配置Microsoft Windows XP iSCSI主機到MDS/IPS-8

目錄

簡介

Cisco的iSCSI驅動程式位於伺服器上，是iSCSI解決方案的關鍵元件。這些iSCSI驅動程式會攔截SCSI命令，將其封裝到IP資料包中，然後將其重定向到Cisco SN 5420、Cisco SN 5428、Cisco SN 5428-2或Cisco MDS/IPS-8。本文檔提供了使用Microsoft Windows XP iSCSI到MDS/IPS-8的主機的配置示例。

必要條件

需求

嘗試此設定之前，請確保符合以下要求：

- 在MDS 9000上建立iSCSI配置之前，需要安裝與運行Microsoft Windows XP的PC相容的iSCSI驅動程式。用於Windows 2000/XP/2003的最新版本的Cisco iSCSI驅動程式可在Cisco.com上的Cisco iSCSI Drivers(僅限註冊客戶)頁面上找到。檔案的名稱是**Win2k的Cisco iSCSI驅動程式版本**版本號，可以在此頁上的表中找到。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 使用Microsoft Windows XP和Cisco iSCSI驅動程式版本3.1.2的PC
- Cisco MDS 9216與軟體版本1.1.2

```
canterbury# show module
Mod  Ports  Module-Type                      Model              Status
---  -----  -------------------------------- ------------------ ------------
1    16     1/2 Gbps FC/Supervisor           DS-X9216-K9-SUP    active *
2    8      IP Storage Module                DS-X9308-SMIP      ok

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

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

* this terminal session
canterbury#

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#
```

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

術語MDS 9000是指MDS 9000系列（MDS 9506、MDS 9509或MDS 9216）中的任何光纖通道(FC)交換機產品。IPS刀片指的是IP儲存服務模組。

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

背景理論

IP儲存模組為IP主機提供對光纖通道(FC)儲存裝置的訪問。IP儲存模組是DS-X9308-SMP。它提供透明的SCSI路由。使用iSCSI協定的IP主機可以透明地訪問FC網路上的SCSI(FCP)目標。IP主機通過TCP/IP連線將封裝在iSCSI協定資料單元(PDU)中的SCSI命令傳送到MDS 9000 IPS埠。在IP儲存模組上，連線是以正確配置的千兆乙太網(GE)介面的形式提供的。IP儲存模組使您能夠建立虛擬iSCSI目標並將它們對映到FC SAN中可用的物理FC目標。它向IP主機呈現FC目標，就像物理目標在本地連線一樣。

每個需要通過IP儲存模組訪問儲存的iSCSI主機都需要安裝相容的iSCSI驅動程式。藉由iSCSI協定，iSCSI驅動程式允許iSCSI主機通過IP網路傳輸SCSI請求和響應。從主機作業系統的角度來看，iSCSI驅動程式似乎是SCSI傳輸驅動程式，類似於主機中外圍通道的FC驅動程式。從儲存裝置的角度來看，每個IP主機都顯示為FC主機。

將SCSI從IP主機路由到FC儲存裝置包含以下主要操作：

- 通過IP網路在主機和IP儲存模組之間傳輸iSCSI請求和響應。
- 在IP網路上的主機和FC儲存裝置之間路由SCSI請求和響應（將iSCSI轉換為FCP，反之亦然）。 這由IP儲存模組執行。
- 在IP儲存模組和FC儲存裝置之間傳輸FCP請求或響應。

預設情況下，IP儲存模組不會將FC目標匯入iSCSI。在IP儲存模組使FC目標可用於iSCSI啟動器之前，必須配置動態或靜態對映。當兩者都配置時，靜態對映的FC目標具有已配置的名稱。在此配置中，將提供靜態對映的示例。

使用動態對映時，每次iSCSI主機連線到IP儲存模組時，都會建立一個新的FC N埠，並為此N埠分配的nWWN和pWWN可能不同。如果需要在iSCSI主機每次連線到IP儲存模組時獲得相同的nWWN和pWWN ，請使用靜態對映方法。可以在IP儲存模組上使用靜態對映來訪問智慧FC儲存陣列，這些儲存陣列具有基於啟動器的pWWN和/或nWWN的訪問控制以及邏輯單元號(LUN)對映/遮蔽配置。

如果指定將在其上通告靜態對映的IP儲存埠的清單，並指定允許訪問它的iSCSI啟動器節點名稱的清單，則可以控制對每個靜態對映的iSCSI目標的訪問。基於FC分割槽的訪問控制和基於iSCSI的訪問控制是為iSCSI提供訪問控制的兩種機制。這兩種方法可以同時使用。

iSCSI發現發生在iSCSI主機為所有iSCSI目標建立iSCSI發現會話和查詢時。IP儲存模組僅返回iSCSI主機根據訪問控制策略允許訪問的iSCSI目標清單。

iSCSI會話建立在IP主機發起iSCSI會話時進行。IP儲存模組驗證指定的iSCSI目標（在會話登入請求中）是否為靜態對映目標，如果為true，則驗證是否允許IP主機的iSCSI節點名稱訪問目標。如果IP主機沒有存取許可權，則其登入會遭到拒絕。

IP儲存模組然後為該IP主機建立一個FC虛擬N埠（N埠可能已經存在），並且對IP主機訪問的FC目標pWWN的FCID執行FC名稱伺服器查詢。它使用IP主機虛擬N埠的pWWN作為名稱伺服器查詢的請求者。因此，名稱伺服器對pWWN執行區域強制查詢並響應查詢。如果名稱伺服器返回FCID，則接受iSCSI會話。否則，登入請求將被拒絕。

設定

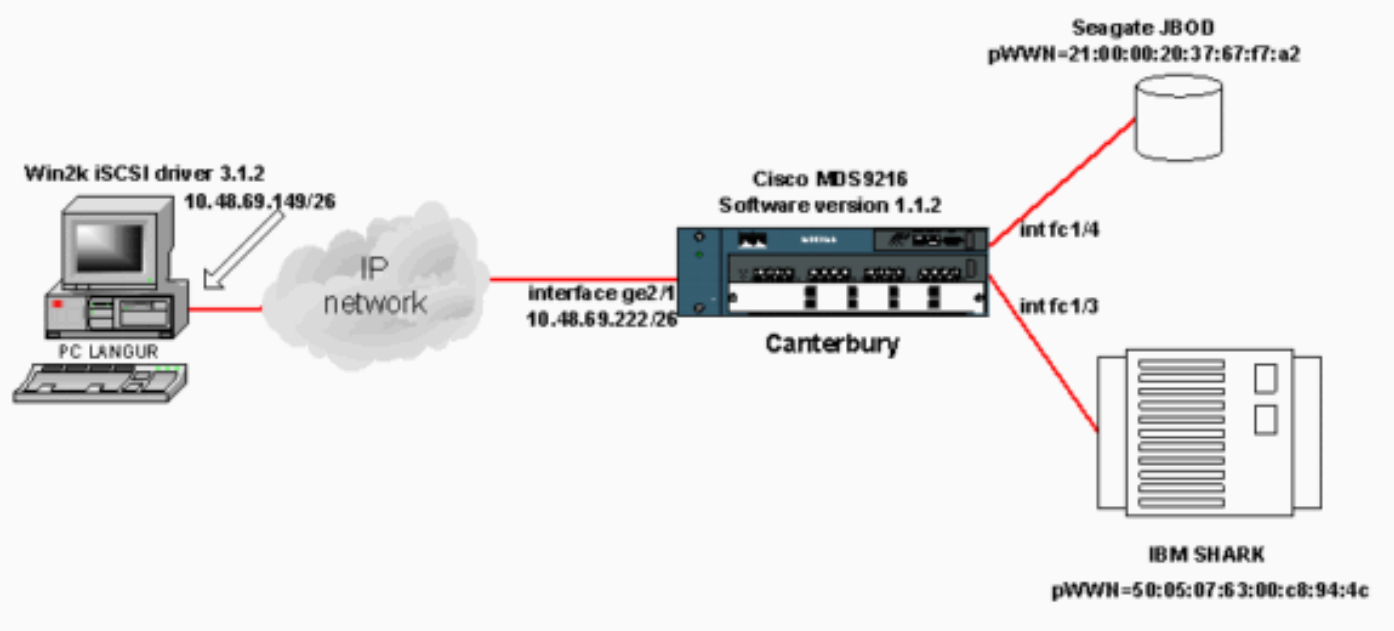
本節提供用於設定本文件中所述功能的資訊。

註：要查詢有關本文檔中使用的命令的其他資訊，請參閱《Cisco MDS 9000系列命令參考，版本1.2.1a和Cisco MDS 9000系列軟體配置指南，版本1.2.1a配置指南》。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用命令查詢工具(僅限註冊客戶)。

網路圖表

本檔案會使用以下網路設定：



組態

本檔案會使用以下設定：

- 坎特伯里(MDS 9216)

坎特伯里(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#
```

驗證

本節提供的資訊可用於確認您的組態是否正常運作。

輸出直譯器工具(僅供註冊客戶使用)支援某些**show**命令，此工具可讓您檢視show命令輸出的分析。

在PC上，轉至**控制面板**，並檢查以下專案：

- **網路連線 — >本地連線 — > TCP/IP屬性**
- **iSCSI配置 — >目標的狀態**(要檢視螢幕捕獲，請參閱本文檔的從PC顯示部分)。

在MDS 9216上，發出以下命令以驗證連線：

- **show zone status** — 顯示區域資訊。
- **show zone active vsan 601 -**顯示屬於指定VSAN的區域。
- **show fcns database vsan 601** — 顯示特定VSAN的名稱伺服器資訊。
- **show fcns database detail vsan 601** — 顯示給定VSAN的本地條目。
- **show flogi database vsan 601** — 顯示特定VSAN的FLOGI伺服器資訊。
- **show vsan membership** — 顯示不同VSAN的介面資訊。
- **show iscsi initiator** — 顯示iSCSI啟動器資訊。
- **show iscsi initiator detail** — 更詳細地顯示iSCSI啟動器資訊。
- **show iscsi initiator iscsi-session detail** — 顯示iSCSI啟動器會話的詳細資訊。
- **show iscsi initiator fcp-session detail** — 顯示iSCSI啟動器FCP會話的詳細資訊。
- **show ips stats tcp interface gigabitethernet 2/1 detail** — 顯示特定GE介面的TCP統計資訊。

- **show iscsi virtual-target configured** — 顯示已在MDS 9000上配置的iSCSI虛擬目標。
- **show iscsi initiator configured** — 顯示已在MDS 9000上配置的iSCSI啟動器。
- **show ips arp interface gigabitethernet 2/1** — 顯示特定GE介面的IP儲存ARP資訊。
- **show scsi-target devices vsan 601** — 顯示特定VSAN的SCSI裝置（用於將FC-LUN對映到iSCSI-LUN）。
- **show int iscsi 2/1** — 顯示iSCSI介面。
- **show iscsi stats iscsi 2/1** — 顯示iSCSI統計資訊。
- **show int gigabitethernet 2/1** — 顯示GE介面。
- **show ip route** — 顯示IP路由資訊。
- **show ips ip route interface gigabitethernet 2/1** — 顯示路由表。

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

疑難排解程式

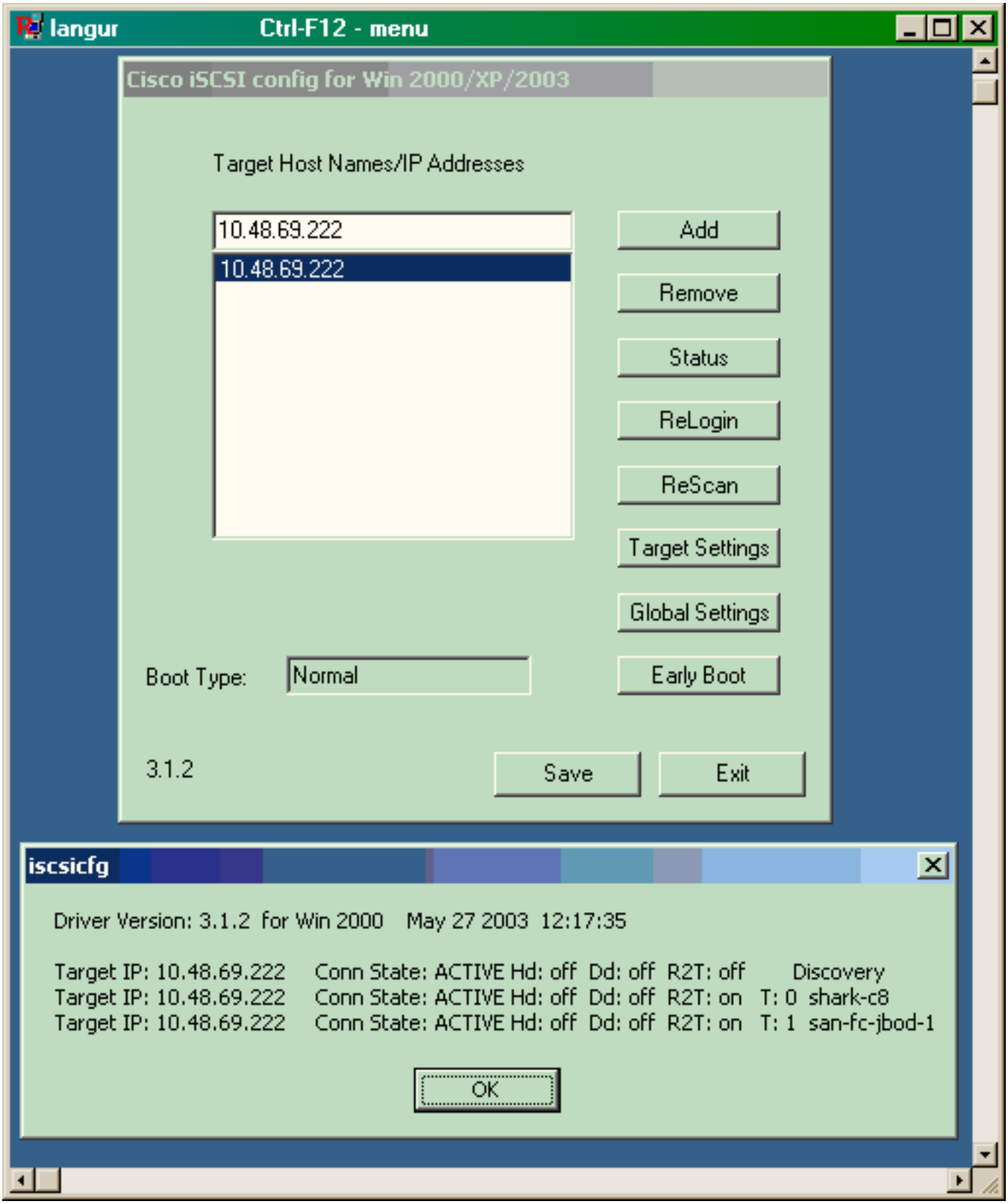
本節提供的資訊可用於對組態進行疑難排解。

以下是此組態的一些相關疑難排解資訊：

- 從PC顯示
- 來自Canterbury Cisco MDS 9216的顯示器
- Fabric Manager和Device Manager顯示

從PC顯示

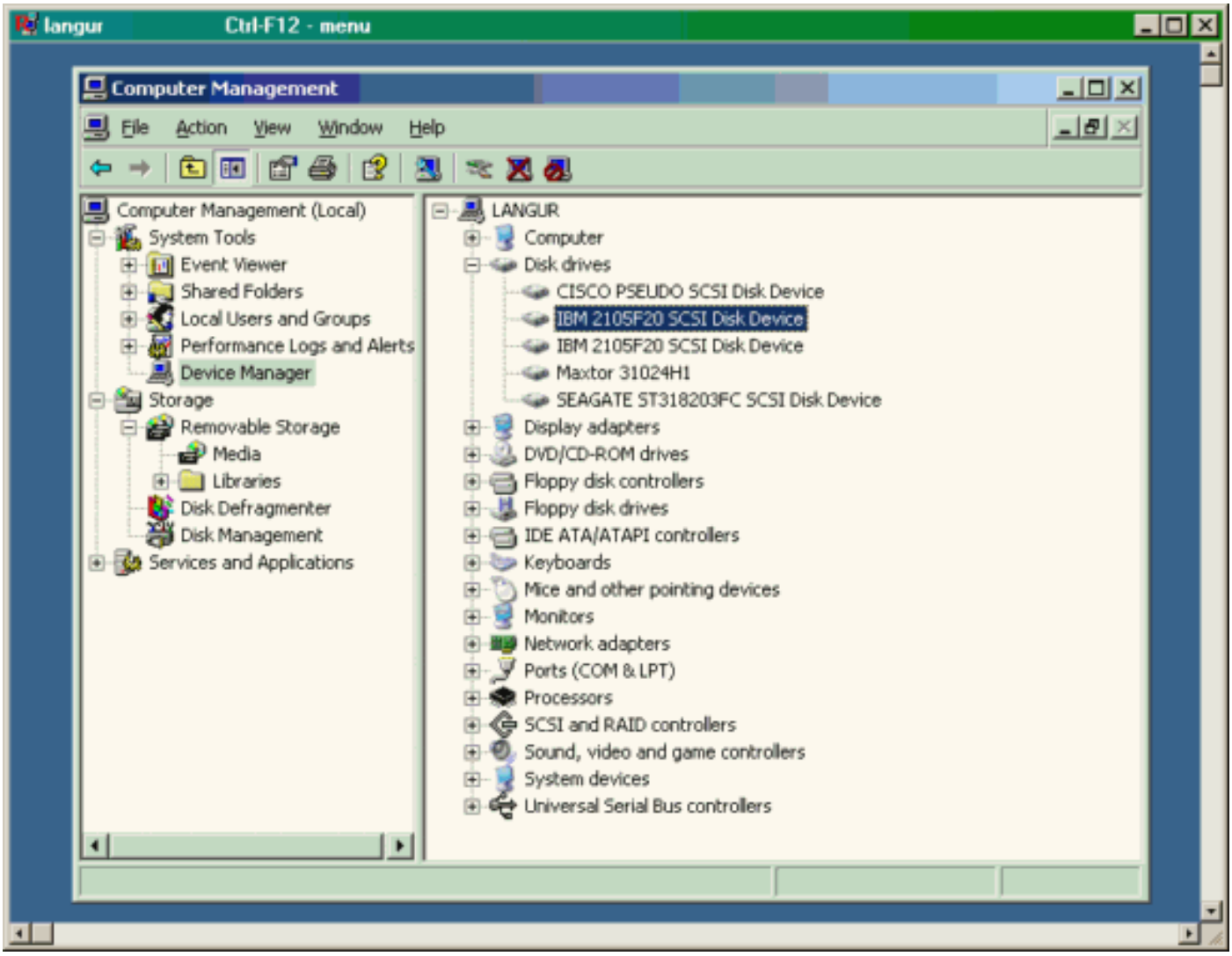
此螢幕捕獲是來自PC語言的iSCSI顯示：



要檢查這些新磁碟，請按一下PC左下角的**Start**。選擇以下選項：

我的電腦 — >控制面板 — >管理工具 — >電腦管理

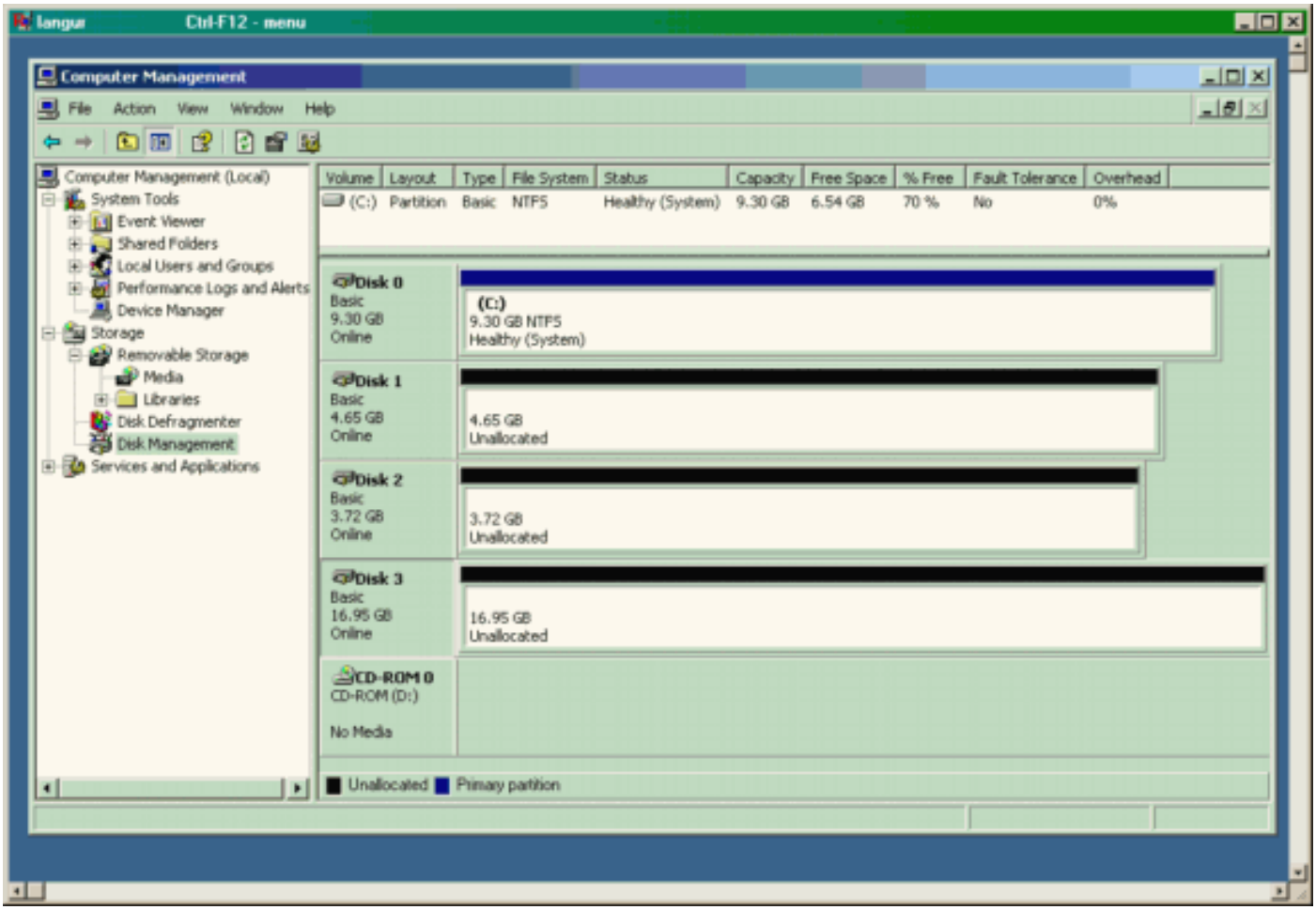
在**System Tools**下，選擇**Device Manager**。在右側，按一下**Disk Drives**。您應該會看到：



要管理這些磁碟，請按一下PC左下角的**Start**。選擇以下選項：

我的電腦 — >控制面板 — >管理工具 — >電腦管理

在**Storage**下，按一下**Disk Management**。PC語言中的顯示捕獲如下所示。請注意，Disk1和Disk2來自IBM Shark，而Disk3是Seagate JBOD。



來自坎特伯雷的顯示器(MDS 9216)

來自坎特伯雷的顯示器(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
```

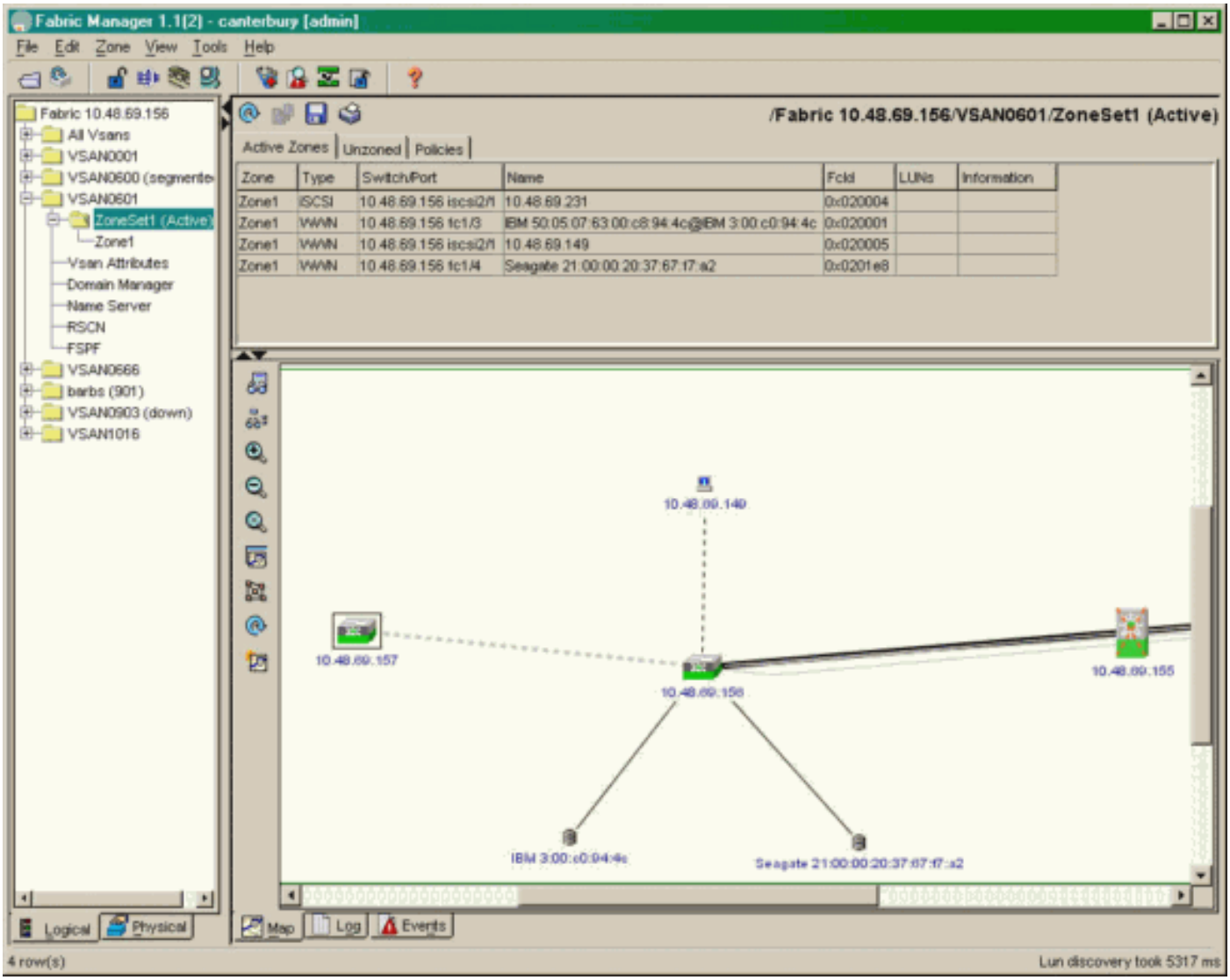
```
 canterbury#
 canterbury# show ips ip route interface gigabitethernet
2/1
 Codes: C - connected, S - static
 No default gateway
 S 10.48.69.149/32 via 0.0.0.0, GigabitEthernet2/1
 C 10.48.69.192/26 is directly connected,
GigabitEthernet2/1
 canterbury#
```

Fabric Manager和Device Manager顯示

本節提供來自MDS交換矩陣管理器1.1(2)和裝置管理器1.1.(2)的螢幕截圖。

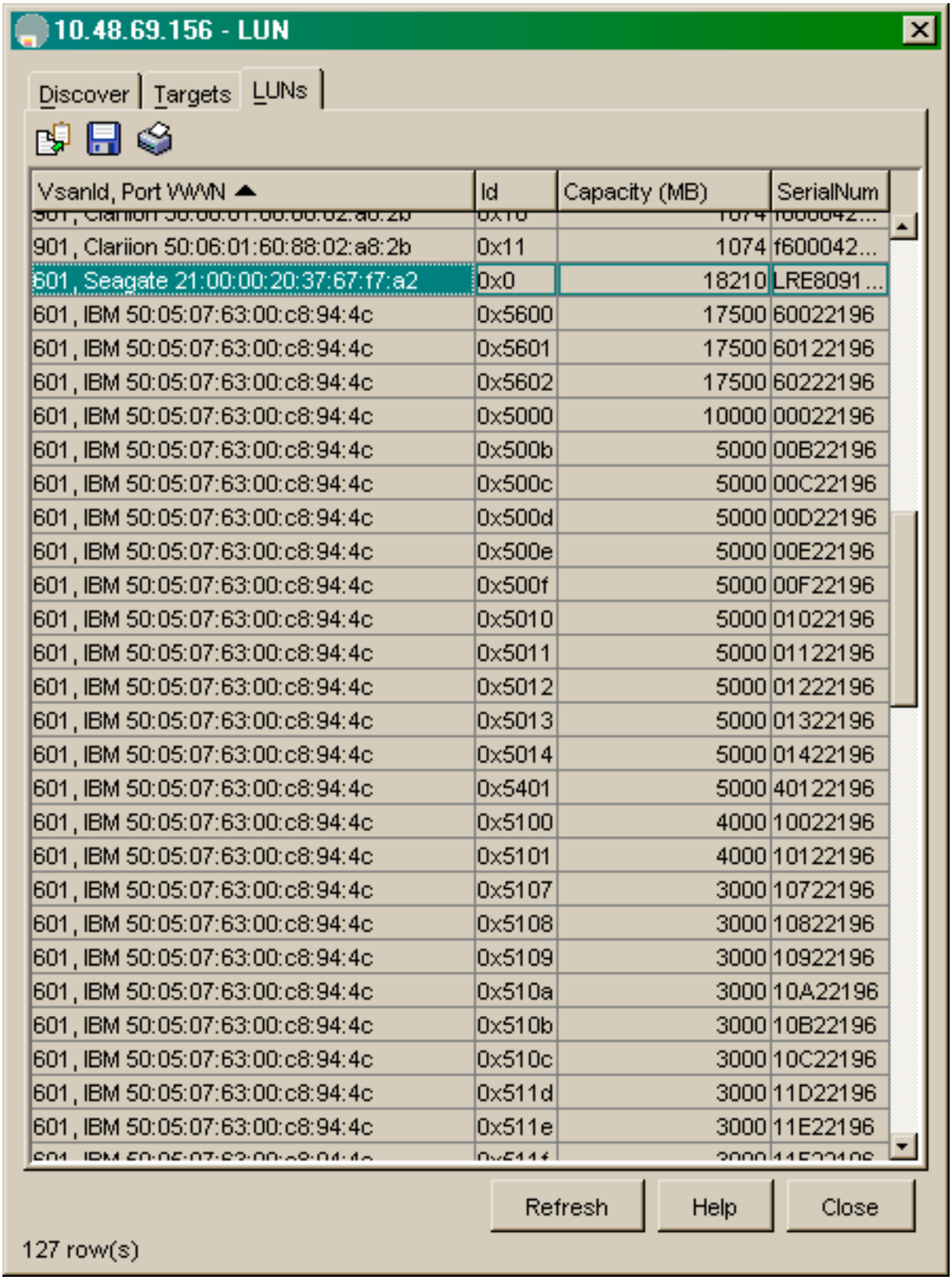
Fabric Manager中的拓撲圖

此螢幕截圖是來自Fabric Manager的拓撲圖：

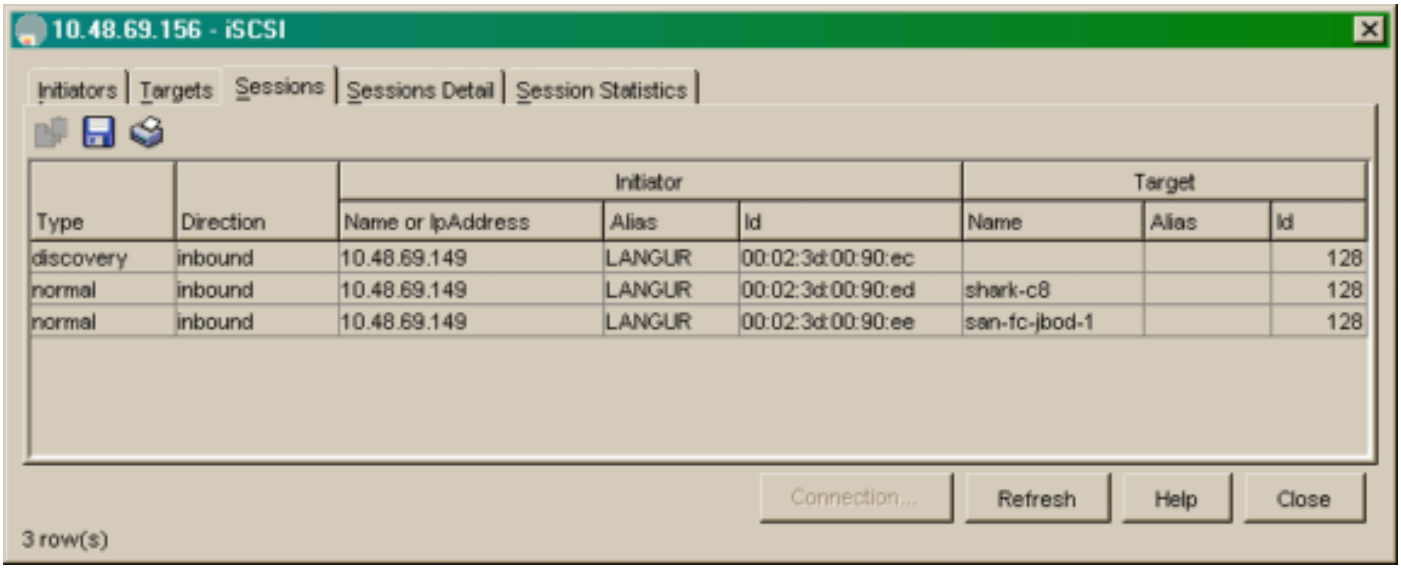


從裝置管理器中選擇**FC-LUN**以顯示LUN的pWWN、LUN ID和**容量**。


Device Manager 1.1(2) - 10.48.69.156 [admin]
Device Physical Interface FC IP Events Security Admin Help
Device Summary
FAN STATUS
Cisco Systems
MDS 9216
STATUS SYSTEM
Console Mgmt
Serial
1.1(2)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
TE TE F FL F F F F
STATUS
1 2 3 4 5 6 7 8
STATUS
Up Down Fail Unreachable



選擇**IP-iSCSI**以從裝置管理器顯示iSCSI**會話**。



相關資訊

- Cisco iSCSI軟體下載(僅限註冊客戶)
- 用於Windows 2000的iSCSI驅動程式常見問題
- iSCSI驅動程式：用於Microsoft Windows的Cisco iSCSI驅動程式版本3.1.2的發行說明
- 用於Windows 2000的iSCSI驅動程式故障排除
- 技術支援 - Cisco Systems