

Veritas™ Dynamic Multi-Pathing Release Notes

HP-UX 11i v3

5.1 Service Pack 1



Veritas Dynamic Multi-Pathing Release Notes

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Technical Support

Symantec Technical Support maintains support centers globally. Technical Support's primary role is to respond to specific queries about product features and functionality. The Technical Support group also creates content for our online Knowledge Base. The Technical Support group works collaboratively with the other functional areas within Symantec to answer your questions in a timely fashion. For example, the Technical Support group works with Product Engineering and Symantec Security Response to provide alerting services and virus definition updates.

Symantec's support offerings include the following:

- A range of support options that give you the flexibility to select the right amount of service for any size organization
- Telephone and/or Web-based support that provides rapid response and up-to-the-minute information
- Upgrade assurance that delivers software upgrades
- Global support purchased on a regional business hours or 24 hours a day, 7 days a week basis
- Premium service offerings that include Account Management Services

For information about Symantec's support offerings, you can visit our Web site at the following URL:

www.symantec.com/business/support/index.jsp

All support services will be delivered in accordance with your support agreement and the then-current enterprise technical support policy.

Contacting Technical Support

Customers with a current support agreement may access Technical Support information at the following URL:

www.symantec.com/business/support/contact_techsupp_static.jsp

Before contacting Technical Support, make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer on which the problem occurred, in case it is necessary to replicate the problem.

When you contact Technical Support, please have the following information available:

- Product release level

- Hardware information
- Available memory, disk space, and NIC information
- Operating system
- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
 - Recent software configuration changes and network changes

Licensing and registration

If your Symantec product requires registration or a license key, access our technical support Web page at the following URL:

www.symantec.com/business/support/

Customer service

Customer service information is available at the following URL:

www.symantec.com/business/support/

Customer Service is available to assist with non-technical questions, such as the following types of issues:

- Questions regarding product licensing or serialization
- Product registration updates, such as address or name changes
- General product information (features, language availability, local dealers)
- Latest information about product updates and upgrades
- Information about upgrade assurance and support contracts
- Information about the Symantec Buying Programs
- Advice about Symantec's technical support options
- Nontechnical presales questions
- Issues that are related to CD-ROMs or manuals

Documentation

Product guides are available on the media in PDF format. Make sure that you are using the current version of the documentation. The document version appears on page 2 of each guide. The latest product documentation is available on the Symantec website.

<http://www.symantec.com/business/support/overview.jsp?pid=15107>

Your feedback on product documentation is important to us. Send suggestions for improvements and reports on errors or omissions. Include the title and document version (located on the second page), and chapter and section titles of the text on which you are reporting. Send feedback to:

docs@symantec.com

About Symantec Connect

Symantec Connect is the peer-to-peer technical community site for Symantec's enterprise customers. Participants can connect and share information with other product users, including creating forum posts, articles, videos, downloads, blogs and suggesting ideas, as well as interact with Symantec product teams and Technical Support. Content is rated by the community, and members receive reward points for their contributions.

<http://www.symantec.com/connect/storage-management>

Support agreement resources

If you want to contact Symantec regarding an existing support agreement, please contact the support agreement administration team for your region as follows:

Asia-Pacific and Japan

customercare_apac@symantec.com

Europe, Middle-East, and Africa

semea@symantec.com

North America and Latin America

supportsolutions@symantec.com

Dynamic Multi-Pathing Release Notes

This document includes the following topics:

- [About this document](#)
- [About Veritas Dynamic Multi-Pathing](#)
- [About Symantec Operations Readiness Tools](#)
- [Important release information](#)
- [System requirements](#)
- [Software limitations](#)
- [Known issues](#)
- [Documentation](#)

About this document

This document provides important information about Veritas Dynamic Multi-Pathing (Dynamic Multi-Pathing) version for HP-UX 11i v3. Review this entire document before you install or upgrade Dynamic Multi-Pathing.

The information in the Release Notes supersedes the information provided in the product documents for Dynamic Multi-Pathing.

This is Document version: 5.1SP1.0 of the *Veritas Dynamic Multi-Pathing Release Notes*. Before you start, ensure that you are using the latest version of this guide. The latest product documentation is available on the Symantec Web site at:

<http://www.symantec.com/business/support/overview.jsp?pid=15107>

About Veritas Dynamic Multi-Pathing

Veritas Dynamic Multi-Pathing (DMP) provides multi-pathing 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 on DMP metadevices, and Veritas File System (VxFS) file systems on those volumes.

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

DMP does not support migrating the root LVM volume group onto DMP.

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 Symantec Operations Readiness Tools

Symantec™ Operations Readiness Tools (SORT) is a set of Web-based tools and services that lets you proactively manage your Symantec enterprise products. SORT automates and simplifies administration tasks, so you can manage your data center more efficiently and get the most out of your Symantec products. SORT lets you do the following:

- Collect, analyze, and report on server configurations across UNIX or Windows environments. You can use this data to do the following:
 - Assess whether your systems are ready to install or upgrade Symantec enterprise products
 - Tune environmental parameters so you can increase performance, availability, and use
 - Analyze your current deployment and identify the Symantec products and licenses you are using
- Upload configuration data to the SORT Web site, so you can share information with coworkers, managers, and Symantec Technical Support

- Compare your configurations to one another or to a standard build, so you can determine if a configuration has "drifted"
- Search for and download the latest product patches
- Get notifications about the latest updates for:
 - Patches
 - Hardware compatibility lists (HCLs)
 - Array Support Libraries (ASLs)
 - Array Policy Modules (APMs)
 - High availability agents
- Determine whether your Symantec enterprise product configurations conform to best practices
- Search and browse the latest product documentation
- Look up error code descriptions and solutions

Note: Certain features of SORT are not available for all products.

To access SORT, go to:

<http://sort.symantec.com>

Important release information

- The latest product documentation is available on the Symantec Web site at: <http://www.symantec.com/business/support/overview.jsp?pid=15107>
- For important updates regarding this release, review the Late-Breaking News TechNote on the Symantec Technical Support website: <http://www.symantec.com/docs/TECH144835>
- For the latest patches available for this release, go to: <http://sort.symantec.com/>

System requirements

This section describes the system requirements for this release.

Hardware compatibility list

VCS supports vpar/npar from release VCS 5.0.1 and later.

The compatibility list contains information about supported hardware and is updated regularly. For the latest information on supported hardware go to the following URL:

<http://entsupport.symantec.com/docs/330441>

Supported HP-UX operating systems

This release of Veritas products can only be installed on a system running HP-UX B.11.31.1009, HP-UX 11i Version 3 September 2010 Operating Environments Update Release or later on the PA-RISC or Itanium platforms.

To verify the operating system version use the `swlist` command as follows:

```
# swlist | grep HPUX11i
HPUX11i-DC-OE      B.11.31.1009    HP-UX Data Center Operating Environment
```

JFS must be installed on your system prior to installing any Veritas software.

To verify that JFS is installed use the `swlist` command as follows:

```
# swlist -l product JFS
JFS                B.11.31        Base VxFS File System 4.1 for HP-UX
```

Veritas Storage Foundation memory requirements

A minimum of 1 GB of memory is strongly recommended.

Software limitations

This section covers the software limitations of this release.

See “[Documentation](#)” on page 17.

DMP settings for NetApp storage attached environment

To minimize the path restoration window and maximize high availability in the NetApp storage attached environment, set the following DMP tunables:

Table 1-1

Parameter name	Definition	New value	Default value
dmp_restore_interval	DMP restore daemon cycle	60 seconds.	300 seconds.
dmp_path_age	DMP path aging tunable	120 seconds.	300 seconds.

The change is persistent across reboots.

To change the tunable parameters

- 1 Issue the following commands:

```
# vxddmpadm settune dmp_restore_interval=60
# vxddmpadm settune dmp_path_age=120
```

- 2 To verify the new settings, use the following commands:

```
# vxddmpadm gettune dmp_restore_interval
# vxddmpadm gettune dmp_path_age
```

LVM volume group in unusable state if last path is excluded from DMP (1976620)

When a DMP device is used by a native LVM volume group, do not exclude the last path to the device. This can put the LVM volume group in an unusable state.

Known issues

This section covers the known issues in this release.

See the corresponding Release Notes for a complete list of known issues related to that product.

See [“Documentation”](#) on page 17.

Warnings appear during installation processes when VxVM root support is enabled (2018730)

When Veritas Volume Manager (VxVM) root support is enabled on a HP-UX 11i version 3 system, the following warnings may appear while you are performing a Cold-install or Update operation with Ignite-UX:

```
Oct 19 18:12:38 vxvm:vxconfigd: V-5-1-0 ddl_migrate_to_devlist_instr  
Turning off NMP Alua mode failed for dmpnode 0x0 with ret = 13  
Oct 19 18:12:38 vxvm:vxconfigd: V-5-1-0 ddl_add_disk_instr: Turning off  
NMP Alua mode failed for dmpnode 0xffffffff with ret = 13
```

These warnings are harmless and can safely be ignored. The messages do not affect functionality.

Issues with ALUA arrays that support standby Asymmetric Access State (AAS) when using EFI disks on HP 11.31 (2057649)

This issue was seen with ALUA arrays that support standby Asymmetric Access State (AAS) when Extensible Firmware Interface (EFI) disks are present on the system. The HP-UX native multipath plugin (NMP) driver does not recognize the hardware path that DMP has selected and selects the standby path for internal I/Os.

This issue causes delays with Veritas Dynamic Multi-Pathing (DMP) device discovery and other DMP commands. DMP does not support SAN booting with these arrays on HP-UX 11i version 3.

DMP not supported with LVM 2.2 (2071691)

In this release, Veritas Dynamic Multi-Pathing (DMP) is supported with Logical Volume Manager (LVM) versions 1.0, 2.0, and 2.1. DMP devices cannot be used with LVM 2.2. The `vgchange` command hangs or causes a panic.

DMP path discovery behavior when a device is removed from PowerPath control (2144891)

To remove a device from PowerPath control, you use the `powermt unmanage` command. When you remove a device from PowerPath control, DMP requires two device discovery cycles to discover the attributes of the paths of the device correctly.

Work around:

Issue the following command to start the device discovery:

```
# vxdisk scandisks
```

After the discovery completes, issue the command again to start a second device discovery cycle.

Path name character limit when converting LVM volumes over DMP to VxVM volumes over DMP (2035399)

The HP-UX `lvdisplay` utility truncates physical volume path names to 22 characters. If a path name is truncated, utilities such as `vxvmconvert` or `vxautoconvert` that depend on the `lvdisplay` output may not function properly. If you intend to use the `vxvmconvert` utility or the `vxautoconvert` utility to convert LVM over DMP to VxVM over DMP, Symantec recommends that you reduce the length of the enclosure name to at most 8 characters before enabling native stack support.

I/O fails on some paths after array connectivity is restored, due to high restore daemon interval (2091619)

If a path loses connectivity to the array, the path is marked with the `NODE_SUSPECT` flag. After the connectivity is restored, the restore daemon detects that the path is restored when the restore daemon probes the paths. The restore daemon clears the `NODE_SUSPECT` flag and makes the path available for I/O. The restore daemon probes the paths at the interval set with the tunable parameter `dmp_restore_interval`. If you set the `dmp_restore_interval` parameter to a high value, the paths are not available for I/O until the next interval.

Changes in enclosure attributes are not persistent after an upgrade to VxVM 5.1 SP1 (2082414)

The Veritas Volume Manager (VxVM) 5.1 SP1 includes several array names that differ from the array names in previous releases. Therefore, if you upgrade from a previous release to VxVM 5.1 SP1, changes in the enclosure attributes may not remain persistent. Any enclosure attribute set for these arrays may be reset to the default value after an upgrade to VxVM 5.1 SP1. Manually reconfigure the enclosure attributes to resolve the issue.

[Table 1-2](#) shows the Hitachi arrays that have new array names.

Table 1-2 Hitachi arrays with new array names

Previous name	New name
TagmaStore-USP	Hitachi_USP
TagmaStore-NSC	Hitachi_NSC
TagmaStoreUSPV	Hitachi_USP-V
TagmaStoreUSPVM	Hitachi_USP-VM

Table 1-2 Hitachi arrays with new array names (*continued*)

Previous name	New name
<New Addition>	Hitachi_R700
Hitachi AMS2300 Series arrays	New array names are based on the Model Number 8x. For example, AMS_100, AMS_2100, AMS_2300, AMS_2500, etc.

In addition, the Array Support Library (ASL) for the enclosures XIV and 3PAR now converts the cabinet serial number that is reported from Hex to Decimal, to correspond with the value shown on the GUI. The persistence of the enclosure name is achieved with the `/etc/vx/array.info` file, which stores the mapping between cabinet serial number and array name. Because the cabinet serial number has changed, any enclosure attribute set for these arrays may be reset to the default value after an upgrade to VxVM 5.1 SP1. Manually reconfigure the enclosure attributes to resolve the issue.

The cabinet serial numbers are changed for the following enclosures:

- IBM XIV Series arrays
- 3PAR arrays

Enclosure name limitation when using HP-UX LVM pvcreate command on DMP device

For HP-UX LVM on a DMP device, you cannot use the `pvcreate` command if the enclosure-based name of the DMP device contains the 's' character. This is a limitation of the `pvcreate` utility on HP-UX LVM.

Work around:

Rename the enclosure to replace the 's' with some other character in the name of the enclosure before you run the `pvcreate` command. To rename the enclosure, use the following command:

```
# vxddmpadm setattr enclosure enclr_name name=new_enclr_name
```

Adding a DMP device or its OS device path as a foreign disk is not supported (2062230)

When DMP native support is enable, adding a DMP device or its OS device path as a foreign disk using the `vxddladm addforeign` command is not supported. Using this command can lead to unexplained behaviour.

Issues related to installation

This section describes the known issues during installation and upgrade.

While configuring authentication passwords through the Veritas product installer, the double quote character is not accepted (1245237)

The Veritas product installer prompts you to configure authentication passwords when you configure Veritas Cluster Server (VCS) as a secure cluster, or when you configure Symantec Product Authentication Service (AT) in authentication broker (AB) mode. If you use the Veritas product installer to configure authentication passwords, the double quote character (") is not accepted. Even though this special character is accepted by authentication, the installer does not correctly pass the characters through to the nodes.

Workaround: There is no workaround for this issue. When entering authentication passwords, do not use the double quote character (").

Incorrect error messages: error: failed to stat, etc. (2120567)

During installation, you may receive errors such as, "error: failed to stat /net: No such file or directory." Ignore this message. You are most likely to see this message on a node that has a mount record of /net/x.x.x.x. The /net directory, however, is unavailable at the time of installation.

EULA changes (2161557)

The locations for all EULAs have changed.

The English EULAs now appear in */product_dir/EULA/en/product_eula.pdf*

The EULAs for Japanese and Chinese now appear in those language in the following locations:

The Japanese EULAs appear in */product_dir/EULA/ja/product_eula.pdf*

The Chinese EULAs appear in */product_dir/EULA/zh/product_eula.pdf*

NetBackup 6.5 or older version is installed on a VxFS file system (2056282)

NetBackup 6.5 or older version is installed on a VxFS file system. Before upgrading to Veritas Storage Foundation (SF) 5.1 SP1, the user umounts all VxFS file systems including the one which hosts NetBackup binaries (/usr/openv). While upgrading SF 5.1 SP1, the installer fails to check if NetBackup is installed on the same

machine and uninstalls the shared infrastructure packages VRTSspbx, VRTSat, and VRTSisco, which causes NetBackup to stop working.

Workaround: Before you umount the VxFS file system which hosts NetBackup, copy the two files `/usr/opensv/netbackup/bin/version` and `/usr/opensv/netbackup/version` to `/tmp` directory. After you umount the NetBackup file system, manually copy these two version files from `/tmp` to their original path. If the path doesn't exist, make the same directory path with the command: `mkdir -p /usr/opensv/netbackup/bin` and `mkdir -p /usr/opensv/netbackup/bin`. Run the installer to finish the upgrade process. After upgrade process is done, remove the two version files and their directory paths.

How to recover systems already affected by this issue: Manually install VRTSspbx, VRTSat, VRTSisco packages after the upgrade process is done.

During product migration the installer overestimates disk space use (2088827)

The installer displays the space that all the product depots and patches needs. During migration some depots are already installed and during migration some depots are removed. This releases disk space. The installer then claims more space than it actually needs.

Workaround: Run the installer with `-nospacecheck` option if the disk space is less than that installer claims but more than actually required.

The VRTSacclib depot is deprecated (2032052)

The VRTSacclib depot is deprecated. For installation, uninstallation, and upgrades, note the following:

- Fresh installs: Do not install VRTSacclib.
- Upgrade: Ignore VRTSacclib.
- Uninstall: Ignore VRTSacclib.

The `-help` option for certain commands prints an erroneous argument list (2138046)

For `installsf`, `installat`, and the `installdmp` scripts, although the `-help` option prints the `-security`, `-fencing`, `-addnode` options as supported, they are in fact not supported. These options are only applicable for high availability products.

Documentation

Product guides are available on the documentation disc in PDF formats. Symantec recommends copying pertinent information, such as installation guides and release notes, from the disc to your system's `/opt/VRTS/docs` directory for reference.

Documentation set

[Table 1-3](#) lists the documentation for Veritas Dynamic Multi-Pathing.

Table 1-3 Veritas Dynamic Multi-Pathing documentation

Document title	File name
<i>Veritas Dynamic Multi-Pathing Release Notes</i>	dmp_notes_51SP1_hpux.pdf
<i>Veritas Dynamic Multi-Pathing Installation Guide</i>	dmp_install_51SP1_hpux.pdf
<i>Veritas Dynamic Multi-Pathing Administrator's Guide</i>	dmp_admin_51SP1_hpux.pdf

[Table 1-4](#) lists the documentation for Symantec Product Authentication Service (AT).

Table 1-4 Symantec Product Authentication Service documentation

Title	File name
<i>Symantec Product Authentication Service Release Notes</i>	vxat_notes.pdf
<i>Symantec Product Authentication Service Administrator's Guide</i>	vxat_admin.pdf

Manual pages

The manual pages for Veritas Storage Foundation and High Availability Solutions products are installed in the `/opt/VRTS/man` directory.

Set the `MANPATH` environment variable so the `man(1)` command can point to the Veritas Storage Foundation manual pages:

- For the Bourne or Korn shell (`sh` or `ksh`), enter the following commands:

```
MANPATH=$MANPATH:/opt/VRTS/man
export MANPATH
```

- For C shell (`csh` or `tcsh`), enter the following command:

```
setenv MANPATH ${MANPATH}:/opt/VRTS/man
```

See the `man(1)` manual page.