IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service

Version 2.8.0

Release Notes

First Edition (April 2016)

This edition applies to version 2.8.0 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).

Compatibility and requirements

This section specifies the compatibility and requirements of version 2.8.0 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

Important:

- Microsoft .NET Framework 4.5 must be installed on all supported Windows Server versions.
- Microsoft Windows Hyper-V host operating system (OS) supports Windows Server 2012 and later.
- Microsoft Windows Hyper-V guest OS supports Windows Server 2008 and later.

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, 6.0
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 FlashSystem A9000 and A9000R	12.0
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, 11.6.x
IBM Spectrum Accelerate	11.5.x

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

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 2.8.0 (April 2016)

Version 2.8.0 adds support for IBM FlashSystem A9000 and A9000R 12.0 as shown below.

Ticket ID	Description
VSSP-261132	**Enhancement:** Add support for IBM FlashSystem A9000 and A9000R 12.0.

Version 2.7.0.1 (September 2015)

Version 2.7.0.1 added support for IBM Spectrum Accelerate Storage System 11.5.1.c and resolved the following issues.

Ticket ID	Description
VSSP-261125	**Fixed:** IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service (VSS) lost connection to XIV after temporary network disconnection and recovery, and the connection could only be restored by restarting VSS and IBM XIV Provider.
VSSP-261126	**Fixed:** Snapshots mapped by IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service in a Hyper-V passthrough iSCSI environment were sometimes mapped to the wrong host, in cases where FC ports did not exist or were disabled. Now snapshots are mapped to the correct host, whether FC Ports are available or not.

Version 2.7.0 (June 2015)

Version 2.7.0 added support for IBM XIV Storage System 11.6.0 and introduced the following changes.

Ticket ID	Description
VSSP-261069	**Enhancement:** The service name for IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service is changed to "IBM XIV Provider for Microsoft Windows VSS," and the service description is changed to "IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service."
VSSP-261105	**Fixed:** InstallShield is upgraded to 2014.
VSSP-261109	**Enhancement:** Support for .NET Framework 4.5 is added.

Version 2.6.0.1 (March 2015)

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

Ticket ID	Description
VSSP-261094	**Enhancement:** Allows the XIV storage system to be managed by more than three nodes.
VSSP-261101	**Fixed:** 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	**Enhancement:** Added support for the Hyper-V/MSFC Environment.
VSSP-261059	**Enhancement:** Added support for 3-way mirroring with the XIV Proxy LUN feature.
VSSP-261064	**Enhancement:** Added support for the XIV multi-tenancy feature.
VSSP-261065	**Enhancement:** 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	**Fixed:** 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	**Enhancement:** The XIV Proxy LUN feature is now supported, allowing volumes to be mirrored in proxy state.
VSSP-240823	**Enhancement:** Replicated snapshots can now be enabled from the Machine Pool Editor GUI.
VSSP-240824	**Change:** The term *Replicated Snapshots* has been renamed to *Mirrored Snapshots*, in line with the XIV mirroring terminology.
VSSP-240826	**Change:** 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	**Fixed:** 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	**Fixed:** 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	**Fixed:** 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	**Fixed:** 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	**Enhancement:** The installation wizard is now InstallShield based.
VSSP-166521	**Fixed:** 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	**Fixed:** 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	**Enhancement:** 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	**Fixed:** The user password is visible in the debug log.
VSSP-42574	**Fixed:** Mirror snapshot does not work with XIV microcode 10.2.4.
VSSP-64305	**Fixed:** The VSS Provider setup cannot create snapshots of dynamic disks.
VSSP-65656	**Fixed:** The VSS Provider does not work on non-English versions of Windows.
VSSP-104010	**Fixed:** 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	**Enhancement:** A command-line interface (CLI) has been added for configuring XIV systems.

Ticket ID	Description
VSSP-14987	**Fixed:** FlashCopy® Management (FCM) Instant Restore is not working properly.
VSSP-15056	**Fixed:** The **`Validate`** 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	**Enhancement:** 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	**Enhancement:** 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 **`import`** operation unmasks the LUNs to the specific host.
VSSP-5445	**Enhancement:** Added support for volume (LUN) resynchronization on Windows Server 2008 R2. The VSS **`resync`** operation, which allows restoration of volumes from their snapshots, is now available when working on Windows Server 2008 R2.
VSSP-6093	**Enhancement:** The VSS Provider verifies that sufficient space is available in the storage pool during the Prepare phase. The minimum required space is 17 × (number of snapshots to create +1).
VSSP-8418	**Fixed:** Missing notification when a snapshot is deleted due to insufficient space in the pool.
VSSP-8424	**Fixed:** VSS snapshot operation fails when using shadow sets that contain more than five volumes.

Known issues

This section details the known issues in version 2.8.0, along with possible workarounds (if workarounds are available).

Ticket ID	Description
VSSP-6698	Warning message about storage identifiers that are not supported on Windows Server 2008. 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.` 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 (support.microsoft.com/kb/951793)
VSSP-8889	Shadow set creation may fail on Windows Server 2008 R2 after LUN resynchronization. Shadow sets creation may fail after performing LUN resynchronization on Windows Server 2008 R2. This is a known Microsoft VSS issue. Until Microsoft releases a KB hotfix, you must restart the VSS service after each LUN resynchronization.
VSSP-17662	The VSS operation may fail during import on Windows 7 and Windows Server 2008 R2. 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 (support.microsoft.com/kb/977096) resolves this issue: This issue was fixed in Windows Server 2008 R2 Service Pack 1.
VSSP-64302	An exception occurs when trying to repair a working VSS Provider installation via the Repair option of the installation wizard. To resolve this issue: 1. Go to **Control Panel** > **Programs and Features** > **Add or Remove Programs**. 2. Select the IBM XIV Provider entry and then click **Uninstall** or **Remove**. The uninstallation begins. **Note:** During the uninstallation, ignore any exception error message. 3. After the uninstallation is complete, the IBM XIV Provider entry continues to appear in the list of installed programs. 4. Select the IBM XIV Provider entry and then click **Repair or Change** > **Repair** 5. Follow the Repair wizard until the repair is complete.

Ticket ID	Description
VSSP-84189	On VMware ESX servers, the VSS Provider does not rescan for Host Bus Adapters (HBAs) after unmapping Raw Device Mappings (RDMs). 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. To save time, wait for the VMware ESX server to automatically rescan for the HBAs instead of re-scanning manually.
VSSP-147364	The VSS Provider DLL is left registered after an installation failure. When performing a rollback to an older version after an installation failure, the VSS Provider DLL may still be registered in DCOM. To remove the DLL from DCOM: 1. Click **Start** > **Run** and type **dcomcnfg.exe** in the command box. 2. Go to **Component Services** > **Computers** > **My Computer** > **DCOM Config** 3. On the right pane, click the IBM XIV VSS Provider component, and then press **Delete** on the keyboard. A message box is displayed to confirm the deletion of the component. 4. Click **Yes**.
VSSP-164293	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. To avoid this issue or to resolve it upon occurrence, perform the following procedure before importing VSS hardware snapshots: 1. Open the command prompt window. 2. Enter: **net stop xProv** 3. Enter: **net stop vss** 4. Retry the import operation.
VSSP-243718	The VSS Provider cannot be installed in a directory that is named with anything other than English characters. Currently there is no workaround for this limitation.

Ticket ID	Description
VSSP-258222	The VSS Provider snapshot map parameter (**MapSnapShot**) in the Windows registry might get a wrong host name. This occurs due to low-case characters that Windows Server might record in the **DeviceIdentifierPage** registry parameter, located at: `HKEY_LOCAL_MACHINE\HARDWARE\DEVICEMAP\Scsi\Scsi Port 3\Scsi Bus 0\Target Id 0\Logical Unit Id 0\DeviceIdentifierPage` To resolve this issue, restart Windows.
VSSP-259229	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. In such a case, without a service restart, snapshots are not created on mirrored volumes. Currently there is no workaround for this limitation.
VSSP-261047	The VSS provider cannot unmap a volume when the `unmap_vol_set_default_idle_time` setting on XIV 11.4.0 is not zero. **Workaround:** Set `unmap_vol_set_default_idle_time` to zero (0) before deleting or masking a snapshot.

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)
- Microsoft Windows Server troubleshooting center (technet.microsoft.com/en-us/windowsserver)
- Microsoft MSDN web page for Volume Shadow Copy Service (msdn.microsoft.com/en-us/library/bb968832.aspx)
- VMware ESXi and ESX Info Center (www.vmware.com/products/esxi-and-esx/overview)
- VMware Product Support for VMware vSphere (www.vmware.com/support/product-support/vsphere)
- VMware knowledgebase (kb.vmware.com)
- Videos Related to IBM XIV Provider for Microsoft Windows Volume Shadow Copy Service (www.youtube.com/channel/UCRIw6cXxi--bHnMWG45VgNw)

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- IBM Directory of Worldwide Contacts website (www.ibm.com/planetwide)

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