

Windows Server 2003 iSCSI Host to SN 5428 Configuration Example

Document ID: 45920

Introduction

Prerequisites

- Requirements
- Components Used
- Conventions
- Background Information

Configure

- Network Diagram
- Configurations

Verify

Troubleshoot

Related Information

Introduction

Cisco Small Computer System Interface over IP (iSCSI) drivers are a key component of the iSCSI solution. These iSCSI drivers reside on the server, where they:

- Intercept iSCSI commands.
- Encapsulate the commands into IP packets.
- Redirect them to the Cisco SN 5420, Cisco SN 5428, Cisco SN 5428–2 or Cisco MDS/IPS–8.

This document provides sample configurations for Windows Server 2003 iSCSI Host to SN 5428.

Prerequisites

Requirements

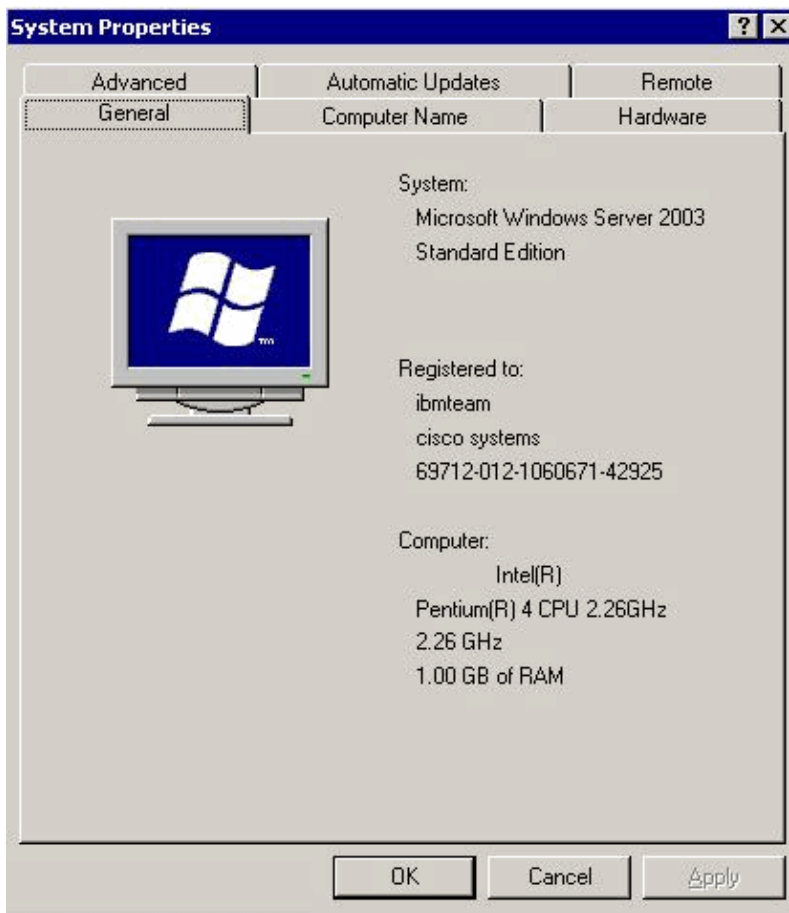
Ensure that you meet these requirements before you attempt this configuration:

- Install the iSCSI driver that is compatible to your Microsoft Windows version. Refer to the Cisco iSCSI Driver (registered customers only) web page for the most current version of the driver for Microsoft Windows 2000, XP, or 2003. The name of the file is listed in the table as **Cisco iSCSI Driver Version *version number* for Win2k**.
- The iSCSI driver for Microsoft Windows 2003 requires Microsoft Windows Server 2003 Enterprise Edition, Standard Edition, or Web Edition.

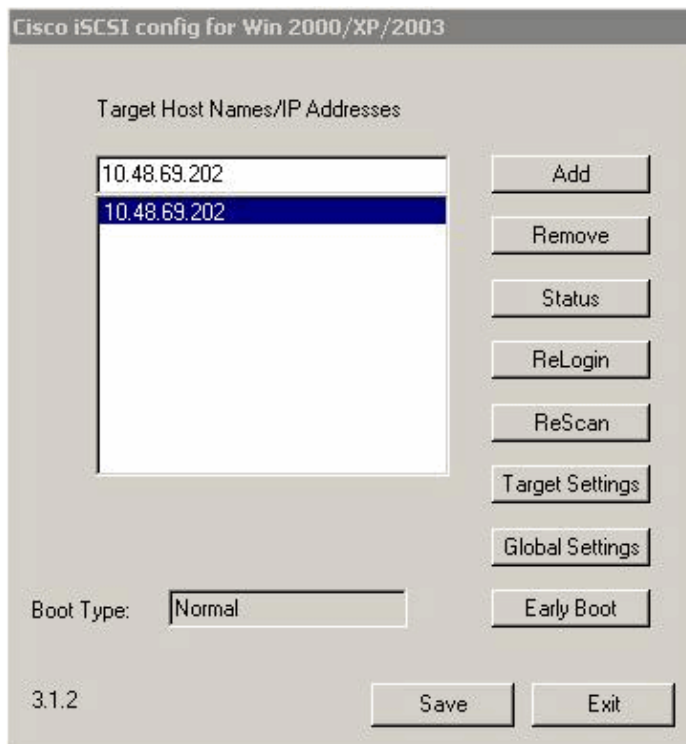
Components Used

The information in this document is based on these software and hardware versions:

- Host with Microsoft Windows Server 2003 Standard Edition



- Cisco iSCSI Driver 3.1.2 for Microsoft Windows Server 2003. You can see the iSCSI driver version at the bottom left of the Cisco iSCSI config window.



- Cisco SN 5428 with software release 3.3.2-K9

```
*[rital]# show ver
Cisco SN 5428-K9 Storage Router
CLI Version: 2.1
```

```
iSCSI Version: 0/2 (Min/Max)
System Bootstrap: 3.3.2-K9
Operating System: 3.3.2-K9
Switch Version: V1.4.0.43-0
Application: 3.3.2-K9
Web Server: R6_1_0
OpenSSH: 3.4p1
OpenSSL: 0.9.6e
Zlib: 1.1.4
```

Copyright (c) 1986-2002 by Cisco Systems, Inc

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Background Information

iSCSI routing provides IP hosts with access to Fibre Channel (FC) storage devices as if the storage devices are directly attached to the hosts. Access to devices is managed primarily in the SN 5428 storage router. An iSCSI target is an arbitrary name for a group of physical storage devices. The iSCSI targets are created and mapped to physical storage devices attached to the SN 5428. The storage router presents the iSCSI targets to IP hosts as if the physical storage devices are directly attached to the hosts. Storage devices are not aware of each IP host with iSCSI routing. The storage devices are aware of the SN 5428 and respond as if it is one FC host. iSCSI routing consists of routing iSCSI requests and responses between hosts in an IP network and FC storage.

Each host that requires IP access to storage by way of an SN 5428 storage router needs to have a compatible iSCSI driver installed. The iSCSI driver allows an IP host to transport iSCSI requests and responses over an IP network when you use the iSCSI protocol. The iSCSI driver appears to be an iSCSI or FC driver for a peripheral channel in the host from the perspective of a host operating system (OS). iSCSI routing consists of these main actions:

- Transport iSCSI requests and responses over an IP network between the hosts and the SN 5428 storage router.
- Route iSCSI requests and responses between hosts on an IP network and FC storage.
- Transport iSCSI requests and responses between the SN 5428 storage router and FC storage.

iSCSI routing occurs in the SN 5428 storage router through the mapping of physical storage devices to iSCSI targets. You can map an iSCSI target to multiple physical devices. An iSCSI target always contains at least one Logical Unit Number (LUN). Each LUN on an iSCSI target is mapped to a single LUN on a physical storage target.

You can choose either target-and-LUN or target-only mapping for storage mapping. Target-and-LUN mapping maps an iSCSI target and LUN combination to a physical storage target and LUN combination. Target-only mapping maps an iSCSI target to a physical storage target and its LUNs.

With target-and-LUN mapping, an iSCSI target name and iSCSI LUN number are specified and mapped to the physical storage address of one of these LUNs:

- WWPN + LUN (World Wide Port Name + LUN) combination

- LUN ID (unique LUN identifier)
- LUN serial number

The LUN is made available as an iSCSI LUN and numbered with the iSCSI LUN number that is specified. For example, LUN 12 is available as one iSCSI LUN if an iSCSI target and iSCSI LUN specified as Database, and LUN 9 is mapped to the physical storage address WWPN 3100112233445566. An iSCSI driver sees the iSCSI Database target with one iSCSI LUN identified as LUN 9. The iSCSI LUN appears as one storage device to a host.

An iSCSI target name is specified and mapped to the physical storage address of a WWPN storage controller only with target-only mapping. Any LUNs that are available in the storage controller are made available as iSCSI LUNs and are numbered the same as the LUNs in the storage controller. For example, LUNs 0–2 become available as three iSCSI LUNs if an iSCSI target specified as Webserver2000 is mapped to the physical storage address WWPN 3100112233445577 and LUNs 0–2 are available in that controller. An iSCSI driver sees the iSCSI Webserver2000 target as a controller with three iSCSI LUN 0, LUN 1, and LUN 2. Each iSCSI LUN appears as a separate storage device to a host.

Access for iSCSI routing is controlled in the IP hosts and the storage router. The iSCSI driver is configured in the IP host with the Gigabit Ethernet (GE) IP address of the iSCSI routing instance in the storage router with which the host is to transport iSCSI requests and responses. Access is controlled in the storage router through an access list and a VLAN ID (VID) number of the hosts. Access can be further controlled in the SN 5428 through authentication.

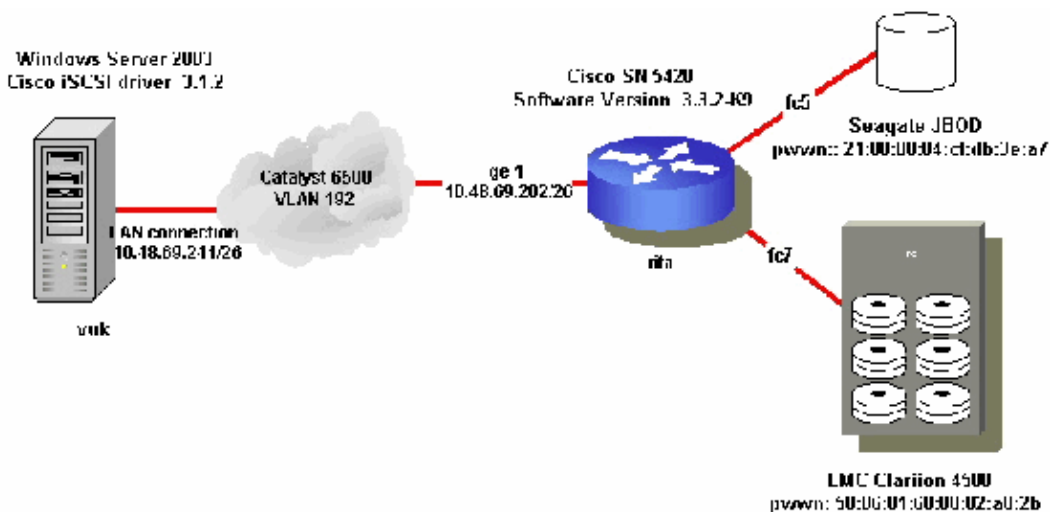
Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to find more information on the commands used in this document.

Network Diagram

This document uses this network setup:



Configurations

This document uses these configurations:

- Vuk (Windows Server 2003)
- Rita (SN 5428)

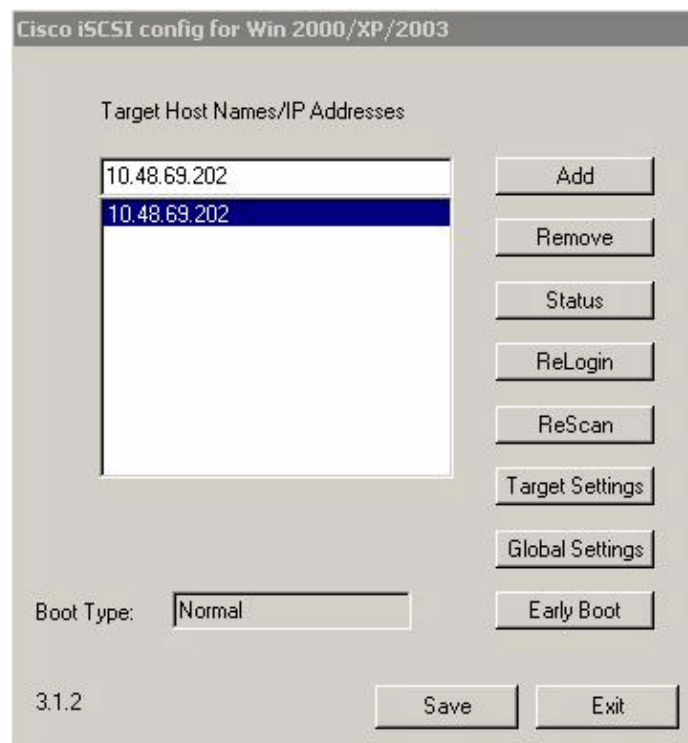
Vuk (Windows Server 2003)

Complete these initial configuration tasks:

- Set the iSCSI target IP addresses of SN 5428 series systems that the driver accesses.
- Set the iSCSI target authentication username and passwords.
- Save the iSCSI target configuration and set the driver boot type.

Complete these steps to configure the driver:

1. Log on to the computer as a user with administrator privileges.
2. Select **Start > Settings > Control Panel** and double-click **iSCSI Config**. The iSCSI Config program causes the **Cisco iSCSI config for Win 2000/XP/2003** dialog box to display.
3. Complete these steps to configure the IP address of an iSCSI routing instance in an SN 5428 series system at the Cisco iSCSI config for Win 2000 dialog box:
 - a. Enter the IP address of an iSCSI routing instance in an SN 5428 series system at the **Target Host Names/IP Addresses** text box. The IP address is 10.48.69.202 in this configuration example.
 - b. Click **Add**. The IP address displays below the **Target Host Names/IP Addresses** text box.



4. Select **Save > Exit**.

5. Restart the computer.

Rita (SN 5428)

```
! ACCESSLIST
!
accesslist vuk_win2003
accesslist vuk_win2003 10.48.69.241/255.255.255.255

!--- An access list has been created to allow vuk only.

! SCSIROUTER
!
scsirouter winser2003

!--- An iSCSI routing instance winser2003 has been created for this setup.

scsirouter winser2003 description "Microsoft Windows Server 2003"
scsirouter winser2003 authentication "none"
scsirouter winser2003 username "none"
scsirouter winser2003 password "none"
scsirouter winser2003 primary "none"
scsirouter winser2003 reserveproxy disable
scsirouter winser2003 failover primary none
scsirouter winser2003 failover secondary none
scsirouter winser2003 lun reset no

!--- Interface (gel) assigned to iSCSI instance winser2003.
!--- IP hosts use 10.48.69.202 to access the iSCSI routing instance.

scsirouter winser2003 serverIf gel 10.48.69.202/255.255.255.192

!--- Target emc-lun0-lun1 is an example of target-and-LUN
!--- mapping with LUN ID addressing.

scsirouter winser2003 target emc-lun0-lun1 lun 0 lunid "600601608802a82bda05b6a9b69d7b00"
scsirouter winser2003 target emc-lun0-lun1 lun 1 lunid "600601608802a82b6a660d74cb33886c"
scsirouter winser2003 target emc-lun0-lun1 description "emc-lun0-lun1"
scsirouter winser2003 target emc-lun0-lun1 enable
scsirouter winser2003 target emc-lun0-lun1 accesslist "vuk_win2003" rw
scsirouter winser2003 target emc-lun0-lun1 accesslist "none" ro
scsirouter winser2003 target emc-lun0-lun1 maxcmdqueuedepth "0"
scsirouter winser2003 target emc-lun0-lun1 trespass

!--- Target emc-lun3-lun33 is an example of target-and-LUN
!--- mapping with WWPN addressing.
!--- LUN 3 has mapped to LUN 3 on EMC, and LUN 4 has mapped LUN 33 on EMC.

scsirouter winser2003 target emc-lun3-lun33 lun 3 wwpn "500601608802a82b" lun "3"
scsirouter winser2003 target emc-lun3-lun33 lun 4 wwpn "500601608802a82b" lun "33"
scsirouter winser2003 target emc-lun3-lun33 description "emc-lun3-lun33"
scsirouter winser2003 target emc-lun3-lun33 enable
scsirouter winser2003 target emc-lun3-lun33 accesslist "any" rw
scsirouter winser2003 target emc-lun3-lun33 accesslist "none" ro
scsirouter winser2003 target emc-lun3-lun33 maxcmdqueuedepth "0"
scsirouter winser2003 target emc-lun3-lun33 trespass
```

!--- Target seagate is an example of target-only mapping with WWPN addressing.

```
scsirouter winser2003 target seagate wwpn "21000004cfdb3ea7"
scsirouter winser2003 target seagate description "apcon1"
scsirouter winser2003 target seagate enable
scsirouter winser2003 target seagate accesslist "any" rw
scsirouter winser2003 target seagate accesslist "none" ro
scsirouter winser2003 target seagate maxcmdqueuedepth "0"
no scsirouter winser2003 target seagate trespass
!
! SYSTEM
!
hostname rita
!
! Mgmt Port
!
interface mgmt ip-address 10.48.69.148/255.255.255.192
!
! GE
!
interface ge1 autonegotiation autodetect
interface ge1 mtusize 1500
interface ge1 vlan enable
!
! GE
!
interface ge2 autonegotiation autodetect
interface ge2 mtusize 1500
interface ge2 vlan enable
!
! ROUTES
!
ip default-gateway 10.48.69.129
!
! RIP
!
no ip rip enable
ip rip timers invalid 180
!
! ADMIN LOGIN
!
admin password <password>
!
! MONITOR LOGIN
!
monitor password <password>
!
! SNTP
!
clock timezone GMT
!
! SNMP
!
snmp-server community public ro
snmp-server community private rw
no snmp-server host all traps
no snmp-server sendauthtraps
snmp-server linkupdown mgmt
snmp-server linkupdown ge1
snmp-server linkupdown ge2
snmp-server linkupdown fc1
snmp-server linkupdown fc2
```

```
snmp-server linkupdown fc3
snmp-server linkupdown fc4
snmp-server linkupdown fc5
snmp-server linkupdown fc6
snmp-server linkupdown fc7
snmp-server linkupdown fc8
!
! TELNET
!
no session-timeout
!
! SSH
!
ssh enable
!
! HA
!
! ha configuration standalone
!
! LOGGING ROUTE FACILITY
!
logging level notice from all to all
logging level info from all to logfile
!
! RESTRICT
!
restrict mgmt ftp
no restrict mgmt telnet

no restrict mgmt http
no restrict mgmt snmp
restrict mgmt ssl
no restrict mgmt ssh
!
restrict ha ftp
restrict ha telnet
no restrict ha http
restrict ha snmp
restrict ha ssl
restrict ha ssh
!
restrict gel ftp
restrict gel telnet
restrict gel http
restrict gel snmp
restrict gel ssl
restrict gel ssh
!
restrict ge2 ftp
restrict ge2 telnet
restrict ge2 http
restrict ge2 snmp
restrict ge2 ssl
restrict ge2 ssh
!
! CDP
!
cdp enable
cdp timer 60
cdp interface mgmt enable
cdp interface gel enable
cdp interface ge2 enable
!
! FC SWITCH
!
```

```
fcswitch ratov 10000
fcswitch edtov 2000
fcswitch dstov 5000
fcswitch fstov 1000
fcswitch zoning default All
fcswitch zoning autosave enable
fcswitch zoning merge SW2
fcswitch domainid 1 force
no fcswitch domainid lock enable
fcswitch interop-credit 12
!
! FC ZONE ALIAS
!
fcalias iscsi
fcalias iscsi member wwpn 280000059ba695e0

!--- Initiator WWP1.

fcalias iscsi member wwpn 290000059ba695e0

!--- Initiator WWP2.

!--- The LUN mapping and LUN masking on the storage device
!--- must be done with WWP1 and WWP2.

!
! FC ZONE
!
zone jbod

!--- Creates a zone for seagate.

zone jbod member wwpn 21000004cfdb3ea7
zone jbod member fcalias iscsi
zone spa

!--- Creates a zone for EMC Clariion.

zone spa member wwpn 500601608802a82b
zone spa member fcalias iscsi
!
! FC ZONE SET
!
zoneset iscsidoc

!--- Creates a zoneset iscsidoc with members spa and jbod.

zoneset iscsidoc zone jbod
no zoneset iscsidoc enable
zoneset iscsidoc zone spa
no zoneset iscsidoc enable
!
! FC PORTS
...
interface fc5 enable
interface fc5 ms-enable enable
no interface fc5 al-fairness enable
interface fc5 fan-enable enable
interface fc5 ext-credit 0
interface fc5 mfs-bundle enable timeout 10
interface fc5 linkspeed auto
interface fc5 type gl-port
!
interface fc6 enable
```

```
interface fc6 ms-enable enable
no interface fc6 al-fairness enable
interface fc6 fan-enable enable
interface fc6 ext-credit 0
interface fc6 mfs-bundle enable timeout 10
interface fc6 linkspeed auto
interface fc6 type gl-port
!
interface fc7 enable
interface fc7 ms-enable enable
no interface fc7 al-fairness enable
interface fc7 fan-enable enable
interface fc7 ext-credit 0
interface fc7 mfs-bundle enable timeout 10
interface fc7 linkspeed auto
interface fc7 type gl-port
!
```

Verify

Use this section to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

- **show scsirouter *winserv2003*** Displays the parameters configured for the specified *winserv2003* iSCSI routing instance.
- **show devices** Displays all iSCSI devices.
- **show fcswitch nameserver all** Displays global configuration information for storage router FC interfaces.
- **show scsirouter *winserv2003* connection** Displays iSCSI initiator information for the *winserv2003* iSCSI session.
- **show scsirouter *winserv2003* stats** Displays access and connection information.
- **show scsirouter *winserv2003* host** Displays host information.
- **show scsirouter *winserv2003* host stat** Displays host statistic information.
- **show scsirouter *winserv2003* target all stats** Displays statistic information about all targets.
- **show ip tcp** Displays TCP sessions.
- **show int ge 1** Displays the GE interface.
- **show ip route** Displays IP route information.
- **show system** Displays system information, interfaces, IP addresses, software version, and hardware model.

Troubleshoot

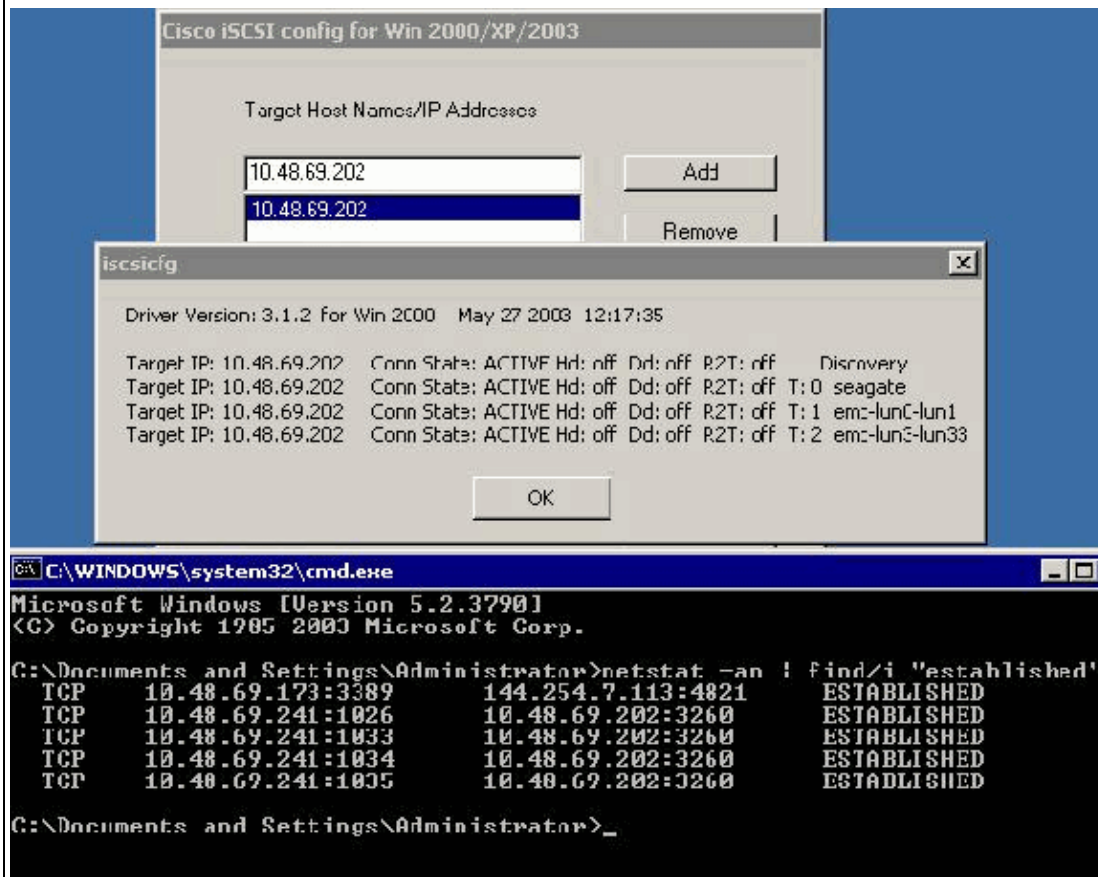
Use this section to troubleshoot your configuration.

This troubleshooting information uses these configurations:

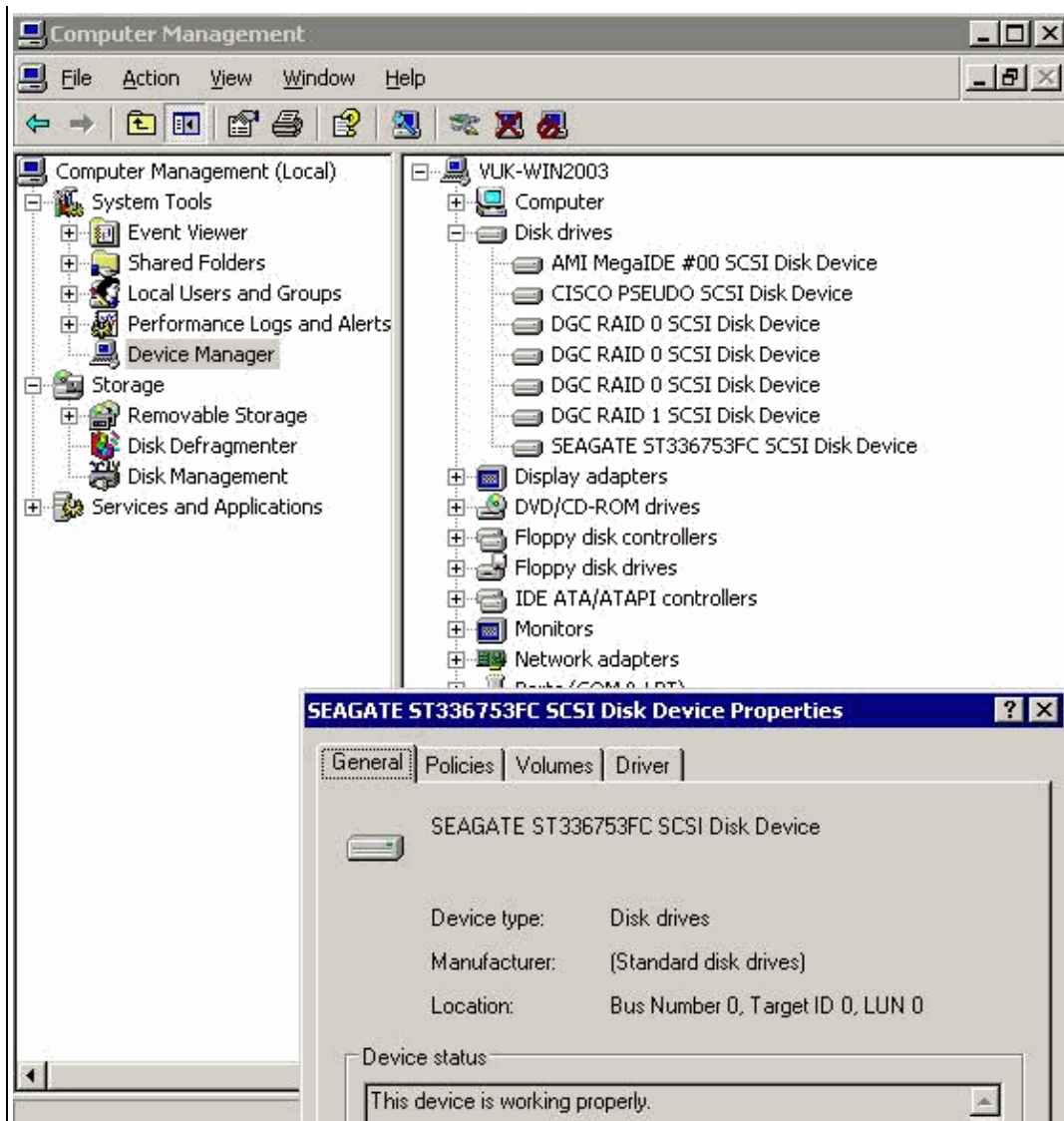
- Displays from Vuk (Windows Server 2003)
- Displays from Rita (SN 5428)

Displays from Vuk (Windows Server 2003)

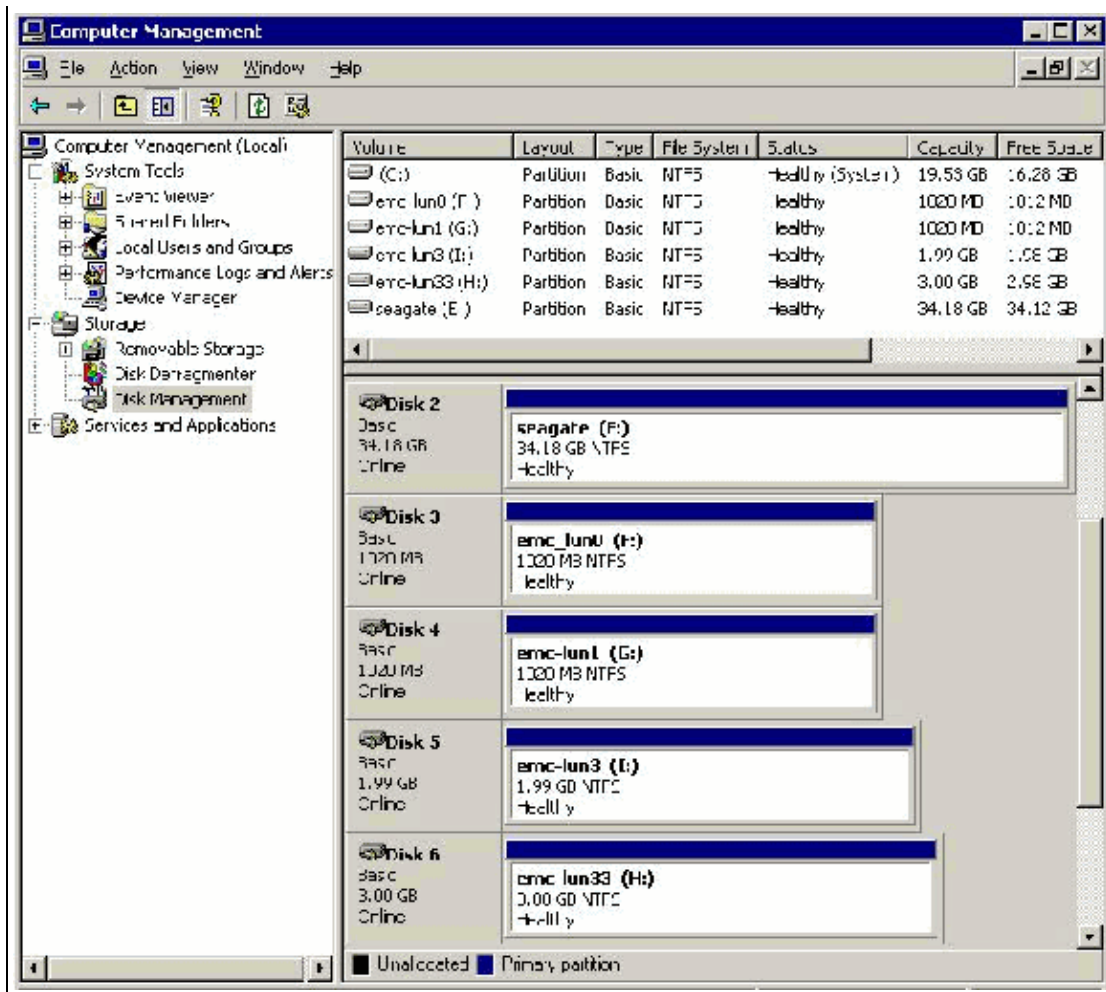
Click **Status** on the **Cisco iSCSI config** window to check if the host has successfully logged into the iSCSI targets. Issue the **netstat -an | find/i established** command on the command line to see ESTABLISHED TCP sessions between 10.48.69.202.



Right-click the **My Computer** icon on the Desktop and double-click on **Computer Manager** to see the new disks. Click **Device Manager** in the console tree under **System Tools**.



Right-click the **My Computer** icon on the Desktop and double-click **Computer Manager** to manage the storage. Click **Disk Management** in the console tree under **Storage**.



Displays from Rita (SN 5428)

```
*[rita]#show system
```

```

System Name: rita
System Deployed For: SCSI routing
Software Capacity: 59392.0 KB
Free Software Space: 30705.0 KB
Configuration Capacity: 14464.0 KB
Free Configuration Space: 13800.0 KB
Log Capacity: 29056.0 KB
Free Log Space: 28358.0 KB
Software Version: 3.3.2-K9
Last Reset: Mon Sep 29 16:30:52 GMT 2003
Current Time: Sun Oct 5 12:24:25 GMT 2003
Time Zone: GMT
NTP Server: none
Name Server: none
Telnet session timeout: none

```

```

                Model Number  Rev  Serial Number  Part Number
System          SN 5428-K9      00   Unit SN        800part_number
Processor       Rainmaker    02   SAD061200UJ    73-7996-03

```

```

Device      IP/Netmask          MAC
lo0         127.0.0.1/8
mgmt        10.48.69.148/26    00:05:9b:a6:95:e0
ge1         10.48.69.202/26    02:02:3d:30:45:ca
ge2

```

```
*[rita]#show fcs witch
```

```

Global attributes                               Value
-----
Domain ID                                       1
Domain ID lock                                 disabled
Active Zoneset                                 iscsidoc
Zoning Merge                                   SW2
Zoning Default                                 All
Zoning Autosave                               enabled
Distributed Services timeout (dstov)          5000
Fabric Services timeout (fstov)               1000
Error Detect timeout (edtov)                  2000
Resource Allocation timeout (ratov)           10000
Buffer to Buffer Credit (interop)             12
Initiator WWPN1                               280000059ba695e0
Initiator WWPN2                               290000059ba695e0

```

*[rita]#show fcs switch nameserver brief

| Port Id | Port Type | Port Number | Port WWN | Port IP Address |
|---------|-----------|-------------|------------------|-----------------|
| 010000 | N | 0 | 280000059ba695e0 | 00000000 |
| 01051e | NL | 5 | 21000004cfdb3ea7 | 00000000 |
| 010700 | N | 7 | 500601608802a82b | 00000000 |
| 010f00 | N | 15 | 290000059ba695e0 | 00000000 |

4 entries found

*[rita]#show fcs switch nameserver all

```

Port Id          010000
Port Type        N
Port Number      0
Port WWN         280000059ba695e0
Port IP Address  00000000
Sym Port Name
Sym Node Name
Node WWN         100000059ba695e0
Node IP Address  00000000
Fabric Port Name 200000059ba695e1
Class of Service 3
FC-4 Types       FCP
FC-4 Description (NULL)

Port Id          01051e
Port Type        NL
Port Number      5
Port WWN         21000004cfdb3ea7
Port IP Address  00000000
Sym Port Name
Sym Node Name
Node WWN         20000004cfdb3ea7
Node IP Address  00000000
Fabric Port Name 200500059ba695e1
Class of Service 3
FC-4 Types       FCP
FC-4 Description SEAGATE ST336753FC      (Rev. 0003)

Port Id          010700
Port Type        N
Port Number      7
Port WWN         500601608802a82b
Port IP Address  00000000
Sym Port Name
Sym Node Name
Node WWN         500601601102a82b
Node IP Address  00000000
Fabric Port Name 200700059ba695e1
Class of Service 3

```

FC-4 Types FCP
FC-4 Description DGC RAID 0 (Rev. 0632)

Port Id 010f00
Port Type N
Port Number 15
Port WWN 290000059ba695e0
Port IP Address 00000000
Sym Port Name
Sym Node Name
Node WWN 100000059ba695e0
Node IP Address 00000000
Fabric Port Name 200f00059ba695e1
Class of Service 3
FC-4 Types FCP
FC-4 Description (NULL)

4 entries found

*[rital]#show fcs switch linkstate database

Local Node WWN 100000059ba695e1
Local Port 0
Local Port WWN 200000059ba695e1
Remote Node WWN 100000059ba695e0
Remote Port ffffffff
Remote Port WWN 280000059ba695e0
Remote Agent Address 00000000
Remote Agent Type 0
Remote Agent Port 0
Remote Unit Type Unknown
Remote Connection Id 010000

Local Node WWN 100000059ba695e1
Local Port 15
Local Port WWN 200f00059ba695e1
Remote Node WWN 100000059ba695e0
Remote Port ffffffff
Remote Port WWN 290000059ba695e0
Remote Agent Address 00000000
Remote Agent Type 0
Remote Agent Port 0
Remote Unit Type Unknown
Remote Connection Id 010f00

Local Node WWN 100000059ba695e1
Local Port 5
Local Port WWN 200500059ba695e1
Remote Node WWN 20000004cfdb3ea7
Remote Port ffffffff
Remote Port WWN 21000004cfdb3ea7
Remote Agent Address 00000000
Remote Agent Type 0
Remote Agent Port 0
Remote Unit Type Unknown
Remote Connection Id 00001e

Local Node WWN 100000059ba695e1
Local Port 7
Local Port WWN 200700059ba695e1
Remote Node WWN 500601601102a82b
Remote Port ffffffff
Remote Port WWN 500601608802a82b
Remote Agent Address 00000000
Remote Agent Type 0
Remote Agent Port 0
Remote Unit Type Unknown

Remote Connection Id 010700

4 entries found

*[rital]#show devices

Fabric Attached Devices detected

| Interface | WWPN | PortId | Device Type | Lun | Lunid Type | Lunid |
|-----------|------------------|---------|-------------|-----|-------------------|-----------------------|
| fc7 | 500601608802a82b | 0x10700 | Disk | 0 | IEEE Reg Extended | 600601608802a82bda051 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 1 | IEEE Reg Extended | 600601608802a82b6a666 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 2 | IEEE Reg Extended | 600601608802a82bec811 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 3 | IEEE Reg Extended | 600601608802a82be0471 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 4 | IEEE Reg Extended | 600601608802a82b00511 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 5 | IEEE Reg Extended | 600601608802a82babb11 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 6 | IEEE Reg Extended | 600601608802a82bad911 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 7 | IEEE Reg Extended | 600601608802a82bb1ef1 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 8 | IEEE Reg Extended | 600601608802a82b844f1 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 9 | IEEE Reg Extended | 600601608802a82baa6d1 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 10 | IEEE Reg Extended | 600601608802a82b5b666 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 11 | IEEE Reg Extended | 600601608802a82ba9321 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 12 | IEEE Reg Extended | 600601608802a82bcdd91 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 13 | IEEE Reg Extended | 600601608802a82b0ce51 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 14 | IEEE Reg Extended | 600601608802a82b606e1 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 15 | IEEE Reg Extended | 600601608802a82b8b581 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 16 | IEEE Reg Extended | 600601608802a82ba12f1 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 17 | IEEE Reg Extended | 600601608802a82b2c481 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 32 | IEEE Reg Extended | 600601608802a82bba181 |
| fc7 | 500601608802a82b | 0x10700 | Disk | 33 | IEEE Reg Extended | 600601608802a82b74d21 |
| fc5 | 21000004cfdb3ea7 | 0x1051e | Disk | 0 | IEEE Extended | 20000004cfdb3ea7 |

Lun Description Table

| Interface | WWPN | Lun | Capacity | Vendor | Product | Serial |
|-----------|------------------|-----|----------|---------|------------|----------------------|
| fc7 | 500601608802a82b | 0 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 1 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 2 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 3 | 1GB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 4 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 5 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 6 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 7 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 8 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 9 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 10 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 11 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 12 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 13 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 14 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 15 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 16 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 17 | 1023MB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 32 | 4GB | DGC | RAID | f60004202091 |
| fc7 | 500601608802a82b | 33 | 2GB | DGC | RAID | f60004202091 |
| fc5 | 21000004cfdb3ea7 | 0 | 34GB | SEAGATE | ST336753FC | 3HX00Q2600007326JFF3 |

*[rital]#show scsirouter winner2003

SCSI Router Information

Status Codes: A=active, I=inactive, C=create failed, D=not enabled, S=slave

| Router | Stat | Retry | Proxy | Thru | Reset | Description |
|------------|------|-------|----------|------|-------|-------------------------------|
| winner2003 | A | 6 | disabled | no | no | Microsoft Windows Server 2003 |

SCSI Router Authentication Information

| Router | Authentication | Username | Password |
|--------|----------------|----------|----------|
| | | | |

winser2003 none none none

| Router | ServerIf | Vlan Vid | IP/Netmask | Secondary | TCP Port | SLP |
|------------|----------|----------|-----------------|-----------|----------|-----|
| winser2003 | ge1 | | 10.48.69.202/26 | none | 3260 | ON |

Target Attribute Information

| Router | Target | Status | Accesslist | | Profile | CRC | Description |
|------------|----------------|---------|-------------|-----------|---------|------------|----------------|
| | | | Read-Write | Read-Only | | | |
| winser2003 | seagate | enabled | any | none | High | prefer-off | apcon1 |
| winser2003 | emc-lun0-lun1 | enabled | vuk_win2003 | none | High | prefer-off | emc-lun0-lun1 |
| winser2003 | emc-lun3-lun33 | enabled | any | none | High | prefer-off | emc-lun3-lun33 |

Target Mapping Information

| Router | Target | Mapping | iSCSI Name |
|------------|----------------|-----------|--|
| winser2003 | seagate | Tgt | iqn.1987-05.com.cisco:00.f2ad57bee553.seagate |
| winser2003 | emc-lun0-lun1 | Lun-lunid | iqn.1987-05.com.cisco:00.7cdb6d7cdb31.emc-lun0-lun1 |
| winser2003 | emc-lun3-lun33 | Lun-wwpn | iqn.1987-05.com.cisco:00.438daf438d67.emc-lun3-lun33 |

Targets - Target Mapped

| Router | Target | WWPN Primary | WWPN Secondary |
|------------|---------|------------------|----------------|
| winser2003 | seagate | 21000004cfdb3ea7 | |

Targets - Lun Mapped via Lunid

| Router | Target | Lun | Lunid |
|------------|---------------|-----|----------------------------------|
| winser2003 | emc-lun0-lun1 | 0 | 600601608802a82bda05b6a9b69d7b00 |
| winser2003 | emc-lun0-lun1 | 1 | 600601608802a82b6a660d74cb33886c |

Targets - Lun Mapped via WWPN

| Router | Target | Lun | WWPN Primary | Lun | WWPN Secondary | Lun |
|------------|----------------|-----|------------------|-----|----------------|-----|
| winser2003 | emc-lun3-lun33 | 3 | 500601608802a82b | 3 | | |
| winser2003 | emc-lun3-lun33 | 4 | 500601608802a82b | 33 | | |

*[rita]#show scsirouter winser2003 host

| router | host | name | logins | active | last login | last disconnect |
|------------|--------------|-------------|--------|--------|-----------------|-----------------|
| winser2003 | 10.48.69.241 | VUK-WIN2003 | 4 | 4 | Oct 05 11:14:39 | |

1 host listed

*[rita]#show scsirouter winser2003 stats

| Router | Started | Logins Accepted | Logins Active | Target Failures | Access Failures | Authentication Failures |
|------------|-----------------|-----------------|---------------|-----------------|-----------------|-------------------------|
| winser2003 | Oct 05 11:14:32 | 4 | 4 | 0 | | 0 |

1 scsirouter listed

*[rita]#show scsirouter winser2003 host stats

winser2003 host 10.48.69.241 alias "VUK-WIN2003"

Login info:

loginsActive = 4
lastLoginTime: Sun Oct 5 11:14:39 GMT 2003
loginsTerminated = 0
lastLoginTerminatedTime:
loginsFailed = 0
lastLoginFailedTime:
loginsDiscovery = 1
loginsNormal = 3

stats:

```

                RECEIVE                SEND
            OK                ERROR
0000010274                0000011971 total msgs
0000000261                0000000261 no-op msgs
0000000127                0000000127 ping msgs/rsps
0000007202 0000000000    0000007202 SCSI cmd msgs/rsps
0000002676 0000000000    0000004373 SCSI data msgs
0000000000 0000000000    0000000000 task mgt msgs/rsps
0000000008 0000000000    0000000008 login msgs/rsps
0000000000 0000000000    0000000000 text msgs/rsps
0000000000                0000000000 invalid msgs/rsps
                                0000000000 RTT msgs
                                0000000000 async msgs

bytes rcvd 0000000006ff7800
discarded      00000000
bytes sent 00000000075df218
1 host listed
*[rita]# show scsirouter winser2003 connection

CRC values (Header / Data)
N = No CRC negotiated
H = Hardware CRC
S = Software CRC

router  sid cid      host:port      login          ver  crc  rtt  target  access
winser2003  1  71  10.48.69.241:1026 Oct 05 11:14:39  0  N/N  on
winser2003  3  72  10.48.69.241:1033 Oct 05 11:14:39  0  N/N  off  seagate  RW
winser2003  4  73  10.48.69.241:1034 Oct 05 11:14:39  0  N/N  off  emc-lun0-lun1  RW
winser2003  2  74  10.48.69.241:1035 Oct 05 11:14:39  0  N/N  off  emc-lun3-lun33  RW

4 connections listed
*[rita]#show scsirouter winser2003 target all stats
winser2003 target seagate:

                RECEIVED                TRANSMITTED
            count                error      count                error
0000004082                0000002918                Messages
0000002918 0000000000    0000002918 0000000001    SCSI cmd/resp
0000000000 0000000000    0000000000                task mgt
0000000001 0000000000    0000000000                login cmd
0000000000                0000000000                logout
                                0000000000                async event
0000001164                0000001721                data msg

000000000419c000 bytes received
                00000000 discarded
0000000004315c48 bytes transmitted

target emc-lun0-lun1:

                RECEIVED                TRANSMITTED
            count                error      count                error
0000002742                0000002008                Messages
0000002008 0000000000    0000002008 0000000002    SCSI cmd/resp
0000000000 0000000000    0000000000                task mgt
0000000001 0000000000    0000000000                login cmd
0000000000                0000000000                logout
                                0000000000                async event
0000000734                0000001222                data msg

0000000000f82000 bytes received
                00000000 discarded
0000000001031840 bytes transmitted

```

target emc-lun3-lun33:

| RECEIVED | | TRANSMITTED | | |
|------------|------------|-------------|------------|---------------|
| count | error | count | error | |
| 0000003054 | | 0000002276 | | Messages |
| 0000002276 | 0000000000 | 0000002276 | 0000000002 | SCSI cmd/resp |
| 0000000000 | 0000000000 | 0000000000 | | task mgt |
| 0000000001 | 0000000000 | 0000000000 | | login cmd |
| 0000000000 | | | | logout |
| | | 0000000000 | | async event |
| 0000000778 | | 0000001430 | | data msg |

0000000001ed9800 bytes received
00000000 discarded
0000000002297d90 bytes transmitted

totals for all targets:

| RECEIVED | | TRANSMITTED | | |
|------------|------------|-------------|------------|---------------|
| count | error | count | error | |
| 0000009878 | | 0000007202 | | Messages |
| 0000007202 | 0000000000 | 0000007202 | 0000000005 | SCSI cmd/resp |
| 0000000000 | 0000000000 | 0000000000 | | task mgt |
| 0000000003 | 0000000000 | 0000000000 | | login cmd |
| 0000000000 | | | | logout |
| | | 0000000000 | | async event |
| 0000002676 | | 0000004373 | | data msg |

0000000006ff7800 bytes received
00000000 discarded
00000000075df218 bytes transmitted

*[rita]#show zoneset brief

| Zoneset Name | Active | Member Count |
|--------------|--------|--------------|
| iscsidoc | true | 4 |

*[rita]#show zoneset iscsidoc

| Zone Name | Member Count |
|-----------|--------------|
| spa | 2 |
| jbod | 2 |

Zone: spa

wwpn: 500601608802a82b
fcalias: iscsi
wwpn: 280000059ba695e0
wwpn: 290000059ba695e0

Zone: spb

Zone: jbod

wwpn: 21000004cfdb3ea7
fcalias: iscsi
wwpn: 280000059ba695e0
wwpn: 290000059ba695e0

*[rita]#show interface gel

Operational Data

| Interface | Stat | IP/Netmask | MAC | Options |
|-----------|------|-----------------------|--------------|---|
| gel | up | 10.48.69.202/ffffffc0 | 02023d3045ca | type Gigabit Ethernet mtusize 1500 speed 1000000000 |

```
flags UP BRDCST RUNNING MLTCST
signal signal detect
duplex full
auto-negotiate complete
flow control full
SFPVendor CISCO-AGILENT
SFPVendorID A00258957
SFPPartNumber QFBR-5790L
SFPRev -5790L
```

Configuration Data

| Interface | MTU | Size | AutoNegotiation | Vlan | IP/Netmask | Secondary |
|-----------|------|------|-----------------|---------|------------|-----------|
| ge1 | 1500 | | autodetect | enabled | | None |

*[rital]#show ip tcp

Active Internet connections (including servers)

| PCB | Proto | Recv-Q | Send-Q | Local Address | Foreign Address | (state) |
|---------|-------|--------|--------|-------------------|-------------------|-------------|
| db93608 | TCP | 0 | 0 | 10.48.69.202.3260 | 10.48.69.241.1035 | ESTABLISHED |
| db937e8 | TCP | 0 | 0 | 10.48.69.202.3260 | 10.48.69.241.1034 | ESTABLISHED |
| db932e8 | TCP | 0 | 0 | 10.48.69.202.3260 | 10.48.69.241.1033 | ESTABLISHED |
| db94008 | TCP | 0 | 0 | 10.48.69.202.3260 | 10.48.69.241.1026 | ESTABLISHED |
| db92f28 | TCP | 0 | 0 | 10.48.69.202.427 | 0.0.0.0.0 | LISTEN |
| db925c8 | TCP | 0 | 0 | 0.0.0.0.443 | 0.0.0.0.0 | LISTEN |
| db92528 | TCP | 0 | 0 | 0.0.0.0.80 | 0.0.0.0.0 | LISTEN |
| db92488 | TCP | 0 | 0 | 0.0.0.0.23 | 0.0.0.0.0 | LISTEN |
| db923e8 | TCP | 0 | 0 | 0.0.0.0.22 | 0.0.0.0.0 | LISTEN |
| db92028 | TCP | 0 | 0 | 127.0.0.1.9353 | 0.0.0.0.0 | LISTEN |
| db92208 | TCP | 0 | 0 | 10.48.69.148.427 | 0.0.0.0.0 | LISTEN |
| db920c8 | TCP | 0 | 0 | 127.0.0.1.427 | 0.0.0.0.0 | LISTEN |
| db91a88 | TCP | 0 | 0 | 0.0.0.0.3260 | 0.0.0.0.0 | LISTEN |
| db918a8 | TCP | 0 | 0 | 0.0.0.0.21 | 0.0.0.0.0 | LISTEN |

*[rital]#show ip route

Codes: C - connected, S - static, R - RIP

```
S 0.0.0.0/0 [1/0] via 10.48.69.129, mgmt
C 10.48.69.128/26 is directly connected, mgmt
C 10.48.69.192/26 is directly connected, ge1
C 127.0.0.1/8 is directly connected, lo0
```

Related Information

- [Cisco iSCSI Software Downloads](#)
- [iSCSI Driver for Windows 2000 Frequently Asked Questions](#)
- [Cisco iSCSI Driver for Microsoft Windows 2000](#)
- [Troubleshooting the iSCSI Driver for Windows 2000](#)
- [Technical Support & Documentation – Cisco Systems](#)

[Contacts & Feedback](#) | [Help](#) | [Site Map](#)

© 2008 – 2009 Cisco Systems, Inc. All rights reserved. [Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks of Cisco Systems, Inc.](#)

Updated: Mar 15, 2006

Document ID: 45920