



# Release Notes for Cisco iSCSI Driver Version 2.2.1 for Microsoft Windows 2000

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October 29, 2002



**Note**

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You can find the most current documentation on [Cisco.com](http://Cisco.com).

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These release notes support Cisco iSCSI Driver version 2.2.1 for Microsoft Windows 2000.

For a list of software caveats that apply to version 2.2.1, see the “[Caveats](#)” section. The caveats are updated for every maintenance version and are located on [Cisco.com](http://Cisco.com) and the Documentation CD-ROM.

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# Introduction

The iSCSI Driver for Microsoft Windows 2000 provides an IP host with the ability to access storage through an IP network. The iSCSI driver uses iSCSI protocol to transport SCSI requests and responses over an IP network between the host and a Cisco SN 5400 Series system.

Architecturally, the iSCSI driver combines with the host TCP/IP stack, network drivers, and NICs to provide the same functions as a SCSI or a Fibre Channel adapter driver with a host bus adapter (HBA).

The iSCSI driver provides a transport for SCSI requests and responses for storage devices; however, instead of providing a transport for directly attached devices, the driver transports the SCSI requests and responses between the IP host and a Cisco SN 5400 Series system via an IP network. The SN 5400 Series system, in turn, transports SCSI requests and responses between it and the storage devices attached to it.

Once the iSCSI driver is installed, the IP host will proceed with a discovery process for iSCSI storage devices as follows:

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- Step 1** The iSCSI driver requests available iSCSI targets from the SN 5400 Series system.
  - Step 2** The SN 5400 Series system sends available iSCSI target names to the IP host.
  - Step 3** The IP host logs into the iSCSI targets.
  - Step 4** The SN 5400 Series system accepts the IP host login and sends target identifiers.
  - Step 5** The IP host queries targets for device information.
  - Step 6** Targets respond with device information.
  - Step 7** The IP host creates a table of internal devices.
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The iSCSI Driver for Microsoft Windows 2000 provides IP access to a maximum of eight remote SCSI targets, with each target capable of supporting 255 LUNs. Remote SCSI targets can be accessed through one or more SN 5400 Series systems up to a maximum of eight SN 5400 Series systems.

**Note**

The iSCSI protocol is an IETF-defined protocol for IP storage (ips). For more information about the iSCSI protocol, refer to the IETF standards for IP storage at <http://www.ietf.org>.

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## System Requirements

This section describes the system requirements for version 2.2.1 and includes the following information:

- [Operating System Requirements, page 3](#)
- [SN 5400 Series System Software Requirements, page 4](#)

## Operating System Requirements

- The iSCSI Driver for Microsoft Windows 2000 requires Microsoft Windows 2000 Professional, Server, or Advanced Server with service pack 2 or later. If service pack 2 is installed, the following hotfixes are required:
  - Microsoft Hotfix Q302895 or Q248720 (Q248720 is preferred because the fix includes a performance enhancement)
  - Microsoft Hotfix Q318271
  - Microsoft Hotfix Q307939 (only required if the iSCSI Driver is running on a Microsoft Windows 2000 Advanced Server Cluster node)

These hotfixes do not appear on the Microsoft Hotfix website; you must specifically request them.



### Note

If service pack 3 is installed, the hotfixes are not required. Hotfixes Q302895, Q248720, Q318271 and Q307939 are all included in service pack 3.

To obtain the hotfixes, call Microsoft customer support at 1-800-936-4900 (or any Microsoft customer support phone number) and request the hotfix for the specific Knowledge Base (KB) article (Q302895 or Q248720, Q318271, or Q307939). You will be asked to supply an e-mail address. You will receive an e-mail message with a link to an FTP site where you can download the hotfixes. The e-mail message will also contain a password that you will be prompted to enter when you open the hotfix files.

For additional information about the hotfixes, access the Microsoft website at <http://www.microsoft.com> and follow the support link to view KB article Q302895, Q248720, Q318271, and Q307939.



### Note

If you are running Microsoft Windows 2000 Professional, Server, or Advanced Server with service pack 1, you must upgrade to service pack 2 and apply the required Microsoft hotfixes, or upgrade to service pack 3 (which includes all required hotfixes).

- The iSCSI Driver for Microsoft Windows 2000 can be run on the Japanese language-version of Microsoft Windows 2000 Professional, Server, or Advanced Server. The required version, service pack and hotfix information is the same as previously described.
- The iSCSI Driver for Microsoft Windows 2000 supports both single and multiple processor machines.
- To ensure the best performance for iSCSI drivers, the extended windowing feature of TCP should be enabled on all IP hosts connecting to the SN 5400 Series system. In general, a larger window size enhances SN 5400 Series system performance.
- The receive and transmit flow control feature of the Gigabit Ethernet driver should be enabled on all IP hosts connecting to the SN 5400 Series system.
- If you are using a 3Com Gigabit Ethernet Server network interface card in the IP host, the minimum supported revision level is “B” (3C985B-SX). Using a card with a lower revision level will significantly decrease performance.

## SN 5400 Series System Software Requirements

The iSCSI Driver version 2.2.1 for Microsoft Windows 2000 can connect to a Cisco SN 5400 Series system running software release 2.1.1 or later; this driver cannot connect to a Cisco SN 5420 Storage Router running software release 1.1.x.

## Installation Notes

This section describes how to obtain iSCSI driver software and upgrade an existing iSCSI driver installation, and includes the following information:

- [Obtaining the iSCSI Driver and Updated SN 5400 Series System Software, page 4](#)
- [Determining the iSCSI Driver Version, page 5](#)
- [Installing iSCSI Driver Software, page 5](#)
- [Upgrading to a New Version, page 6](#)
- [Uninstalling iSCSI Driver Software, page 6](#)

## Obtaining the iSCSI Driver and Updated SN 5400 Series System Software

Registered Cisco.com users can download the most current SN 5400 Series system software, Cisco iSCSI drivers, readme files, release notes and example configuration files from Cisco.com. In addition, information about driver compatibility and other relevant driver information is available on Cisco.com. You can access software and related information by following these instructions:

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- Step 1** At <http://www.cisco.com>, log in to Cisco.com. Click **Technical Support** and **Software Center**.
  - Step 2** At the Software Center web page, under Software Products & Downloads, click **Storage Networking Software**.
  - Step 3** At the Storage Networking Software web page, click the appropriate link for your software.
  - Step 4** At the Software Download web page, click the file that you want to download. Another software download web page will be displayed with detailed information about the download file and Cisco's Software License Agreement. Follow the instructions on that and any subsequent web pages to download the software.
  - Step 5** To install and configure storage router software, see the appropriate storage router software configuration guide and release notes. To install and configure an iSCSI driver, see the readme file that accompanies the iSCSI driver (in the downloaded driver archive file) and the appropriate release notes.
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Configuration guides and release notes are available online. You can access online documentation by following these instructions:

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- Step 1** At <http://www.cisco.com>, under Technical Documentation, click **Technical Documentation on Cisco Connection Online**.
- Step 2** At the Cisco Documentation web page, under Cisco Product Documentation, click **Storage Networking Products**.
- Step 3** At the Storage Networking Products documentation web page, click the appropriate links to access the appropriate documentation.
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## Determining the iSCSI Driver Version

To determine the version of the iSCSI driver software installed on the IP host, open Control Panel and double-click the iSCSI Config icon. The lower left corner of the dialog box shows the version number of the iSCSI Config program and the title bar shows the operating system it is intended for. Click **Status** to show the version information of the iSCSI driver on the top line.

You can also verify version information by checking the file versions of these files:

- iscsi.sys
- iscsicfg.cpl

Follow these steps:

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- Step 1** Use Windows Explorer to navigate to the c:\winnt\system32\drivers directory.
- Step 2** Right-click the file iscsi.sys and then click **Properties** from the shortcut menu. The Properties dialog box displays.
- Step 3** Click the **Version** tab. The file version information displays in the File version field.
- Step 4** Navigate to the c:\winnt\system32\ directory.
- Step 5** Right-click the file iscsicfg.cpl and then click **Properties** from the shortcut menu. The Properties dialog box displays.
- Step 6** Click the **Version** tab. The file version information displays in the File version field. The file version information should be the same in both files.
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## Installing iSCSI Driver Software

Refer to the readme file that accompanies the iSCSI driver (in the downloaded driver archive file) for complete installation and configuration procedures.

## Upgrading to a New Version

To upgrade to a new version of iSCSI driver software, follow these instructions:

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- Step 1** Log on to the computer as a user with administrator privileges.
  - Step 2** Run the setup.exe executable for the new iSCSI driver to start the installation program.
  - Step 3** Follow the on-screen instructions to upgrade the iSCSI driver software.
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## Uninstalling iSCSI Driver Software

To uninstall iSCSI driver software, follow these instructions:

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- Step 1** Log on to the computer as a user with administrator privileges.
  - Step 2** Run the setup.exe executable for the currently installed iSCSI driver to start the installation program.
  - Step 3** Follow the on-screen instructions to remove the iSCSI driver software.
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## New and Changed Information

The iSCSI driver version 2.2.1 supports Cisco Network Boot, a product that allows you to initiate a boot of Microsoft Windows 2000 Server or Advanced Server on a computer without an attached disk drive.

With Cisco Network Boot, a computer without a directly attached disk drive uses iSCSI protocol via an iSCSI driver to boot from an iSCSI disk through an IP network and a Cisco SN 5400 Series system.

For more information on Cisco Network Boot, refer to the *Cisco Network Boot Installation and Configuration Guide Release 2.1* and the associated release notes document. These documents are available as electronic document on Cisco.com and the Documentation CD-ROM.

## Caveats

Caveats describe unexpected behavior or defects in iSCSI software versions. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious.

- The “[Open Caveats](#)” section describes open severity 1 and 2 caveats that apply to the current version and may apply to previous versions.
- The “[Resolved Caveats](#)” section describes severity 1 and 2 caveats resolved in this version, but open in previous versions.

Within the sections, the caveats are sorted alphanumerically by caveat number.



### Note

If you have an account with Cisco.com, you can use Bug Navigator II to find caveats of any severity for any release. You can reach Bug Navigator II on Cisco.com at Service & Support:

[http://www.cisco.com/cgi-bin/Support/Bugtool/launch\\_bugtool.pl](http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl)

## Open Caveats

- CSCdy80725

If the PXE NIC configuration is changed to DHCP or to an incorrect IP address after replication, the computer cannot be rebooted to correct the error. The computer hangs on the boot process.

Workaround: Use the Network Boot Administration Utility to overwrite the volume by replicating the original master volume. All data on the LUN will be lost. If there is data on the LUN that must be saved, access the LUN from another iSCSI client and backup the critical data.



Note

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This problem can only occur when using the iSCSI driver in conjunction with Cisco Network Boot.

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## Resolved Caveats

There are no severity 1 or 2 caveats resolved against the iSCSI driver version 2.2.1. For a more complete list of caveats against this release, access Cisco.com as described in the section “[Cisco.com](#)” at the end of this document.

## Related Documentation

The following sections describe the related documentation available for the iSCSI Driver version 2.2.1 for Microsoft Windows 2000 and the Cisco SN 5400 Series systems. These documents consist of the iSCSI driver release notes, readme and example configuration files, and the SN 5400 Series system hardware installation and software configuration guides.

The SN 5400 Series system hardware installation and software configuration documentation sets are available as printed manuals or electronic documents. The iSCSI driver readme file and example configuration file are available in electronic format, as part of the software download package. See the “[Obtaining the iSCSI Driver and Updated SN 5400 Series System Software](#)” section on page 4 for details.

## Release-Specific Documents

This release notes document is the only document specific to iSCSI Driver version 2.2.1 for Microsoft Windows 2000. It is located on Cisco.com and the Documentation CD-ROM.

Each release of SN 5400 Series system software includes an associated release notes document, which is also available as an electronic document on Cisco.com and the Documentation CD-ROM.

## Hardware Documents

Refer to the appropriate SN 5400 Series system hardware installation guide for hardware installation procedures. The *Cisco SN 5420 Storage Router Hardware Installation Guide* provides hardware installation procedures for SN 5420 Storage Routers. The *Cisco SN 5428 Storage Router Hardware Installation Guide* provides hardware installation procedures for SN 5428 Storage Routers. These documents are available as printed manuals. They are also available as electronic documents on Cisco.com and the Documentation CD-ROM

## Software Documents

Refer to the appropriate SN 5400 Series system software configuration guide for software configuration information. The *Cisco SN 5420 Storage Router Software Configuration Guide Release 2.1* provides configuration information for SN 5420 Storage Routers. The *Cisco SN 5428 Storage Router Software Configuration Guide Release 2.2* (or later) provides configuration information for SN 5428 Storage Routers. These documents are available as printed manuals. They are also available as electronic documents on Cisco.com and the Documentation CD-ROM.

For documentation on the SN 5400 Series system web-based GUI, refer to the SN 5400 Series system web-based GUI online Help system.

## Service and Support

For service and support for a product purchased from a reseller, contact the reseller, who offers a wide variety of Cisco service and support programs described in “Service and Support” of Cisco Information Packet shipped with your product.



### Note

If you purchased your product from a reseller, you can access Cisco.com as a guest. Cisco.com is Cisco Systems’ primary real-time support channel. Your reseller offers programs that include direct access to Cisco.com services.

For service and support for a product purchased directly from Cisco, use Cisco.com.

## Software Configuration Tips on the Cisco TAC Home Page

A variety of Cisco SN 5400 Series system software and iSCSI driver installation, configuration and usage tips are available on the Cisco Technical Assistance Center (TAC) Web Site.

For example, you can access Cisco SN 5420 “tech tips” by following these instructions:

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- Step 1** At <http://www.cisco.com>, log in to Cisco.com. Click **Technical Support**, and select **Hardware Support** from the menu.
  - Step 2** At the Hardware Support web page, click **Storage Networking Devices** from the Hardware Support menu.
  - Step 3** At the Storage Networking Devices web page, click the appropriate link for your system. For example, click the **SN 5420 Storage Routers** link.
  - Step 4** Click the **Troubleshooting** link, and then click the appropriate links for information about installing, configuring, and troubleshooting SN 5400 Series system software and iSCSI drivers.
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## Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

## World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

## Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

## Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:  
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

## Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems  
Attn: Document Resource Connection  
170 West Tasman Drive  
San Jose, CA 95134-9883

We appreciate your comments.

# Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

## Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

## Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

## Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://www.cisco.com/register/>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

## Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.



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