



Release Notes for Cisco iSCSI Driver Version 3.3.2 for HP-UX 11.0

July 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 3.3.2 for HP-UX 11.0. The iSCSI driver version 3.3.2 supersedes version 3.2.1; there is no Cisco iSCSI driver version 3.3.1.

For a list of software caveats that apply to version 3.3.2, 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 HP-UX 11.0 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 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 3.2.1 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 Cisco iSCSI Driver version 3.3.2 requires an HP computer running HP-UX 11.0. Cisco recommends installing the latest General Release patches, Hardware Enablement patches, and PHNE_26771 (cumulative ARPA Transport patch) in the HP system.
- The driver supports single processor and multiprocessor machines.
- 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.
- The HP-UX System Administration Manager (SAM) does not display iSCSI devices. If you set up logical groups and volumes based on iSCSI disks, SAM will recognize the logical groups and volumes, but will notify you that it cannot obtain information about the iSCSI disks contained in the logical groups or volumes.
- The HP-UX 11.0 Logical Volume Manager (LVM) attempts to activate all the volumes listed in /etc/lvmtab at boot time, before Networking services are enabled. Because the iSCSI driver is not running at this stage, the iSCSI disks will not be accessible to LVM, and LVM will log error

messages. However, if the `/etc/fstab.iscsi` file contains entries for filesystems on logical volumes created on iSCSI disks, the iSCSI driver start up script will attempt to activate the logical volume groups and mount the filesystems. See the readme file for additional information.

- Any device with a target ID greater than 14 and a LUN ID greater than 7 will be ignored by the iSCSI driver and will not be configured in the system.
- In HP-UX 11.0, the minor number for a SCSI device (for example, `/dev/dsk/c0t0d0`) is represented by an 8-bit instance number, a 4-bit target and a 3-bit LUN. This allows the HP-UX system to have up to 256 controller cards or instance numbers, where each card or instance can have 16 targets and each target can have 8 LUNs. The iSCSI driver version 3.2.1 takes one instance number. An instance number must be available or the iSCSI driver cannot be installed.

The iSCSI driver provides a utility (`getscsitableinfo`) that can be used to provide information on the number of instances currently used by the system and the number of free instance numbers. See the readme file for additional details.

- On a 32-bit machine with 10/100 network interface cards, the iSCSI driver may drop and reconnect once every hour or so when subjected to a heavy I/O load. This is a problem in the HP-UX 11.0 operating system.

SN 5400 Series System Software Requirements

The iSCSI Driver version 3.3.2 for HP-UX 11.0 is interoperable with a Cisco SN 5400 Series system running software release 3.2 or later. This version of the driver is not interoperable with a Cisco SN 5400 Series system running software release 2.5 or earlier.

MDS 9000 Series System Software Requirements

The iSCSI Driver version 3.3.2 for HP-UX 11.0 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 3.3.2 for HP-UX 11.0 includes async event notification, which allows the driver to dynamically add or delete targets and LUNs as a result of async events such as PortalOffline, PortalOnline, TargetOnline, TargetOffline and lunChange.

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:

- [Downloading the iSCSI Driver, page 4](#)
- [Installing, Upgrading and Uninstalling iSCSI Driver Software, page 4](#)

Downloading the iSCSI Driver

Registered Cisco.com users can download the most current 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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Installing, Upgrading and Uninstalling iSCSI Driver Software

For complete procedures to install and configure, upgrade, or uninstall iSCSI driver software, refer to the readme file that accompanies the iSCSI driver (in the downloaded driver archive file).

Caveats

Caveats describe unexpected behavior or defects in the specified version of the driver. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious.

There are no open or resolved severity 1 or 2 caveats for the iSCSI Driver version 3.3.2 for HP-UX 11.0

**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.

Troubleshooting

Cisco iSCSI driver troubleshooting information is available on the Cisco.com web site.

You can access troubleshooting information by following these instructions:

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- Step 1** At <http://www.cisco.com>, log in to Cisco.com. Click **Products & Services**, and select **Storage Networking Products** from the menu.
 - Step 2** At the Cisco Storage Networking Products web page, click **Cisco SN 5400 Series Storage Routers**, and then click **Technical Documentation**.
 - Step 3** At the Technical Documentation web page, click the **Tech Notes** link.
 - Step 4** At the Tech Notes page, click the appropriate link for your iSCSI driver.
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You can access iSCSI driver FAQs by following these instructions:

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- Step 1** At <http://www.cisco.com>, log in to Cisco.com. Click **Products & Services**, and select **Storage Networking Products** from the menu.
 - Step 2** At the Cisco Storage Networking Products web page, click **CiscoSN 5400 Series Storage Routers**, and then click **Product Literature**.
 - Step 3** At the Product Literature web page, click the **Q&A** link.
 - Step 4** At the Q&A page, click the appropriate link for your iSCSI driver.
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Related Documentation

The following sections describe the related documentation available for the iSCSI Driver version 3.3.2 for HP-UX 11.0, 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 is available in electronic format, as part of the software download package. See the “[Downloading the iSCSI Driver](#)” section on page 4 for details.

Release-Specific Documents

This Release Notes document is the only document specific to iSCSI Driver version 3.3.2 for HP-UX 11.0. 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. 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. 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 websites 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 regularly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual or quarterly subscription.

Registered Cisco.com users can order a single Documentation CD-ROM (product number DOC-CONDOCCD=) through the Cisco Ordering tool:

http://www.cisco.com/en/US/partner/ordering/ordering_place_order_ordering_tool_launch.html

All users can order annual or quarterly subscriptions 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>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA.) 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 send your comments in e-mail to bug-doc@cisco.com.

You can submit comments by using the response card (if present) 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

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, the Cisco Technical Assistance Center (TAC) provides 24-hour, award-winning technical support services, online and over the phone. Cisco.com features the Cisco TAC website as an online starting point for technical assistance.

Cisco TAC Website

The Cisco TAC website (<http://www.cisco.com/tac>) provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year.

Accessing all the tools on the Cisco TAC website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Opening a TAC Case

The online TAC Case Open Tool (<http://www.cisco.com/tac/caseopen>) is the fastest way to open P3 and P4 cases. (Your network is minimally impaired or you require product information). After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using these recommendations, your case will be assigned to a Cisco TAC engineer.

For P1 or P2 cases (your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

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

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

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 quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:
<http://www.cisco.com/go/packet>
- iQ Magazine is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. 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 designing, developing, and operating 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. Current offerings in network training are listed at this URL:
<http://www.cisco.com/en/US/learning/index.html>

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



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