

IBM XIV Host Attachment Kit for Windows
Version 2.4.0

Release Notes



First Edition (March 2015)

This document edition applies to version 2.4.0 of the IBM XIV Host Attachment Kit for Windows 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.

© **Copyright IBM Corporation 2009, 2015.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Overview	1
Compatibility and requirements	1
Supported Windows Server versions	1
Supported storage systems	1
Supported HBAs	2
Supported multipath I/O solutions	2
Required software on the host	2
Change log	4
Version 2.4.0 (March 2015)	4
Version 2.3.0 (August 2014)	4
Version 2.2.0 (November 2013)	4
Version 2.1.0.1 (August 2013)	5
Version 2.1.0 (June 2013)	5
Version 2.0.0 (March 2013)	6
Version 1.10.0 (September 2012)	6
Version 1.9.0 (June 2012)	7
Version 1.8.0 (March 2012)	7
Known issues	8
Related information and publications	9
Getting information, help, and service	10
Notices	11
Trademarks	13

Overview

The IBM® XIV® Host Attachment Kit (HAK) for Windows is a software pack that simplifies the task of connecting a Microsoft Windows Server 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 Windows is compatible with different versions of the Windows Server 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 Windows Server versions

The IBM XIV Host Attachment Kit for Windows supports different Windows Server versions, service packs, or editions, as listed in the following table.

Operating system	Service Pack	Architecture
Microsoft Windows Server 2008	SP1, SP2	x86, x64
Microsoft Windows Server 2008 R2	None, SP1	x64
Microsoft Windows Server 2012	None	x64
Microsoft Windows Server 2012 R2	None	x64

Note:

- Microsoft Windows Server 2003 is no longer supported.
 - See "Required software on the host" on page 2 for information about required OS updates.
-

Supported storage systems

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

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

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 Windows 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).

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.

Important: For iSCSI connectivity, only iSCSI software initiators are supported. Hardware iSCSI HBAs are not supported.

Supported multipath I/O solutions

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

- Native multipath I/O (MPIO) and Microsoft DSM (MSDSM); installed from the Server Manager.
- Veritas Dynamic Multipathing (DMP) 5.0 and 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 Windows and depending on the installed Windows Server version, specific operating system updates must be installed on the host.

These updates are required for error-free functionality. The following table lists the required and automatically installed hotfixes in each case.

Important:

- The following table contains information that is known at the time of the General Availability (GA) date. Newer or additional hotfixes may be required in distinct cases or in particular production environments. Contact IBM XIV Support if you encounter errors or difficulties.
 - Although the Host Attachment Kit automatically installs certain Microsoft hotfixes for Windows Server, you should always ensure that the most updated and relevant hotfixes are installed manually in addition to the bundled hotfixes. You can find any relevant hotfix and download it from the Microsoft Support website (support.microsoft.com).
 - Always refer to the Microsoft documentation (KB article) of any hotfix or set of hotfixes that your system requires.
-

Operating system	Service pack	Required components that must be installed manually	Automatically installed
Windows Server 2008	Service Pack 1 or later	<ul style="list-style-type: none"> • Microsoft Multipath I/O Framework (enable from the Server Manager applet). • Microsoft Hotfix set* KB957311 (support.microsoft.com/kb/957311) if Windows Clustering is used. 	<ul style="list-style-type: none"> • Microsoft Hotfix KB979743 (support.microsoft.com/kb/979743) • Microsoft Hotfix KB981379 (support.microsoft.com/kb/981379) • Microsoft Hotfix KB983554 (support.microsoft.com/kb/983554) • Microsoft Hotfix KB2522766 (support.microsoft.com/kb/2522766)
Windows Server 2008 R2	None	<ul style="list-style-type: none"> • Microsoft Multipath I/O Framework (enable from the Server Manager applet). • Microsoft Hotfix set* KB980054 (support.microsoft.com/kb/980054) if Windows Clustering is used. 	<ul style="list-style-type: none"> • Microsoft Hotfix KB979711 (support.microsoft.com/kb/979711) • Microsoft Hotfix KB981208 (support.microsoft.com/kb/981208) • Microsoft Hotfix KB2460971 (support.microsoft.com/kb/2460971) • Microsoft Hotfix KB2522766 (support.microsoft.com/kb/2522766)
	Service Pack 1	<ul style="list-style-type: none"> • Microsoft Hotfix set* KB2468345 (support.microsoft.com/kb/2468345) • Microsoft Hotfix set* KB2545685 (support.microsoft.com/kb/2545685) if Windows Clustering is used. 	<ul style="list-style-type: none"> • Microsoft Hotfix KB2460971 (support.microsoft.com/kb/2460971) • Microsoft Hotfix KB2522766 (support.microsoft.com/kb/2522766)
Windows Server 2012	None	<ul style="list-style-type: none"> • Microsoft Hotfix KB2898774 (support.microsoft.com/kb/2898774) if Windows Clustering is used. 	None
Windows Server 2012 R2	None	None	None

* Includes more than one hotfix. Refer to the Microsoft KB article on the provided link.

Note: Refer to “Known issues” on page 8 for information about any additional Microsoft Hotfix that you may need to install in order to solve any specific issue that you might encounter.

Change log

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

Version 2.4.0 (March 2015)

Version 2.4.0 adds support for XIV microcode version 11.5.1 and IBM Spectrum Accelerate 11.5.0.b.

Ticket ID	Description
HA-261509	Enhancement: This new feature allows the host administrator to automatically discover and connect to new, already-attached iSCSI ports. For more information, refer to the user guide.

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-261361*	Enhancement: Added support for the XIV multi-tenancy feature, allowing host attachment to 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-248145	Fixed: On Windows Server 2012, <code>Pythonwin.exe</code> (bundled in the HAK package for Windows) may record Side-by-Side events in the event log. These events have no effect on system functionality.
HA-253089	Fixed: After upgrading from HAK version 1.5.x to version 1.10.0 or later, the newer <code>xiv_attach</code> utility might fail in the 'Verifying XIV MPI0 Load Balancing' configuration task.
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 for Windows Server 2012 R2.

Version 2.2.0 also included the following enhancement and fixes.

Ticket ID	Description
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-253188	Fixed: xiv_diag might fail to gather cluster reports on non-English Windows Server cluster nodes.
HA-255825	Fixed: Uploading the host profile to the XIV storage system over an iSCSI connection fails silently when the host HBA FC ports are zoned but not registered with the FC targets of that XIV system.
HA-261160	Fixed: During the installation and configuration of the Windows MPIO feature, if the host is shut down or restarted in an unordered manner, xiv_attach , xiv_fc_admin , and xiv_iscsi_admin later fail and exit with an error message.

* 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 , xiv_fc_admin , or xiv_iscsi_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 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.

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-258614	Fixed: In some cases, xiv_syslist might exit with the error message: HBA API Library found no adapters.
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-242098	Fixed: In some rare cases, HAK utilities might crash with a <code>pywintypes.error</code> error message.
HA-249721	Fixed: xiv_syslist might not detect all FC connections to an XIV system if the default FC initiator port number has been modified on that XIV system.
HA-250135	Fixed: xiv_diag might fail when collecting the list of all installed Windows hotfixes if a large number of Windows updates are installed on the host.

* Applies to all supported operating systems.

Version 1.10.0 (September 2012)

Version 1.10.0 added support for Microsoft Windows Server 2012, and includes the following enhancements and fixes.

Ticket ID	Description
HA-239303	Enhancement: The HAK installer for Windows allows you to select Japanese as the language of the installation wizard.
HA-236858*	Fixed: xiv_devlist does not display the correct size of volumes that are larger than 2.2 TB.

Ticket ID	Description
* 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-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.
HA-233433*	Fixed: In some cases, <code>xiv_syslist</code> may fail with a general error prompt (ValueError exception).
HA-233781	Fixed: After upgrading the HAK, <code>xiv_detach</code> fails and returns an error message: Unable to uninstall the LUN0 driver. The Windows Installer return code is 1605.

* Applies to all supported operating systems.

Version 1.8.0 (March 2012)

Version 1.8.0 included the following enhancements, changes, and fixes.

Ticket ID	Description
HA-179589*	<p>Enhancement: A new utility, <code>xiv_syslist</code>, has been added to the IBM XIV Host Attachment Kit in order to provide broader and more customized information than the output of the <code>xiv_fc_admin -L</code> and <code>xiv_iscsi_admin -L</code> commands.</p> <p>Using the <code>xiv_syslist</code> command and its optional arguments, users can view different details of all XIV storage systems that are connected to the host. For more information, refer to the IBM XIV Host Attachment Guide.</p>
HA-172829	<p>Change: Microsoft Hotfix KB2522766 (see “Required software on the host” on page 2) is now automatically installed on Windows Server 2008 or Windows Server 2008 R2 when running <code>xiv_attach</code> for the first time on the host.</p> <p>Attention: The installation of the KB2522766 hotfix may require a reboot.</p>
HA-163115	Change: <code>xiv_attach</code> , <code>xiv_fc_admin</code> , and <code>xiv_iscsi_admin</code> now provide a warning and then exit when the minimal operating system or service pack version requirements are not met. For more information about these requirements, refer to “Compatibility and requirements” on page 1.
HA-168483	Fixed: <code>xiv_attach</code> or <code>xiv_detach</code> may crash if the <code>PATH</code> variable is longer than 380 characters.
HA-169980	Fixed: On Windows Server 2008 and Windows Server 2008 R2, <code>xiv_diag</code> does not retrieve the installed Microsoft hotfixes list.

Ticket ID	Description
HA-170632	Fixed: If the portable HAK is extracted to the Windows desktop, its path might be too long.
HA-198356	Fixed: xiv_attach may crash when the ProductName registry key under HKCR\installer\products does not contain a value.
* Applies to all supported operating systems.	

Known issues

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

Ticket ID	Description
HA-6459	<p>When using the VMware Raw Device Mapping (RDM), xiv_devlist and the multipath management agent erroneously report that Windows has only one path to the disk.</p> <p>Currently there is no workaround or solution for this limitation.</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-100946	<p>When running xiv_attach, xiv_fc_admin, or xiv_iscsi_admin for the first and second time (during the initial host configuration) on x64-based Windows Server 2008, two reboots are required.</p> <p>This occurs due to the automatic installation of two Microsoft hotfixes.</p> <p>Currently there is no workaround or solution for this limitation.</p>
HA-163121	<p>An error occurs when using the \h (help) argument with the HAK installation command in the Windows command prompt.</p> <p>Currently there is no workaround or solution for this limitation.</p>

Ticket ID	Description
HA-213964	<p>When using the HAK from Windows PowerShell, the -o command argument (used with xiv_devlist and xiv_syslist) does not work with more than one parameter.</p> <p>To avoid this issue, use single quotes to enclose all the parameter names. For example: <code>xiv_devlist -o 'device,size'</code></p>
HA-235121	<p>When xiv_devlist is run immediately after xiv_fc_admin -R or xiv_iscsi_admin -R, the devices list might report "N/A" as the size of some devices. This occurs due to a delay limitation in Windows Server.</p> <p>To resolve this issue, wait a few seconds before running xiv_devlist.</p>
HA-254647	<p>If version 1.0.2.1 of the IBM Storage Enabler for Windows Failover Clustering is installed on the host, the Host Profiler utility (xiv_host_profiler) returns a value of 0.0.0 as the version number.</p> <p>Note: This does not affect the functionality of the IBM Storage Enabler for Windows Failover Clustering, and no other erroneous information is returned by the Host Profiler utility.</p> <p>Currently there is no workaround or solution for this issue.</p>
HA-261228	<p>xiv_devlist does not show a volume that is mapped to LUN 255.</p> <p>To avoid this issue, do not map any volume to LUN 255.</p>
HA-261447	<p>If you upgrade the software from version 2.1.0.1 to any later version, a duplicate entry is left in the "Program and Features" list in the Windows Control Panel. This behavior does not affect the HAK functionality.</p> <p>Workaround: After upgrading from version 2.1.0.1 and determining that the new version is functioning correctly, uninstall version 2.1.0.1.</p>

Related information and publications

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

- IBM Storage Host Software Solutions Information Center (publib.boulder.ibm.com/infocenter/strhosts/ic)
- IBM XIV Storage System Information Center (publib.boulder.ibm.com/infocenter/ibmxiv/r2)
- Microsoft TechNet website for Windows Server (technet.microsoft.com/en-us/windowsserver)
- Microsoft Windows Server TechCenter (technet.microsoft.com/en-us/library/bb625087.aspx)
- Microsoft TechNet overview page for Multipath I/O (MPIO) (technet.microsoft.com/en-us/library/cc725907.aspx)

Getting information, help, and service

If you need help, service, technical assistance, or want more information about IBM products, you can find various sources to assist you. You can view the following websites to get information about IBM products and services and to find the latest technical information and support.

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

Notices

These legal notices pertain to IBM Storage Host Software Solutions product documentation.

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

*IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.*

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

*Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan*

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

*IBM Corporation
Attn: Office of Legal Counsel
650 Harry Road
San Jose, CA 95120-6099
U.S.A.*

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Copyright and trademark information website (www.ibm.com/legal/us/en/copytrade.shtml).

Microsoft, Windows Server, Windows, and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States, other countries, or both.

Veritas is a trademark or registered trademark of Symantec Corporation in the United States and other countries.

Other product and service names might be trademarks of IBM or other companies.



Printed in USA