



Release Notes for Cisco iSCSI Driver Version 3.1.1 for Microsoft Windows 2000

May 30, 2003



Note

You can find the most current documentation on Cisco.com. This set of electronic documents may contain updates and modifications made after the hard-copy documents were printed.

These release notes support Cisco iSCSI Driver version 3.1.1 for Microsoft Windows 2000 and Microsoft Windows XP.

For a list of software caveats that apply to version 3.1.1, see the “[Caveats](#)” section. The caveats are updated for every maintenance version and are located on Cisco.com and the Documentation CD-ROM.

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Introduction

The iSCSI Driver for Microsoft Windows 2000 and Microsoft Windows XP provides an IP host with the ability to access storage through an IP network. The iSCSI driver uses the iSCSI protocol to transport SCSI requests and responses over an IP network between the IP host and a Cisco SN 5400 or MDS 9000 Series system.

Architecturally, the iSCSI driver combines with the IP host's TCP/IP stack, network drivers, and network interface cards (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 or MDS 9000 Series system via an IP network. The SN 5400 or MDS 9000 Series system, in turn, transports SCSI requests and responses between it and the storage devices attached to it.

Once the iSCSI driver is installed and started, the IP host proceeds with a discovery process for storage devices.

A more technical description of the driver's design and its features can be found in the readme file that accompanies the iSCSI driver in the downloaded driver archive file.

**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>.

System Requirements

This section describes the system requirements for version 3.1.1 and includes the following information:

- [Operating System Requirements, page 2](#)
- [SN 5400 Series System Software Requirements, page 3](#)
- [MDS 9000 Series System Software Requirements, page 3](#)

Operating System Requirements

- The iSCSI Driver for Microsoft Windows 2000 and Windows XP requires either Microsoft Windows XP Professional (no service packs are required), or 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 and Windows XP 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 3.1.1 for Microsoft Windows 2000 and Windows XP is interoperable with a Cisco SN 5400 Series system running software release 3.2.1 or later. This version of the driver is not interoperable with a Cisco SN 5400 Series system running software release 2.5.x or earlier.

MDS 9000 Series System Software Requirements

The iSCSI Driver version 3.1.1 for Microsoft Windows 2000 and Windows XP is interoperable with a Cisco MDS 9000 Series system running SAN-OS Release 1.1(1) or later.

New and Changed Information

- The iSCSI driver version 3.1.1 iSCSI specification compliance has been upgraded to RFC.
- The iSCSI driver version 3.1.1 includes data and header digest support, configurable on either a per-target or global basis.

See the readme file for additional information about all new features.

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>, click **Products & Services** and **Storage Networking Products**.
 - Step 2** At the Cisco Storage Networking Products web page, click **Cisco SN 5400 Series Storage Routers**.
 - Step 3** At the Cisco SN 5400 Series Storage Routers web page, click **Technical Documentation**. On the Technical Documentation web page, choose the appropriate link for documentation, release notes, or other related information.
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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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See the readme file for additional information about installing and configuring the iSCSI driver software.

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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Important Notes

The iSCSI driver version 3.1.1 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.

This document describes open and resolved severity 1 and 2 caveats and selected caveats of other severities:

- The “[Open Caveats](#)” section lists open caveats that apply to the current version and may apply to previous versions.
- The “[Resolved Caveats](#)” section list 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 version. You can reach Bug Navigator II on Cisco.com at Service & Support: http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Open Caveats

There are no severity 1 or 2 caveats open against the iSCSI driver version 3.1.1. 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.

Resolved 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**

This problem was open in iSCSI driver version 2.2.1; however, it was subsequently found to be a defect in Cisco Network Boot. The caveat remains in an unresolved state for that product.

- CSCdz46227

With a mix of iSCSI unsolicited data and r2t data writes on the same target session, data corruption may occur in data written to disk.

Workaround: None. This problem is resolved with iSCSI driver version 3.1.1.

Related Documentation

The following sections describe the related documentation available for the iSCSI Driver version 3.1.1 for Microsoft Windows 2000 and Microsoft Windows XP, and the Cisco SN 5400 and MDS 9000 Series systems. These documents consist of the iSCSI driver release notes and readme file, and the SN 5400 and MDS 9000 Series system hardware installation and software configuration guides.

The SN 5400 and MDS 9000 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 3.1.1 for Microsoft Windows 2000 and Microsoft Windows XP. It is located on Cisco.com and the Documentation CD-ROM.

Each release of SN 5400 and MDS 9000 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 or MDS 9000 Series system hardware installation guide for hardware installation procedures. The *Cisco SN 5428 Storage Router Hardware Installation Guide* provides hardware installation procedures for SN 5428 Storage Routers. The *Cisco SN 5428-2 Storage Router Hardware Installation Guide* provides hardware installation procedures for SN 5428-2 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 or MDS 9000 Series system software configuration guide for software configuration information. The *Cisco SN 5428 Storage Router Software Configuration Guide Release 3.2* provides configuration information for SN 5428 Storage Routers. The *Cisco SN 5428-2 Storage Router Software Configuration Guide Release 3.2* provides configuration information for SN 5428-2 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.

You can access “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 on the left side of the page.
 - Step 3** At the Storage Networking Devices web page, click the appropriate link for your system. For example, click the **SN 5428 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

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

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

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco web sites can be accessed from this URL:

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 may have 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.

Registered Cisco.com users can order the Documentation CD-ROM (product number DOC-CONDOCCD=) through the online Subscription Store:

<http://www.cisco.com/go/subscription>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

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/en/US/partner/ordering/index.shtml>
- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) 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. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can email your comments to 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: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

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

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com 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

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco 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 website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- 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.

Cisco TAC Website

You can use the Cisco TAC website 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 website, 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 website. Some services on the Cisco TAC website require 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://tools.cisco.com/RPF/register/register.do>

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

<http://www.cisco.com/en/US/support/index.html>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

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.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:
http://www.cisco.com/en/US/products/products_catalog_links_launch.html
- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:
<http://www.ciscopress.com>
- *Packet* magazine is the Cisco monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:
<http://www.cisco.com/go/packet>
- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:
<http://www.cisco.com/go/iqmagazine>
- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in the design, development, and operation of public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:
http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html
- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:
http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html

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



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