了使用Microsoft Windows XP i的主机的示例配置SCSI到MDS/IPS-8。

先决条件

要求

在尝试此配置前，请保证您符合这些要求：

- 在MDS 9000上创建iSCSI配置之前，需要安装与运行Microsoft Windows XP的PC兼容的iSCSI驱动程序。适用于Windows 2000/XP/2003的Cisco iSCSI驱动程序的最新版本可在Cisco.com的Cisco iSCSI驱动程序(仅限注册客户)页中找到。文件名是Win2k的**Cisco iSCSI驱动程序版本号**，可在此页的表中找到。

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Microsoft Windows XP和Cisco iSCSI驱动程序3.1.2版的PC

- 软件版本为1.1.2的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 Module                DS-X9308-SMIP      ok

Mod  Sw          Hw      World-Wide-Name(s) (WWN)
---  ----------  ------  -------------------------------------------------
1    1.1(2)      1.0     20:01:00:0c:30:6c:24:40 to 20:10:00:0c:30:6c:24:40
2    1.1(2)      0.3     20:41:00:0c:30:6c:24:40 to 20:48:00:0c:30:6c:24:40

Mod  MAC-Address(es)                       Serial-Num
---  ------------------------------------  ----------
1    00-0b-be-f8-7f-08 to 00-0b-be-f8-7f-0c  JAB070804QK
2    00-05-30-00-ad-e2 to 00-05-30-00-ad-ee  JAB070806SB

* this terminal session
canterbury#

canterbury# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
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Andiamo Systems, Inc. and/or other third parties and are used and
distributed under license.


Software
  BIOS:      version 1.0.7
  loader:    version 1.0(3a)
  kickstart: version 1.1(2)
  system:    version 1.1(2)

  BIOS compile time:       03/20/03
  kickstart image file is: bootflash:/k112
  kickstart compile time:  7/13/2003 20:00:00
  system image file is:    bootflash:/s112
  system compile time:     7/13/2003 20:00:00


Hardware
  RAM 963112 kB

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

  canterbury uptime is 6 days 1 hours 11 minute(s) 5 second(s)

  Last reset at 783455 usecs after Thu Aug 28 12:59:37 2003
    Reason: Reset Requested by CLI command reload
    System version: 1.1(2)


canterbury#
```

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

术语MDS 9000是指MDS 9000系列（MDS 9506、MDS 9509或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。

有关文件规则的更多信息请参见"Cisco技术提示规则"。

背景理论

IP存储模块提供IP主机对光纤通道(FC)存储设备的访问。IP存储模块是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IP存储模块上，以正确配置的千兆以太网(GE)接口形式提供连接。IP存储模块使您能够创建虚拟iSCSI目标，并将它们映射到FC SAN中可用的物理FC目标。它将FC目标呈现给IP主机，就像物理目标是本地连接的一样。

需要通过IP存储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IP存储模块之间通过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）。 这由IP存储模块执行。
- 在IP存储模块和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IP存储模块使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，提供了静态映射示例。

使用动态映射时，每次iSCSI主机连接到IP存储模块时，都会创建一个新的FC N端口，为此N端口分配的nWWN和pWWN可能不同。如果每次iSCSI主机连接到IP存储模块时需要获取相同的nWWN和pWWN，请使用静态映射方法。静态映射可用于IP存储模块，以访问具有基于启动器的pWWN和/或nWWN的访问控制和逻辑单元号(LUN)映射/掩码配置的智能FC存储阵列。

如果指定将通告每个静态映射的iSCSI目标的IP存储端口列表，并指定允许访问该端口的iSCSI启动器节点名称列表，则可以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。

iSCSI发现是指iSCSI主机为所有iSCSI目标创建iSCSI发现会话和查询时发生的。IP存储模块仅返回iSCSI主机根据访问控制策略允许访问的iSCSI目标列表。

当IP主机启动iSCSI会话时，会创建iSCSI会话。IP存储模块验证指定的iSCSI目标（在会话登录请求中）是否是静态映射目标，如果为true，则验证是否允许IP主机的iSCSI节点名称访问目标。如果IP主机没有权限，其登录被拒绝。

然后，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。
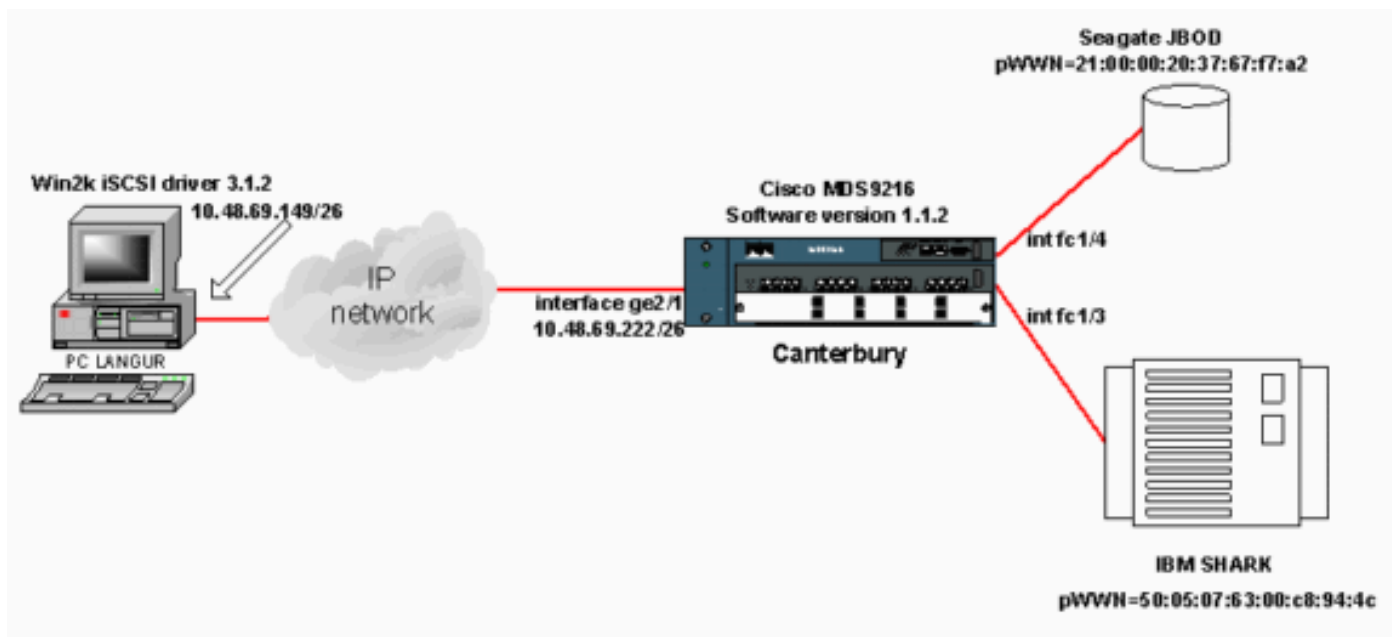
配置

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找有关本文档中使用的命令的其他信息，请参阅Cisco MDS 9000系列命令参考，版本1.2.1a和Cisco MDS 9000系列软件配置指南，版本1.2.1a配置指南。

注：要查找有关本文档中使用的命令的其他信息，请使用命令查找工具(仅注册客户)。

网络图

本文档使用以下网络设置：

配置

本文档使用以下配置：

- 坎特伯雷(MDS 9216)

坎特伯雷(MDS 9216)
canterbury# **sh run** Building Configuration ... . vsan database vsan 601 *!--- VSAN 601 has been used for iSCSI targets.* .... vsan database vsan 601 interface fc1/3 vsan 601 interface fc1/4 .... boot system bootflash:/s112 boot kickstart bootflash:/k112 ip domain-name cisco.com ip name-server 144.254.10.123 ip default-gateway 10.48.69.129 ip route 10.48.69.149 255.255.255.255 interface GigabitEthernet2/1 ip routing iscsi authentication none iscsi initiator ip-address 10.48.69.149 *!--- Identifies* *the iSCSI initiator based on the IP address. !--- A* *virtual N port is created for each NIC or network* *interface.* static pWWN 20:03:00:0c:30:6c:24:4c *!---* *Defining the PC Langur`s pwwn above; this is necessary*

```
here since lunmasking is !--- enforced on the IBM Shark,
but not on the JBOD. Therefore, pWWN must be statically
!--- bound to the initiator to be able to access and
manage disks on IBM Shark. vsan 601 !--- VSAN 601 has
been used for iSCSI targets. !--- Targets by way of VSAN
601 are accessible by iSCSI initiators. The !--- targets
are defined below. Create a static iSCSI virtual target
!--- for Seagate JBOD. iscsi virtual-target name san-fc-
jbod-1 pWWN 21:00:00:20:37:67:f7:a2 advertise interface
GigabitEthernet2/1 initiator ip address 10.48.69.149
permit !--- Create a static iSCSI virtual target for IBM
Shark. iscsi virtual-target name shark-c8 pWWN
50:05:07:63:00:c8:94:4c advertise interface
GigabitEthernet2/1 initiator ip address 10.48.69.149
permit ... !--- Here, the zone named 'Zone1' is used
under VSAN 601 for connectivity. !--- Both initiator and
targets are assigned as members of this zone. switchname
canterbury zone name Zone1 vsan 601 member pWWN
50:05:07:63:00:c8:94:4c !--- This is IBM Shark. member
pWWN 20:03:00:0c:30:6c:24:4c !--- This is PC Langur.
member pWWN 21:00:00:20:37:67:f7:a2 !--- This is Seagate
JBOD. member symbolic-nodename 10.48.69.149 !--- You
have this entry since zone membership is based on pWWN
(not on IP address). zoneset name ZoneSet1 vsan 601
member Zone1 zoneset activate name ZoneSet1 vsan 601
.... interface GigabitEthernet2/1 ip address
10.48.69.222 255.255.255.192 iscsi authentication none
no shutdown .... interface fc1/3 no shutdown interface
fc1/4 no shutdown ... interface mgmt0 ip address
10.48.69.156 255.255.255.192 interface iscsi2/1 no
shutdown canterbury#
```

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。

命令输出解释程序工具（仅限注册用户）支持某些 show 命令，使用此工具可以查看对 show 命令输出的分析。

在PC上，转到"Control Panel(控制面板)"并检查以下项目：

- 网络连接 — >本地连接 — > TCP/IP属性
- iSCSI配置 — >目标的状态(要查看屏幕截图，请参阅本文档的"从PC显示"部分)。

在MDS 9216上，发出以下命令以验证连接：

- show zone status — 显示区域信息。
- show zone active vsan 601 — 显示属于指定VSAN的区域。
- show fcns database vsan 601 — 显示特定VSAN的名称服务器信息。
- show fcns database detail vsan 601 — 显示给定VSAN的本地条目。
- show flogi database vsan 601 — 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 — 显示iSCSI启动器信息。
- show iscsi initiator detail — 显示iSCSI启动器信息的更详细信息。
- 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 2/1 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 2/1** — 显示特定GE接口的IP存储ARP信息。
- **show scsi-target devices vsan 601** — 显示特定VSAN的SCSI设备（用于将FC-LUN映射到iSCSI-LUN）。
- **show int iscsi 2/1** — 显示iSCSI接口。
- **show iscsi stats iscsi 2/1** — 显示iSCSI统计信息。
- **show int gigabitethernet 2/1** — 显示GE接口。
- **show ip route -显示Ip route信息。**
- **show ips ip route interface gigabitethernet 2/1** — 显示路由表。
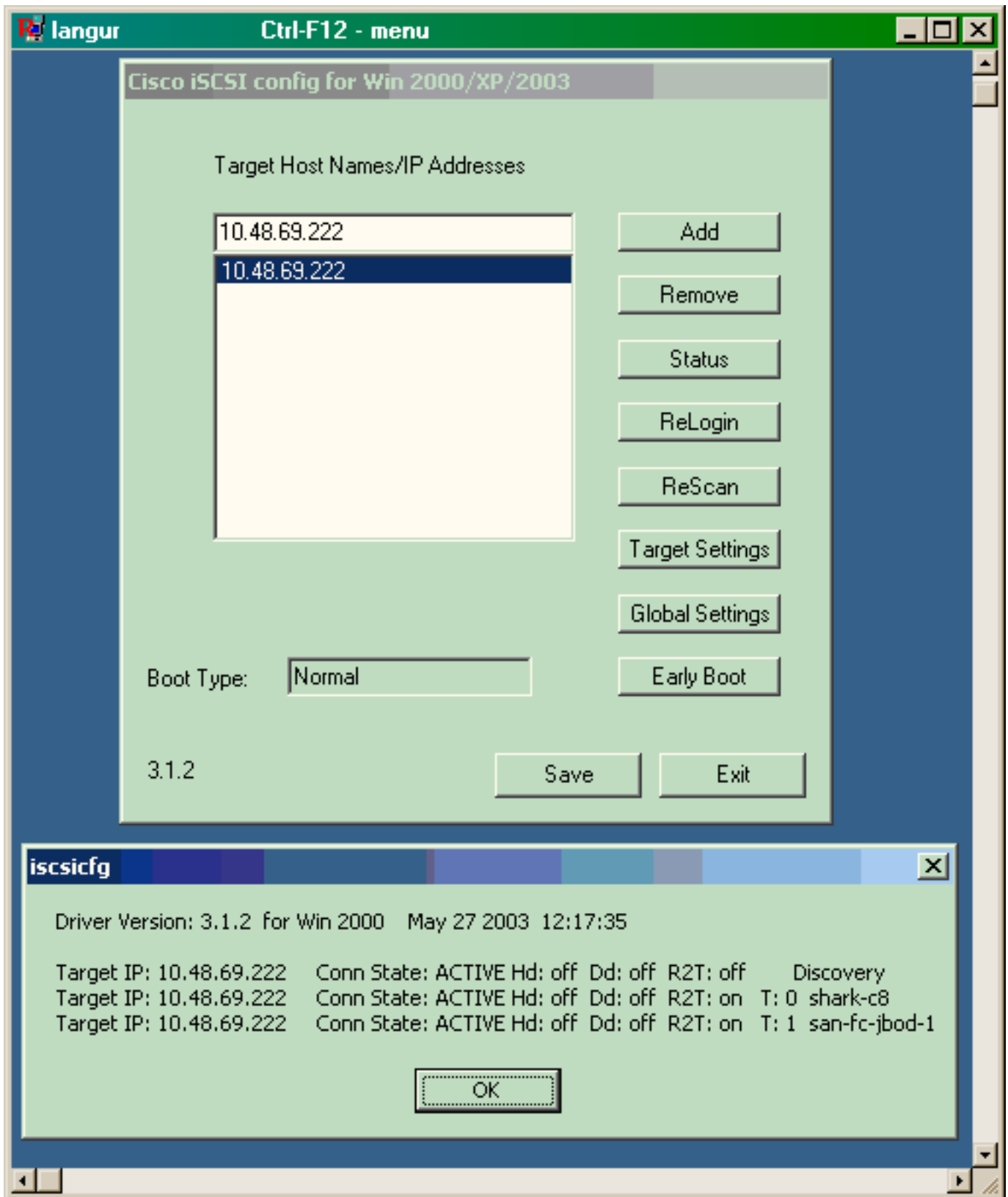
故障排除

本部分提供的信息可用于对配置进行故障排除。

故障排除步骤

本部分提供的信息可用于对配置进行故障排除。

以下是此配置的一些相关故障排除信息：

- 从PC显示
- 从Canterbury Cisco MDS 9216显示
- 交换矩阵管理器和设备管理器显示

从PC显示

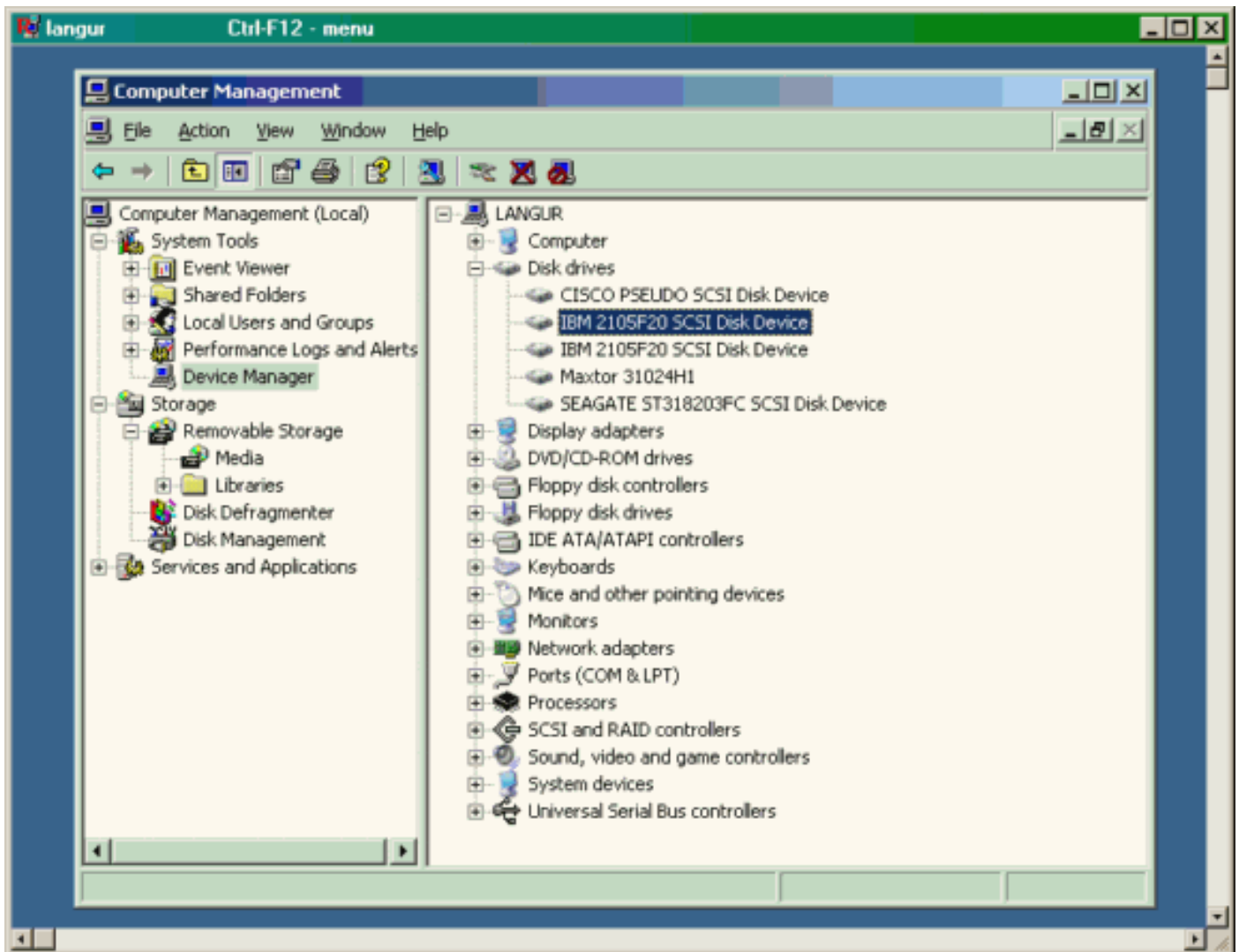此屏幕截图是PC语言的iSCSI显示：

要检查这些新磁盘，请单击PC左下角的**Start**。选择以下选项：

"My Computer（我的电脑）"-> "Control Panel（控制面板）"-> "Administrative Tools（管理工具）"-> "Computer Management（计算机管理）"
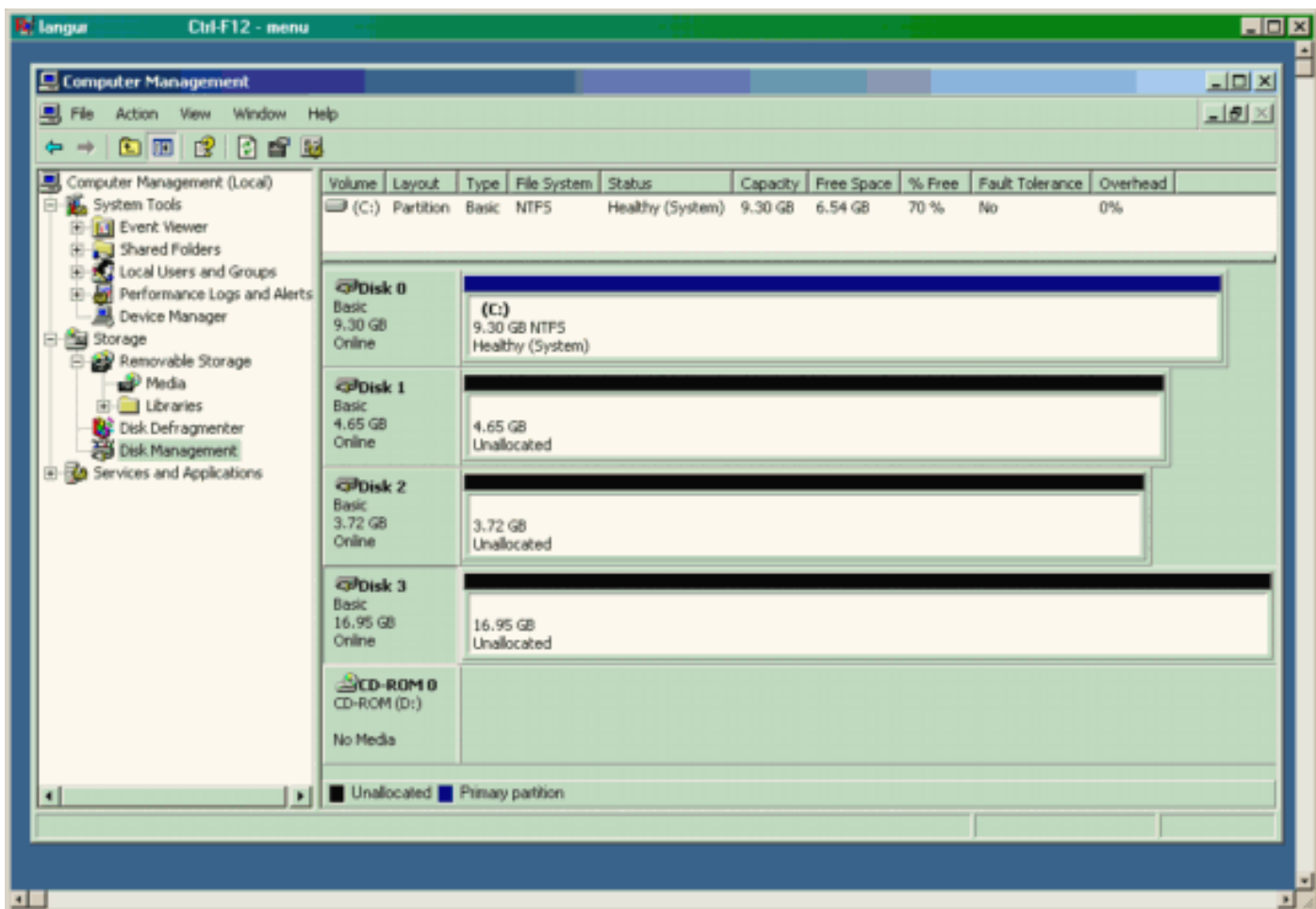
在"System Tools**(系统工具)**"下，**选择"Device Manager"**。在右侧，单击"Disk Drives(**磁盘驱动器**)"。您应看到：

要管理这些磁盘，请单击PC左下角的Start。选择以下选项：

"My Computer（我的电脑）" -> "Control Panel（控制面板）" -> "Administrative Tools（管理工具）" -> "Computer Management（计算机管理）"

在"存储"下，单击"磁盘管理"。PC语言的显示捕获如下所示。请注意，Disk1和Disk2来自IBM Shark，Disk3是Seagate JBOD。

[来自坎特伯雷的显示器(MDS 9216)](#)

来自坎特伯雷的显示器(MDS 9216)

```
canterbury# show zone status

 ...

 VSAN: 601 default-zone: deny distribute: active only
Interop: Off
 Full Zoning Database :
     Zonesets:1  Zones:1 Aliases: 0
 Active Zoning Database :
     Name: ZoneSet1  Zonesets:1  Zones:1
 Status: Activation completed at Wed Sep 10 09:25:45
2003



 ...

canterbury#

canterbury# show zone active vsan 601
zone name Zone1 vsan 601
symbolic-nodename 10.48.69.231
* fcid 0x020001 [pWWN 50:05:07:63:00:c8:94:4c]
* fcid 0x020005 [pWWN 20:03:00:0c:30:6c:24:4c]
* fcid 0x0201e8 [pWWN 21:00:00:20:37:67:f7:a2]
* fcid 0x020005 [symbolic-nodename 10.48.69.149]
```

```
canterbury#

canterbury# show fcns database vsan 601

VSAN 601:
--------------------------------------------------------
-------------------
FCID        TYPE  pWWN                    (VENDOR)
FC4-TYPE:FEATURE
--------------------------------------------------------
-------------------
0x020001    N     50:05:07:63:00:c8:94:4c (IBM)
scsi-fcp:target fc..
0x020005    N     20:03:00:0c:30:6c:24:4c (Cisco)
scsi-fcp:init isc..w
0x0201e8    NL    21:00:00:20:37:67:f7:a2 (Seagate)
scsi-fcp:target
Total number of entries = 3


canterbury#

canterbury# show fcns database detail vsan  601

-----------------------
VSAN:601   FCID:0x020001
-----------------------
port-wwn (vendor)     :50:05:07:63:00:c8:94:4c (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 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       :20:03:00:0c:30:6c:24:40
hard-addr             :0x000000
-----------------------
VSAN:601   FCID:0x020005
-----------------------
port-wwn (vendor)     :20:03:00:0c:30:6c:24:4c (Cisco)
node-wwn              :21:00:00:0c:30:6c:24:42
class                 :2,3
node-ip-addr          :10.48.69.149
ipa                   :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw
symbolic-port-name    :
symbolic-node-name    :10.48.69.149
port-type             :N
port-ip-addr          :0.0.0.0
fabric-port-wwn       :20:41:00:0c:30:6c:24:40
hard-addr             :0x000000
-----------------------
VSAN:601   FCID:0x0201e8
-----------------------
port-wwn (vendor)     :21:00:00:20:37:67:f7:a2
(Seagate)
node-wwn              :20:00:00:20:37:67:f7:a2
class                 :3
node-ip-addr          :0.0.0.0
ipa                   :ff ff ff ff ff ff ff ff
```

```
 fc4-types:fc4_features:scsi-fcp:target
 symbolic-port-name    :
 symbolic-node-name    :
 port-type             :NL
 port-ip-addr          :0.0.0.0
 fabric-port-wwn       :20:04:00:0c:30:6c:24:40
 hard-addr             :0x000000

 Total number of entries = 3

 canterbury#



 canterbury# show flogi database vsan 601

 --------------------------------------------------------
--------------------
 INTERFACE   VSAN    FCID            PORT NAME
NODE NAME
 --------------------------------------------------------
--------------------
 fc1/3     601    0x020001  50:05:07:63:00:c8:94:4c
50:05:07:63:00:c0:94:4c
 fc1/4     601    0x0201e8  21:00:00:20:37:67:f7:a2
20:00:00:20:37:67:f7:a2
 iscsi2/1  601    0x020005  20:03:00:0c:30:6c:24:4c
21:00:00:0c:30:6c:24:42

 Total number of flogi = 3.



 canterbury#

 canterbury# show vsan membership
...

vsan 601 interfaces:

        fc1/3   fc1/4

...

canterbury#
 canterbury# show iscsi initiator

 ...

 iSCSI Node name is 10.48.69.149
     iSCSI Initiator name: iqn.1987-
05.com.cisco:02.e746244830dd.langur
     iSCSI alias name: LANGUR
     Node WWN is 21:00:00:0c:30:6c:24:42 (dynamic)
     Member of vsans: 601
     Number of Virtual n_ports: 1
     Virtual Port WWN is 20:03:00:0c:30:6c:24:4c
(configured)
       Interface iSCSI 2/1, Portal group tag: 0x80
       VSAN ID 601, FCID 0x020005



 canterbury#
```

```
canterbury# show iscsi initiator detail

...

iSCSI Node name is 10.48.69.149
    iSCSI Initiator name: iqn.1987-
05.com.cisco:02.e746244830dd.langur
    iSCSI alias name: LANGUR
    Node WWN is 21:00:00:0c:30:6c:24:42 (dynamic)
    Member of vsans: 601
    Number of Virtual n_ports: 1


    Virtual Port WWN is 20:03:00:0c:30:6c:24:4c
(configured)
      Interface iSCSI 2/1, Portal group tag is 0x80
      VSAN ID 601, FCID 0x 20005
      2 FC sessions, 2 iSCSI sessions
      iSCSI session details
        Target: shark-c8
          Statistics:
            PDU: Command: 45, Response: 45
            Bytes: TX: 5968, RX: 0
            Number of connection: 1
          TCP parameters
            Local 10.48.69.222:3260, Remote
10.48.69.149:2196
            Path MTU: 1500 bytes
            Retransmission timeout: 300 ms
            Round trip time: Smoothed 219 ms, Variance:
15
            Advertized window: Current: 61 KB, Maximum:
62 KB, Scale: 0
            Peer receive window: Current: 63 KB,
Maximum: 63 KB, Scale: 0
            Congestion window: Current: 11 KB
        Target: san-fc-jbod-1
          Statistics:
            PDU: Command: 26, Response: 26
            Bytes: TX: 3168, RX: 0
            Number of connection: 1
          TCP parameters
            Local 10.48.69.222:3260, Remote
10.48.69.149:3124
            Path MTU: 1500 bytes
            Retransmission timeout: 300 ms
            Round trip time: Smoothed 219 ms, Variance:
15
            Advertized window: Current: 61 KB, Maximum:
62 KB, Scale: 0
            Peer receive window: Current: 63 KB,
Maximum: 63 KB, Scale: 0
            Congestion window: Current: 11 KB


      FCP Session details
        Target FCID: 0x020001 (S_ID of this session:
0x020005)
            pWWN: 50:05:07:63:00:c8:94:4c, nWWN:
50:05:07:63:00:c0:94:4c
            Session state: LOGGED_IN
            1 iSCSI sessions share this FC session
              Target: shark-c8
            Negotiated parameters
              RcvDataFieldSize 2048 our_RcvDataFieldSize
```

```
1392
             MaxBurstSize 0, EMPD: FALSE
             Random Relative Offset: FALSE, Sequence-in-
order: Yes
          Statistics:
             PDU: Command: 0, Response: 45
        Target FCID: 0x0201e8 (S_ID of this session:
0x020005)
          pWWN: 21:00:00:20:37:67:f7:a2, nWWN:
20:00:00:20:37:67:f7:a2
          Session state: LOGGED_IN
          1 iSCSI sessions share this FC session
            Target: san-fc-jbod-1
          Negotiated parameters
            RcvDataFieldSize 1392 our_RcvDataFieldSize
1392
             MaxBurstSize 0, EMPD: FALSE
             Random Relative Offset: FALSE, Sequence-in-
order: Yes
          Statistics:
             PDU: Command: 0, Response: 26

 canterbury# show iscsi initiator iscsi-session detail

 iSCSI Node name is 10.48.69.149
     iSCSI Initiator name: iqn.1987-
05.com.cisco:02.e746244830dd.langur
     iSCSI alias name: LANGUR
     Node WWN is 21:00:00:0c:30:6c:24:42 (dynamic)
     Member of vsans: 601
     Number of Virtual n_ports: 1

     Virtual Port WWN is 20:03:00:0c:30:6c:24:4c
(configured)
       Interface iSCSI 2/1, Portal group tag is 0x80
       VSAN ID 601, FCID 0x 20005
       2 FC sessions, 2 iSCSI sessions
       iSCSI session details
         Target: shark-c8
           Statistics:
             PDU: Command: 45, Response: 45
             Bytes: TX: 5968, RX: 0
             Number of connection: 1
           TCP parameters
             Local 10.48.69.222:3260, Remote
10.48.69.149:2196
               Path MTU: 1500 bytes
               Retransmission timeout: 300 ms
               Round trip time: Smoothed 217 ms, Variance:
14
               Advertized window: Current: 62 KB, Maximum:
62 KB, Scale: 0
               Peer receive window: Current: 63 KB,
Maximum: 63 KB, Scale: 0
               Congestion window: Current: 11 KB
         Target: san-fc-jbod-1
           Statistics:
             PDU: Command: 26, Response: 26
             Bytes: TX: 3168, RX: 0
             Number of connection: 1
           TCP parameters
             Local 10.48.69.222:3260, Remote
10.48.69.149:3124
               Path MTU: 1500 bytes
```

```
                Retransmission timeout: 300 ms
                Round trip time: Smoothed 217 ms, Variance:
14
                Advertized window: Current: 61 KB, Maximum:
62 KB, Scale: 0
                Peer receive window: Current: 63 KB,
Maximum: 63 KB, Scale: 0
                Congestion window: Current: 11 KB




 canterbury#

 canterbury# show iscsi initiator fcp-session detail

 iSCSI Node name is 10.48.69.149
     iSCSI Initiator name: iqn.1987-
05.com.cisco:02.e746244830dd.langur
     iSCSI alias name: LANGUR
     Node WWN is 21:00:00:0c:30:6c:24:42 (dynamic)
     Member of vsans: 601
     Number of Virtual n_ports: 1

     Virtual Port WWN is 20:03:00:0c:30:6c:24:4c
(configured)
        Interface iSCSI 2/1, Portal group tag is 0x80
        VSAN ID 601, FCID 0x 20005
        2 FC sessions, 2 iSCSI sessions

        FCP Session details
          Target FCID: 0x020001 (S_ID of this session:
0x020005)
             pWWN: 50:05:07:63:00:c8:94:4c, nWWN:
50:05:07:63:00:c0:94:4c
             Session state: LOGGED_IN
             1 iSCSI sessions share this FC session
               Target: shark-c8
             Negotiated parameters
               RcvDataFieldSize 2048 our_RcvDataFieldSize
1392
               MaxBurstSize 0, EMPD: FALSE
               Random Relative Offset: FALSE, Sequence-in-
order: Yes
             Statistics:
               PDU: Command: 0, Response: 45
          Target FCID: 0x0201e8 (S_ID of this session:
0x020005)
             pWWN: 21:00:00:20:37:67:f7:a2, nWWN:
20:00:00:20:37:67:f7:a2
             Session state: LOGGED_IN
             1 iSCSI sessions share this FC session
               Target: san-fc-jbod-1
             Negotiated parameters
               RcvDataFieldSize 1392 our_RcvDataFieldSize
1392
               MaxBurstSize 0, EMPD: FALSE
               Random Relative Offset: FALSE, Sequence-in-
order: Yes
             Statistics:
               PDU: Command: 0, Response: 26




 canterbury#
```

```
canterbury# show ips stats tcp interface
gigabitethernet 2/1 detail

TCP Statistics for port GigabitEthernet2/1
    TCP send stats
      241247690 segments, 176414627280 bytes
      239428551 data, 1738205 ack only packets
      42541 control (SYN/FIN/RST), 0 probes, 38280
window updates
      498 segments retransmitted, 526612 bytes
      464 retransmitted while on ethernet send queue,
111295209 packets split
      2505024 delayed acks sent
    TCP receive stats
      34418285 segments, 8983771 data packets in
sequence, 9282604852 bytes in s
 equence
      854523 predicted ack, 6126542 predicted data
      0 bad checksum, 0 multi/broadcast, 0 bad offset
      0 no memory drops, 0 short segments
      1844 duplicate bytes, 77 duplicate packets
      0 partial duplicate bytes, 0 partial duplicate
packets
      123700 out-of-order bytes, 2235 out-of-order
packets
      6 packet after window, 0 bytes after window
      0 packets after close
      28128679 acks, 173967225697 ack bytes, 0 ack
toomuch, 75348 duplicate acks
      0 ack packets left of snd_una, 12 non-4 byte
aligned packets
      18442549 window updates, 0 window probe
      88637 pcb hash miss, 2150 no port, 14 bad SYN, 0
paws drops
    TCP Connection Stats
      26 attempts, 42272 accepts, 42274 established
      42327 closed, 40043 drops, 24 conn drops
      106 drop in retransmit timeout, 152 drop in
keepalive timeout
      0 drop in persist drops, 0 connections drained
    TCP Miscellaneous Stats
      9776335 segments timed, 9780142 rtt updated
      402 retransmit timeout, 457 persist timeout
      69188 keepalive timeout, 69015 keepalive probes
    TCP SACK Stats
      100 recovery episodes, 231520160 data packets,
330107461536 data bytes
      396 data packets retransmitted, 482072 data bytes
retransmitted
      13 connections closed, 46 retransmit timeouts
    TCP SYN Cache Stats
      42281 entries, 42272 connections completed, 3
entries timed out
      0 dropped due to overflow, 6 dropped due to RST
      0 dropped due to ICMP unreach, 0 dropped due to
bucket overflow
      0 abort due to no memory, 43 duplicate SYN, 1833
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     10.48.69.149:1026
ESTABLISH  0       0
        10.48.69.222:3260     10.48.69.149:2196
ESTABLISH  0       0
        10.48.69.222:3260     10.48.69.149:3124
ESTABLISH  0       0
        0.0.0.0:3260          0.0.0.0:0
LISTEN     0       0

 canterbury#

 canterbury# show iscsi virtual-target configured

 target: shark-c8

   * Port WWN 50:05:07:63:00:c8:94:4c
```

!--- The asterisk (*) in front of the pWWN means !--- that you have both discovery and target sessions. If !--- you do not see this, it means that only a discovery !--- session exists. Configured node No. of advertised interface: 1 GigabitEthernet 2/1 No. of initiators permitted: 2 initiator 10.48.69.231/32 is permitted initiator 10.48.69.149/32 is permitted all initiator permit is disabled target: san-fc-jbod-1 * Port WWN 21:00:00:20:37:67:f7:a2 Configured node No. of advertised interface: 1 GigabitEthernet 2/1 No. of initiators permitted: 2 initiator 10.48.69.232/32 is permitted initiator 10.48.69.149/32 is permitted all initiator permit is disabled canterbury# canterbury# **show iscsi initiator configured**

```
 ...

 iSCSI Node name is 10.48.69.149
     Member of vsans: 601
     No. of pWWN: 1
        Port WWN is 20:03:00:0c:30:6c:24:4c



 canterbury#

 canterbury# show ips arp interface gigabitethernet 2/1

 Protocol         Address    Age (min)   Hardware Addr
Type    Interface
 Internet    10.48.69.149       3      0008.e21e.c7bc
ARPA  GigabitEthernet2/1
 Internet    10.48.69.200       0      0008.e21e.c7bc
ARPA  GigabitEthernet2/1
 Internet    10.48.69.201       4      0202.3d30.45c9
ARPA  GigabitEthernet2/1
 Internet    10.48.69.206       9      0005.9ba6.95ff
ARPA  GigabitEthernet2/1
 Internet    10.48.69.209       6      0009.7c60.561f
ARPA  GigabitEthernet2/1
 Internet    10.48.69.229       4      0800.209e.edab
ARPA  GigabitEthernet2/1
 Internet    10.48.69.233       0      0010.4200.7d5b
ARPA  GigabitEthernet2/1
 Internet    10.48.69.235       0      0800.20b6.6559
ARPA  GigabitEthernet2/1
 Internet    10.48.69.238       4      0030.6e1b.6f51
```

```
ARPA  GigabitEthernet2/1
 Internet    10.48.69.239        1    0030.6e1c.a00b
ARPA  GigabitEthernet2/1
 Internet    10.48.69.248        7    0202.3d30.45f8
ARPA  GigabitEthernet2/1
 Internet    10.48.69.252        1    0202.3d30.45fc
ARPA  GigabitEthernet2/1
 Internet     10.10.2.28         0    0202.3d0a.021c
ARPA  GigabitEthernet2/1

 canterbury#

 canterbury# show scsi-target devices vsan 601

 ---------------------------------------------------------
 ------------------------
 VSAN    FCID       pWWN                      VENDOR
MODEL           REV
 ---------------------------------------------------------
 ------------------------
 601    0x020001   50:05:07:63:00:c8:94:4c   IBM
2105F20          .114
 601    0x0201e8   21:00:00:20:37:67:f7:a2   SEAGATE
ST318203FC       0004

 canterbury#

 canterbury# show int iscsi 2/1

 iscsi2/1 is up
     Hardware is GigabitEthernet
     Port WWN is 20:41:00:0c:30:6c:24:40
     Admin port mode is ISCSI
     Port mode is ISCSI
     Speed is 1 Gbps
     iSCSI initiator is identified by name
     Number of iSCSI session: 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 enabled
         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 76856 packets, 8696216 bytes
         Command 13139 pdus, Data-out 85 pdus, 84292
bytes
       Output 89876 packets, 6629892 bytes
         Response 13132 pdus (with sense 16), R2T 25
pdus
         Data-in 13072 pdus, 2125736 bytes
```

```
canterbury#

canterbury# show iscsi stats iscsi 2/1

iscsi2/1
    5 minutes input rate 8 bits/sec, 1 bytes/sec, 0
frames/sec
    5 minutes output rate 8 bits/sec, 1 bytes/sec, 0
frames/sec
    iSCSI statistics
      76857 packets input, 8696264 bytes
        Command 13139 pdus, Data-out 85 pdus, 84292
bytes, 0 fragments
      output 89877 packets, 6629940 bytes
        Response 13132 pdus (with sense 16), R2T 25
pdus
        Data-in 13072 pdus, 2125736 bytes



canterbury#

canterbury# show interface gigabitethernet 2/1

GigabitEthernet2/1 is up
    Hardware is GigabitEthernet, address is
0005.3000.ade6
    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
    iSCSI authentication: NONE
    5 minutes input rate 464 bits/sec, 58 bytes/sec, 0
frames/sec
    5 minutes output rate 64 bits/sec, 8 bytes/sec, 0
frames/sec
    30544982 packets input, 9266250283 bytes
      29435 multicast frames, 0 compressed
      0 input errors, 0 frame, 0 overrun 0 fifo
    233947842 packets output, 179379369852 bytes, 0
underruns
      0 output errors, 0 collisions, 0 fifo
      0 carrier errors



canterbury#

canterbury# show ip route
Codes: C - connected, S - static
Gateway of last resort is 10.48.69.129
S 10.48.69.149, gigabitethernet2-1
C 6.6.6.0/30 is directly connected, gigabitethernet2-6
C 5.5.5.0/30 is directly connected, gigabitethernet2-5
C 10.48.69.192/26 is directly connected,
gigabitethernet2-1
C 10.48.69.128/26 is directly connected, mgmt0
```

```
canterbury#
canterbury# show ips ip route interface gigabitethernet
2/1
Codes: C - connected, S - static
No default gateway
S 10.48.69.149/32 via 0.0.0.0, GigabitEthernet2/1
C 10.48.69.192/26 is directly connected,
GigabitEthernet2/1
canterbury#
```

交换矩阵管理器和设备管理器显示

此部分提供从MDS组织管理器1.1(2)和设备管理器的屏幕截图1.1.(2)。

交换矩阵管理器的拓扑图

此屏幕截图是交换矩阵管理器的拓扑图：

选择**FC-LUN**以显示设备管理器中LUN的pWWN、LUN ID和容量。

10.48.69.156 - LUN

Discover | Targets | LUNs |

VsanId, Port WWN ▲	Id	Capacity (MB)	SerialNum
901, Clariion 50:06:01:00:00:02:a8:2b	0x10	1074	f600042...
901, Clariion 50:06:01:60:88:02:a8:2b	0x11	1074	f600042...
601, Seagate 21:00:00:20:37:67:f7:a2	0x0	18210	LRE8091...
601, IBM 50:05:07:63:00:c8:94:4c	0x5600	17500	60022196
601, IBM 50:05:07:63:00:c8:94:4c	0x5601	17500	60122196
601, IBM 50:05:07:63:00:c8:94:4c	0x5602	17500	60222196
601, IBM 50:05:07:63:00:c8:94:4c	0x5000	10000	00022196
601, IBM 50:05:07:63:00:c8:94:4c	0x500b	5000	00B22196
601, IBM 50:05:07:63:00:c8:94:4c	0x500c	5000	00C22196
601, IBM 50:05:07:63:00:c8:94:4c	0x500d	5000	00D22196
601, IBM 50:05:07:63:00:c8:94:4c	0x500e	5000	00E22196
601, IBM 50:05:07:63:00:c8:94:4c	0x500f	5000	00F22196
601, IBM 50:05:07:63:00:c8:94:4c	0x5010	5000	01022196
601, IBM 50:05:07:63:00:c8:94:4c	0x5011	5000	01122196
601, IBM 50:05:07:63:00:c8:94:4c	0x5012	5000	01222196
601, IBM 50:05:07:63:00:c8:94:4c	0x5013	5000	01322196
601, IBM 50:05:07:63:00:c8:94:4c	0x5014	5000	01422196
601, IBM 50:05:07:63:00:c8:94:4c	0x5401	5000	40122196
601, IBM 50:05:07:63:00:c8:94:4c	0x5100	4000	10022196
601, IBM 50:05:07:63:00:c8:94:4c	0x5101	4000	10122196
601, IBM 50:05:07:63:00:c8:94:4c	0x5107	3000	10722196
601, IBM 50:05:07:63:00:c8:94:4c	0x5108	3000	10822196
601, IBM 50:05:07:63:00:c8:94:4c	0x5109	3000	10922196
601, IBM 50:05:07:63:00:c8:94:4c	0x510a	3000	10A22196
601, IBM 50:05:07:63:00:c8:94:4c	0x510b	3000	10B22196
601, IBM 50:05:07:63:00:c8:94:4c	0x510c	3000	10C22196
601, IBM 50:05:07:63:00:c8:94:4c	0x511d	3000	11D22196
601, IBM 50:05:07:63:00:c8:94:4c	0x511e	3000	11E22196
601, IBM 50:05:07:63:00:c8:94:4c	0x511f	3000	11F22196

Refresh | Help | Close

127 row(s)

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

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
- iSCSI驱动程序：用于Microsoft Windows的思科iSCSI驱动程序版本说明，驱动程序版本3.1.2
- 用于 Windows 2000 的 iSCSI 驱动程序故障排除
- 技术支持 - Cisco Systems