

IBM Storwize Family Storage Replication Adapter  
Version 3.2.1

*Release notes*



**Second Edition (September 2016)**

This edition applies to version 3.2.1 of the IBM Storwize Family Storage Replication Adapter 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® Storwize® Family Storage Replication Adapter (SRA) is a software add-on that integrates with VMware vCenter Site Recovery Manager (SRM) solution and enables SRM to perform failovers together with supported storage systems.

The IBM Storwize Family SRA extends SRM capabilities and uses replication and mirroring as part of the SRM comprehensive Disaster Recovery Planning (DRP) solution. VMware administrators can automate the failover of a storage system at the protected (primary) SRM site to a storage system at a recovery (secondary) SRM site.

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## Download site

You can download the IBM Storwize Family SRA from the VMware website.

<http://www.vmware.com/go/download-srm>

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## Compatibility and requirements

The compatibility and requirements for version 3.2.1 of the IBM Storwize Family SRA are documented in the following topics.

### Supported storage systems

The IBM Storwize Family SRA supports the following IBM Storage products.

Storage system	Microcode version	Compatibility note
IBM FlashSystem V9000	7.4.1 to 7.7.1	
IBM SAN Volume Controller	7.1 to 7.7.1	Requires the Remote Mirror and FlashCopy® features to be enabled.
IBM Storwize V3700	7.1.0.1 to 7.7.1	
IBM Storwize V5000	7.1 to 7.7.1	
IBM Storwize V7000	7.1 to 7.7.1	
IBM Storwize V7000 Unified	1.4.1 to 1.6.1	Only block storage is supported. File systems and file shares are not supported.
IBM Spectrum Virtualize as software only	7.7.1	

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#### Note:

- Newer microcode versions may also be compatible. When a newer microcode version becomes available, refer to the 'Lifecycle and support matrix' page on IBM Knowledge Center to check whether the new microcode version is also supported.
  - All storage systems listed above run the IBM Spectrum Virtualize software.
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## Required VMware server software

The following server software must be installed at both the protected (primary) and recovery (secondary) sites.

- VMware Site Recovery Manager 5.x, 6.0, or 6.1

## Required VMware client software

The following software must be installed on the administrator client station.

- VMware vSphere Client 5.0, 5.1, or 5.5
- VMware vSphere Web Client 5.5 U2 or later

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## Change log

This section summarizes the changes made in different version releases of the IBM Storwize Family Storage Replication Adapter (SRA).

### Version 3.2.1 (September 2016)

Version 3.2.1 adds support for the following storage system microcode versions:

- IBM FlashSystem V9000 7.7.1
- IBM SAN Volume Controller 7.7.1
- IBM Storwize V3700 7.7.1
- IBM Storwize V5000 7.7.1
- IBM Storwize V7000 7.7.1
- IBM Storwize V7000 Unified 1.6.1
- IBM Spectrum Virtualize (deployable software) 7.7.1

Additional enhancements and fixes in version 3.2.1:

Ticket ID	Description
VMSS-260700	<b>Enhancement:</b> Added support for <b>M:N</b> topology ( <b>M</b> SVCs on the protected site and <b>N</b> SVCs on the recovery site) in one SRM pair.
VMSS-260692	<b>Enhancement:</b> Improved performance when querying volumes from storage systems. <b>Note:</b> This enhancement only works with CIMOM version 7.4.0.9, 7.5.0.7, 7.6.0.2, or higher.
VMSS-260695	<b>Fixed:</b> Testfailover failed for standalone replications in Preconfigured mode with CIMOM 7.6.0.31.
VMSS-260694	<b>Fixed:</b> Thin provision volume creation failed during testfailover in SAN Volume Controller and Storwize 7.6.1.x.

### Version 3.2.0 (April 2016)

Version 3.2.0 included the following enhancement and fix.

Ticket ID	Description
VMSS-260683	<b>Enhancement:</b> Implement SRA support for local hyperswap, starting with Storwize family firmware version 7.6.

Ticket ID	Description
VMSS-260682	<b>Fixed:</b> The <b>prepareFailover</b> process failed due to the remote copy idling status after an unplanned failover.

### Version 3.1.0 (September 2015)

Version 3.1.0 added support for SVC Stretched Cluster, starting with SVC microcode version 7.3.0.5, and included the following fixes.

Ticket ID	Description
VMSS-260666	<b>Fixed:</b> Modified failover, so that the failover operation will not be interrupted when meeting errors during the protect source/target process.
VMSS-260677	<b>Fixed:</b> Modified <b>discoverArray</b> so that now only the one peer array that matches the address of the remote SVC is returned instead of multiple ones.

### Version 2.3.1.1 (June 2015)

Version 2.3.1.1 included the following enhancement and fixes.

Ticket ID	Description
VMSS-260672	<b>Enhancement:</b> Array specific Mdisk group configurations for multiple arrays on one site.
VMSS-260655	<b>Fixed:</b> In CheckTool, disabled SSLv3 to avoid man-in-the-middle (MITM) attacks.
VMSS-260668	<b>Fixed:</b> For security, disabled DH and DHE algorithms to prevent SSL Logjam attacks.

### Version 2.3.1 (March 2015)

Version 2.3.1 added support for VMware Site Recovery Manager 6.0 and included the following fix.

Ticket ID	Description
VMSS-260656	<b>Fixed:</b> An error occurs when setting a managed disk (Mdisk) group for target protection, and the operation fails.

### Version 2.3.0.1 (December 2014)

Version 2.3.0.1 added support for the following storage system microcode versions:

- IBM SAN Volume Controller 7.4
- IBM Storwize V3700 7.4
- IBM Storwize V5000 7.4
- IBM Storwize V7000 7.4

Additional fix in version 3.2.1:

Ticket ID	Description
VMSS-260651	<b>Fixed:</b> Disabled SSLv3 to prevent man-in-the-middle (MITM) attacks.

## Version 2.3.0 (June 2014)

Version 2.3.0 added support for the following storage system microcode versions:

- IBM SAN Volume Controller 7.3
- IBM Storwize V3700 7.3
- IBM Storwize V5000 7.3
- IBM Storwize V7000 7.3
- IBM Storwize V7000 Unified 1.4.3 (block storage only)

Additional enhancements and fix in version 3.2.1:

Ticket ID	Description
VMSS-260576	<b>Enhancement:</b> IP replication partnerships. IP replication only supports Storwize Family version 7.2 or later. For information about configuring IP replication, see the IBM Storwize V7000 information center.
SRADSK-261140	<b>Enhancement:</b> The <b>Check Configuration Tool</b> determines whether the configuration is correct and troubleshoots problems.
SVCSRA-5161	<b>Fixed:</b> The IBM Storwize Family SRA fails if the name of the consistency group has the string “grp.”

## Version 2.2.1 (December 2013)

Version 2.2.1 added support for the following storage system microcode versions:

- IBM Flex System<sup>®</sup> V7000 Storage Node 7.2
- IBM SAN Volume Controller 7.2
- IBM Storwize V3700 7.2
- IBM Storwize V5000 7.1 to 7.2
- IBM Storwize V7000 7.2
- IBM Storwize V7000 Unified 1.4.2 (block storage only)

Additional enhancement in version 3.2.1:

Ticket ID	Description
VMSS-260606	<b>Enhancement:</b> Support for Transport Layer Security (TLS) 1.2.

## Version 2.2.0 (September 2013)

Version 2.2.0 added support for the following systems:

- IBM Flex System V7000 Storage Node
- IBM SAN Volume Controller
- IBM Storwize V3700



- IBM Storwize V7000
- IBM Storwize V7000 Unified

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**Note:** Only block storage is supported for IBM Storwize V7000 Unified. File systems and file shares are not supported.

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Version 2.2.0 also added support for the IBM Storwize V5000 storage system microcode version 7.1 and included the following enhancements.

Ticket ID	Description
VMSS-260605	<b>Enhancement:</b> Support for compressed volumes (compressed volumes can be created during SRM operations).
VMSS-260604	<b>Enhancement:</b> Adding a Volume Name filter (Opaque).

## Version 2.1.0 (January 2013)

Version 2.1.0 added the following features.

### Global Mirror Change Volume

Global Mirror Cycling mode between the storage systems.

### Fiber Channel/iSCSI communication

iSCSI and Fibre Channel communications between host and storage.

### Preconfigured failover

Pre-configured environment settings for data migration.

### Non-preconfigured failover

Non-preconfigured environment settings for data migration.

### Space Efficient Volume

Space Efficient FlashCopy target volume.

Version 2.1.0 also included the following fixes.

Ticket ID	Description
SVCSRA-5192	<b>Fixed:</b> The Site Recovery Manager reports 4096 error code and causes test failover failure.
SVCSRA-5201	<b>Fixed:</b> The space efficient volume is not created when the Storage Replication Adapter is configured in space efficient mode during <b>testfailoverstart</b> .
SVCSRA-5202	<b>Fixed:</b> Test snapshot is not cleaned up during <b>testfailoverstop</b> .
SVCSRA-5207	<b>Fixed:</b> Failover failed when the SAN Volume Controller protection site is down.

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## Known issues

This section details the known issues in version 3.2.1, along with possible workarounds (if workarounds are available).

Ticket ID	Description
VMSS-260691	<p>The direction of the GMCV replications shown in SRM will sometimes display incorrectly if devices are manually discovered after a Recovery operation. This issue only reproduces against GMCV.</p> <p>After a failover, the GMCV becomes idle, and SRM cannot detect the direction of the replication relationship. No other operations, such as Reprotect, however, are impacted.</p>
SVCSRA-5161	<p>If the vCenter/SRM/ESX server is down while the IBM storage is still working, the secondary recovery action might fail when the primary site is recovered.</p> <p><b>Workaround:</b> Stop the remote copies with the <b>access</b> option enabled on the storage system before running the secondary recovery.</p>

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## Related information and publications

Additional information and publications related to the IBM Storwize Family SRA can be found on the following IBM and VMware websites.

- IBM Storwize V3700 on IBM Knowledge Center ([ibm.com<sup>®</sup>/support/knowledgecenter/STLM5A](http://ibm.com/support/knowledgecenter/STLM5A))
- IBM Storwize V5000 on IBM Knowledge Center ([ibm.com/support/knowledgecenter/STHGJ](http://ibm.com/support/knowledgecenter/STHGJ))
- IBM Storwize V7000 on IBM Knowledge Center ([ibm.com/support/knowledgecenter/ST3FR7](http://ibm.com/support/knowledgecenter/ST3FR7))
- IBM Storwize V7000 Unified on IBM Knowledge Center ([ibm.com/support/knowledgecenter/ST5Q4U](http://ibm.com/support/knowledgecenter/ST5Q4U))
- IBM SAN Volume Controller on IBM Knowledge Center ([ibm.com/support/knowledgecenter/STPVGU](http://ibm.com/support/knowledgecenter/STPVGU))
- IBM FlashSystem<sup>®</sup> V9000 on IBM Knowledge Center ([ibm.com/support/knowledgecenter/STKMV](http://ibm.com/support/knowledgecenter/STKMV))
- IBM Spectrum Virtualize on IBM Knowledge Center ([ibm.com/support/knowledgecenter/STVLF4](http://ibm.com/support/knowledgecenter/STVLF4))
- SAN Volume Controller V4.3.0 Advanced Copy Services ([redbooks.ibm.com/redbooks/pdfs/sg247574.pdf](http://redbooks.ibm.com/redbooks/pdfs/sg247574.pdf))
- SAN Volume Controller Best Practices and Performance Guidelines ([redbooks.ibm.com/redbooks/pdfs/sg247521.pdf](http://redbooks.ibm.com/redbooks/pdfs/sg247521.pdf))
- VMware Documentation ([vmware.com/support/pubs](http://vmware.com/support/pubs))
- VMware Product Support ([vmware.com/support](http://vmware.com/support))
- VMware Knowledge Base ([kb.vmware.com](http://kb.vmware.com))

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



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