IBM Storage Host Attachment Kit for HP-UX
Version 2.6.0

Release Notes

IBM

Contents

Overview

The IBM® Storage Host Attachment Kit (HAK) for HP-UX is a software pack that simplifies the task of connecting an HP UNIX host to the IBM storage systems.

The HAK provides a set of command-line interface (CLI) tools that help host administrators perform different host-side tasks, such as: detect any physically connected storage system (single system or multiple systems), detect storage volumes, define the host on the storage system, run diagnostics, and apply best practice native multipath connectivity configuration on the host.

You can download the IBM Storage Host Attachment Kit software package at any time from the IBM Fix Central website(www.ibm.com/support/fixcentral).

Compatibility and requirements

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

Note: This section applies to version 2.6.0. For information about the compatibility and requirements of a previous Host Attachment Kit version, refer to its relevant release notes. In addition, the HAK lifecycle and support matrix (ibm.com/support/knowledgecenter/STJTAG/hsg/hak_lifecycle.dita) details the HAK lifecycle with compatible storage system microcode versions and supported operating system releases.

Supported HP-UX versions

Version 2.6.0 of the IBM Storage Host Attachment Kit for HP-UX supports different HP Unix versions or editions, as listed in the following table.

Operating system	Architecture
HP-UX 11i v3	Intel Itanium (IA-64)

Supported storage systems

Version 2.6.0 of the IBM Storage Host Attachment Kit for HP-UX supports different microcode versions of the storage systems, as listed in the following table.

Storage system	Microcode version
IBM XIV® Storage System	10.2.4.x 11.1.x, 11.2.x, 11.3.x, 11.4.x, 11.5.x, 11.6.x
IBM FlashSystem® A9000	12.0
IBM FlashSystem A9000R	12.0

> **Note:** Newer microcode versions may also be compatible. When a newer microcode version becomes available, refer to the latest storage system release notes to check whether the new microcode version is also supported. In addition, the HAK lifecycle and support matrix (ibm.com/support/knowledgecenter/ STJTAG/hsg/hak_lifecycle.dita) details the HAK lifecycle with compatible storage system microcode versions and supported operating system releases.

Supported HBAs

The IBM Storage 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® Interoperation Center website (www.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 Storage Host Attachment Kit for HP-UX does not support iSCSI connectivity. Only Fibre Channel (FC) is supported.

Supported multipath I/O solutions

The IBM Storage Host Attachment Kit for HP-UX supports the following multipath solutions:
- Native multipath I/O (MPIO)
- Veritas Dynamic Multipathing (DMP) 5.1, 6.x (including native support for XIV in Veritas Storage Foundation 5.1)

> **Important:** Using more than one multipath I/O framework on the same host is not supported.

Change log

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

Version 2.6.0 (April 2016)

Version 2.6.0 adds support for IBM FlashSystem A9000 and IBM FlashSystem A9000R storage systems with microcode 12.0. Additional changes in version 2.6.0:

Ticket ID	Description
HA-261809*	**Change**: The `xiv_syslist` command output displays all supported storage system types.
HA-261811*	**Change**: The `xiv_devlist` command output displays all supported storage system types.
HA-261816*	**Fixed**: When running the `xiv_attach` command, scanning for FC-connected storage systems is performed, even if the user chooses not to complete it.

Ticket ID	Description
HA-261859*	**Fixed**: A general exception may occur during the `xiv_fc_admin` or `xiv_attach` command execution.
HA-261869*	**Fixed**: If during new iSCSI target discovery an IP address is unreachable on a single storage systems, the error message appears for all connected devices.

* Applies to all supported operating systems.

Version 2.5.0 (September 2015)

Version 2.5.0 added support for XIV microcode version 11.6.x. Additional change in version 2.5.0:

Ticket ID	Description
HA-261629*	**Change**: The `-L` option of the `xiv_fc_admin` command is deprecated. Only the `xiv_syslist -L` command can be used for listing the attached storage systems, as detailed in HA-204578. For more information, refer to the user guide.

* Applies to all supported operating systems.

Version 2.4.0 (March 2015)

Version 2.4.0 added support for XIV microcode version 11.5.1.

Version 2.3.0 (August 2014)

Version 2.3.0 added support for XIV microcode version 11.5 and includes the following enhancements and fixes.

Ticket ID	Description
HA-250756*	**Enhancement**: The `--list` (`-L`) command option can be used with `xiv_diag` to display information that is to be gathered by the utility. For more information, refer to the user guide.
HA-261361*	**Enhancement**: Added support for the XIV multi-tenancy feature, allowing work with different and separate storage domains that are defined on the same XIV storage system. This enhancement applies only to XIV microcode version 11.5 or later.
HA-261223*	**Fixed**: A general error message appears when running `xiv_attach`, `xiv_fc_admin`, or `xiv_iscsi_admin` if non-English characters are used in the XIV credentials.

* Applies to all supported operating systems.

Version 2.2.0 (November 2013)

Version 2.2.0 added support for version 11.4.0 of the XIV microcode and included the following enhancement and fix.

Ticket ID	Description
HA-204578*	**Enhancement**: Summary of the attached storage systems is now listed, using the `xiv_syslist -L` command.
HA-261142*	**Enhancement**: The Host Profiler utility (`xiv_host_profiler`) can now detect the microcode versions of the XIV systems to which the host is connected. In addition, users can use the `--xiv-microcode` option with the `--analyze` command argument in order to run the host profile analysis against a specific microcode version.
HA-261227	**Fixed**: Scheduled tasks that are set with `xiv_host_profiler` or `xiv_attach` for running the Host Profiler utility might fail if there are other scheduled tasks that are defined to occur exactly at midnight (00:00).

* Applies to all supported operating systems.

Version 2.1.0.1 (August 2013)

Version 2.1.0.1 included the following hotfix and change.

Ticket ID	Description
HA-261196	**Fixed**: In some cases, a general error (type `'exceptions.AttributeError'`) might occur if `xiv_devlist`, `xiv_attach`, or `xiv_fc_admin` is used when the online volume migration (IBM Hyper-Scale Mobility feature) is in **Proxy** state.
HA-261181*	**Change**: In the `xiv_devlist` output, "OLVM State" was renamed to "Hyper-Scale Mobility".

* Applies to all supported operating systems.

Version 2.1.0 (June 2013)

Version 2.1.0 added support for version 11.3.0 of the XIV microcode and for the IBM Hyper-Scale Mobility (online volume migration) feature.

Additional changes in version 2.1.0:

Ticket ID	Description
HA-231357*	**Enhancement**: The `--no-headers` argument can be used with the `xiv_devlist -t csv` and `xiv_syslist -t csv` commands to generate CSV output without column headers.
HA-253044*	**Enhancement**: An additional step in the `xiv_attach` procedure allows scheduling a task for running the Host Profiler utility on the host. For more information, refer to the user guide.
HA-256729*	**Fixed**: In some cases, the `xiv_host_profiler --analyze` command might generate notices that are unrelated to the host processor architecture.
HA-257071	**Fixed**: The `xiv_devlist` output is limited to 80 characters per line, ignoring any console-defined screen width.

Ticket ID	Description
HA-261114	**Fixed**: Instead of running once as scheduled, Host Profiler scheduled tasks run every minute within the specified hour. **Note:** Scheduled tasks that were created with version 2.0.0 should be removed and redefined with version 2.1.0.
HA-261126*	**Fixed**: `xiv_devlist` might exit with error messages when running on a host connected to a storage device other than the XIV storage system.
HA-8442*	**Fixed**: `xiv_host_profiler` and `xiv_syslist` might exit with error messages when running on a host connected to a storage device other than the XIV storage system.

* Applies to all supported operating systems.

Version 2.0.0 (March 2013)

Version 2.0.0 included the following enhancements.

Ticket ID	Description
HA-26055*	**Enhancement**: A new host diagnostics utility, Host Profiler (`xiv_host_profiler`), is now available. The utility collects comprehensive host configuration information, creates a profile based on this information, and allows detailed analysis of the collected information. For more information, refer to the Diagnostics chapter in the IBM XIV Host Attachment Guide. **Note:** The Host Profiler utility is compatible only with XIV microcode version 11.2 or later.
HA-251470	**Enhancement**: Reduced HAK package size, requiring less disk space.

* Applies to all supported operating systems.

Known issues

This section details the known issues in version 2.6.0 of the IBM Storage Host Attachment Kit for HP-UX, along with possible solutions or workarounds (if available).

Ticket ID	Description
HA-19873	When using `xiv_devlist`, a volume that is reserved by another host appears as an unreachable device. Currently there is no workaround or solution for this limitation.
HA-21126	`xiv_devlist` does not identify a volume assigned to LUN0. Related issue: HA-100800. Currently there is no workaround or solution for this limitation.

Ticket ID	Description
HA-58086	`xiv_devlist` does not report accurate data after deleting the host port definition on the XIV system. Currently there is no workaround or solution for this limitation.
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-100800	Mapping the LUN0 volume causes errors. Due to the distinctive properties of the XIV 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-209680	When using the Veritas multipathing framework, `xiv_devlist` displays the native device names of newly mapped volumes. To resolve this issue, run the Veritas device rescan command: `vxdctl enable`
HA-261252	The HAK utilities fail with a general error message when the host name contains more than 8 characters. To avoid this issue, make sure that the host name contains 8 characters or less.
HA-261877	Error messages generated, when invalid LDAP credentials are supplied, may be overly general without specifying the exact reason for host attachment failure. To receive details on exact reason for the failure, check the log file.

Related information and publications

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

- IBM Knowledge Center (ibm.com/support/knowledgecenter)
- IBM XIV Storage System on IBM Knowledge Center (ibm.com/support/knowledgecenter/STJTAG)
- IBM FlashSystem A9000 on IBM Knowledge Center (ibm.com/support/knowledgecenter/STJKMM)
- IBM FlashSystem A9000R on IBM Knowledge Center (ibm.com/support/knowledgecenter/STJKN5)
- HP-UX 11i website (h71028.www7.hp.com/enterprise/w1/en/os/hpux11i-overview.html)

Getting information, help, and service

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- IBM website (ibm.com®)
- IBM Support Portal website (www.ibm.com/storage/support)
- IBM Directory of Worldwide Contacts website (www.ibm.com/planetwide)

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