HP-UX iSCSI Software Initiator
Release Notes

Revision B.11.11.03d for HP-UX 11i v1
Revision B.11.23.03d for HP-UX 11i v2 September 2004

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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.11.11.03d and B.11.23.03d of the HP-UX iSCSI Software Initiator.

NOTE The HP-UX iSCSI Software Initiator revision B.11.23.03d is supported on HP servers running HP-UX 11i v2 September 2004 or later.

The HP-UX iSCSI Software Initiator revision B.11.23.03d is not supported on HP-UX 11i v2 versions preceding HP-UX 11i v2 September 2004.

- The HP-UX iSCSI Software Initiator requires no changes to applications that access mass storage devices.

- The HP-UX iSCSI Software Initiator revision B.11.11.03d 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.11.23.03d is supported on any of the HP Integrity servers running HP-UX 11i v2 September 2004 or later and on any of the 64 bit HP 9000 series servers running HP-UX 11i v2 September 2004 or later.

  Network interface cards (NICs) and network infrastructure components currently supported with HP-UX 11i v2 September 2004 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	T1452-90008	http://www.docs.hp.com See: "iSCSI (SCSI Over TCP/IP)" in the "Networking & Communications" section.
HP-UX iSCSI Software Initiator Release Notes	T1452-90009	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.

What's New

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

- Support for Temporary Login Redirection

  The HP-UX iSCSI Software Initiator supports temporary login redirection. No configuration is required to take advantage of this new functionality.

- Only valid information is displayed in the Target Alias field

  In previous releases, the Target Alias field in the `iscsiutil -pO` output displayed meaningless information when a Target Alias was not set. This problem has been resolved so only meaningful information will be displayed.

- The iSCSI start-up script issues `bcheckrc` and `mountall` conditionally

  The iSCSI start-up script only issues `bcheckrc` and `mountall` when iSCSI devices are detected, otherwise there is no need to invoke `bcheckrc` and `mountall`.

- Starting the SLP daemon does not fail with a FATAL Error message.

  In previous releases, starting the SLP daemon (slpd) from the iSCSI start-up script failed in some circumstances, resulting in a FATAL Error message. This problem has been resolved.

- All `iscsiutil` commands work correctly in the presence of more than 128 iSCSI targets.

  In previous releases, certain `iscsiutil` commands did not work correctly when more than 128 iSCSI targets were present. This problem has been resolved.

- By default, diagnostic messages with numerical values less than or equal to LVL_ERR (level 3) are logged to the `syslog.log` file.

  The severity of diagnostic messages is inversely proportional to the logging level (the lower the logging level number, the higher the message severity). In previous releases, diagnostic messages with logging levels (numerical values) less than or equal to LVL_INFO (level 6) were logged to the `/var/adm/syslog/syslog.log` file by default, sometimes resulting in a flood of messages. Starting with this release of the iSCSI Software Initiator, the default logging level setting only logs messages with a logging level less than or equal to LVL_ERR (level 3) to the `/var/adm/syslog/syslog.log` file. The `iscsiutil -b` option can be used to set a logging level parameter other than the default setting. For additional information on iSCSI Software Initiator diagnostic messages, refer to Appendix C of the *HP-UX iSCSI Software Initiator Support Guide* (see Table 1 on page 4 to access the latest edition).

- Duplicate target information no longer appears in `iscsiutil` output.

  In previous releases, duplicate target information could be registered in driver persistent store and appear in `iscsiutil` output. This problem has been fixed in Revision B.11.11.03d of the HP-UX iSCSI Software Initiator.

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`iscsiutil -b` option can be used to set a logging level parameter other than the default setting. For additional information on iSCSI Software Initiator diagnostic messages, refer to Appendix C of the *HP-UX iSCSI Software Initiator Support Guide* (see Table 1 on page 4 to access the latest edition).

- The Veritas Volume Manager™ (VxVM) is supported with the HP-UX iSCSI Software Intitiator Revision B.11.23.03d (VxVM is also supported with revision B.11.23.03c).

- Duplicate target information no longer appears in `iscsiutil` output.

  In previous releases, duplicate target information could be registered in driver persistent store and appear in `iscsiutil` output. This problem has been fixed in Revision B.11.23.03d of the HP-UX iSCSI Software Initiator.

Limitations

The following information is for revisions B.11.11.03d and B.11.23.03d 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.

Known Problems and Workarounds

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

- **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 (`slpd`) is terminated, the iSCSI `islpd` daemon will be killed.

  Workaround: No patch available. If a user starts or restarts the SLP daemon (`slpd`), the `islpd` deamon 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, `fsclean` 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`, `fsclean` 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.

- **Problem:** The Veritas Volume Manager™ (VxVM) is not supported with the iSCSI Software Initiator Revision 11.11.03d.

  Workaround: None.

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

- There are no known problems for Revision B.11.23.03d of the HP-UX iSCSI Software Initiator.

Installation Requirements

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

The following patches, or any superseding patches, should be installed along with revision B.11.11.03d of the HP-UX iSCSI Software Initiator. The absence of any of these patches will not prevent the HP-UX iSCSI Software 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.11.11.03d" on page 6.

- 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.11.23.03d

There are no patches that need to be installed with revision B.11.23.03d of the HP-UX iSCSI Software Initiator.

HP-UX iSCSI Software Initiator Support Matrix

NOTE	The following support matrix reflects the support status of Revisions B.11.11.03d and B.11.23.03d of the HP-UX iSCSI Software Initiator, 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 support status on all supported revisions of this product.

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.11.11.03d	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 Cisco MDS 9000 IP Services Module
Revision B.11.23.03d	HP-UX 11i v2 September 2004, or later	All 64 bit HP 9000 Series Servers All HP Integrity Servers		HP StorageWorks™ IP Storage Router 2122-2 Cisco MDS 9000 IP Services Module
Detailed support information for the HP StorageWorks™ IP Storage Router 2122-2 is available at: http://www.hp.com/support/iprouter				
Detailed support information for the Cisco MDS 9000 IP Services Module is available at: http://h18006.www1.hp.com/products/storageworks/cmds9000ipsm/index.html				
Information on additional iSCSI targets is available at: http://www.hp.com/products1/unixserverconnectivity/mass_storage_devices.html http://h21007.www2.hp.com/dspp/tech/tech_TechSoftwareDetailPage_IDX/1,1703,992,00.html				

Software Availability in Native Languages

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