

NEC Storage  
ReplicationControl  
FileSystem Option on Linux  
Ver9.3 Installation Guide

# Preface

This document describes the installation of the program products in the CD labeled as:

NEC Storage ReplicationControl FileSystem Option

English Version

VERSION: 9.3

This CD includes the setup programs and the PDF manuals of NEC Storage ReplicationControl FileSystem Option.

For further usage after installation and the function of NEC Storage ReplicationControl FileSystem Option, refer to the PDF manuals in this CD.

## Remarks

1. This product is available for Linux.
2. NEC Storage Manager is referred to as iSM or Storage Manager in this guide unless clearly specified. Also, the following terms refer to the corresponding NEC Storage software products.

Term	NEC Storage Software Product
BaseProduct	NEC Storage BaseProduct
ControlCommand	NEC Storage ControlCommand * NEC Storage ControlCommandSet
FileSystem Option	NEC Storage ReplicationControl FileSystem Option
AccessControl	NEC Storage AccessControl
DynamicDataReplication	NEC Storage DynamicDataReplication
RemoteDataReplication	NEC Storage RemoteDataReplication
DynamicSnapVolume	NEC Storage DynamicSnapVolume
RemoteDataReplication/DisasterRecovery	NEC Storage RemoteDataReplication/DisasterRecovery
PathManager	NEC Storage PathManager

\* The product name is different depending on the product version. This product name is used from Ver5.1.

3. The NEC Storage series disk array subsystem is referred to as a disk array in this guide unless clearly specified. Also, the following terms refer to the corresponding NEC Storage hardware products.

Term	NEC Storage Hardware Product
M100 series	NEC Storage M100 series
M110 series	NEC Storage M110 series
M300 series	NEC Storage M300 series
M310 series	NEC Storage M310 series
M500 series	NEC Storage M500 series
M510 series	NEC Storage M510 series
M700 series	NEC Storage M700 series
M710 series	NEC Storage M710 series
A5000	NEC Storage A5000
M5000 series	NEC Storage M5000 series

Term	NEC Storage Hardware Product
D series	NEC Storage D series
D1 series	NEC Storage D1 series
D3 series	NEC Storage D3 series
D8 series	NEC Storage D8 series
xxx series or xxxx series	NEC Storage xxx series or NEC Storage xxxx series
Sxxx or Sxxxx	NEC Storage Sxxx or NEC Storage Sxxxx

\* xxx and xxxx represent the model number.


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5. In this document, matters to which careful attention needs to be paid will be described as follows:

Be sure to observe the contents.

If the indications are ignored and the system is improperly operated, settings which have already been made might be affected.

Type of Indication	
Type	Description
	Describes contents which require special attention during operation.

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# Chapter 1 Installation

## 1.1 Operating Environment

Indispensable hardware	<p>&lt;For using the data replication function&gt;</p> <p>4000( A4900) series, D8 series, D3 series, M100 series, M110 series, M300 series, M310 series, M500 series, M510 series, M700 series, M710 series,A5000 series, and M5000 series</p> <p>The disaster recovery function of data replication is available only for the following: 4000 (A4900) series, D8 series, M500 series, M510 series, M700 series, M710 series,A5000 series, and M5000 series</p> <p>&lt;For using the snapshot function&gt;</p> <p>4000 (A4900) series, , D8 series, D3 series, and D1 series, M100 series, M110 series, M300 series, M310 series, M500 series, M510 series,M700 series, M710 series, and M5000 series</p>
Operating system	<p>For using the ext3 filesystem &lt;M series&gt;</p> <p>Red Hat Enterprise Linux Version 5 Red Hat Enterprise Linux 5.6 to 5.11 (IA32/EM64T) Red Hat Enterprise Linux 5.6 to 5.11 Advanced Platform (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 6 Red Hat Enterprise Linux 6.1 to 6.7 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 7 Red Hat Enterprise Linux 7.1 (EM64T)</p> <p>For using the ext4 filesystem &lt;M series&gt;</p> <p>Red Hat Enterprise Linux Version 6 Red Hat Enterprise Linux 6.1 to 6.7 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 7 Red Hat Enterprise Linux 7.1 (EM64T)</p> <p>For using the xfs filesystem &lt;M series&gt;</p> <p>Red Hat Enterprise Linux Version 7 Red Hat Enterprise Linux 7.1 (EM64T)</p> <p>For using the vxfs filesystem &lt;M series&gt;</p> <p>Red Hat Enterprise Linux Version 5 Red Hat Enterprise Linux 5.5 to 5.11 (IA32/EM64T) Red Hat Enterprise Linux 5.5 to 5.11 Advanced Platform (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 6 Red Hat Enterprise Linux 6.1 to 6.6 (EM64T)</p> <p>&lt;D series&gt;</p> <p>Red Hat Enterprise Linux Version 4 Red Hat Enterprise Linux ES 4 Update4, 4.5, 4.6, 4.7, 4.8, 4.9 (IA32/EM64T) Red Hat Enterprise Linux AS 4 Update4, 4.5, 4.6, 4.7, 4.8, 4.9 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 5 Red Hat Enterprise Linux 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11 (IA32/EM64T)</p>

	<p>Red Hat Enterprise Linux 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11 Advanced Platform (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 6</p> <p>Red Hat Enterprise Linux 6.1 to 6.6 (EM64T)</p> <p>&lt;A series&gt;</p> <p>Red Hat Enterprise Linux Version 4</p> <p>Red Hat Enterprise Linux ES 4 Update2 to Update4, 4.5, 4.6, 4.7, 4.8, 4.9 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux AS 4 Update2 to Update4, 4.5, 4.6, 4.7, 4.8, 4.9 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux Version 5</p> <p>Red Hat Enterprise Linux 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11 (IA32/EM64T)</p> <p>Red Hat Enterprise Linux 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11 Advanced Platform (IA32/EM64T)</p>
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Indispensable software	BaseProduct (including Storage Manager) AccessControl  <Data replication function> DynamicDataReplication RemoteDataReplication RemoteDataReplication/DisasterRecovery  <Snapshot function> DynamicSnapVolume  ControlCommand  VERITAS Storage Foundation for Linux * It supports the following versions. When using the DMP (Dynamic Multipathing) function, it is necessary to install ASL (ArraySupport Library) for the disk array that is obtained from the site of the VERITAS. Moreover, if the OS supports SELinux, set SELinux to permissive or disabled mode.			
	VERITAS Storage Foundation for Linux			
	OS Version	VERITAS Storage Foundation for Linux		
			VERITAS File System	VERITAS Volume Manager
	Red Hat Enterprise Linux Version 4	V4.1	4.1	4.1
		V4.1 MP4 Rolling Patch1	4.1 MP4 Rolling Patch1	4.1 MP4 Rolling Patch1
		V5.0 MP3 Rolling Patch2	5.0 MP3 Rolling Patch2	5.0 MP3 Rolling Patch2
	Red Hat Enterprise Linux Version 5	V4.1 MP4 Rolling Patch1	4.1 MP4 Rolling Patch1	4.1 MP4 Rolling Patch1
		V5.0 MP3 Rolling Patch2	5.0 MP3 Rolling Patch2	5.0 MP3 Rolling Patch2
		V5.1 Rolling Patch1	5.1 Rolling Patch1	5.1 Rolling Patch1
V6.0.1		V6.0.1	V6.0.1	
Red Hat Enterprise Linux Version 6	V5.1 SP1 PR2 Rolling Patch 2	5.1 SP1 PR2 Rolling Patch 2	5.1 SP1 PR2 Rolling Patch 2	
	V6.0.1	V6.0.1	V6.0.1	

	<p>Symantes Storage Foundation for Linux</p> <p>* It supports the following versions.</p> <p>When using the DMP (Dynamic Multipathing) function, it is necessary to install ASL (ArraySupport Library) for the disk array that is obtained from the site of the Symantes. Moreover, if the OS supports SELinux, set SELinux to permissive or disabled mode.</p> <table border="1"> <thead> <tr> <th rowspan="2">OS Version</th> <th colspan="3">Symantes Storage Foundation for Linux</th> </tr> <tr> <th></th> <th>Symantes File System</th> <th>Symantes Volume Manager</th> </tr> </thead> <tbody> <tr> <td>Red Hat Enterprise Linux Version 5</td> <td>V6.1</td> <td>V6.1</td> <td>V6.1</td> </tr> <tr> <td rowspan="2">Red Hat Enterprise Linux Version 6</td> <td>V6.1</td> <td>V6.1</td> <td>V6.1</td> </tr> <tr> <td>V6.2.1</td> <td>V6.2.1</td> <td>V6.2.1</td> </tr> <tr> <td>Red Hat Enterprise Linux Version 7</td> <td>V6.2.1</td> <td>V6.2.1</td> <td>V6.2.1</td> </tr> </tbody> </table> <p>PathManager 2.0 for Linux or later (SPS)</p>	OS Version	Symantes Storage Foundation for Linux				Symantes File System	Symantes Volume Manager	Red Hat Enterprise Linux Version 5	V6.1	V6.1	V6.1	Red Hat Enterprise Linux Version 6	V6.1	V6.1	V6.1	V6.2.1	V6.2.1	V6.2.1	Red Hat Enterprise Linux Version 7	V6.2.1	V6.2.1	V6.2.1
OS Version	Symantes Storage Foundation for Linux																						
		Symantes File System	Symantes Volume Manager																				
Red Hat Enterprise Linux Version 5	V6.1	V6.1	V6.1																				
Red Hat Enterprise Linux Version 6	V6.1	V6.1	V6.1																				
	V6.2.1	V6.2.1	V6.2.1																				
Red Hat Enterprise Linux Version 7	V6.2.1	V6.2.1	V6.2.1																				
Memory	OS required memory + 7 MB or more																						
Disk capacity	1 MB or more for program capacity																						

## 1.2 Installation and Uninstallation

### 1.2.1 Installation

Install FileSystem Option by using the Red Hat Linux rpm (8) command according to the procedure below.

(1) Login as root.

\* Confirm that the following software is already installed.

If it is not installed, install it beforehand.

NEC Storage ControlCommand on Linux Ver9.3 later

(2) Confirm that FileSystem Option is not installed.

```
# rpm -q iSMfso
```

If FileSystem Option has already been installed, uninstall it.

(3) Insert the CD in the CD drive.

If a CD drive cannot be used, install by file transferring ismfso.rpm from another server.

(4) Mount the installation medium

Normally, an installation medium is mounted automatically by inserting it.

- Create the mount directory. (Example: /mnt/cdrom)

```
# mkdir -p /mnt/cdrom
```



- Mount using the mount command.  
The value of hdX differs according to the environment in which the command is used.  
`# mount -r dev/hdX /mnt/cdrom`
  - Move to the file system of the CD.
    - 32bit OS:  
`# cd /mnt/cdrom/IA32/`
    - 64bit OS:  
`# cd /mnt/cdrom/EM64/`
- (5) Install by executing the rpm command.  
`# rpm -ivh iSMfso.rpm`
- (6) Installation is complete when the following message is output.  
Installation completed.
- (7) Unmount the CD.
- Move from the file system of the CD.  
`# cd /`
  - Unmount using the umount command.  
`# umount /mnt/cdrom`  
If the CD was mounted automatically in (4) above, eject the disk.
  - Eject the CD.  
`# eject`

## 1.2.2 Uninstallation

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Uninstall FileSystem Option by using the Red Hat Linux rpm (8) command according to the procedure below.

(1) Login as root.

(2) Check whether a FileSystem Option command is running.

If one is running, wait for processing to end or forcibly end the FileSystem Option command.

(3) Uninstall by executing the rpm command.

```
# rpm -e iSMfso
```

(4) Uninstallation is complete when the following message is output.

Uninstallation completed.

When there are files which are not installed by FileSystem Option under the /opt/iSMfso directory, the directory and files under the directory are not deleted.

## 1.2.3 Updating

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To update the FileSystem Option software, perform software installation once the software that had been installed is uninstalled.