IBM XIV Host Attachment Kit for HP-UX

Version 1.6.0

Release Notes

First Edition (May 2011)

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This document edition applies to Version 1.6.0 of the IBM XIV Host Attachment Kit for HP-UX software package. Newer document editions may be issued for the same product version in order to add missing information or amend typographical errors. The edition is reset to 'First Edition' for every new product version.

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Overview

The IBM® XIV® Host Attachment Kit (HAK) for HP-UX is a software pack that simplifies the task of connecting an HP-UNIX® host to the IBM XIV Storage System. The HAK provides a set of CLI-based tools that automatically detect any physically connected XIV storage system (single system or an array), define the host on the XIV storage system, and apply best-practice native HP-UX multipath configuration.

After the connection is established, XIV-based storage volumes can be mapped to the host without any additional manual configuration, and can be accessed and used from the host for a range of storage operations.

Compatibility and requirements

The IBM XIV Host Attachment Kit for HP-UX is compatible with different versions of the HP-UX operating system and the XIV storage system, as well as with different HBAs and multipath solutions.

Note: This section applies to Version 1.6.0. For information about the compatibility and requirements of a previous host attachment kit version, refer to its relevant release notes.

Supported HP-UX versions

The IBM XIV Host Attachment Kit for HP-UX supports different HP-UX versions or editions, as listed in the following table.

Operating system	Architecture	Compatibility note
HP-UX 11i v2	Intel® Itanium® (IA-64)	N/A
HP-UX 11i v3	Intel® Itanium® (IA-64)	N/A

Supported XIV storage systems

The IBM XIV Host Attachment Kit for HP-UX supports different microcode versions of the IBM XIV Storage System, as listed in the following table.

Storage system	Microcode version	Compatibility note
IBM XIV Storage System	10.1.0	N/A
	10.2.0 and 10.2.2	N/A
	10.2.4 and 10.2.4a	N/A

Supported HBAs

The IBM XIV Host Attachment Kit for HP-UX supports different host bus adapter (HBA) brands and types. For the latest support information and compatibility matrix, see the IBM System Storage Interoperability Center at the following web address:

http://www-03.ibm.com/systems/support/storage/config/ssic

Note: For best performance, install the latest firmware and drivers for the HBAs that are in use. The HBA vendor should provide the latest firmware and drivers.

Attention: The IBM XIV Host Attachment Kit for HP-UX **does not support iSCSI connectivity**. Only Fibre Channel (FC) is supported.

Supported multipath and I/O solutions

The IBM XIV Host Attachment Kit for HP-UX supports the following multipath solutions:

- Native multipath I/O (MPIO) – supported only on HP-UX 11i v3.

- Veritas Volume Manager (VxVM) 5.0 – supported only on HP-UX 11i v2.

Important: Active-Active multipathing is available only by using a commercial and licensed version of the Veritas Volume Manager. For more information, refer to the Symantec Storage Foundation website:
http://www.symantec.com/business/storage-foundation

Change log

This section summarizes the changes made in different version releases of the IBM XIV Host Attachment Kit for HP-UX.

Version 1.6.0 (May 2011)

Version 1.6.0 includes the following enhancements and fixes:

HA-18616*	**Enhancement:** `xiv_diag` now provides the HAK version number when used with the `--version` argument.
HA-22130*	**Enhancement:** More information is collected with the `xiv_diag` command.
HA-24970*	**Enhancement:** `xiv_devlist` can display LUN sizes in different capacity units, by using the `-u` or `--size-unit` argument.
	Usage:
	`-u SIZE_UNIT, --size-unit=SIZE_UNIT`
	Valid `SIZE_UNIT` values: MB, GB, TB, MiB, GiB, TiB

HA-26338*	**Enhancement:** The `xiv_devlist` output can be saved to a file in CSV or XML format, by adding the `-f` or `--file` argument.
	Usage: `-f OUTFILE, --file=OUTFILE` Valid `OUTFILE` values: CSV, XML
HA-18046*	**Fixed:** Erroneous text message prompted by the `xiv_attach` command.
HA-21244	**Fixed:** The `xiv_diag` command may cause a crash.
HA-21456*	**Fixed:** Redirecting the `xiv_devlist` output results in a broken pipe error.
HA-22470*	**Fixed:** In some cases, the `xiv_devlist` output shows "N/A" in the Size field instead of the actual LUN size.
HA-23250*	**Fixed:** `xiv_attach` crashes when a user who is not defined as a storage admin (user type) tries to define a host.
HA-25522	**Fixed:** The `xiv_attach` command defines the host without the HP-UX type.
HA-26601*	**Fixed:** `xiv_devlist` may cause a few non-IBM RAID controllers to lose a disk due to incorrect SCSI Test-Unit-Ready parsing.
HA-57433	**Fixed:** `xiv_diag` creates a TAR file that cannot be opened on HP-UX.
HA-62263*	**Fixed:** Entering an invalid username or password results in a wrong error message.
HA-67801	**Fixed:** `xiv_attach` fails to detect XIV storage arrays when removing HP legacy devices and using Agile on HP-UX 11i v3.
HA-77986	**Fixed:** `xiv_diag` fails when opening `tar.gz`.

* Applies to all supported operating systems.

Version 1.5.0 (November 2009)

Version 1.5.0 included the following enhancements, changes, and fixes:

HA-3965*	**Enhancement:** Automatic host definition on undefined XIV systems.
	The `xiv_attach` and `admin` commands automatically detect undefined XIV systems and define the host on those systems.
HA-6151*	**Enhancement:** Added the `--version` command argument.
	The `--version` command argument was added to the `xiv_fc_admin` and `xiv_iscsi_admin` commands. In addition, `xiv_attach` displays the HAK version in the Welcome banner.

HA-6708*	**Enhancement:** Colored output for host attachment binaries.
	Colored output added to the following commands: • `xiv_attach` • `xiv_fc_admin` • `xiv_devlist` • `xiv_diag`
HA-9877*	**Enhancement:** Listing attached XIV systems.
	The `xiv_attach` and `xiv_fc_admin` commands display the attached XIV systems along with basic connectivity information.
HA-9887*	**Enhancement:** Additions and changes to the `xiv_devlist` command.

	• Added command-line arguments:
	  `-t xml` provides a new XML output format
	  `--hex` changes the machine ID from decimal to hexadecimal base
	  `-o all` adds all available fields to the table
	  `--xiv-only` lists only the XIV devices
	  `-d` writes debugging information to a file
	
	• Wide-terminal-aware table output:
	  ▪ If the terminal width is long enough, each row in the table is printed on a single line.
	  ▪ If the terminal width is shorter than needed, the columns are wrapped where necessary.
	
	• Changed the machine ID format to decimal base.
	
	• Added verification that the user is running with root/administrator permissions.

HA-10288	**Enhancement:** Added support for PV-Links on HP-UX 11i v2.
HA-6492	**Enhancement:** Added support for the Intel IA64 architecture.
HA-6956*	**Change:** Restructured host attachment tree.
	The host attachment tree was restructured so that it will be consistent across all operating systems.
HA-9980*	**Fixed:** An error message stating "XPyV: command not found" appears in a first-time installation.
HA-19860	**Fixed:** HAK commands fail when external disk devices are connected.

* Applies to all supported operating systems.

Known limitations

This section details the known limitations in Version 1.6.0, along with possible workarounds (if workarounds are available).

HA-100800	Mapping the `LUN0` volume causes errors.
	Due to the distinctive properties of the XIV-based `LUN0` volume (on any storage pool), mapping it to the host causes numerous errors or performance problems.
	Accordingly, mapping the `LUN0` volume is not recommended.
HA-19873	When using `xiv_devlist`, a volume that is reserved by another host appears as an unreachable device.
	Currently there is no workaround for this limitation (HA-19873).
HA-21126	`xiv_devlist` does not identify a volume assigned to `LUN0`.
	Currently there is no workaround for this limitation (HA-21126).
HA-58086	`xiv_devlist` does not report accurate data after deleting the host port definition on the XIV system.
	Currently there is no workaround for this limitation (HA-58086).
HA-65405	`xiv_attach` shows 'Unknown type' for the Hitachi HBA driver.
	Currently there is no workaround for this limitation (HA-65405).
HA-76348	When using `xiv_devlist` on HP-UX 11i v2, a warning message is displayed.
	Currently there is no workaround for this limitation (HA-76348).
HA-97194	A conflict occurs when using the same LUN (logical unit number) on a host to map different volumes on different XIV storage systems.
	To avoid this issue, always assign different logical unit numbers when connecting to more than one XIV storage system.
HA-97981	On HP-UX 11i v2, `xiv_devlist` shows incorrect multipath information of XIV storage systems.
	Currently there is no workaround for this limitation (HA-97981).
HA-100912	When using the Host Attachment Kit on HP-UX 11i v3, Vertias VxVM is not supported.
	Currently there is no workaround for this limitation (HA-100912).

HA-100926	When using the Host Attachment Kit on HP-UX11i v2, the Round-Robin load balancing policy can be set only when the Veritas Volume Manager is installed.

Currently there is no workaround for this limitation (HA-100926).

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Related information and publications

You can find additional information and publications related to the IBM XIV Host Attachment Kit for HP-UX on the following web addresses.

- IBM XIV Host Attachment Kit for HP-UX – User Guide, available on the IBM XIV Storage System Information Center:

  http://publib.boulder.ibm.com/infocenter/ibmxiv/r2

- IBM XIV Storage System – Product Overview, Planning Guide, available under Publications on the IBM XIV Storage System Information Center (see the previous web address).

- HP-UX 11i website:

  http://h71028.www7.hp.com/enterprise/w1/en/os/hpux11i-overview.html

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