

# Veritas™ Dynamic Multi-Pathing readme

Linux

DMP 5.1 Rolling Patch 1 Patch 0



# Veritas™ Dynamic Multi-Pathing Readme

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# Veritas Dynamic Multi-Pathing

This document includes the following topics:

- [About Veritas Dynamic Multi-Pathing](#)
- [About this document](#)
- [About Veritas product licensing](#)
- [Installing Veritas Dynamic Multi-Pathing \(DMP\)](#)
- [System requirements](#)
- [Using VCS with Dynamic Multi-Pathing](#)
- [Early release issues and notes](#)

## About Veritas Dynamic Multi-Pathing

Veritas Dynamic Multi-Pathing (DMP) provides multipathing functionality for the operating system native devices configured on the system. DMP creates DMP metadevices (also known as DMP nodes) to represent all the device paths to the same physical LUN.

In previous Veritas releases, DMP was only available as a feature of Veritas Volume Manager (VxVM). DMP supported VxVM volumes and Veritas File System (VxFS) file systems on the DMP metadevices.

This release extends DMP metadevices to support OS native logical volume managers (LVM). You can create LVM volumes and volume groups on DMP metadevices.

In this release, Veritas Dynamic Multi-Pathing does not support Veritas File System (VxFS) on DMP devices.

Veritas Volume Manager (VxVM) volumes and disk groups can co-exist with LVM volumes and volume groups, but each device can only support one of the types. If a disk has a VxVM label, then the disk is not available to LVM. Similarly, if a disk is in use by LVM, then the disk is not available to VxVM.

## About this document

This document provides release information about Veritas Dynamic Multi-Pathing.

Before you continue, make sure that you are using the current version of this guide. This document version is:

Document version: 5.1RP1.0\_DMP.1

To check for a later version of this guide, refer to the following link:

[http://sfdoccentral.symantec.com/sf/5.1/linux/sf\\_notes.pdf](http://sfdoccentral.symantec.com/sf/5.1/linux/sf_notes.pdf)

Review this entire document before installing Veritas Dynamic Multi-Pathing.

See the *Veritas Dynamic Multi-Pathing Administrator's Guide*.

For more information about this release, refer to the following links and documents:

**Table 1-1**

Description	Location
Latest patches available for this release.	<a href="https://vos.symantec.com/patch/matrix">https://vos.symantec.com/patch/matrix</a>
The hardware compatibility list (HCL) contains information about supported hardware and is updated regularly.  Before installing Veritas Dynamic Multi-Pathing, review the current compatibility list to confirm the compatibility of your hardware and software.	<a href="http://entsupport.symantec.com/docs/330441">http://entsupport.symantec.com/docs/330441</a>
Release information about Veritas Cluster Server.	See the <i>Veritas Cluster Server Release Notes</i> .



Table 1-1 (continued)

Description	Location
Information about administering Veritas Dynamic Multi-Pathing.	See the <i>Veritas Dynamic Multi-Pathing Administrator's Guide</i> .

## About Veritas product licensing

This release of the Veritas products requires a license key. A software license is a legal instrument governing the usage or redistribution of copyright protected software. The administrator and company representatives must ensure that a server or cluster is entitled to the license level for the products installed. Symantec reserves the right to ensure entitlement and compliance through auditing.

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[www.symantec.com/techsupp/](http://www.symantec.com/techsupp/)

## Installing Veritas Dynamic Multi-Pathing (DMP)

This release introduces Dynamic Multi-Pathing (DMP) support for native devices. DMP enables new or existing non-root OS native volume groups and file systems to operate over DMP devices.

### To install and configure Dynamic Multi-Pathing

- 1 Make sure the requirements are met.  
See “[System requirements](#)” on page 11.
- 2 You must obtain a license for DMP before installing.  
See “[About Veritas product licensing](#)” on page 9.
- 3 Install Veritas Volume Manager (VxVM) 5.1RP1 in one of the following ways:
  - Install Storage Foundation 5.1 Rolling Patch 1 (5.1RP1), which includes Veritas Volume Manager as a component.  
See the Storage Foundation 5.1RP1 documentation for details.
  - Install Veritas Volume Manager (VxVM) as follows:
    - Install the 5.1 Veritas Volume Manager packages:

```
# rpm -ivh pathname VRTSvxvm VRTSaslapm  
VRTSvlic
```

- Apply the VxVM 5.1 RP1 patches. See the following site for the location of the latest patches:

<https://vos.symantec.com/patch/matrix>

- 4 Download the Dynamic Multi-Pathing 5.1RP1P0 binaries for your platform.

Veritas Dynamic Multi-Pathing 5.1RP1.0 for RHEL 5:

<https://vos.symantec.com/patch/detail/4122>

Veritas Dynamic Multi-Pathing 5.1RP1.0 for SLES 10:

<https://vos.symantec.com/patch/detail/4121>

Veritas Dynamic Multi-Pathing 5.1RP1.0 for SLES 11:

<https://vos.symantec.com/patch/detail/4123>

See the following site for the location of the latest patches:

<https://vos.symantec.com/patch/matrix>

- 5 Remove the VRTSvlic package and add the VRTSvlic package from step 4.

```
# rpm -uvh -nopreun pathname VRTSvlic
```

- 6 Install the DMP patch from step 4.

```
# rpm -Uhv VRTSvxvm-5.1.010.000-RP1_DMP_Native_Support_GA_RHEL5.x86_64.rpm
```

- 7 Configure VxVM to install the license and start the VxVM configuration daemon (`vxconfigd`):

```
# vxinstall
```

When prompted, enter the license key for a DMP license, a Storage Foundation Standard license, or a Storage Foundation Enterprise license.

- 8 If you have native volumes in use and operating over third party multi-pathing software, perform the steps to migrate the volumes to DMP.

For details about migrating, see the *Veritas Dynamic Multi-Pathing Administrator's Guide*.

- 9 If you installed a Storage Foundation Standard or Storage Foundation Enterprise license, then enable Dynamic Multi-Pathing with the following command:

```
# vxdmpadm settune dmp_native_support=on
```

If you installed a DMP license, this operation is automated.

## System requirements

Dynamic Multi-Pathing is available for the following operating systems:

LVM on Linux RHEL5, SLES 10 and SLES 11

## Using VCS with Dynamic Multi-Pathing

If you have Veritas Cluster Server, install the VCS patch.

[VCS 5.1RP1P1 for RHEL5](#)

[VCS 5.1RP1P1 for SLES 10](#)

[VCS 5.1RP1P1 for SLES 11](#)

## Early release issues and notes

In this release, Veritas Dynamic Multi-Pathing has the following limitations when DMP is used with LVM devices.

## Issues with manual upgrade of the VRTSvlic package

When you upgrade the VRTSvlic package with manual steps, some of the soft links may get lost. To prevent this, use the `--nopreun` option. For example:

```
# rpm -Uvh --nopreun VRTSvlic-3.02.51.007-0.x86_64.rpm
```

## Manual upgrade of the VRTSvlic package loses keyless product levels

If you upgrade the VRTSvlic package with manual steps, the product levels that were set using `vxkeyless` may be lost. The output of the `vxkeyless display` command will not display correctly.

---

**Note:** This behavior does not cause any other issues with functionality.

---

To prevent this, perform the following steps while manually upgrading the VRTSvlic package.

### To manually upgrade the VRTSvlic package

- 1 Note down the list of products configured on the node for keyless licensing:

```
# vxkeyless display
```

- 2 Set the product level to NONE.

```
# vxkeyless set NONE
```

- 3 Upgrade the VRTSvlic package.

```
# rpm -uvh -nopreun pathname VRTSvlic
```

- 4 Restore the list of products that you noted in step 1.

```
# vxkeyless set product[product]
```

## Device naming limitations

In order to use DMP for OS native device support, the device naming scheme must be enclosure-based naming (EBN) and the persistence attribute must be on.

The naming scheme cannot be changed after the feature is enabled.

## Disk access name limitations

The following limitations apply to disk access names:

- You cannot change the DMP name of a device when native device support is enabled. If you must change the DMP name, you must disable the feature, update the name and again enable the feature.

- You also cannot change the name for an enclosure which has at least one DMP device that is using native device support, because that would require the DMP device name to change.
- When native multipathing is enabled, you cannot assign device names manually using the `vxddladm assign names` command.

## Excluding arrays or paths from DMP

If an array includes at least one DMP device that is using native device support, you cannot exclude the array from DMP using the `vxddladm excludearray` command.

If a DMP device has the native device support enabled, you cannot exclude all of the paths from VxVM and DMP. You can exclude paths from VxVM as long as at least one path remains for the DMP device.

## Third party driver and foreign device support

When DMP devices have OS native device support enabled, do not add the paths of the DMP device to VxVM under the foreign disk category.

If a DMP device has a valid VxVM label, you cannot enable native device support on that device.

You cannot enable native device support on a DMP device if the device is in co-existence with any Third Party Multi-pathing Driver (TPD) meta-device.

The Symantec testing teams have not yet certified the procedures to migrate LVM volume groups over HDLM.

## Native LVM commands take a long time

DMP support for native devices is enabled with the command `vxddmpadm settune dmp_native_support=on`. If this command is used on a system with existing LVM volume groups, the volume groups are moved onto DMP devices. This operation may take a long time depending on the time taken by the LVM commands that are executed internally.

## Additional VCS configuration for NFS Agent

For a VCS service group for a LVM volume group to come up automatically on the failover node, specify "fsid=" in the Options for Share resources, to avoid a stale NFS file handle on the client across service group failover.

See the *Veritas™ Cluster Server Bundled Agents Reference Guide*.

[http://sfdoccentral.symantec.com/sf/5.1/linux/pdf/vcs\\_bundled\\_agents.pdf](http://sfdoccentral.symantec.com/sf/5.1/linux/pdf/vcs_bundled_agents.pdf)

## VCS known issues

The following sections describe known issues with VCS in this release.

### **Using lvchange command may cause LVMLogicalVolume agent entry points to time out (2050160)**

On SLES10 SP2 and SLES10 SP3, the `lvchange` command, used for activating mirrored volumes, does not return. This behavior causes LVMLogicalVolume agent entry points to time out. This is an issue with SLES10.

## Documentation errata in vxdkmpadm manual page

The `vxdkmpadm` manual page is missing the description of the tunable `'dmp_native_support'`.