

IBM XIV Host Attachment Kit for AIX
Version 2.0.0

Release Notes



First Edition (March 2013)

This document edition applies to Version 2.0.0 of the IBM XIV Host Attachment Kit for AIX software package. Newer document editions may be used 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 AIX® is a software pack that simplifies the task of connecting an IBM AIX host to the IBM XIV Storage System.

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 XIV storage system (single system or multiple systems), detect XIV volumes, define the host on the XIV storage system, run diagnostics, and apply best practice native multipath connectivity configuration on the host.

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

Compatibility and requirements

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

Certain software packages, patches, or drivers must be installed on the host, as detailed in the following subsections.

Note: This section applies to version 2.0.0. For information about the compatibility and requirements of a previous Host Attachment Kit version, refer to its relevant release notes.

Supported AIX versions

The IBM XIV Host Attachment Kit for AIX can be used with the following AIX versions and editions.

Operating system	Edition	Architecture	Compatibility note
AIX 5.3	TL07, TL08, TL09, TL10, TL11, TL12	IBM System p®, IBM Power Systems™	<ul style="list-style-type: none">• TL11 requires one of the following:<ul style="list-style-type: none">– XIV-provided eFix*– Service Pack 2• The latest AIX service packs resolve all limited functionality issues. For more information, see HA-101673 in “Known issues” on page 7.

Operating system	Edition	Architecture	Compatibility note
AIX 6.1	TL00, TL01, TL02, TL03, TL04, TL05, TL06, TL07	IBM System p, IBM Power Systems	<ul style="list-style-type: none"> • TL04 requires one of the following: <ul style="list-style-type: none"> – XIV-provided eFix* – Service Pack 2 • The latest AIX service packs resolve all limited functionality issues. For more information, see HA-101673 in “Known issues” on page 7.
AIX 7.1	TL00, TL01	IBM System p, IBM Power Systems	<ul style="list-style-type: none"> • The latest AIX service packs resolve all limited functionality issues. For more information, see HA-101673 in “Known issues” on page 7.
<p>* You can download all AIX eFixes from the following FTP address: ftp://ftp.software.ibm.com/aix/efixes</p>			

Supported XIV storage systems

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

Storage system	Microcode version
IBM XIV Storage System	10.2.x
	11.0.x, 11.1.x, 11.2.0

Note: Newer microcode versions may also be compatible. Refer to the latest XIV storage system release notes when a new XIV microcode version becomes available. You can obtain the latest XIV storage system release notes on the IBM XIV Storage System Information Center (publib.boulder.ibm.com/infocenter/ibmxiv/r2).

Supported HBAs

The IBM XIV Host Attachment Kit for AIX supports different host bus adapter (HBA) brands and types.

For the latest support information and compatibility matrix, refer to 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 XIV Host Attachment Kit for AIX does not support iSCSI connectivity. Only Fibre Channel (FC) is supported.

Supported multipath I/O solutions

The IBM XIV Host Attachment Kit for AIX supports the following multipath solutions:

- Native multipath I/O (MPIO)
- IBM Virtual I/O Server (VIOS) 2.1.x, 2.2.0
- Veritas Dynamic Multipathing (DMP) 5.0 or 5.1 (including native support for XIV in Veritas Storage Foundation 5.1)

Important: For proper Active/Active multipathing using Veritas Dynamic Multipathing 5.0, install the Symantec Array Support Library for IBM XIV, which can be downloaded from the Symantec website (www.symantec.com/business/support/index?page=content&id=TECH77828).

Required software on the host

Prior to installing the IBM XIV Host Attachment Kit for AIX, the `bos.adt.libm` package must be installed on the host.

For more information, refer to the IBM Fileset information website (www.ibm.com/support/docview.wss?uid=isg1fileset-1318926131).

Change log

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

Version 2.0.0 (March 2013)

Version 2.0.0 includes the following enhancements and fixes.

Ticket ID	Description
HA-26055*	Enhancement: A new host diagnostics utility, Host Profiler (<code>xiv_host_profiler</code>), 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.
HA-251470	Enhancement: Reduced HAK package size, requiring less disk space.
HA-250411	Fixed: When running the HAK utilities on AIX 5.3 TL10, an error message states that the operating system is not supported.
HA-254831	Fixed: <code>xiv_syslist</code> takes a long time to complete if the host is connected to several XIV storage systems.

* Applies to all supported operating systems.

Version 1.10.0 (September 2012)

Version 1.10.0 included the following fix.

Ticket ID	Description
HA-236858*	Fixed: <code>xiv_devlist</code> does not display the correct size of volumes that are larger than 2.2 TB.

* Applies to all supported operating systems.

Version 1.9.0 (June 2012)

Version 1.9.0 included the following enhancements and fixes.

Ticket ID	Description
HA-10663	Enhancement: Detailed on-screen help prompt is now available for the different HAK utilities using the <code>man</code> command option in the following format: <code>man xiv_attach</code> <code>man xiv_fc_admin</code> <code>man xiv_syslist</code> <code>man xiv_devlist</code> <code>man xiv_diag</code>

HA-73943*	Enhancement: The <code>--path</code> optional argument is now available for the <code>xiv_diag</code> command, allowing one-step definition of the directory into which the report file should be generated. For more information, refer to the user guide.
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HA-172538	Fixed: Limited HAK functionality on AIX hosts due to inability to detect the XIV LUN0 controller. Attention: This fix applies only to the latest AIX service packs released for different AIX versions and TLs. For more information, see HA-101673 in “Known issues” on page 7
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HA-233433*	Fixed: In some cases, <code>xiv_syslist</code> may fail with a general error prompt (ValueError exception).
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* Applies to all supported operating systems.

Version 1.8.0 (March 2012)

Version 1.8.0 included the following fixes.

Ticket ID	Description
HA-170070	Fixed: <code>xiv_devlist</code> does not display LUN numbers.
HA-172254	Fixed: In some cases, <code>xiv_devlist -o</code> returns an exception error on AIX 7.1.
HA-209965	Fixed: When using <code>xiv_devlist</code> on AIX 6.1, Vertias multipath devices appear to have only one path.

Version 1.7.1 (December 2011)

Version 1.7.1 included the following fixes.

Ticket ID	Description
HA-163382*	Fixed: An exception occurs when trying to define the host on the XIV storage system with incorrect XIV credentials.
HA-166443	Fixed: <code>xiv_attach</code> may fail and display the following error message: <code>NameError: global name 'shutil' is not defined</code>

* Applies to all supported operating systems.

Version 1.7.0 (September 2011)

Version 1.7.0 added support for the XIV Gen3 hardware configuration and for version 11.0 of the IBM XIV microcode.

In addition, version 1.7.0 included the following enhancements and changes:

Ticket ID	Description
HA-159503*	Enhancement: Portable HAK Instead of installing the HAK locally on each host, it can be used from a mounted network drive or a portable USB flash drive. For more information, refer to the user guide.
HA-121647*	Change: The IBM Storage Solutions External Runtime Components (previously named "XPyV") are now integrated within the HAK code, rather than installed separately.

* Applies to all supported operating systems.

Version 1.6.0 (May 2011)

Version 1.6.0 included the following enhancements and fixes.

Ticket ID	Description
HA-18616*	Enhancement: <code>xiv_diag</code> now provides the HAK version number when used with the <code>--version</code> argument.
HA-22130*	Enhancement: More information is collected with the <code>xiv_diag</code> command.
HA-24970*	Enhancement: <code>xiv_devlist</code> can display LUN sizes in different capacity units, by using the <code>-u</code> or <code>--size-unit</code> argument.
HA-26338*	Enhancement: The <code>xiv_devlist</code> output can be saved to a file in CSV or XML format, by adding the <code>-f</code> or <code>--file</code> argument.
HA-13610	Fixed: The <code>xiv_diag</code> command does not remove a temporary directory that it creates.
HA-18046*	Fixed: Erroneous text message prompted by the <code>xiv_attach</code> command.

Ticket ID	Description
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" instead of the actual volume 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-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-62263*	Fixed: Entering an invalid username or password results in a wrong error message.
* Applies to all supported operating systems.	

Version 1.5.2 (April 2010)

Version 1.5.2 included the following enhancements, changes, and fixes.

Ticket ID	Description
HA-9887*	<p>Enhancement: Additions and changes to the xiv_devlist command.</p> <ul style="list-style-type: none"> Added command-line arguments: <ul style="list-style-type: none"> -t xml provides a new XML output format --hex changes the machine ID from decimal to hexadecimal base -o adds all available fields to the table --xiv 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. Alternatively, 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-13124	Fixed: During installation, the <code>disk.fcp.2810</code> package is not automatically upgraded by the <code>install.sh</code> script.
HA-11339	Fixed: The xiv_devlist tool does not sort the devices numerically in the output table.
HA-100192	Fixed: The xiv_devlist command crashes when previously detected XIV devices are removed.
HA-100197	Fixed: xiv_devlist command shows malfunctioned disks.
HA-100202	Fixed: xiv_devlist creates a data directory that is not automatically deleted when the process is completed.
* Applies to all supported operating systems.	

Known issues

This section details the known issues in version 2.0.0, along with possible workarounds (if workarounds are available).

Ticket ID	Description
HA-101673	<p>Non-updated AIX versions do not recognize the LUN0 controller on the XIV storage system, resulting in the following functionality limitations:</p> <ul style="list-style-type: none">• xiv_attach configures the host locally, without defining the host on the XIV storage system.• xiv_fc_admin -L returns an empty list.• xiv_syslist returns the message: No LUN0 XIV devices were detected. <p>To completely resolve this issue, install the latest AIX service pack that matches your HAK-supported AIX version and TL.</p> <p>You can obtain the latest service pack from the IBM Fix Central website (www.ibm.com/support/fixcentral).</p>
HA-100800	<p>Mapping the LUN0 volume causes errors.</p> <p>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.</p> <p>Accordingly, mapping the LUN0 volume is not recommended.</p>
HA-17383	<p>AIX with native XIV ODM does not support SCSI-persistent reservations. Upgrading to a release of AIX that has native ODM results in SCSI reservation problems in clusters.</p> <p>To resolve this issue, add the correct ODM entries into the native AIX ODM.</p> <p>For AIX 6.1, AIX 7.1, and VIOS users, to completely resolve this issue, install the latest AIX service pack that matches your HAK-supported AIX version and TL. You can obtain the latest service pack from the IBM Fix Central website (www.ibm.com/support/fixcentral).</p>
HA-19873	<p>When using xiv_devlist, a volume that is reserved by another host appears as an unreachable device.</p> <p>Currently there is no workaround for this limitation (HA-19873).</p>
HA-28242	<p>The cfgmgr and rescan options may display a message stating that the devices.fcp array package is not found.</p> <p>If you receive this message, map the LUN0 volume and then retry the command. Return to the working volumes afterwards.</p>

Ticket ID	Description
HA-101034	<p>After a volume is remapped to a different logical unit number (LUN), xiv_devlist erroneously displays double the amount of available paths for the volume.</p> <p>Currently there is no workaround for this limitation (HA-101034).</p>
HA-209680	<p>When using the Veritas multipathing framework, xiv_devlist displays the native device names of newly mapped volumes.</p> <p>To resolve this issue, run the Veritas device rescan command: vxdctl enable</p>
HA-230326	<p>If the OS boots from SAN and volumes are mapped to the host, running xiv_devlist after an FC target (WWPN) or its initiator is removed from the FC zoning causes the host to hang.</p> <p>Currently there is no workaround for this limitation (HA-230326).</p>
HA-247046	<p>On AIX 7.1, the HAK installation takes more than 2 minutes to complete.</p> <p>Currently there is no workaround for this limitation (HA-247046).</p>
HA-255321	<p>After running xiv_fc_admin -R or xiv_iscsi_admin -R, LUN0 devices that are no longer connected to the host still appear registered in the operating system.</p> <p>Currently there is no workaround for this limitation (HA-255321).</p>

Related information and publications

You can find additional information and publications related to the IBM XIV Host Attachment Kit for AIX on the following websites.

- IBM Storage Host Software Solutions Information Center (publib.boulder.ibm.com/infocenter/strhosts/ic/index.jsp)
- IBM XIV Storage System Information Center (publib.boulder.ibm.com/infocenter/ibmxiv/r2)
- IBM Power Systems software website for AIX (www.ibm.com/systems/power/software/aix)
- IBM System p website (www.ibm.com/systems/p)

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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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