

IBM XIV Host Attachment Kit for AIX
Version 2.4.0

Release Notes



First Edition (March 2015)

This edition applies to version 2.4.0 of the IBM XIV Host Attachment Kit for AIX software package. Newer document editions may be issued for the same version in order to add missing information or amend typographical errors. The edition is reset to "First Edition" for every newly released 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 2.4.0. For information about the compatibility and requirements of a previous Host Attachment Kit version, refer to its relevant release notes.

Supported AIX versions

Version 2.4.0 of the IBM XIV Host Attachment Kit for AIX is compatible with the following AIX versions and editions.

Operating system	Edition	Architecture	Compatibility note
AIX 6.1	TL00, TL01, TL02, TL03, TL04, TL05, TL06, TL07, TL08, TL09	IBM System p®, IBM Power Systems™	<ul style="list-style-type: none">• TL04 requires one of the following:<ul style="list-style-type: none">– Provided eFix*– Service Pack 2• The latest AIX service packs resolve all limited functionality issues. For more information, see HA-101673 and HA-261107 in “Known issues” on page 7.
AIX 7.1	TL00, TL01, TL02, TL03	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 and HA-261107 in “Known issues” on page 7.

Operating system	Edition	Architecture	Compatibility note
* You can download all AIX eFixes from the following FTP address: ftp://ftp.software.ibm.com/aix/efixes			

Note: AIX 5.x is no longer supported.

Supported storage systems

Version 2.4.0 of the IBM XIV Host Attachment Kit for AIX supports different XIV microcode versions, as listed in the following table.

Storage system	Microcode version
IBM XIV Storage System	10.2.4.x
	11.0.x, 11.1.x, 11.2.x, 11.3.x, 11.4.x, 11.5.0, 11.5.1

Note: Newer microcode versions may also be compatible. When a newer XIV microcode version becomes available, refer to the latest XIV storage system release notes. 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 (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, 5.1, or 6.x (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 Enterprise Technical Support website(www.symantec.com/business/support/index?page=home).
 - Using more than one multipath I/O framework on the same host is not supported.
-

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 (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 2.4.0 (March 2015)

Version 2.4.0 adds 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 <code>--list (-L)</code> command option can be used with <code>xiv_diag</code> to display information that is to be gathered by the utility. For more information, refer to the user guide.
HA-261277	Enhancement: The <code>--clean</code> command option can be used with <code>xiv_fc_admin --rescan</code> to remove unreachable devices from the host. 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. For more information, refer to the user guide.
HA-261223*	Fixed: A general error message appears when running <code>xiv_attach</code> , <code>xiv_fc_admin</code> , or <code>xiv_iscsi_admin</code> 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-261142*	Enhancement: The Host Profiler utility (<code>xiv_host_profiler</code>) can now detect the microcode versions of the XIV systems to which the host is connected. In addition, users can use the <code>--xiv-microcode</code> option with the <code>--analyze</code> command argument in order to run the host profile analysis against a specific microcode version.
HA-261227	Fixed: Scheduled tasks that are set with <code>xiv_host_profiler</code> or <code>xiv_attach</code> 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 <code>xiv_devlist</code> , <code>xiv_attach</code> , or <code>xiv_fc_admin</code> is used when the online volume migration (IBM Hyper-Scale Mobility feature) is in Proxy state.
HA-261181*	Change: In the <code>xiv_devlist</code> 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 XIV microcode and for the IBM Hyper-Scale Mobility (online volume migration) feature. It also adds support for:

- AIX 6.1 TL08
- AIX 7.1 TL02

Additional changes in version 2.1.0:

Ticket ID	Description
HA-231357*	Enhancement: The <code>--no-headers</code> argument can be used with the <code>xiv_devlist -t csv</code> and <code>xiv_syslist -t csv</code> commands to generate CSV output without column headers.
HA-253044*	Enhancement: An additional step in the <code>xiv_attach</code> procedure allows scheduling a task for running the Host Profiler utility on the host. For more information, refer to the user guide.

Ticket ID	Description
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.
HA-258593	Fixed: On AIX 7.1, xiv_host_profiler and xiv_syslist might exit with error messages when running with IBM Logical Partition (LPAR).
HA-258691	Fixed: On AIX 7.1, xiv_host_profiler and xiv_syslist might exit with error messages when NPIV is used on the host.
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 and fixes.

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.
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: xiv_syslist 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: man xiv_attach man xiv_fc_admin man xiv_syslist man xiv_devlist man xiv_diag

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.

Known issues

This section details the known issues in version 2.4.0 of the IBM XIV Host Attachment Kit for AIX, along with possible solutions or workarounds (if available).

Ticket ID	Description
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 (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 or solution for this limitation (HA-19873).</p>
HA-28242	<p>The cfgmgr and rescan options may display a message stating that the <code>devices.fcp</code> 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>
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-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 or solution for this limitation (HA-101034).</p>

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 (ibm.com/support/fixcentral).</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 or solution 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 or solution 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 or solution for this limitation (HA-255321).</p>
HA-258884	<p>xiv_syslist might provide an incomplete list of connected XIV systems and their FC targets. In addition, xiv_host_profiler might provide incorrect information regarding connectivity to XIV FC modules.</p> <p>Workaround: Upgrade to the latest TL and install the relevant APAR (www.ibm.com/support/docview.wss?uid=isglfixinfo146689).</p>

Ticket ID	Description
HA-261107	<p>The AIX operating system might hang due to incorrect SCSI information.</p> <p>Workaround: To avoid this problem, make sure that the APAR is installed according to the AIX operating system version.</p> <p>AIX 7.1 TL1 - IZ99643 AIX 7.1 - IV06055 AIX 6.1 TL7 - IZ99455 AIX 6.1 TL6 - IV04977 AIX 6.1 TL5 - IV05271 AIX 6.1 TL4 - IV05645</p> <p>For more information about APAR, see the APAR Explained technote page (ibm.com/support/docview.wss?uid=swg21424131).</p>
HA-261134	<p>Upgrading to a minor HAK version (for example, 2.x.x.x), the installation fails silently without any indication.</p> <p>To avoid this problem, uninstall the existing version before installing the minor version.</p>
HA-261175	<p>In some cases, the Host Profiler report displays detected HBA models in a format that is different than the format used in the IBM System Storage Interoperation Center (SSIC) website (ibm.com/systems/support/storage/config/ssic). This may result in incorrect host analysis results.</p> <p>In such a case, consult with an IBM Support representative regarding the erroneous host analysis.</p> <p>Currently there is no workaround or solution for this issue (HA-261175).</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 (pic.dhe.ibm.com/infocenter/strhosts/ic)
- IBM XIV Storage System Information Center (pic.dhe.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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