

HP-UX iSCSI Software Initiator Release Notes

Revision B.11.11.03b for HP-UX 11i v1
Revision B.11.23.03b for HP-UX 11i v2



i n v e n t

Manufacturing Part Number : T1452-90006

E0804

U.S.A.

© Copyright 2004 © Hewlett-Packard Company.

Legal Notices

The information in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Warranty

A copy of the specific warranty terms applicable to your Hewlett-Packard product and replacement parts can be obtained from your local Sales and Service Office.

U.S. Government License

Proprietary computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

Copyright © 1997-2004 Hewlett-Packard Development Company L.P. All rights reserved. Reproduction, adaptation, or translation of this document without prior written permission is prohibited, except as allowed under the copyright laws.

Trademark Notices

UNIX® is a registered trademark in the United States and other countries, licensed exclusively through The Open Group.

VERITAS® is a registered trademark of VERITAS Software Corporation.

Veritas Volume Manager™ is a trademark of VERITAS Software Corporation.

HP-UX iSCSI Software Initiator Release Notes

Announcement

The HP-UX iSCSI Software Initiator is a software implementation of the iSCSI protocol (RFC 3720) based on the HP-UX host TCP/IP stack. iSCSI defines a mass storage transport wedge between TCP and the SCSI Services layer. The HP-UX iSCSI Software Initiator is compliant with RFC 3720. To access the IETF iSCSI Specification RFC 3720, go to:

<http://www.ietf.org/rfc/rfc3720.txt>

The HP-UX iSCSI Software Initiator consists of two modules, the iSCSI Transport Driver and the iSCSI Software Interface Driver.

- The iSCSI Transport Driver is the Session management module
- The iSCSI Software Interface Driver module interfaces with the host based TCP/IP module

The following information is for revisions B.11.11.03b and B.11.23.03b of the HP-UX iSCSI Software Initiator.

- The HP-UX iSCSI Software Initiator requires no changes to applications that access mass storage devices.
- The HP-UX iSCSI Software Initiator revision B.11.11.03b is supported on any of the 64 bit HP 9000 series servers running HP-UX 11i v1.

Network interface cards (NICs) and network infrastructure components currently supported with HP-UX 11i v1 are required. Gigabit NICs are strongly recommended.

- The HP-UX iSCSI Software Initiator revision B.11.23.03b is supported on any of the HP Integrity servers running HP-UX 11i v2.

Network interface cards (NICs) and network infrastructure components currently supported with HP-UX 11i v2 are required. Gigabit NICs are strongly recommended.

- The HP-UX iSCSI Software Initiator introduces the "iscsiutil" management tool to the system.
- For instructions on locating, downloading and installing the HP-UX iSCSI Software Initiator, see the *HP-UX iSCSI Software Initiator Support Guide*.

Table 1 **HP-UX iSCSI Software Initiator Documentation Availability**

Document Title	Part Number	url
HP-UX iSCSI Software Initiator Support Guide	T1452-90003	http://www.docs.hp.com See: "iSCSI (SCSI Over TCP/IP)" in the "Networking & Communications" section.
HP-UX iSCSI Software Initiator Release Notes	T1452-90006	http://www.docs.hp.com See: "iSCSI (SCSI Over TCP/IP)" in the "Networking & Communications" section.
HP-UX iSCSI Software Initiator Support Matrix	N/A	http://www.docs.hp.com See: "iSCSI (SCSI Over TCP/IP)" in the "Networking & Communications" section.

Limitations

The following information is for revisions B.11.11.03b and B.11.23.03b of the HP-UX iSCSI Software Initiator.

- iSCSI usage of IPsec is supported on HP-UX, however, the HP-UX iSCSI Software Initiator has not been tested with IPsec due to the lack of iSCSI targets that support IPsec.

Support of IPsec with the HP-UX iSCSI Software Initiator is dependent on the availability of iSCSI targets that support IPsec and target vendor testing of the HP-UX iSCSI Software Initiator with those targets.

- The HP-UX iSCSI Software Initiator does not support IPv6 addresses.
- The HP-UX iSCSI Software Initiator does not support the definition of the boot, root, primary swap, dump, or var volumes on iSCSI physical volumes.

HP-UX iSCSI Software Initiator Support Matrix

NOTE The following HP-UX iSCSI Software Initiator Support Matrix reflects support status at the time these Release Notes were published. The HP-UX iSCSI Software Initiator Support Matrix located at <http://www.docs.hp.com>, is regularly updated with the latest information as support status changes.

Table 2 HP-UX iSCSI Software Initiator Support Matrix

HP-UX iSCSI Software Initiator Revision	Supported Operating System Versions	Supported Systems	Patches	Supported Targets
Revision B.11.11.03b	HP-UX 11i v1 (64 bit only)	All 64 bit HP 9000 Series Servers	PHCO_27374 PHCO_28319 PHCO_29379 PHKL_27096 PHKL_27321 PHKL_28209 PHKL_30510 PHKL_30622 PHNE_26939 PHSS_30888	HP StorageWorks™ IP Storage Router 2122-2
Revision B.11.23.03b	HP-UX 11i v2	All HP Integrity Servers	PHSS_30889	HP StorageWorks™ IP Storage Router 2122-2
Detailed support information for the HP StorageWorks™ IP Storage Router 2122-2 is available at: http://www.hp.com/support/iprouter				
Information on additional iSCSI targets is available at: http://www.hp.com/products1/unixserverconnectivity/mass_storage_devices.html				

What's New

What's New In Revision B.11.11.03b and Revision B.11.23.03b of the HP-UX iSCSI Software Initiator

- iSCSI Name Validation

The iSCSI Software Initiator validates the iSCSI Name (Initiator Name and Target Name). Validation will only take effect if the iSCSI Name begins with "iqn", "naa", or "eui". If either the iSCSI Initiator Name or the iSCSI Target Name is not in a valid format, iSCSI target discovery will fail.

- Protocol Compliance Enforced During Login Negotiation

Login Key values sent by targets are checked for protocol compliance.

- A New `iscsiutil` Sub-Option **-V**

A new **-V** sub-option has been added to the `iscsiutil -p` command. **-V** can be used to display detailed information about the negotiated iSCSI Login Keys. More information is available on the `iscsiutil` manpage.

- CHAP Bi-directional Authentication

Bi-directional Challenge Handshake Authentication Protocol (CHAP) is supported.

Known Problems and Workarounds

Known Problems and Workarounds for the HP-UX iSCSI Software Initiator Revision B.11.11.03b

- **Problem:** Kernel Registry Service states that information will be available prior to I/O initialization. However, kernel modules that use the Kernel Registry Service to store driver information are not available until after I/O initialization.
Workaround: Patches PHKL_27321 and PHKL_27096 must be installed to provide early access to the Kernel Registry Services.
- **Problem:** `ioscan` displays the device state as “NO_HW” when nodes that have hardware paths beginning with 255 are scanned.
Workaround: Install patch PHKL_28209.
- **Problem:** The shutdown command is blocked when the iSCSI Software Initiator is installed. During shutdown, `/sbin/umountall` is unable to determine the status of the file system, because the `killall` script has killed the iSCSI Software Initiator daemons needed to access devices.
Workaround: Install patch PHCO_28319. This patch will modify the `killall` script to prevent it from killing the iSCSI Software Initiator daemons; “`iswd`”, “`iradd`”, and “`iscsi_resolvd`”.
- **Problem:** Data page fault seen with transfer of data using iSCSI Software Initiator.
Workaround: Install patch PHNE_26939 to resolve data page fault issue.
- **Problem:** SAM does not support iSCSI.
Workaround: Install patch PHCO_27374 to provide access to iSCSI volumes from SAM.
- **Problem:** If SLP is being used by iSCSI, and the SLP daemon (`sldap`) is terminated, the iSCSI `isldap` daemon will be killed.
Workaround: No patch available. If a user starts or restarts the SLP daemon (`sldap`), the `isldap` daemon must be restarted using the command line.
- **Problem:** Operations (such as `ioscan`, `vgcreate`, `diskinfo`, `insf`, etc.), that require a device open of an SPC-2 compliant target are delayed, due to extra retries that delay the device open of the SPC-2 compliant target.
Workaround: Install patch PHKL_30510.

- **Problem:** If Event Monitoring Services (EMS) and Support Tool Manager (STM) are used for diagnostic logging and monitoring, some new events generated by the HP-UX iSCSI Software Initiator will not be processed by the iSCSI EMS Monitor. Also, incorrect event messages will be produced, because the HP-UX iSCSI Software Initiator and the iSCSI EMS Monitor are out of sync.

Workaround: Install patch PHSS_30888 after installing the HP-UX 11i v1 Hardware Enablement bundle: HWE0406.

- **Problem:** LVM Volume Group (VG) activation failure error messages are displayed during system startup.

iSCSI Physical Volumes (PVs) are network dependent devices, which are not accessible until the network subsystem is initialized. Attempts during system startup (prior to network initialization) to activate VGs that include an iSCSI PV, will generate VG activation failure error messages. The iSCSI Software Initiator will return the errno “ENETUNREACH” (Network is unreachable), when iSCSI devices are accessed prior to the completion of network initialization. Once the network subsystem is initialized, the iSCSI Software Initiator will no longer return the errno “ENETUNREACH”. Any errno that is returned after network initialization will be the same as if the iSCSI Software Initiator were not installed on the system.

Workaround: Install patches PHKL_30622 and PHCO_29379.

- **Problem:** For HFS file systems residing on LVM Logical Volumes that are defined on iSCSI Physical Volumes, `fsck` retries the open for the PV to become available, on 10 second intervals, for a total of 360 seconds. This will prolong the system startup time, depending on the number of HFS file systems configured.

Workaround: Install patches PHKL_30622 and PHCO_29379.

- **Problem:** File system commands executed against iSCSI devices display error messages.

During system startup, file system commands (such as `fsck`, `fsck`, `fsck` and `mountall`) executed against iSCSI raw devices, or LVM Logical Volumes that are defined on iSCSI Physical Volumes, will generate error messages, because iSCSI devices will be inaccessible prior to network initialization.

Workaround: Patches to resolve this problem are not available yet. No user intervention is required. Ignore the error messages displayed. The file system commands executed during system startup (prior to network initialization) will be retried by the iSCSI Software Initiator startup script. The startup script is executed after the network subsystem is initialized. The file system commands will succeed once the iSCSI devices are accessible. After the iSCSI Software Initiator startup script is executed, the error messages will no longer be seen.

Known Problems and Workarounds

- **Problem:** The Veritas Volume Manager™ (VxVM) is not supported with the iSCSI Software Initiator.

Workaround: None.

Known Problems and Workarounds for the HP-UX iSCSI Software Initiator Revision B.11.23.03b

- **Problem:** If Event Monitoring Services (EMS) and Support Tool Manager (STM) are used for diagnostic logging and monitoring, some new events generated by the HP-UX iSCSI Software Initiator will not be processed by the iSCSI EMS Monitor. Also, incorrect event messages will be produced, because the HP-UX iSCSI Software Initiator and the iSCSI EMS Monitor are out of sync.

Workaround: Install patch PHSS_30889 after installing the HP-UX 11i v2 Hardware Enablement bundle: HWE0403.

- **Problem:** The Veritas Volume Manager™ (VxVM) is not supported with the HP-UX iSCSI Software Initiator.

Workaround: None.

Installation Requirements

Installation Requirements for the HP-UX iSCSI Software Initiator Revision B.11.11.03b

The following patches, or any superseding patches, should be installed along with the HP-UX iSCSI Initiator. The absence of any of these patches will not prevent the HP-UX iSCSI Initiator from executing correctly, but there will be problems as detailed in “Known Problems and Workarounds for the HP-UX iSCSI Software Initiator Revision B.11.11.03b” on page 8.

- PHCO_27374
- PHCO_28319
- PHCO_29379
- PHKL_27096
- PHKL_27321
- PHKL_28209
- PHKL_30510
- PHKL_30622
- PHNE_26939
- PHSS_30888
(Requires installation of the HP-UX 11i v1 Hardware Enablement bundle: HWE0406.)

Installation Requirements for the HP-UX iSCSI Software Initiator Revision B.11.23.03b

The following patches, or any superseding patches, should be installed along with the HP-UX iSCSI Software Initiator. The absence of any of these patches will not prevent the HP-UX iSCSI Initiator from executing correctly, but there will be problems as detailed in “Known Problems and Workarounds for the HP-UX iSCSI Software Initiator Revision B.11.23.03b” on page 10.

- PHSS_30889
(Requires installation of the HP-UX 11i v2 Hardware Enablement bundle: HWE0403.)

Software Availability in Native Languages

HP-UX iSCSI Software Initiator information is only available in the English language.