

IBM System Storage SAN Volume Controller

**Storage Replication Adapter for VMware SRM
Installation and Users Guide**

Version 1.0

About this guide

The IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM Installation and Users Guide provides information that helps you install and configure Storage Replication Adapter.

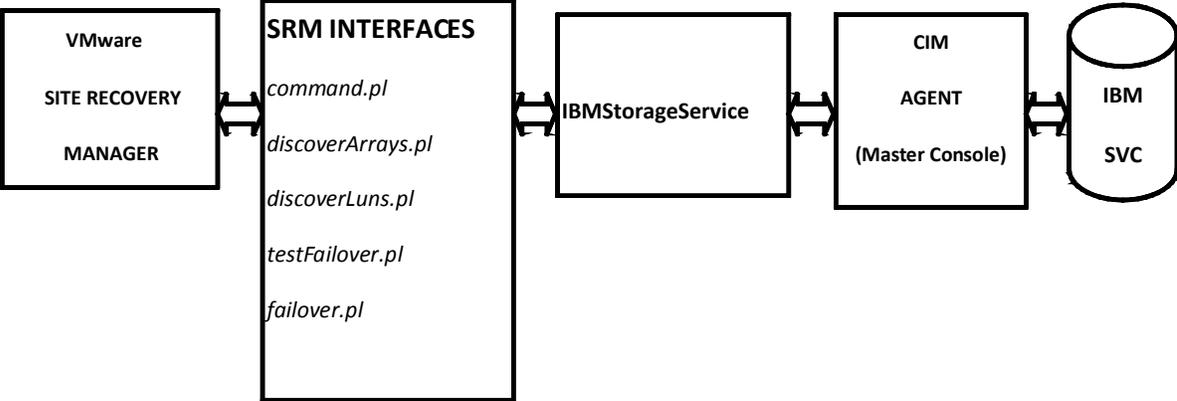
Who should use this guide

The IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM Installation and Users guide is intended for system administrators or others who install and use the VMware Site Recovery Manager with IBM System Storage SAN Volume Controller. Before installing and using the Storage Replication Adapter for SAN Volume Controller, you should have an understanding of storage area networks (SANs), SAN Volume Controller Metro Mirror Copy Services and the capabilities of your storage units. For more information on how to use Metro Mirror Copy Services, refer to IBM System Storage SAN Volume Controller Administration guide that can be downloaded from <http://www.ibm.com>.

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Functional Block Diagram



Installation overview

The steps for implementing the IBM System Storage SAN Volume Controller Storage Replication Adapter For VMware SRM software must be completed in the correct sequence. Before you begin, you must have experience with or knowledge of administering a SAN Volume Controller.

Complete the following tasks:

1. Verify that the system requirements are met.
2. Install the SAN Volume Controller Consoles one for the protected site and one for the recovery site SAN Volume Controller, if they are not already installed.
3. Install the IBM System Storage SAN Volume Controller Storage Replication Adapter software.
4. Verify the installation.
5. Create appropriate sized target volumes on the recovery site SAN Volume Controller and create Metro Mirror relationships between the source volumes at the protected site and target volumes at the recovery site. For more information on volume creation and Metro Mirror Copy Services refer to SAN Volume Controller Configuration Guide.

Note: Release 1.0 of IBM SAN Volume Controller Storage Replication Adapter for VMware Site Recovery Manager only supports Metro Mirror (No Global Mirror support) copy service and no support for Consistency Groups.

Note: For more information on how to install IBM SAN Volume Controller Console refer to IBM SAN Volume Controller Software Installation and Configuration Guide.

System requirements for the IBM System Storage SAN Volume Controller Storage Replication Adapter software

Ensure that your system satisfies the following requirements before you install the IBM System Storage™ SAN Volume Controller Storage Replication Adapter for VMware SRM software on a Windows Server 2003 operating system.

The following software is required:

1. SAN Volume Controller Console software version 4.2.0 or later installed on the IBM System Storage Productivity Center or master console.

2. SAN Volume Controller nodes with software version 4.2.0 or later installed with the Metro Mirror feature enabled.
3. IBM System Storage SAN Volume Controller Storage Replication Adapter software version 1.0.
4. VMware Virtual Center Server v2.5 or later with Site Recovery Manager v1.0 Plug-in must be installed before you install the SAN Volume Controller Storage Replication Adapter.

Note: For more information on how to install VMware Virtual Center Server and Site Recovery Manager Plug-in, refer VMware Virtual Center installation and administration guide.

Installing the IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM software

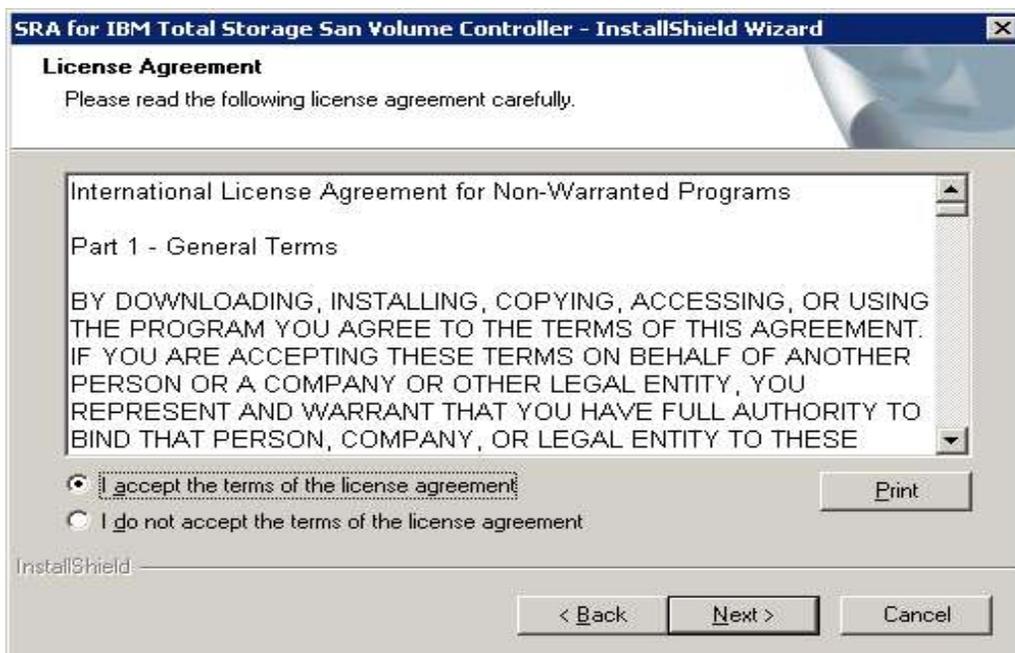
This section includes the steps to install the IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM software.

You must satisfy all of the prerequisites that are listed in the system requirements section before starting the installation. Perform the following steps to install the IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM software on the Windows server.

1. Log on to Windows as an administrator.
2. Double click on IBMSVCSRA.exe that you downloaded to start the installation process. The Welcome panel is displayed.



3. Click **Next** to continue. The License Agreement panel is displayed. You can click **Cancel** at any time to exit the installation. To move back to previous screens while using the wizard, click **Back**.



4. Read the license agreement information. Select whether you accept the terms of the license agreement, and click **Next**. If you do not accept, you cannot continue with the installation.

5. The Customer information page is displayed. Enter the appropriate user and organization names..

SRA for IBM Total Storage San Volume Controller - InstallShield Wizard

Customer Information
Please enter your information.

Please enter your name and the name of the company for which you work.

User Name:
IBM

Company Name:
IBM

InstallShield

< Back Next > Cancel

6. The Setup Type page is displayed. Select the appropriate setup type.

SRA for IBM Total Storage San Volume Controller - InstallShield Wizard

Setup Type
Select the setup type to install.

Please select a setup type.

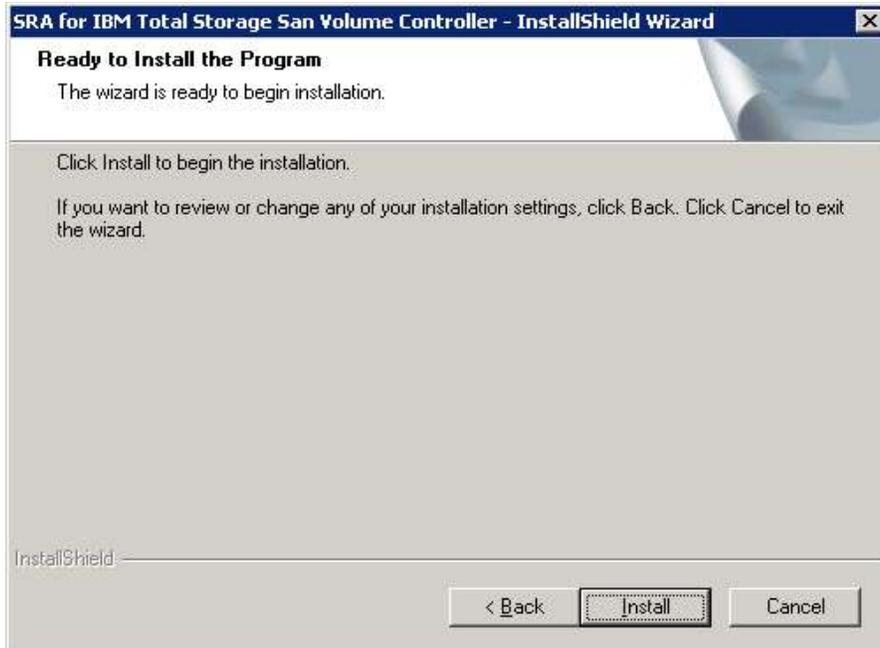
Complete
All program features will be installed. (Requires the most disk space.)

Custom
Select which program features you want installed. Recommended for advanced users.

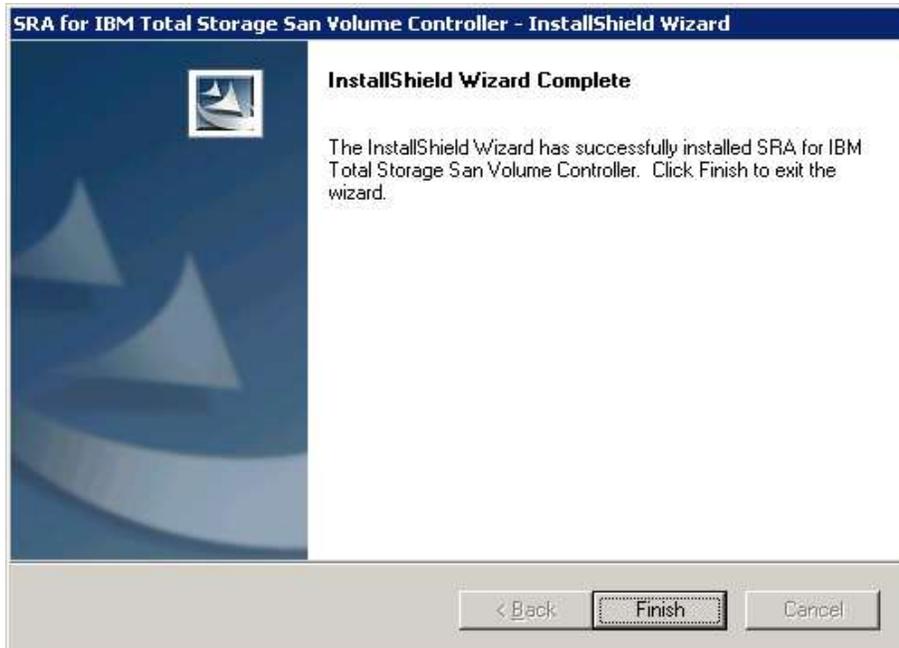
InstallShield

< Back Next > Cancel

7. On the next page click **Install**.



8. Click **Finish**. If necessary, the InstallShield Wizard prompts you to restart the system.



Creating the Target Volumes and Metro Mirror Relationships

You must create equal number of target vdisks (for Metro Mirror targets), on the recovery site SAN Volume Controller, to source vdisks .

Important: When creating target volumes on the recovery site SAN Volume Controller make sure that the Mdisk Group that the volumes are created from has double the amount of space that is needed for the target volumes. This space will be used by the Storage Replication Adapter during TestFailover operations.

Create Metro Mirror relationships between the source and target vdisks. For more information on Metro Mirror Copy Services refer to BIM System Storage SAN Volume Controller Administration Guide.

Important: Before you start using the SAN Volume Controller Storage Replication Adapter, make sure the Metro Mirror relationships are in consistent synchronized state.

Other Configuration Requirements

1. The VMware ESX server host objects created on the protected and recovery sites must contain “vmware” string as part of their names.
2. Make sure the vdisks on the protected site SAN Volume Controller are mapped to the protected ESX server with unique SCSI ids.

Uninstalling IBM System Storage SAN Volume Controller Storage Replication Adapter Software

You must use the Storage Replication Adapter installation executable to uninstall the IBM System Storage SAN Volume Controller Storage Replication Adapter software from the Windows server. Perform the following steps to uninstall the software:

1. Log on to the Windows server as the local administrator.
2. Double-click on the IBMSVCSRA.exe and select Remove.

3. Click Finish on the final screen to complete the uninstall. If necessary, InstallShield will prompt the user to re-start the system.

Adding Array Managers to VMware Site Recovery Manager

To add arrays to VMware Site Recovery Manager execute the following.

1. Log on to the VMware Virtual Center Server machine
2. Click Site Recovery on the VI client toolbar
3. Click **Configure** option next to Array Manager in the Setup panel.
4. Click **Add** in the Configure Array Manager panel.
5. Enter array manager information on the Add Array Manager screen. Reinststate the connection information for the array. Click Connect.
 - **Display Name** – Enter the name of your array.
 - **Manager Type** - From the pull down menu, select the type of array you are using
 - **IP1** – Enter the IP address and the port number of the CIM agent. For example, 192.168.15.2:5989, where 5989 is the CIM agent's port number.

Note: : IBM System Storage SAN Volume Controller Storage Replication Adapter only supports secure ports for CIM agents and only one SAN Volume Controller device managed by each SAN Volume Controller Console

User Name – Enter the user name configured for the CIM agent.
 - **Password** - Enter the password configured for the CIM agent.

Add Array Manager

Array Manager Information

Display Name: Protected-SVC

Manager Type: IBM-SVC-Native

IP1: 192.168.15.2:5989

Username: superuser

Password: *****

Connect

Array ID	Model
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Help OK Cancel

Failback Procedure

Managing Failback

Managing failback using SRM is a manual process given that the protection site could have completely different hardware and network configuration after a disaster occurs. Failback can be managed like any planned server migration.

Failback Scenario

The following failback scenario uses SRM as a failback tool to Site A after executing a recovery plan R1 at Site B in recovery mode for recovered virtual machines.

To manually execute a failback scenario

1. Delete recovery plan R1 at Site B.
2. If Site A still has DR protection configured for the protection groups P1 in recovery plan R1, delete protection groups P1 at Site A.
3. If it is not already in place, use the VI Client at Site B to establish Site A as the secondary site for Site B. (If Site A does not have SRM installed, install SRM at Site A.)
4. Establish appropriate array replication from Site B to Site A for the datastores containing recovered virtual machines.
 - Mask the vdisks on the SAN Volume Controller from the ESX server at Site A.
 - Create Metro Mirror relationships between Site B and Site A vdisks, with Site B vdisks as master volumes and Site A vdisks as auxiliary volumes.
 - Start the Metro Mirror relationships and wait till their states change to “consistent synchronized”.
5. Create protection group or groups P2 at Site B to protect recovered virtual machines to Site A.
6. At Site A, create a recovery plan R2 for the protection group or groups P2.
7. After the user has determined that the virtual machines have been fully replicated to Site A, execute recovery plan R2 at Site A in test mode.
8. If the test is successful, execute recovery plan R2 in recovery mode.
9. At this point, the user may want to reprotect recovered virtual machines to Site B:
10. Delete recovery plan R2 at Site A.
11. Delete protection group(s) P2 at Site B.
12. Establish appropriate array replication from Site A to Site B for datastores containing recovered virtual machines.
 - Mask the vdisks on the SAN Volume Controller from the ESX server at Site B.

- Create Metro Mirror relationships between Site A and Site B vdisks, with Site A vdisks as master volumes and Site B vdisks as auxiliary volumes.
- Start the Metro Mirror relationships and wait till their states change to “consistent synchronized”.

13. Create protection group(s) P3 at Site A to protect recovered virtual machines from Site A to Site B.

Create a recovery plan R3 at Site B for the groups.