

IBM Storage Support for Microsoft Volume Shadow Copy
Service and Virtual Disk Service
Version 4.12.0

Release notes

IBM

First Edition (June 2016)

This edition applies to version 4.12.0 of the IBM Storage Support for Microsoft Volume Shadow Copy Service and Virtual Disk Service and to all subsequent releases and modifications until otherwise indicated in a newer publication. 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® Storage Support for Microsoft Volume Shadow Copy Service (VSS) and Virtual Disk Service (VDS) for DS8000® and Storwize Family storage systems is a software module that runs as a service on Microsoft Windows Server.

The module automatically creates snapshots of Windows-based applications and uses the Windows Server VSS framework for its management interface. The snapshot data is stored and maintained on integrated DS8000 and Storwize Family storage systems.

You can download the IBM Storage Support for Microsoft VSS and VDS at the IBM Fix Central website (www.ibm.com/support/fixcentral/).

Compatibility and requirements

This section specifies the compatibility and requirements of version 4.12.0 of the IBM Storage Support for Microsoft VSS and VDS.

Supported operating systems

The IBM Storage Support for Microsoft VSS and VDS version 4.12.0 can work with the following operating systems:

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

Note: Only NTFS volumes are supported.

Supported storage systems

The IBM Storage Support for Microsoft VSS and VDS support the following storage systems.

IBM storage system	Microcode version
DS8870	6.x, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5
DS8880	8.0, 8.1
Storwize® V3500	6.4.1, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
Storwize V3700	6.4.1, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
Storwize V5000	7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
Storwize V7000	6.4, 6.4.1, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
Storwize V7000 Unified	1.4, 1.4.1, 1.4.3, 1.5, 1.5.1
SAN Volume Controller	6.4, 6.4.1, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
IBM FlashSystem™ V840	1.1
IBM FlashSystem V9000	7.6, 7.7

IBM storage system	Microcode version
IBM Flex System® V7000	6.4.1, 7.1, 7.2

Note: Newer microcode versions may also be compatible. When a newer microcode version becomes available, refer to the latest storage system release notes to check whether the new microcode version is also supported.

Supported VMware platforms

The IBM Storage Support for Microsoft VSS and VDS support specific VMware server platforms.

VMware platform	Version
vSphere ESXi Server	5.0, 5.1, 5.5, 6.0
vCenter Server	5.0, 5.1, 5.5, 6.0

Required software on the host

The software that is required for the host system are necessary for the service to run effectively.

Operating system	Service pack	Required components that must be installed manually
Windows Server 2008	Service Pack 1	<ul style="list-style-type: none"> Microsoft Hotfix KB959476 (support.microsoft.com/kb/959476)
	Service Pack 2	<ul style="list-style-type: none"> Microsoft Hotfix KB972135 (support.microsoft.com/kb/972135) Microsoft Hotfix KB2528357 (support.microsoft.com/kb/2528357)
	None	<ul style="list-style-type: none"> Microsoft Hotfix KB975688 (support.microsoft.com/kb/975688) Microsoft Hotfix KB2637197 (support.microsoft.com/kb/2637197) Microsoft Hotfix KB2661794 (support.microsoft.com/kb/2661794) Microsoft Hotfix KB2528357 (support.microsoft.com/kb/2528357)

Operating system	Service pack	Required components that must be installed manually
Windows Server 2012	None	<ul style="list-style-type: none"> • Microsoft Hotfix KB2916993 (support.microsoft.com/kb/2916993) • Microsoft Hotfix KB2929869 (support.microsoft.com/kb/2929869) • Microsoft Hotfix KB2913695 (support.microsoft.com/kb/2913695) • Microsoft Hotfix KB2878635 (support.microsoft.com/kb/2878635) • Microsoft Hotfix KB2894464 (support.microsoft.com/kb/2894464) • Microsoft Hotfix KB2838043 (support.microsoft.com/kb/2838043) • Microsoft Hotfix KB2803748 (support.microsoft.com/kb/2803748) • Microsoft Hotfix KB2770917 (support.microsoft.com/kb/2770917) • Microsoft Hotfix KB976424 (support.microsoft.com/kb/976424)
Windows Server 2012 R2	None	<ul style="list-style-type: none"> • Microsoft Hotfix KB2955164 (support.microsoft.com/kb/2955164) • Microsoft Hotfix KB2919355 (support.microsoft.com/kb/2919355) • Microsoft Hotfix KB976424 (support.microsoft.com/kb/976424)

Change log

The following topics summarize the changes that are made in different version releases of the IBM Storage Support for Microsoft VSS and VDS.

Version 4.12.0 (June 2016)

Version 4.12.0 includes the following enhancement and fixes.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-261146	Enhancement: A new CIM class (IBMTSSVC_ConciseVolume) was created to improve performance when locating target volumes.
VPSD-258788	Fixed: VSS VDS failed to connect to CIM when CIM was restarted after the CIM resource limitation was reached.
VPSD-258778	Fixed: VSS VDS failed to delete a snapshot if the copy progress did not start, and the background copy rate was set higher than zero.

Ticket ID	Description
VPSD-258782	Fixed: While a snapshot was being deleted from the ESXi RDM environment, it continued to be unmapped from the ESXi host even after the first step of removing the snapshot from the virtual machine (VM) failed. This caused the VM to not work properly.

Version 4.11.0 (December 2015)

Version 4.11.0 included the following enhancements.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258693	Enhancement: Private APIs for FlashCopy Manager (FCM) created to provide capability to manage a snapshot of a snapshot in order to perform mailbox level restores.
VPSD-258768	Enhancement: A more detailed error message was created to be returned when the command <code>ibmvfcfg set username/password</code> fails. The new error message reads: The key has been successfully set. However, with the newly set key and other existing keys we could not connect to CIM.

Version 4.10.0.1 (June 2015)

Version 4.10.0.1 included the following fix.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258762	Fixed: For DS8000 storage systems, if a source volume had multiple target volumes, restore from one of the target volumes would fail. Note: This issue existed since IBM Storage Support for Microsoft VSS and VDS version 4.9.0.

Version 4.10.0 (June 2015)

Version 4.10.0 included the following enhancement and fixes.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258692	Enhancement: Dynamic allocation of FlashCopy targets for supported versions of SAN Volume Controller and DS8000.
VPSD-258747	Fixed: If IBM Storage Support for Microsoft VSS and VDS is installed to a new Windows server, the password for connecting to the storage system is not correctly stored.
VPSD-258738	Fixed: The retry logic for handling VMware vSphere Web Services SDK failure may not work after several tries.

Version 4.9.0.1 (March 2015)

Version 4.9.0.1 included the following enhancement.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258734	Enhancement: Support for IBM CSTL certification.

Version 4.9.0 (December 2014)

Version 4.9.0 included the following enhancements and fixes.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258691	Enhancement: Added support for the IBM DS8000 SE FlashCopy. Note: To restore from SE FlashCopy, upgrade CIM to version 5.7.4.10 or later.
VPSD-258686	Enhancement: Added support for configuring Soap timeout for the VMware platform, from the <code>ibmvcfg.exe</code> file.
VPSD-258699	Fixed: Handle exception within VMware RDM adding function: <code>addRDMArrToVM(String [])</code>
VPSD-258715	Fixed: When masking LUNs, removing disks from VM fails, but VSS continues to move LUN from ESXi to the reserved pool.
VPSD-258717	Fixed: Disabled SSLv3 to avoid man-in-the-middle (POODLE) attacks.

Version 4.8.0 (June 2014)

Version 4.8.0 included a name change from IBM System Storage® Support for Microsoft Volume Shadow Copy Service and Virtual Disk Service to IBM Storage Support for Microsoft Volume Shadow Copy Service and Virtual Disk Service.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Additional changes in version 4.8.0:

Ticket ID	Description
VPSD-258678	Enhancement: Supporting CSV backup, which contains the VM.
VPSD-258679	Enhancement: Added support for Windows Server 2012 R2 Failover Cluster.
VPSD-258680	Enhancement: Integrated <code>ibmrescan.exe</code> into <code>ibmvss.exe</code> . There is no need to copy the <code>ibmrescan.exe</code> file to the Microsoft Hyper-V host nor to configure the <code>rescandeviccmd</code> parameter with the <code>ibmvcfg.exe</code> file.

Version 4.7.0.1 (January 2014)

Version 4.7.0.1 added the following critical fix.

Ticket ID	Description
VPSD-258668	Fixed: The installation gets stuck in a loop if the CIMOM user name or password is not configured correctly.

Version 4.7.0 (December 2013)

Version 4.7.0 added support for IBM Storwize V5000 and for Microsoft Hyper-V.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Additional changes for version 4.7.0:

Ticket ID	Description
VPSD-258618	Fixed: Removed the limitation of configuring an individual free storage pool for each host.
VPSD-258619	Fixed: In Windows Failover Cluster, if the <code>vmhost</code> is set to the cluster IP, then the Cluster Owner and Hyper-v host, which VM is on, must be on the same node.

Version 4.6.0 (September 2013)

Version 4.6.0 added support for several storage systems and VMware platforms.

For information about all supported systems, see “Supported storage systems” on page 1. For information on VMware platforms, see “Supported VMware platforms” on page 2.

Ticket ID	Description
VPSD-258628	Fixed: Zero KB virtual machine disk (VMDK) files might be left on the VMware ESXi/vCenter datastore after multiple snapshots were mounted via physical Raw Device Mapping (pRDM) and then deleted. The zero KB VMDK files occupied the positions of the normal (non-zero KB) VMDK files.

Version 4.5.0 (June 2013)

Version 4.5.0 included two notable changes.

Ticket ID	Description
VPSD-250031	Fixed: Cascading FlashCopy® volumes are mapped to the wrong host after deleting shadows when the backgroupCopy is zero.
VPSD-251973	Fixed: The Devicepath cannot be parsed into the VDisk ID in hosts without SDDDSM.

Version 4.4.0 (February 2013)

Version 4.4.0 included one notable change.

Ticket ID	Description
VPSD-246573	VDS provider is not automatically registered after installation.

Version 4.3.0 (October 2012)

Version 4.3.0 included three notable changes.

Build ID	Description
121018	Support for Storwize V3500 and Storwize V3700 code level 6.4.1.22
120907	Support for the SAN Volume Controller/Storwize V7000/Storwize V7000 Unified cascading/multi-target FlashCopies with zero copy rate in a Microsoft cluster environment. Clean up of snapshot IDs of dependant FlashCopies whose target volume has already been put back to free storage pool: ibmvcfg.exe tool.
120729	Support for SAN Volume Controller and Storwize V7000 code level 6.4.0.0/6.4.1.17 Support for DS8000 CIMOM version 6.3.x Upgraded to Java™ 7.0

Version 4.2.1 (March 2012)

Version 4.2.1 included two notable changes.

Build ID	Description
1207	Support for SAN Volume Controller and Storwize V7000 code level 6.3.0.62. VMware ESXi 5.0 support for MS Windows Server. Support for Storwize v7000 Unified 1.3 environment. Support for DS8000 CIMOM version 6.2.x in code bundle 86.20.103.0.
0816	Pre-test snapshot to find a suitable free target volume and adjustable time length for disk rescan injection: ibmvcfg.exe tool. Support for Hyper-V on Windows Guest operating system. Support SAN Volume Controller microcode level 6.2.x.

Version 4.2.0 (November 2010)

Version 4.2.0 included the following changes:

- VMware ESX 4.x and ESXi 4.x server support for Microsoft Windows Server System.
- Support for SAN Volume Controller 6.1 and Storwize V7000.

Version 4.1.0 (June 2010)

Version 4.1.0 included the following changes:

- FlashCopy Manager support for version 2.2.
- Support for Cascading/Multi-FlashCopy instant restore for SAN Volume Controller.
- Support for Cascading/Multi-FlashCopy downstream deletion for SAN Volume Controller.

Version 4.0.1 (October 2009)

Version 4.0.1 included the following changes:

- Support for Microsoft Windows Server 2008 R2.
- Support for FlashCopy Manager.
- Support for VDS for SAN Volume Controller.
- Enhancement in **IBMvcfg.exe** for list reserved, list that is assigned, and <-1> verbose to detail all listings.
- Support for SAN Volume Controller 5.1 cascading/multi-target FlashCopy restore with Space efficient and fully allocated volumes.
- Support diskshadow - Resync.

Known issues

The known issues that are in version 4.12.0 of the IBM Storage Support for Microsoft VSS VDS are summarized here.

Ticket ID	Description
VPSD-245364	<p>When Microsoft Data Protection Manager (DPM) creates FlashCopy for the shared source volume, if the space-efficient volume and copy rate are zero, a cascading FlashCopy is created unexpectedly. Deleting the cascading FlashCopy causes an error to the target volumes.</p> <p>Workaround: Set the background copy rate above zero when you use the space efficient volume in Microsoft DPM.</p>
VPSD-258716	<p>When you open an administrator command prompt in Microsoft Windows Server 2012 or 2012 R2 and create a Volume Shadow Services (VSS) DiskShadow snapshot, you might produce a message similar to the following output:</p> <pre>DISKSHADOW> add volume c: DISKSHADOW> create COM call "lvssObject4->GetRootAndLogicalPrefixPaths" failed.</pre> <p>This type of COM call failure message is harmless, and despite the message, the ShadowCopy backup completes successfully. For more details, refer to the Microsoft Knowledge Base article (http://support.microsoft.com/kb/3025158).</p>
VPSD-258651	<p>Incremental FlashCopy does not support dynamic disks with concatenate volumes either spanned or striped, and does not support multi-target volumes for the same source disk.</p> <p>Currently there is no solution or workaround for this limitation.</p>
VPSD-258653	<p>Supports only embedded CIM Agent.</p> <p>Currently there is no solution or workaround for this limitation.</p>
VPSD-258655	<p>For the SAN Volume Controller/Storwize V7000 cascading/multi-target FlashCopies with zero copy rate, after restoring one of the FlashCopy mappings, the current and newer FlashCopy relationships are withdrawn. The current target volume and newer FlashCopy volumes are returned to the free storage pool.</p> <p>Currently there is no solution or workaround for this limitation.</p>

Ticket ID	Description
VPSD-258656	<p data-bbox="751 226 1425 579">For the SAN Volume Controller/Storwize V7000 cascading/multi-target FlashCopies with zero copy rate, after deleting one of the FlashCopy mappings, the current and earlier FlashCopy relationships are withdrawn. The current target volume and earlier FlashCopy volumes are returned to the free storage pool. The snapshot IDs of earlier FlashCopy volumes stay in the host until the next snapshot/restore is run. Alternatively, ibmvcfg.exe cleanupDependentMaps can be used to manually clean up the snapshot IDs of earlier FlashCopy volumes.</p> <p data-bbox="751 604 1390 663">Currently there is no solution or workaround for this limitation.</p>
VPSD-258657	<p data-bbox="751 684 1406 810">Before you use the IBM Virtual Disk Service, the prerequisite Java JRE 7.0 application must be installed. For example, ibm-java-jre-70-win-i386.exe or ibm-java-jre-70-win-x86_64.exe.</p> <p data-bbox="751 835 1390 898">Currently there is no solution or workaround for this limitation.</p>
VPSD-258658	<p data-bbox="751 919 1382 978">Starting from version 4.4.0, IBM VDS provider is not automatically registered after installation.</p> <p data-bbox="751 1003 1406 1100">Workaround: To manually register IBM VDS provider, issue the regsvr32 ibmvds.dll command under the directory of the IBM VSS provider.</p>
VPSD-258671	<p data-bbox="751 1121 1406 1276">To avoid problems when upgrading from V4.7.0 to V4.7.0.1, uninstall V4.7.0 first. Install V4.7.0.1 with the default configuration and double-click the cfg.reg file, which is generated in the installation path, to restore the configuration.</p> <p data-bbox="751 1302 1390 1365">Currently there is no solution or workaround for this limitation.</p>
VPSD-258735	<p data-bbox="751 1386 1360 1444">To avoid problems when upgrading from V4.9.0 to V4.9.0.1, uninstall V4.9.0 first.</p> <p data-bbox="751 1470 1390 1528">Currently there is no solution or workaround for this limitation.</p>
VPSD-258763	<p data-bbox="751 1549 1373 1608">To avoid problems when upgrading from V4.10.0 to V4.10.0.1, uninstall V4.10.0 first.</p> <p data-bbox="751 1633 1390 1692">Currently there is no solution or workaround for this limitation.</p>

Ticket ID	Description
VPSD-258759	<p>For DS8000 storage systems, a source volume can be restored only once if it is involved in either of the following cases:</p> <ul style="list-style-type: none"> • The FlashCopy is non-incremental, and either the source volume or the target volume is an SE volume. • The FlashCopy is non-incremental, and the background copy rate is 0. <p>Currently there is no solution or workaround for this limitation.</p>
VPSD-258791	<p>If a virtual machine (VM) booted via UEFI is detected by VSS VDS, it is not recognized as a VM, because a VM booted via UEFI produces different SMBIOS data from one booted via BIOS.</p> <p>Workaround: Boot VMs via BIOS, not UEFI.</p>
VPSD-258794	<p>While cascaded FlashCopy mappings for dynamic target volume allocation are being deleted, FlashCopies created dynamically before the deleted ones are moved to a free pool instead of being removed.</p> <p>Currently there is no solution or workaround for this limitation.</p>
VPSD-258795	<p>In a cascading environment, VSS VDS does not support restoration of a transportable FlashCopy while using a passthrough connection.</p> <p>Currently there is no solution or workaround for this limitation.</p>

Related information and publications

You can find more information and publications that are related to the IBM Storage Support for Microsoft VSS and VDS.

- IBM Flex System Information Center
- IBM Storwize V3500 Information Center
- IBM Storwize V3700 Information Center
- IBM Storwize V5000 Information Center
- IBM Storwize V7000 Information Center
- IBM Storwize V7000 Unified Information Center
- IBM SAN Volume Controller Information Center
- IBM DS8000 Information Center
- VMware Product Support for VMware vSphere, including support for ESX, ESXi, and vCenter.
- VMware Knowledge Base
- Microsoft MSDN web page for Volume Shadow Copy Service
- Microsoft Windows Server Troubleshooting Center

Getting information, help, and service

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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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