

IBM Spectrum Virtualize Family Storage  
Replication Adapter  
Version 3.4.0

*Release notes*



**First Edition (August 2018)**

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# Overview

The IBM Spectrum Virtualize 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 Spectrum Virtualize 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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## Compatibility and requirements

The compatibility and requirements for version 3.4.0 of the IBM Spectrum Virtualize Family SRA are documented in the following topics.

### Supported storage systems

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The IBM Spectrum Virtualize Family SRA supports the following IBM® Storage products.

Storage system	Microcode version	Compatibility note
IBM FlashSystem® V9000	7.4.1 to 8.1.3	
IBM FlashSystem 9100	8.2.0	
IBM SAN Volume Controller	7.1 to 8.1.3	Requires the Remote Mirror and FlashCopy® features to be enabled.
IBM Storwize® V3700	7.1.0.1 to 7.8	
IBM Storwize V5000	7.1 to 8.1.3	
IBM Storwize V7000	7.1 to 8.2.0	
IBM Storwize V7000 Unified	1.4.1 to 1.6.2	Only block storage is supported. File systems and file shares are not supported.
IBM Spectrum Virtualize as software only	7.7.1 to 8.1.3	

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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

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

- VMware Site Recovery Manager 5.x, 6.0, 6.1, 6.5, 6.5.x, 8.1

### Required VMware client software

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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 Spectrum Virtualize Family Storage Replication Adapter (SRA).

## Version 3.4.0 (August 2018)

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Version 3.4.0 adds support for the following storage system microcode versions:

- IBM FlashSystem V9000 8.1.3
- IBM FlashSystem 9100 8.2.0
- IBM SAN Volume Controller 8.1.3
- IBM Storwize V5000 8.1.3
- IBM Storwize V7000 8.1.3 and 8.2.0
- IBM Spectrum Virtualize (deployable software) 8.1.3

Version 3.4.0 also includes the following fix.

Ticket ID	Description
<b>VMSS-260812</b>	<b>Fixed:</b> The error code returned for invalid device ID (4) was incorrect and actually means "Invalid Array ID." The correct error code (77777 "CMMVC6270E Invalid device.\n") is now returned.
<b>VMSS-260837</b>	<b>Fixed:</b> The SVC attachvolume function only returned the return code value from the last time the target host mapping operation was performed. As a result, when subsequent failover operations were run, the mapping operation was not run again for hosts that were previously mapped successfully, which led to failover operation failure.
<b>VMSS-260864</b>	<b>Enhancement:</b> Return code check for host mapping during testfailoverstart operation added.
<b>VMSS-260878</b>	<b>Enhancement:</b> Added support for a new IBM storage product, IBM FlashSystem 9100.

## Version 3.3.3 (March 2018)

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Version 3.3.3 added support for the following storage system microcode versions:

- IBM FlashSystem V9000 8.1.2
- IBM SAN Volume Controller 8.1.2
- IBM Storwize V5000 8.1.2
- IBM Storwize V7000 8.1.2
- IBM Spectrum Virtualize (deployable software) 8.1.2

Version 3.3.3 also included the following fix.

Ticket ID	Description
<b>VMSS-260853</b>	<b>Fixed:</b> Defensive programming check in preparefailover was not working.

## Version 3.3.2 (December 2017)

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Version 3.3.2 added support for the following storage system microcode versions:

- IBM FlashSystem V9000 8.1.1
- IBM SAN Volume Controller 8.1.1
- IBM Storwize V5000 8.1.1
- IBM Storwize V7000 8.1.1
- IBM Spectrum Virtualize (deployable software) 8.1.1

Version 3.3.2 also included the following enhancement and fixes.

Ticket ID	Description
<b>VMSS-260785</b>	<b>Enhancement:</b> Improved performance when querying stretched cluster volumes from storage systems.
<b>VMSS-260727</b>	<b>Fixed:</b> Protection site volumes could not be attached to the host when running reprotect after running disaster failover using iSCSI.
<b>VMSS-260789</b>	<b>Fixed:</b> Since version 3.3.0, the log in the SRA check configuration tool did not display configuration changes.

## Version 3.3.1 (September 2017)

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Version 3.3.1 added support for SVC host cluster starting with IBM SAN Volume Controller version 7.7.1. It also added support for the following storage system microcode versions:

- IBM FlashSystem V9000 8.1
- IBM SAN Volume Controller 8.1
- IBM Storwize V5000 8.1
- IBM Storwize V7000 8.1
- IBM Spectrum Virtualize (deployable software) 8.1

## Version 3.3.0 (November 2016)

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Version 3.3.0 added support for the following storage system microcode versions:

- IBM FlashSystem V9000 7.8
- IBM SAN Volume Controller 7.8
- IBM Storwize V3700 7.8
- IBM Storwize V5000 7.8
- IBM Storwize V7000 7.8
- IBM Storwize V7000 Unified 1.6.2

Additional enhancement in version 3.3.0:

Ticket ID	Description
<b>VMSS-260704</b>	<b>Enhancement:</b> IBM Storwize Family Storage Replication Adapter renamed to IBM Spectrum Virtualize Family Storage Replication Adapter.

## Version 3.2.1 (September 2016)

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Version 3.2.1 added 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
<b>VMSS-260700</b>	<b>Enhancement:</b> Added support for M:N topology (M SVCs on the protected site and N SVCs on the recovery site) in one SRM pair.
<b>VMSS-260692</b>	<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.
<b>VMSS-260695</b>	<b>Fixed:</b> Testfailover failed for standalone replications in Preconfigured mode with CIMOM 7.6.0.31.
<b>VMSS-260694</b>	<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)

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Version 3.2.0 included the following enhancement and fix.

Ticket ID	Description
<b>VMSS-260683</b>	<b>Enhancement:</b> Implement SRA support for local hyperswap, starting with Storwize family firmware version 7.6.
<b>VMSS-260682</b>	<b>Fixed:</b> The prepareFailover process failed due to the remote copy idling status after an unplanned failover.

## Version 3.1.0 (September 2015)

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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
<b>VMSS-260666</b>	<b>Fixed:</b> Modified failover, so that the failover operation will not be interrupted when meeting errors during the protect source/target process.
<b>VMSS-260677</b>	<b>Fixed:</b> Modified discoverArray 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)

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Version 2.3.1.1 included the following enhancement and fixes.

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

## Version 2.3.1 (March 2015)

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

Ticket ID	Description
<b>VMSS-260656</b>	<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)

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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 2.3.0.1:

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

## Version 2.3.0 (June 2014)

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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 2.3.0:

<b>Ticket ID</b>	<b>Description</b>
<b>VMSS-260576</b>	<b>Enhancement:</b> IP replication partnerships. IP replication only supports Storwize Family version 7.2 or later. For information about configuring IP replication, see <a href="http://ibm.com/support/knowledgecenter/ST3FR7">IBM Storwize V7000 on IBM Knowledge Center (ibm.com/support/knowledgecenter/ST3FR7)</a> .
<b>SRADSK-261140</b>	<b>Enhancement:</b> The <b>Check Configuration Tool</b> determines whether the configuration is correct and troubleshoots problems.
<b>SVCSRA-5161</b>	<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® 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 2.2.1:

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



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## Known issues

This section details the known issues in version 3.4.0, along with possible workarounds (if workarounds are available).

Ticket ID	Description
<b>VMSS-260691</b>	<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>
<b>SVCSRA-5161</b>	<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 access 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 Spectrum Virtualize Family SRA can be found on the following IBM and VMware websites.

- [IBM Storwize V3700 on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STLM5A) (ibm.com/support/knowledgecenter/STLM5A)
- [IBM Storwize V5000 on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STHGUJ) (ibm.com/support/knowledgecenter/STHGUJ)
- [IBM Storwize V7000 on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/ST3FR7) (ibm.com/support/knowledgecenter/ST3FR7)
- [IBM Storwize V7000 Unified on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/ST5Q4U) (/support/knowledgecenter/ST5Q4U)
- [IBM SAN Volume Controller on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STPVGU) (ibm.com/support/knowledgecenter/STPVGU)
- [IBM FlashSystem V9000 on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STKMQV) (ibm.com/support/knowledgecenter/STKMQV)
- [IBM FlashSystem 9100 on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STSLR9) (ibm.com/support/knowledgecenter/STSLR9)
- [IBM Spectrum Virtualize on IBM Knowledge Center](http://ibm.com/support/knowledgecenter/STVLF4) (ibm.com/support/knowledgecenter/STVLF4)
- [SAN Volume Controller V4.3.0 Advanced Copy Services](http://redbooks.ibm.com/redbooks/pdfs/sg247574.pdf) (redbooks.ibm.com/redbooks/pdfs/sg247574.pdf)
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