

IBM XIV Provider for Microsoft Windows Volume Shadow  
Copy Service  
Version 2.6.0.1

*Release Notes*



**Second Edition (March 2015)**

This edition applies to version 2.6.0.1 of the IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service 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® Provider for Microsoft Windows Volume Shadow Copy Service (VSS) is a software module that runs as a service on Microsoft Windows Server and automatically creates snapshots of Windows-based or VMware-based applications.

The module uses the Windows Server VSS framework for its management interface, and the IBM XIV Storage System as the storage system on which snapshot data is stored and maintained.

You can download the IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service software package at any time from the IBM Fix Central website ([www.ibm.com/support/fixcentral](http://www.ibm.com/support/fixcentral)).

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## Compatibility and requirements

This section specifies the compatibility and requirements of version 2.6.0.1 of the IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service.

### Supported Windows Server versions

The IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service is compatible with different versions of Microsoft Windows Server, as detailed 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

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#### Important:

- Microsoft .NET Framework 3.5 must be installed on Windows Server 2012 and Windows Server 2012 R2.
  - Microsoft .NET Framework 2.0 or later must be installed on any of the other supported Windows Server versions.
  - Microsoft Windows Hyper-V host operating system (OS) supports Windows Server 2012 and later.
  - Windows Hyper-V guest OS supports Windows Server 2008 and later.
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### Supported VMware platforms

The IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service supports different VMware platforms, as detailed in the following table.

VMware platform	Version
ESXi	5.0, 5.1, 5.5
vCenter Server	5.0, 5.1, 5.5

## Supported storage systems

The IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service supports different IBM storage systems, 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.x, 11.3.x, 11.4.x, 11.5.x
IBM Spectrum Accelerate	11.5.0.b

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**Note:** A snapshot will not be created if the free snapshot space is less than or equal to 17 GB.

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## Change log

This section summarizes the changes made in different version releases of the IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service.

### Version 2.6.0.1 (March 2015)

Version 2.6.0.1 adds support for IBM Spectrum™ Accelerate storage system deployments and introduces the following changes.

Ticket ID	Description
VSSP-261094	<b>Enhancement:</b> Allows the XIV storage system to be managed by more than three nodes.
VSSP-261101	<b>Fixed:</b> Vulnerability in version 3 of the SSL encryption protocol allows an attacker to read information encrypted with this version of the protocol in plain text using a Man-in-the-Middle (MITM) attack.

### Version 2.6.0 (September 2014)

Version 2.6.0 added support for version 11.5.0 of the XIV microcode.

Additional enhancements in version 2.6.0:

Ticket ID	Description
VSSP-261054	<b>Enhancement:</b> Added support for the Hyper-V/MSFC Environment.
VSSP-261059	<b>Enhancement:</b> Added support for 3-way mirroring with the XIV Proxy LUN feature.
VSSP-261064	<b>Enhancement:</b> Added support for the XIV multi-tenancy feature.
VSSP-261065	<b>Enhancement:</b> In a VMware ESXi RDM environment, the user can configure a Soap timeout in the configuration file or in the MachinePoolCLI.exe file.

## Version 2.5.0 (December 2013)

Version 2.5.0 added support for version 11.4.0 of the XIV microcode, as well as for VMware vSphere 5.5 and Microsoft Windows Server 2012 R2.

Additional changes in version 2.5.0:

Ticket ID	Description
VSSP-261036	<b>Fixed:</b> When a volume is in the proxy phase and the destination pool name is different than the source pool name, the VSS provider cannot create a snapshot of that volume.

## Version 2.4.0 (June 2013)

Version 2.4.0 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 2.4.0:

Ticket ID	Description
VSSP-208026	<b>Enhancement:</b> The XIV Proxy LUN feature is now supported, allowing volumes to be mirrored in proxy state.
VSSP-240823	<b>Enhancement:</b> Replicated snapshots can now be enabled from the Machine Pool Editor GUI.
VSSP-240824	<b>Change:</b> The term <i>Replicated Snapshots</i> has been renamed to <i>Mirrored Snapshots</i> , in line with the XIV mirroring terminology.
VSSP-240826	<b>Change:</b> If incorrect parameters are entered upon the first configuration try, another configuration try is now allowed (the configuration interface no longer automatically closes upon incorrect data entry).
VSSP-256652	<b>Fixed:</b> Deleting old VSS Provider log files causes the following error to appear in the Windows event log: Unable to delete older log file, error code: 2
VSSP-261027	<b>Fixed:</b> On x64-based Windows Server 2003, snapshot creation fails on drive C.

## Version 2.3.2.2 (April 2013)

Version 2.3.2.2 resolved the following issue.

Ticket ID	Description
VSSP-258713	<b>Fixed:</b> If vCenter Server is installed on a non-English version of Windows Server, a redundant SCSI controller might be created for each target volume that is mapped as RDM.

## Version 2.3.2.1 (March 2013)

Version 2.3.2.1 resolved the following issue.

Ticket ID	Description
VSSP-253383	<b>Fixed:</b> The IBM XIV Provider installation fails on the French version of Windows Server 2008 R2.

## Version 2.3.2 (September 2012)

Version 2.3.2 added support for the Microsoft Windows Server 2012 operating system and the VMware vSphere 5.0 and 5.1 platforms.

Additional changes in version 2.3.2:

Ticket ID	Description
VSSP-12575	<b>Enhancement:</b> The installation wizard is now InstallShield based.
VSSP-166521	<b>Fixed:</b> The Delete Snapshot operation fails with "Cannot find SCSI LUN on VMware ESX host" error and leaves behind snapshots on the IBM XIV Storage System.
VSSP-170968	<b>Fixed:</b> The installation fails if the name of the admin group is changed prior to the installation.

## Version 2.3.1 (September 2011)

Version 2.3.1 added support for version 11.0 of the IBM XIV Storage System microcode.

## Version 2.3.0 (August 2011)

Version 2.3.0 introduced support for the VMware vCenter and ESX server platforms, allowing snapshot creation of VMware-based applications.

Additional changes in version 2.3.0:

Ticket ID	Description
VSSP-23996	<b>Enhancement:</b> The VSS Provider can create hardware snapshots of Raw Device Mapping (RDM) volumes when running on a guest operating system in a VMware environment.
VSSP-20390	<b>Fixed:</b> The user password is visible in the debug log.
VSSP-42574	<b>Fixed:</b> Mirror snapshot does not work with XIV microcode 10.2.4.
VSSP-64305	<b>Fixed:</b> The VSS Provider setup cannot create snapshots of dynamic disks.
VSSP-65656	<b>Fixed:</b> The VSS Provider does not work on non-English versions of Windows.
VSSP-104010	<b>Fixed:</b> The Machine Pool Editor cannot enable replicated snapshots.



## Version 2.2.4 (January 2011)

Version 2.2.4 introduced support for VSS replicated snapshots. For more information about this feature, refer to the user guide.

## Version 2.2.3 (March 2010)

Version 2.2.3 included the following changes.

Ticket ID	Description
VSSP-6691	<b>Enhancement:</b> A command-line interface (CLI) has been added for configuring XIV systems.
VSSP-14987	<b>Fixed:</b> FlashCopy® Management (FCM) Instant Restore is not working properly.
VSSP-15056	<b>Fixed:</b> The <b>Validate</b> option in the Machine Pool Editor GUI does not validate storage system data.

## Version 2.2.2 (November 2009)

Version 2.2.2 included the following changes.

Ticket ID	Description
VSSP-141612	<b>Enhancement:</b> Communication with the XIV storage array has been optimized.  VSS operations involving communication with the storage array are completed in a shorter amount of time.
VSSP-3658	<b>Enhancement:</b> Snapshots can be mapped to a single host in a cluster environment.  Starting from XIV microcode 10.2.0, snapshots can be mapped to a single host. This means that even if the host is defined in a cluster, the VSS <b>import</b> operation unmarks the LUNs to the specific host.
VSSP-5445	<b>Enhancement:</b> Added support for volume (LUN) resynchronization on Windows Server 2008 R2.  The VSS <b>resync</b> operation, which allows restoration of volumes from their snapshots, is now available when working on Windows Server 2008 R2.
VSSP-6093	<b>Enhancement:</b> The VSS Provider verifies that sufficient space is available in the storage pool during the Prepare phase.  The minimum required space is $17 \times (\text{number of snapshots to create} + 1)$ .
VSSP-8418	<b>Fixed:</b> Missing notification when a snapshot is deleted due to insufficient space in the pool.
VSSP-8424	<b>Fixed:</b> VSS snapshot operation fails when using shadow sets that contain more than five volumes.

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## Known issues

This section details the known issues in version 2.6.0.1, along with possible workarounds (if workarounds are available).

Ticket ID	Description
VSSP-6698	<p>Warning message about storage identifiers that are not supported on Windows Server 2008.</p> <p>The following warning message is displayed for storage systems that support TPGS: The provider has reported a storage identifier that is not supported by VSS.</p> <p>This warning message does not affect the normal operation of VSS and you can ignore it. For more information, refer to the relevant Microsoft Support website (<a href="http://support.microsoft.com/kb/951793">support.microsoft.com/kb/951793</a>)</p>
VSSP-8889	<p>Shadow set creation may fail on Windows Server 2008 R2 after LUN resynchronization.</p> <p>Shadow sets creation may fail after performing LUN resynchronization on Windows Server 2008 R2. This is a known Microsoft VSS issue.</p> <p>Until Microsoft releases a KB hotfix, you must restart the VSS service after each LUN resynchronization.</p>
VSSP-9928	<p>Shadow copies that contain dynamic disks must be moved to a different host.</p> <p>The native support for dynamic disks cannot accommodate LUNs with duplicate signatures and configuration database contents. The shadow copy LUNs must be transported to a different host, while the VSS enforces this by not allowing auto-import shadow copies of dynamic disks.</p> <p>Accordingly, transportable shadow copies should not be imported back to the same host. For more information, see the following Microsoft MSDN website (<a href="http://msdn.microsoft.com/en-us/library/aa384600.aspx">msdn.microsoft.com/en-us/library/aa384600.aspx</a>).</p>
VSSP-17662	<p>The VSS operation may fail during import on Windows 7 and Windows Server 2008 R2.</p> <p>A timeout may occur in the VSS process during an import of a shadow set. As a result, one or more snapshots may be missing from the system after a rescan, even if they are mapped to the host by the XIV system. The Microsoft hotfix 977096 (<a href="http://support.microsoft.com/kb/977096">support.microsoft.com/kb/977096</a>) resolves this issue:</p> <p>This issue was fixed in Windows Server 2008 R2 Service Pack 1.</p>

Ticket ID	Description
VSSP-64302	<p data-bbox="695 222 1455 317">An exception occurs when trying to repair a working VSS Provider installation via the Repair option of the installation wizard.</p> <p data-bbox="695 344 943 373">To resolve this issue:</p> <ol data-bbox="695 386 1455 768" style="list-style-type: none"> <li data-bbox="695 386 1455 449">1. Go to <b>Control Panel &gt; Programs and Features &gt; Add or Remove Programs</b>.</li> <li data-bbox="695 457 1455 583">2. Select the IBM XIV Provider entry and then click <b>Uninstall</b> or <b>Remove</b>. The uninstallation begins. <b>Note:</b> During the uninstallation, ignore any exception error message.</li> <li data-bbox="695 592 1455 655">3. After the uninstallation is complete, the IBM XIV Provider entry continues to appear in the list of installed programs.</li> <li data-bbox="695 663 1455 726">4. Select the IBM XIV Provider entry and then click <b>Repair or Change &gt; Repair</b></li> <li data-bbox="695 735 1455 768">5. Follow the Repair wizard until the repair is complete.</li> </ol>
VSSP-84189	<p data-bbox="695 779 1455 873">On VMware ESX servers, the VSS Provider does not rescan for Host Bus Adapters (HBAs) after unmapping Raw Device Mappings (RDMs).</p> <p data-bbox="695 900 1455 1031">Because the unmapping of RDMs is performed in single mode, manually re-scanning for the HBAs of every single unmapped RDM is a time consuming procedure during which the VSS service may be timed out.</p> <p data-bbox="695 1058 1455 1121">To save time, wait for the VMware ESX server to automatically rescan for the HBAs instead of re-scanning manually.</p>
VSSP-147364	<p data-bbox="695 1131 1455 1194">The VSS Provider DLL is left registered after an installation failure.</p> <p data-bbox="695 1222 1455 1316">When performing a rollback to an older version after an installation failure, the VSS Provider DLL may still be registered in DCOM.</p> <p data-bbox="695 1344 1094 1373">To remove the DLL from DCOM:</p> <ol data-bbox="695 1386 1455 1686" style="list-style-type: none"> <li data-bbox="695 1386 1455 1449">1. Click <b>Start &gt; Run</b> and type <b>dcomcnfg.exe</b> in the command box.</li> <li data-bbox="695 1457 1455 1520">2. Go to <b>Component Services &gt; Computers &gt; My Computer &gt; DCOM Config</b></li> <li data-bbox="695 1528 1455 1654">3. On the right pane, click the IBM XIV VSS Provider component, and then press <b>Delete</b> on the keyboard. A message box is displayed to confirm the deletion of the component.</li> <li data-bbox="695 1663 857 1686">4. Click <b>Yes</b>.</li> </ol>

Ticket ID	Description
VSSP-164293	<p>On some occasions, when running Windows Server 2003 or Windows Server 2008 as a guest operating system on a VMware platform connected to XIV version 11.0.0, importing a VSS hardware snapshot created on a RDM device results in a VSS enumeration issue.</p> <p>To avoid this issue or to resolve it upon occurrence, perform the following procedure before importing VSS hardware snapshots:</p> <ol style="list-style-type: none"> <li>1. Open the command prompt window.</li> <li>2. Enter: <b>net stop xProv</b></li> <li>3. Enter: <b>net stop vss</b></li> <li>4. Retry the import operation.</li> </ol>
VSSP-243718	<p>The VSS Provider cannot be installed in a directory that is named with anything other than English characters.</p> <p>Currently there is no workaround for this limitation.</p>
VSSP-258222	<p>The VSS Provider snapshot map parameter (<b>MapSnapshot</b>) in the Windows registry might get a wrong host name.</p> <p>This occurs due to low-case characters that Windows Server might record in the <b>DeviceIdentifierPage</b> registry parameter, located at:</p> <pre data-bbox="667 1031 1357 1125">HKEY_LOCAL_MACHINE\HARDWARE\DEVICEMAP\Scsi\Scsi Port 3\Scsi Bus 0\Target Id 0\Logical Unit Id 0\DeviceIdentifierPage</pre> <p>To resolve this issue, restart Windows.</p>
VSSP-259229	<p>The IBM XIV VSS Provider service (named "xProv") and the Microsoft VSS service must be restarted on the Windows Server host after the status of mirrored snapshots is changed from Disabled to Enabled.</p> <p>In such a case, without a service restart, snapshots are not created on mirrored volumes.</p> <p>Currently there is no workaround for this limitation.</p>
VSSP-261047	<p>The VSS provider cannot unmap a volume when the <code>unmap_vol_set_default_idle_time</code> setting on XIV 11.4.0 is not zero.</p> <p><b>Workaround:</b> Set <code>unmap_vol_set_default_idle_time</code> to zero (0) before deleting or masking a snapshot.</p>

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## Related information and publications

You can find additional information and publications related to the IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service on the following websites.

- IBM Knowledge Center

- IBM XIV Storage System Information Center ([publib.boulder.ibm.com/infocenter/ibmxiv/r2](http://publib.boulder.ibm.com/infocenter/ibmxiv/r2))
- Microsoft Windows Server troubleshooting center ([technet.microsoft.com/en-us/windowsserver](http://technet.microsoft.com/en-us/windowsserver))
- Microsoft MSDN web page for Volume Shadow Copy Service ([msdn.microsoft.com/en-us/library/bb968832.aspx](http://msdn.microsoft.com/en-us/library/bb968832.aspx))
- VMware ESXi and ESX Info Center ([www.vmware.com/products/esxi-and-esx/overview](http://www.vmware.com/products/esxi-and-esx/overview))
- VMware Product Support for VMware vSphere ([www.vmware.com/support/product-support/vsphere](http://www.vmware.com/support/product-support/vsphere))
- VMware knowledgebase ([kb.vmware.com](http://kb.vmware.com))

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- IBM Directory of Worldwide Contacts website ([www.ibm.com/planetwide](http://www.ibm.com/planetwide))



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