

# Veritas Storage Foundation™ Release Notes

Linux for IBM Power

5.0 Release Update 3



# Veritas Storage Foundation™ Release Notes

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- 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

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Europe, Middle-East, and Africa	<a href="mailto:semea@symantec.com">semea@symantec.com</a>
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Select your country or language from the site index.

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# Storage Foundation Release Notes - Chapter 1

This chapter includes the following topics:

- [Overview of this release](#)
- [Required patches](#)
- [System requirements](#)
- [Component product release notes](#)

## Overview of this release

The Veritas Storage Foundation 5.0 RU3 release is based on 5.0 MP3 RP3 and includes support for Linux for IBM Power running Red Hat Enterprise Linux 5 update 2 (RHEL5 u2) and later, and SUSE Linux Enterprise Server 10 Service Pack 2 (SLES10 SP2).

There is no support for Xen or VMware in this 5.0 RU3 release.

This document provides release information about the products in the Veritas Storage Foundation 5.0 Release Update 3 product line:

- Veritas Storage Foundation™ (Basic, Standard, Standard HA, Enterprise, and Enterprise HA)
- Veritas Storage Foundation™ for Oracle (Standard and Enterprise Editions)
- Veritas Storage Foundation™ for Sybase (Standard, Enterprise, and HA Editions)
- Veritas Storage Foundation™ for DB2 (Standard, Enterprise, and HA Editions)
- Veritas™ Volume Replicator (VVR)

- Veritas Storage Foundation™ Cluster File System (SFCFS) (Standard and HA Editions)
- Veritas Storage Foundation™ Cluster File System for Oracle RAC (SFCFS for Oracle RAC)

Each of these products is activated by a single license key. You must obtain a license key before installing the product.

See the *Veritas Storage Foundation Installation Guide* for license key information.

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**Note: SFCFS and SFCFS for Oracle RAC Installations** - For the 5.0 RU3 release, the *Veritas Storage Foundation Installation Guide* includes relevant installation and configuration information for Veritas Storage Foundation Cluster File System and Veritas Storage Foundation Cluster File System for Oracle RAC.

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Release Update 3 (5.0 RU3) is cumulative and based on Storage Foundation 5.0 MP3 RP3. The documents updated for this 5.0 RU3 release are:

- Veritas Storage Foundation and High Availability Solutions Getting Started Guide
- Veritas Storage Foundation Release Notes
- Veritas Storage Foundation Installation Guide
- Veritas Cluster Server Installation Guide
- Veritas Cluster Server Release Notes

The 5.0 RU3 documentation set is available as PDF files on the product discs and on the Symantec website at the following URL:

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

For the latest information on updates, patches, and known issues regarding this release, see the Late-Breaking News TechNote on the Symantec Technical Support website:

<http://entsupport.symantec.com/docs/281993>

See the Hardware Compatibility List (HCL) for information about hardware support for this 5.0 RU3 release. The hardware TechNote is available at:

<http://entsupport.symantec.com/docs/283282>

Review this entire document before installing your Veritas Storage Foundation product.

## About the Simple Admin utility

Veritas Storage Foundation has an optional utility, called Simple Admin, that you can use with Veritas File System and Veritas Volume Manager. The Simple Admin utility simplifies storage management by providing a single interface to the administrator and by abstracting the administrator from many of the commands needed to create and manage volumes, disks groups, and file systems.

You can download the Simple Admin utility for Veritas Storage Foundation from the following URL:

[http://www.symantec.com/business/products/agents\\_options.jsp?pcid=2245&pvid=203\\_1](http://www.symantec.com/business/products/agents_options.jsp?pcid=2245&pvid=203_1)

## About Storage Foundation Manager

Storage Foundation Manager (SFM) is a free license add-on to Veritas Storage Foundation that provides centralized application, server and storage management capabilities across a heterogeneous infrastructure.

SFM is not included with the Storage Foundation and High Availability Solutions release and must be obtained separately. SFM also requires a Central Server component that is available for Windows, RHEL, and Solaris SPARC.

You can download SFM packages and SFM Add-ons from the following URL:

<http://go.symantec.com/vom>

## Required patches

The 5.0 RU3 release is based on 5.0 MP3 RP3 and includes support for Linux for IBM Power running Red Hat Enterprise Linux 5 Update 2 (RHEL5 u2) and later, and SuSE Linux Enterprise Server 10 Service Pack 2 (SLES10 SP2).

A Sybase-specific patch for this 5.0 RU3 release (referenced earlier in these release notes as case ID 11555841) is in development and will be available from the Symantec Patch Central site at:

<https://vias.symantec.com/labs/vpcs/vpcs>

## System requirements

This section describes the system requirements for this 5.0 RU3 release.

## Storage Foundation supported Linux operating systems

This section describes the Storage Foundation supported Linux for IBM Power operating systems.

Storage Foundation operates on the following Linux for IBM Power operating systems distributed by Red Hat and SuSE:

- Red Hat Enterprise Linux 5 update 2 (RHEL5 u2) and later
- SuSE Linux Enterprise Server 10 Service Pack 2 (SLES10 SP2)

The following table lists the supported kernel versions and architecture for each Linux for IBM Power operating system version in this 5.0 RU3 release.

**Table 1-1** Supported Linux operating system and kernel versions

Operating system	Kernel	Architecture
RHEL 5 Update 2 and later	2.6.18-92.el5	ppc64
SLES 10 with SP2	2.6.16.60-0.21	ppc64

Symantec supports only Red Hat and SUSE distributed kernel binaries. Symantec products operate on subsequent kernel and patch releases provided the operating systems maintain kernel ABI (application binary interface) compatibility.

Information about the latest supported Red Hat erratas and updates and SUSE service packs is available in the following Late-Breaking News TechNote. The TechNote also includes any updates to the supported operating systems and software. Read this Late-Breaking News TechNote before you install Symantec products.

<http://entsupport.symantec.com/docs/281993>

## Storage Foundation supported Linux operating systems

This section describes the Storage Foundation supported Linux operating systems.

Storage Foundation operates on the following Linux operating systems and kernels distributed by Red Hat and SuSE:

- Red Hat Enterprise Linux 5 (RHEL 5) with Update 2 (2.6.18-92.el5 kernel) or later on ppc64
- SuSE Linux Enterprise Server 10 (SLES 10) with SP2 (2.6.16.60-0.21 kernel) on ppc64

If your system is running an older version of either Red Hat Enterprise Linux or SuSE Linux Enterprise Server, you must upgrade it before attempting to install

the Veritas Storage Foundation software. Consult the Red Hat or SuSE documentation for more information on upgrading your system.

## Supported Linux operating system updates

Veritas products will operate on subsequent kernel and patch releases provided the operating systems maintain kernel application binary interface (ABI) compatibility.

Information about the latest supported Red Hat errata and updates and SuSE service packs is available in the following Late-Breaking News TechNote.

<http://entsupport.symantec.com/docs/281993>

Read this TechNote before installing any Veritas product.

## Storage Foundation Cluster File System supported Linux operating systems

This section describes the Storage Foundation Cluster File System supported Linux operating systems.

Storage Foundation Cluster File System operates on the following Linux for IBM Power operating systems and kernel binaries distributed by Red Hat and SuSE:

- Red Hat Enterprise Linux 5 (RHEL 5) with Update 2 (2.6.18-92.el5 kernel) or later on ppc64
- SuSE Linux Enterprise Server 10 (SLES 10) with SP2 (2.6.16.60-0.21 kernel) on ppc64

## Storage Foundation Cluster File System node requirements

All nodes in a Cluster File System must have the same operating system version.

## Storage Foundation memory requirements

A minimum of 1 GB of memory is strongly recommended.

## Storage Foundation Cluster File System memory requirements

2 GB of memory is required.

## Storage Foundation supported DB2 versions

DB2 versions 9.5 and 9.7 are supported on the Linux operating systems listed above for this 5.0 RU3 release.

## Storage Foundation supported Oracle versions

Oracle version 10gR2 (10.2) is supported on the Linux operating systems listed above for this 5.0 RU3 release.

## Storage Foundation supported Sybase versions

Sybase ASE version 15 is supported on the Linux operating systems listed above for this 5.0 RU3 release.

## Storage Foundation Cluster File System Oracle versions

Oracle versions 10g Release 2 is supported for use with Storage Foundation Cluster File System for Oracle RAC.

## Software and hardware requirements

The hardware compatibility list (HCL) contains the latest information about supported hardware and software and is updated regularly.

Before installing or upgrading Veritas Volume Manager, review the current compatibility list to confirm the compatibility of your hardware and software.

The hardware compatibility list (HCL) is available at:

<http://entsupport.symantec.com/docs/332581>

The hardware TechNote is available at:

<http://entsupport.symantec.com/docs/283282>

If you do not find your hardware or software listed or if you have questions about the information in the compatibility list, contact Veritas Technical Services.

## VxVM licenses

The following table shows the levels of licensing in Veritas Volume Manager and the features supported at each level.

[Table 1-2](#) describes the levels of licensing in Veritas Volume Manager and supported features.

**Table 1-2** Levels of licensing in Veritas Volume Manager and supported features

VxVM License	Description of Supported Features
Full	Concatenation, spanning, rootability, volume resizing, multiple disk groups, co-existence with native volume manager, striping, mirroring, DRL logging for mirrors, striping plus mirroring, mirroring plus striping, RAID-5, RAID-5 logging, Smartsync, hot sparing, hot-relocation, online data migration, online relayout, volume snapshots, volume sets, Intelligent Storage Provisioning, FastResync with Instant Snapshots, Storage Expert, Device Discovery Layer (DDL), Dynamic Multipathing (DMP), and Veritas Enterprise Administrator (VEA).
Add-on Licenses	Features that augment the Full VxVM license such as clustering functionality (cluster-shareable disk groups and shared volumes) and Veritas Volume Replicator.

**Note:** You need a Full VxVM license to make effective use of add-on licenses to VxVM.

#### To see the license features that are enabled in VxVM

- ◆ Enter the following command:

```
# vxdctl license
```

## Cross-Platform Data Sharing licensing

The Cross-Platform Data Sharing (CDS) feature is also referred to as Portable Data Containers.

The ability to import a CDS disk group on a platform that is different from the platform on which the disk group was last imported is controlled by a CDS license. CDS licenses are included as part of the Veritas Storage Foundation license.

## Component product release notes

In addition to reading these Release Notes, review all component product release notes before installing the product.

The component product release notes for this release are available as PDF files on the product discs and on the Symantec website at the following URL:

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



# Storage Foundation Release Notes - Chapter 2

This chapter includes the following topics:

- [Software limitations](#)
- [Known issues](#)
- [Documentation](#)

## Software limitations

The following sections describe the Veritas Storage Foundation software limitations in this release.

### Veritas Storage Foundation software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

#### **5.0 RU3 Veritas Storage Foundation software limitations**

There are no new additional Veritas Storage Foundation software limitations in the 5.0 RU3 release.

### Veritas Volume Manager software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/306947>

## 5.0 RU3 Veritas Volume Manager software limitations

There following software limitation exists in this 5.0 RU3 release of Veritas Volume Manager.

### Limited root disk encapsulation support (1845502)

Root disk encapsulation is not supported on RHEL5 u3 and u4 at this time for this 5.0 RU3 release (although it is supported on SLES 10 SP2 and RHEL 5 u2).

## 5.0 MP3 Veritas Volume Manager software limitations

The following incident is the new software limitation for the 5.0 MP3 release of Veritas Volume Manager.

### Devices and some paths are not discovered properly with IBM's DS4700 disk array after a reboot (1205369)

On a system with IBM's DS4700 disk array, use fewer than 30 LUNs to ensure that the disk array discovers all of the devices and paths after a reboot.

## Veritas File System software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

## 5.0 Release Update 3 Veritas File system software limitations

The following are new additional software limitations in this 5.0 Release Update 3 release of Veritas File System.

### Support of 32 terabyte file systems

Only Veritas Storage Foundation Enterprise and Veritas Storage Foundation Enterprise HA support file systems that are greater than 32 TB.

## Veritas Storage Foundation Cluster File System software limitations

Software limitations in the Veritas Storage Foundation Cluster File System are listed in the *Veritas Storage Foundation Cluster File System 5.0 Release Notes*, which is available at the following URL:

<http://entsupport.symantec.com/docs/283857>

## Veritas Storage Foundation Cluster File System 5.0 RU3 software limitations

There are no new additional software limitations in the 5.0 RU3 release of Veritas Storage Foundation Cluster File System.

## Veritas Storage Foundation Cluster File System 5.0 MP3 software limitations

This section lists the software limitations in this release of Veritas Storage Foundation Cluster File System.

### Quick I/O, ODM, mount -o cio, and the VX\_CONCURRENT advisory are mutually exclusive

The `VX_CONCURRENT` advisory cannot be set on a file that is actively open by Quick I/O or ODM. A file that has the `VX_CONCURRENT` advisory set may not be concurrently opened by Quick I/O or ODM. Quick I/O and ODM access are not allowed for any files on a file system that is mounted with the `-o cio` mount option.

## Veritas Storage Foundation Cluster File System for Oracle RAC software limitations

The following sections list software limitations for Veritas Storage Foundation Cluster File System for Oracle RAC.

### 5.0 RU3 Veritas Storage Foundation Cluster File System for Oracle RAC software limitations

There are no additional software limitations in the 5.0 RU3 release of Veritas Storage Foundation Cluster File System for Oracle RAC.

### 5.0 MP3 Veritas Storage Foundation Cluster File System for Oracle RAC software limitations

The following are software limitations in the 5.0 MP3 release of Veritas Storage Foundation Cluster File System for Oracle RAC.

#### I/O Fencing

Veritas Storage Foundation Cluster File System (SFCFS) for Oracle RAC is not licensed to support the I/O Fencing feature. If you use the product installer or installation scripts, you are not given the option during installation to enable I/O Fencing, and the I/O Fencing driver will be disabled. If you install the product

manually, use the `/etc/vxfen.d/vxfenmode_disabled` file as a template for the `/etc/vxfenmode` configuration file.

If you subsequently enable I/O Fencing, importing a shared disk group will fail with the following error message:

```
VxVM vxdg ERROR V-5-1-10978 Disk group shared_dg: import failed:  
License has expired or is not available for operation
```

To verify the state of the I/O Fencing driver, use the `/sbin/vxfenadm -d` command.

Storage Foundation Cluster File System for Oracle RAC does not support Symantec's implementation of SCSI-3 PGR based I/O fencing and Oracle Clusterware (CRS) is expected to handle any split-brain situations. More information is available at the following URL:

<http://entsupport.symantec.com/docs/306411>

### Avoiding the serial split brain condition

Veritas Storage Foundation Cluster File System (SFCFS) for Oracle RAC does not include support for the I/O Fencing feature. As a result, SFCFS requires that two heartbeat links be configured during installation. When a node is reduced to a single heartbeat connection, SFCFS can no longer discriminate between the loss of a system and the loss of the final network connection. This "jeopardy" state affects all applications that use the cluster file system mount points. (Jeopardy cannot be avoided as the I/O Fencing feature is not available.)

If a node fails after the jeopardy state has been notified, all the cluster nodes cease to be members of the shared disk group, but the mounted cluster file systems are not disabled on all the nodes in the cluster. This is fine because Oracle's native fencing will evict the problem node from the cluster and prevent potential data corruption. The surviving cluster nodes will be unaffected and continue to operate.

Oracle's native fencing will evict the problem node from the cluster if either of the following events occur:

- Simultaneous failure of both heartbeat links to a node.
- A node hangs and is unable to respond to heartbeat messages.

## Veritas Storage Foundation for Oracle software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

## 5.0 RU3 Veritas Storage Foundation for Oracle software limitations

There are no additional Veritas Storage Foundation for Oracle software limitations in the 5.0 RU3 release.

## Veritas Storage Foundation for DB2 software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283990>

## 5.0 RU3 Veritas Storage Foundation for DB2 software limitations

There are no additional Veritas Storage Foundation for DB2 software limitations in this 5.0 RU3 release.

## Veritas Storage Foundation for Databases software limitations

Software limitations in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

## 5.0 RU3 Veritas Storage Foundation for Databases software limitations

There are no additional Veritas Storage Foundation for Databases software limitations in this 5.0 RU3 release.

## 5.0 MP3 Veritas Storage Foundation for Databases software limitations

The following are new additional software limitations in this 5.0 MP3 release of Veritas Storage Foundation for Databases software limitations.

### Security-enhanced Linux on Red Hat Enterprise Linux 5

Due to limitations with Oracle's and DB2's libraries, Storage Foundation cannot be used with security-enhanced Linux (SE Linux) enabled. Disable SE Linux in these environments.

## 5.0 MP2 Veritas Storage Foundation for Databases software limitations

The following are additional software limitations in the 5.0 MP2 release of Veritas Storage Foundation for Databases.

### Deep mapping unsupported

Deep mapping on EMC SYMCLI is currently not supported.

### Use of buffered I/O

VxFS provides sequential consistency among the read and write accesses to a file. That is, the results of these reads and writes appear as if they occurred in a serial order consistent with program order, and each access appears to be atomic. This is consistent with traditional UNIX file system semantics for reads and writes.

Other Linux file systems do not guarantee atomicity of reads and writes, which allows more efficient implementation, but also requires that applications use other mechanisms to achieve the same level of consistency if they require it.

VxFS file consistency can be relaxed in several ways. In case of a cluster mount, reads from and writes to a file are not considered conflicting unless they operate on an overlapping byte range. On a local mount, the user can request that the Concurrent I/O option be used on a specific file. This will mean that reads and writes are not guaranteed to be atomic, which can be desirable behavior for some applications.

## 5.0 MP1 Veritas Storage Foundation for Databases software limitations

The following are additional software limitations in the 5.0 MP1 release of Veritas Storage Foundation for Databases.

### Some features stop working after a Global Cluster failover (563603)

Some Storage Foundation for Databases features do not work correctly after a Global Cluster (GCO) Failover. In 5.0, the Storage Foundation for Database (SFDB) repository and tools do not manage virtual hostnames correctly in a Global Cluster environment. The SFDB repository does not correctly adjust to the secondary host after the failover.

Features like Storage Checkpoint, Database FlashSnap, the scheduler, and Database Dynamic Storage Tiering (DBDST) will not function as normal after a failover. However, features such as Oracle Disk Manager (ODM), Quick I/O, and Concurrent I/O (CIO) will continue to work after a failover. This issue will be fixed after the next release.

### **Differing locales produces unintelligible characters in GUI (605487)**

The GUI does not support database users having a different locale than the superuser's locale. The GUI will display unintelligible characters if the SFDB repository server starts with a locale that is different from the database user locale (client).

### **DBDST limitations with non-English filenames and placement class names (599164)**

DBDST does not work on non-English database filenames or non-English placement class names, due to limitations in VxFS Dynamic Storage Tiering and VxVM volume tags. VxFS Dynamic Storage Tiering does not support placement of non-English filenames. The VxVM volume tag feature does not support non-English volume tag names.

### **Avoid using UNIX VEA via PC-based UNIX emulators**

There can be problems displaying deep mapping topology in PC-based UNIX emulators like Exceed. Use the Windows VEA client instead of running the UNIX VEA client via emulators.

### **CLI database state changes are delayed in GUI (604685)**

If you use the command line to start or stop the database, the state change is not immediately shown in the GUI. This delay can take up to 60 minutes.

#### **Workaround**

Start or stop the database from the GUI, or do a manual rescan from the GUI after starting or stopping with CLI.

### **Deep mapping unsupported**

Deep mapping on EMC SYMCLI is currently not supported.

### **Command Line Interface limitations**

This section describes command line interface limitations.

The following commands do not support multipartition databases on SMP architectures:

- db2ed\_clonedb
- db2ed\_vmchecksnap
- db2ed\_vmclonedb

### Database cloning limitation (285139)

If you clone a database and mount it, ensure that the directory where the mount point resides is owned by the instance owner of the cloned database.

If the directory where the mount point resides is not owned by the instance owner, an error message is displayed when you attempt to remove and unmount the cloned database.

For example:

```
$ db2ed_clonedb -I inst01 -S prod -T clone -c \  
Checkpoint_1105997700 -m /mnt
```

where /mnt is created by root and the owner has been changed to inst01.

When you attempt to remove and unmount the clone database, you will get the following error message:

```
$ db2ed_clonedb -T clone -o umount -d  
rm: Unable to remove directory /mnt Permission denied
```

This error message does not affect the functionality of db2ed\_clonedb. The clone database has been removed and unmounted even when you receive this error message.

To avoid this error, create a directory under / as root and change the owner of the directory to the instance owner. Then, specify a mount point under the newly created directory. For example, instead of using the mount point /mnt as in the above example, specify a mount point under /mnt, such as /mnt/clone:

```
$ db2ed_clonedb -I inst01 -S prod -T clone -c \  
Checkpoint_1105997700 -m /mnt/clone
```

---

**Note:** If your mount point is under the directory /tmp, you will not encounter this problem.

---

### No support for Intelligent Storage Provisioning

The Standard, Standard HA, Enterprise, and Enterprise HA versions of Veritas Storage Foundation for DB2 do not support Intelligent Storage Provisioning (ISP).

### Using VxVM volumes as DB2 DEVICE containers

For this release, Symantec recommends that the VxVM raw device interface be used when configuring a raw device as a DB2 container. Using VxVM raw interface ensures fast and reliable I/O support. Also, VxVM's 5.0 raw device interface supports full Linux native asynchronous I/O.



Make sure the DB2 instance owner has read/write access to the VxVM volume. Also, the DB2 instance owner should have permissions to change the directory to `/dev/vx`. By default, only the root user can access the `/dev/vx` directory.

The following example shows how a DMS tablespace is created on a VxVM volume.

```
CREATE REGULAR TABLESPACE USERRAW \  
    PAGESIZE 4K \  
    MANAGED BY DATABASE \  
    USING (DEVICE '/dev/vx/dsk/db2dg/db2vo11' 128000) \  
    EXTENTSIZE 32 PREFETCHSIZE 32 \  
    BUFFERPOOL IBMDEFAULTBP
```

An alternative method to use a VxVM volume is to go through the Linux raw binding interface. For further information, refer to the man page for raw commands on Linux. Using Linux raw binding is not a recommended method for VxVM.

### Deep mapping on hard disk arrays

This release of Veritas Storage Foundation 5.0 for DB2 will not offer the deep mapping feature because partner disk array software on Linux platforms have been unavailable. The storage mapping display will show disk arrays only to the LUN level.

During installation, the `VRTSvail` package is not installed. However, this package is included in this release, so that this issue can be corrected in a future maintenance pack release.

### Use of buffered I/O

VxFS provides sequential consistency among the read and write accesses to a file – that is, the results of these reads and writes appear as if they occurred in a serial order consistent with program order, and each access appears to be atomic. This is consistent with traditional UNIX file system semantics for reads and writes.

Other Linux file systems do not guarantee atomicity of reads and writes, which allows more efficient implementation, but also requires that applications use other mechanisms to achieve the same level of consistency if they require it.

VxFS file consistency can be relaxed in several ways. In case of a cluster mount, reads from and writes to a file are not considered conflicting unless they operate on an overlapping byte range. On a local mount, the user can request that the Concurrent I/O option be used on a specific file. This will mean that reads and writes are not guaranteed to be atomic, which can be desirable behavior for some applications.

Veritas recommends the use of Concurrent I/O with DB2. In DB2 UDB version 8.2.2 or above, Concurrent I/O is used with VxFS when DBAs choose "Direct I/O" for a given tablespace. When Direct I/O is specified this way, the DB2 server activates Concurrent I/O semantics in a way that is transparent to users.

See the *Veritas Storage Foundation for DB2 Administrator's Guide* to learn how to use Concurrent I/O with DB2 UDB on Linux, UNIX, and Windows.

### **DBDST class names limited to 29 characters (601746)**

The `dbdst_admin -o rmclass` command fails when attempting to remove a class name of 30 characters or more. The maximum class name length is 29 characters.

### **Selected utilities require setuid (643964, 643964)**

Some Veritas Storage Foundation for Databases programs are setuid binaries because they are meant to be run as a database administrator and the APIs used are root access-only Symantec internal APIs. The affected binaries are used mainly for information query purposes.

For these reasons, the following programs are setuid-enabled in Veritas Storage Foundation for Oracle:

- `/opt/VRTSdbed/.dba/dbed_analyzer`
- `/opt/VRTSdbed/.dba/vxckptplan`
- `/opt/VRTSdbcom/bin/vxstorage_stats`
- `/opt/VRTSdbcom/.dba/vxdbd_start`
- `/opt/VRTSdbcom/.dba/vxckpt_ismounted`

In Veritas Storage Foundation for DB2, the following programs are setuid-enabled:

- `/opt/VRTSdb2ed/.dba/vxdb2adm`
- `/opt/VRTSdbcom/bin/vxstorage_stats`
- `/opt/VRTSdbcom/.dba/vxdbd_start`
- `/opt/VRTSdbcom/.dba/vxckpt_ismounted`

### **Multiple archive log destinations with RAC (795617)**

Multiple archive log locations are not supported in RAC configurations.

### **Repository hostnames are case insensitive (859863)**

Because DNS host name lookup queries are by definition case insensitive, make sure the SFDB repository is running on a host with a name that is truly unique -- regardless of case -- within the local subnet. Errors may occur if the repository host name differs from another host name only by case.

## Veritas Volume Replicator software limitations

Software limitations in the 5.0 release are listed in the *Veritas Volume Replicator 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/290244>

### 5.0 MP3 Veritas Volume Replicator software limitations

There are no additional Veritas Volume Replicator software limitations in this release.

### 5.0 MP2 Veritas Volume Replicator software limitations

There are no additional Veritas Volume Replicator software limitations in the 5.0 MP2 release.

### 5.0 MP1 Veritas Volume Replicator software limitations

There are no Veritas Volume Replicator software limitations in the 5.0 MP1 release.

### 5.0 Veritas Volume Replicator software limitations

The following are additional software limitations in the 5.0 release of Veritas Volume Replicator.

#### **RAID-5 volume**

VVR does not support Volume Manager RAID-5 volumes as part of RVGs. Hardware RAID-5 is supported.

#### **Disk Group Split and Join**

VVR does not support Disk Group Split and Join. This means that you cannot use Disk Group Split and Join on data volumes in an RVG. However, you can take snapshots of data volumes and use DGSJ on the snapshots.

#### **Importing a disk group with VVR objects**

If a private disk group containing VVR objects is imported on two nodes, as well as the problems documented for VxVM objects, the SRL is corrupted and a full resynchronization of the Secondary is required.

#### **Volumes in boot disk group**

Symantec does not recommend having replicated volumes in the boot disk group (`bootdg`).

### Selecting records using search expressions

Selecting RVG and RLINK records using search expressions with the `vxprint -e pattern` command is not supported.

### Adding a Secondary

When adding a Secondary to the RDS, the `vradmin addsec` command cannot be entered from the host being added. If the RDS contains the Primary only, the command must be entered on the Primary.

### Issues related to replication in a shared environment

The following issues relate to replication in a shared environment:

#### Creating a Primary RVG when the data volumes and SRL are on a shared disk

When creating a Primary whose data volumes and SRL are located on a shared disk group, the `vradmin createpri` command must be issued on the master node of the cluster.

#### Creating a Secondary RVG when the data volumes and SRL are on a shared disk

When adding a Secondary whose data volumes and SRL are located on a shared disk group to a RDS, the `vradmin addsec` command requires the Secondary host name must be resolvable and up on the master node of the Secondary cluster.

#### Replication not supported between Solaris and HP-UX for shared disk groups (592349)

Replication in a shared disk group is not supported between Solaris and HP-UX.

### VRW limitations

The following VRW limitations exist.

#### Increasing font size

Increasing the font size may cause problems in viewing and navigating the wizards.

#### IBC messaging support

This release of VRW does not support In-Band Control (IBC) messaging.

#### VCS Agents for VVR limitations

The following VCS Agents for VVR limitations exist.

### Onlining and offlining the RVG resources

Currently a problem with Veritas Volume Manager affects the RVG resources. When many RVGs are defined, the number of requests to the Volume Manager to online or offline can overload the `vxconfigd` process of VxVM, preventing some RVGs from going online or offline.

#### Workaround

The RVG resources have been set to allow only a single instance of an RVG resource to be brought online or offline. This slows down the onlining and offlining of service groups containing RVGs.

### Limitations in the RVGSnapshot agent

Fire drill setup (`fdsetup`) supports applications using one disk group only. The RVGSnapshot agent does not support volume sets.

## Known issues

The following are additional known issues for Veritas Storage Foundation.

### Veritas Storage Foundation known issues

Known issues in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL:

<http://entsupport.symantec.com/docs/283859>

### Veritas Storage Foundation 5.0 RU3 known issues

The following known issue exists in this 5.0 RU3 release.

#### VRTSvcssy package and Sybase Agent installation (1877566)

CPI does not automatically install the CVS Sybase Agent in this RU3 release.

#### Workaround

Install the CVS Sybase Agent RPM manually.

### Veritas Storage Foundation 5.0 MP3 known issues

The following are new additional known issues in this 5.0 MP3 release of Veritas Storage Foundation.

### **While configuring Storage Foundation Management Server and the Cluster Management Console through the CPI for authentication passwords, some special characters are not passed correctly through the CPI (1245237)**

While configuring Storage Foundation Management Server and the Cluster Management Console through the Common Package Interface (CPI) for authentication passwords, some special characters are not correctly passed through the CPI to the nodes, even though these special characters are accepted by authentication.

The following special characters are not correctly passed through the CPI to the nodes:

- \' (single quote)
- \" (double quote)
- \@ (at sign)
- \\$ (dollar)
- \ (slash)
- \\* (star)

### **Workaround**

There is no workaround for this issue. When entering authentication passwords, do not use any of the special characters listed above.

### **PATH setting when using product installer to install on remote nodes**

There is a problem with some versions of `rsh` and `ssh` that causes the `PATH` to not get set correctly on remote shell invocations. As a result some of the commands fails to run. Before running the product installer, ensure that the `PATH` is set correctly for the `root` user. For bash shells, it can be set in the `~/.bashrc` or the `~/.bash_profile` file.

#### **To ensure that the PATH has been set properly**

- ◆ Run the following command for each remote node you want to install and check that the command succeeds.

```
# rsh remote_node lsmod
```

### **Potential problems on systems with a QLogic HBA (935697, 989902, 1010069, 1017379, 1218589, 1594277)**

If version 8.01.07 of the QLogic HBA driver is used, there is a potential for a NMI non-recoverable error and system panic if a third host-side path is disabled at the switch side. Other potential problems are for I/O to hang and for re-enabled paths

to remain disabled. Issues such as these have been seen on RHEL4, SLES9-SP4 and SLES10 systems.

### Workaround

Use version 8.01.06 of the HBA driver, which is available from the QLogic driver downloads site:

[http://support.qlogic.com/support/drivers\\_software.asp](http://support.qlogic.com/support/drivers_software.asp)

Another known issue (**1594277**) is specific to the 5.0 RU1 release for the SLES 11 operating system. Because the parameter `remove_on_dev_loss` of the `scsi_transport_fc` module is removed in SLES 11, the OS device files are removed after a device loss with `dev_loss_tmo`. When the device comes back online, the port names may have changed and DMP will then not recognize its status with the restored daemon. To prevent this occurrence, use the following workaround.

### Workaround

Expand `dev_loss_tmo` to a very large value. This workaround only works with Qlogic driver.

For VxVM, modify the following two files:

Modify the file `/etc/udev/rules.d/40-rport.rules` to set the variable `KERNEL` as:

```
KERNEL=="rport-*",SUBSYSTEM=="fc_remote_ports",ACTION=="add",  
RUN+="/bin/sh -c 'echo 20 > /sys/class/fc_remote_ports/%k/fast_io_fail_tmo'"
```

Modify the file `/etc/modprobe.conf.local` to set the following values:

```
options qla2xxx qlport_down_retry=80000
```

### Installation issue with RHEL5 and rsh

Due to known limitations with the targeted policy shipped with RHEL5 and `rsh`, the product may not install correctly. Use `ssh` when using the CPI to install the product on cluster nodes.

### Using ODM with Storage Foundation or Storage Foundation Cluster File System

Starting with 5.0MP3, Quick I/O and Veritas Extension for Oracle Disk Manager (ODM) are now enabled by default for Storage Foundation and Storage Foundation Cluster File System.

To use this functionality, you may need to manually install the required packages and patches. Refer to the chart below for your product and install scenario.

## Installing ODM

### To install ODM to use with Storage Foundation or Storage Foundation Cluster File System 5.0MP3

- 1 Locate the appropriate platform directory for your installation. For example, the 5.0 RU3 release platform directory may be `rhel5_ppc64` or `sles10_ppc64`.
- 2 Install the ODM rpms
- 3 If you are installing SFCFS, install the GMS rpms.
- 4 After installing 5.0MP3, configure ODM.

For information about configuring ODM, see the *Storage Foundation for Oracle Administrator's Guide*.

- 5 If you reboot the machine during or after the installation, GMS is automatically loaded. If you do not reboot, you must manually load GMS.

## Veritas Storage Foundation 5.0 MP1 known issues

### LUNs are not displayed by the Storage Foundation Web GUI after upgrade (833516)

Because of a bug in the DDL provider package (`VRTSddlpr`) in the 5.0 release, the entries for the DDL provider are removed from the registry if the `rpm` command is used to upgrade to 5.0 MP1. This results in the Web GUI not being able to display any LUNs that are attached to the system.

#### Workaround

Specify the `--nopreun` option to the `rpm -U` command when upgrading the `VRTSddlpr` package.

The error does not occur if you use the `installmp` script to upgrade to 5.0 MP1.

#### Upgrading the DCLI package

The `--nopreun` option should be specified if you use the `rpm -U` command to upgrade the distributed command line interface (`VRTSdcli`) package.

This issue does not apply if you use the `installmp` script to upgrade to 5.0 MP1.

## Veritas Storage Foundation Basic known issues

Known issues in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL:

<http://entsupport.symantec.com/docs/283859>



## Veritas Storage Foundation Basic 5.0 RU3 known issues

There are no additional known issues in this 5.0 RU3 release of Veritas Storage Foundation.

## Veritas Storage Foundation Basic 5.0 MP3 known issues

There are no new additional known issues in the 5.0 MP3 release of Veritas Storage Foundation.

## Veritas Volume Manager known issues

Known issues in the 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL:

<http://entsupport.symantec.com/docs/283859>

## Veritas Volume Manager 5.0 RU3 known issues

The following additional known issues are described for this 5.0 RU3 release.

### Root disk encapsulation failure (1845502)

Root disk encapsulation fails on RHEL5 Update 4, and causes a kernel panic following the attempted encapsulation.

### LVM volume not converted by vxvmconvert utility (1809789)

Because of changes to the `pvmove` command in the LVM package, `vxvmconvert` cannot convert LVM diskgroups to VxVM diskgroups after LVM version 2.02.32. LVM version 2.02.32 is the last known working version.

There are no known workarounds for this issue."

### Restrictions on acceptable root disk layouts for root disk encapsulation (1837396)

There are known restrictions for acceptable root disk layouts for root disk encapsulation. To root encapsulate a system where the swap partition is not the last partition on the rootdisk requires that there is space for a private partition at the end of the disk (typically 32MB). Disks with > 32MB free at the end of the root disk can be encapsulated successfully.

## Veritas Volume Manager 5.0 MP3 known issues

The following are new additional known issues in this 5.0 MP3 release of Veritas Storage Foundation.

### **Limitation of automatic site reattachment feature (1256764)**

The site does not reattach automatically in the case where the site storage has disconnected and reconnected to a CVM slave node, but the master node never lost connection to the site storage.

### **Deport operation on a shared disk group fails (1368377)**

With all primary paths inaccessible, the deport operation on a shared disk group fails to clear the PGR keys as the DMP database is not up-to-date. The deport operation succeeds but the PGR keys are not cleared as the DMP database is not updated to reflect the inaccessibility of failed primary paths.

### **Workaround**

Running `vxdisk scandisks` before the DG deport operation triggers DMP reconfiguration which updates the DMP database such that a disk is accessible through active paths.

### **I/O failures result in the disk failing flag (1205380)**

In some DMP failover scenarios, I/O retry causes the disk failing flag to be set, although there is nothing wrong with the disks except for the failing flag.

### **Workaround**

Clear the failing flag using the `vxedit` command.

### **Plex disabled in DS4000 disk array (924680)**

This issue has been identified in the 5.0 MP1 related to the DS4000 disk array. If there is a high I/O load to the array, a device inquiry may fail. This failure causes the DMP node to be disabled. When the DMP node is disabled, all I/O to the DMP node fails.

## **Utility issues of Veritas Volume Manager**

The following are utility issues in the 5.0 MP1 release of Veritas Volume Manager.

### **NFS cannot handle minor numbers greater than 255**

The NFS implementation in Linux does not support minor numbers greater than 255 unless a patch is applied. Without the patch, volume devices with large minor numbers cannot be remotely mounted via NFS.

This issue does not apply to Volume Manager 5.0 RU1 running SLES 11.

## Workaround

Use the `vxdg` command to change the base minor number of the disk group that contains the volumes, as shown here:

```
# vxdg -g diskgroup remminor 2
```

See the description of Red HAT Bugzilla Bug 143897 or SUSE Bugzilla Bug 64552.

## DMP issues of Veritas Volume Manager

The following are DMP issues in the 5.0 MP1 release of Veritas Volume Manager.

### Workaround

Disable DMP for ATA and SATA disks.

#### To disable multipathing for ATA and SATA disks

- 1 Configure the device discovery layer to detect ATA disks as JBOD disks:

```
# vxddladm addjbod vid=ATA pid=*
```

- 2 Run the `vxdiskadm` command and select option 17 (Prevent multipathing/Suppress devices from VxVM's view).
- 3 Select option 7 (Prevent multipathing of disks by specifying a VID:PID combination).
- 4 Enter `ATA:*` as the VID:PID combination.
- 5 Exit from `vxdiskadm`, and reboot the system.

### Handling intermittently failing paths

The `dmp_health_time` and `dmp_path_age` tunables control how DMP handles intermittently failing paths. The default values of `dmp_health_time` and `dmp_path_age` are 60 and 300 seconds respectively. The value of `dmp_health_time` represents the minimum time in seconds for which a path must stay healthy. If a path changes state between enabled and disabled on a shorter time scale than this, DMP marks the path as intermittently failing and disables I/O on the path. I/O is not re-enabled on an intermittently failing path until `dmp_path_age` seconds have elapsed without further outage.

The minimum configurable value of `dmp_path_age` is 0, which prevents DMP from detecting intermittently failing paths.

## Veritas Volume Manager cluster issues

The following cluster issue exists in this release of Veritas Volume Manager.

### Handling intermittently failing paths in a Campus Cluster

In remote mirror configurations, a site is reattached when its disks come back online. Recovery is then initiated for the plexes of a volume that are configured at that site. Depending on the configuration, recovery of the plexes can take a considerable time and consume considerable resources. To minimize the frequency of having to perform a site reattachment operation, it is recommended that you use the `vxddmpadm settune` command to configure a value smaller than 60 seconds for `dmp_health_time`, and a value larger than 300 seconds for `dmp_path_age`.

## Veritas Enterprise Administrator known issues

The following new additional VEA issue exists in this release of Veritas Volume Manager.

See “[Veritas Enterprise Administrator known issues](#)” on page 51.

### Veritas Enterprise Administrator (VEA) console support

The Veritas Enterprise Administrator (VEA) console is no longer packaged with Storage Foundation. Symantec recommends use of Storage Foundation Manager to manage, monitor and report on Storage Foundation environments. You can download this utility at no charge from:

<http://go.symantec.com/vom>

If you wish to continue using VEA, a version is available for download from:

<http://go.symantec.com/vom>

## Veritas Web GUI known issues

The following Veritas Web GUI issue exists in this release of Veritas Volume Manager.

### Error when creating a volume set (615960)

An error such as the following may be seen when attempting to create a volume set that includes a newly created volume:

```
Error: 0xcfff0021 Facility: 0xffff Severity: 0x3 Error number: 0x21  
Object Not Found.
```

### Workaround

Refresh the page.

## Veritas File System known issues

The Veritas File System 5.0 Release Update 3 known issues are listed by release in this section. Known issues in the Veritas File System 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes* which is available at the following URL:

<http://entsupport.symantec.com/docs/283859>

### Veritas File System 5.0 RU3 known issues

The following new additional known issues exist in the 5.0 RU3 release of Veritas File System.

#### **The disk space used by sparse files is higher on RHEL5 compared to SLES10 (1833123)**

The current mechanism of space allocation for sparse files is based on the memory page size of the underlying operating system. The page size on RHEL5 is 64Kb, which makes the disk space used by sparse files on RHEL5 higher compared to SLES10 which has a 4Kb page size.

#### **Thin provisioning: vxdisk reclaim diskgroup error (1848181 )**

When reclaiming thin storage, the `vxdisk reclaim diskgroup` command fails. VxFS does not support online thin reclamation.

### Veritas File System 5.0 MP3 known issues

The following are new additional Veritas File System known issues in this 5.0 MP3 release.

#### **fsck may terminate when applied to unclean file systems from Veritas File System 4.1**

Due to an incompatibility in the VxFS `fsck` utility between the 5.0 MP3 and 4.1 releases, `fsck` may terminate during intent log replay. This only affects file systems that were previously running under VxFS 4.1 and were not cleanly unmounted prior to use in VxFS 5.0 MP3. If you encounter this situation, perform a full `fsck` to bring the file system to a consistent, clean state that is ready to be mounted. See the `fsck_vxfs(1M)` manual page.

#### **Possible error messages using 32-bit commands on raw devices on 64-bit system (1079725)**

On 64-bit systems, using 32-bit commands on raw devices sometimes produces error messages in the system log similar to the following example:

```
ioct132(mkfs.vxfs:7471): Unknown cmd fd(3) cmd(564f4c02){16}  
arg(fff51138) on /dev/sdc2
```

You can safely ignore these messages.

### **SLES 10 boot sequence displays error messages due to Veritas File System entries in /etc/fstab (1074101)**

The boot sequence on a SLES 10 system displays error messages due to Veritas File System (VxFS) entries in the `/etc/fstab` file. The errors display because VxFS does not support the `-f` option of the operating system's mount command, which is passed during the boot sequence.

#### **Workaround**

Issue the `mount -i -a -f -t vxfs` command to update the `/etc/mtab` file with all missing mounted VxFS entries in the `/etc/fstab` file after rebooting the system.

### **Unmounting a VxFS file system takes long time after an iSCSI dynamic multipathing failover**

Unmounting a VxFS file system can take several minutes after an iSCSI dynamic multipathing failover.

#### **Workaround**

The following procedure eliminates the long unmount time.

#### **To eliminate the long unmount time**

- 1 After a failover, run the `iostat` command to verify that all I/Os are drained:

```
# iostat
```

- 2 Unmount the file system or stop VCS:

```
# umount /MyFileSystem
```

Or:

```
# hastop -local
```

### **Fixes for some late-breaking issues**

The fixes for some late-breaking issues, including a system panic when using block or character devices on a VxFS file system, and a potential security breach when using the `qiomkfile` and `odmmkfile` utilities, are available in a VxFS Hot Fix accompanying this release.

See the following TechNote for more information:

<http://entsupport.symantec.com/docs/306480>

### **fsapadm enforceckpt core dumps if you do not specify a Storage Checkpoint**

The `fsapadm` command core dumps if you do not specify a Storage Checkpoint when specifying the `enforceckpt` keyword.

#### **Workaround**

The proper usage is as follows:

```
fsapadm enforceckpt [-f strict] mountpoint storage_checkpoint
```

## Veritas Storage Foundation Cluster File System known issues

Veritas Storage Foundation Cluster File System known issues in the 5.0 release are listed in the *Veritas Storage Foundation Cluster File System 5.0 Release Notes*.

The *Veritas Storage Foundation Cluster File System 5.0 Release Notes* can be viewed at the following URL:

<http://entsupport.symantec.com/docs/283857>

### **Veritas Storage Foundation Cluster File System 5.0 RU3 known issues**

There are no additional software issues in 5.0 RU3 release of Veritas Storage Foundation Cluster File System.

### **Veritas Storage Foundation Cluster File System 5.0 MP3 known issues**

The following are new additional Veritas Storage Foundation Cluster File System known issues in this 5.0 MP3 release.

#### **Performing an upgrade from 4.1 MP4 to 5.0 MP3 failed on RHEL5 U2 (1300743)**

After installing Storage Foundation Cluster File System 4.1 MP4 on RHEL5, and after upgrading the OS from RHEL 5 to RHEL5 U2, the SFCFS stack upgrade failed.

#### **Workaround**

To perform an upgrade from Storage Foundation Cluster File System 4.1 MP4 to 5.0 MP3 on RHEL5 U2, you first have to upgrade to 4.1 MP4RP2, and then you can perform an upgrade to 5.0 MP3.

### **CFSMount resource may fault**

During cluster startup in a SFCFS for Oracle RAC or SFCFS environment, a CFSMount resource may fault even though the underlying CVMVolDg resource becomes online successfully. If the CVMVolDg resource contains layered VxVM volumes, the reason for the fault could be that the CVMVolDg resource went online before all the subvolumes of the layered volume could be started.

### **Workaround**

In order to ensure that a CVMVolDg resource containing layered volumes becomes online only after all the subvolumes are enabled, the CVMVolume attribute in the `main.cf` file should be populated with the names of the layered volumes under that CVMVolDg resource.

See the *Veritas Cluster Server User's Guide*.

### **Veritas Storage Foundation Cluster File System 5.0 MP1 known issues**

The following known issue exists in the 5.0 MP1 release of Veritas Storage Foundation Cluster File System.

#### **Oracle-Linux (840486)**

Problems uninstalling or upgrading Veritas Storage Foundation for Oracle when Veritas Storage Foundation Cluster File System is installed on the same system.

If Veritas Storage Foundation for Oracle and Veritas Storage Foundation Cluster File System are installed on the same machine, do not use the installer to uninstall if you are planning to uninstall only one product.

If you want to uninstall the product, you must uninstall the Veritas Storage Foundation for Oracle packages manually.



## To uninstall the Veritas Storage Foundation for Oracle packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Stop the repository database and unmount the repository volume.

In a stand-alone configuration:

Stop the database repository:

```
# /opt/VRTSdbcom/bin/sfua_db_config -o stopdb
```

Unmount the database repository:

```
# /opt/VRTSdbcom/config/sfua_rep_mount stop
```

In an HA configuration:

Stop VCS processes on either the local system or all systems.

To stop VCS processes on the local system:

```
# hastop -local
```

To stop VCS processes on all systems:

```
# hastop -all
```

- 3 Remove the Veritas Storage Foundation for Oracle packages using the `rpm -e` command.

```
# rpm -e VRTSorgui-common VRTSdbed-common VRTSdbcom-common \
VRTSdbdoc
```

If Veritas Storage Foundation for Oracle and Veritas Storage Foundation Cluster File System are installed on the same machine and you are upgrading both products, use the installer to upgrade Veritas Storage Foundation Cluster File System first. Then, use the installer to upgrade Veritas Storage Foundation for Oracle.

If the second upgrade fails, remove the Veritas Storage Foundation for Oracle packages as described above, then run the installer to upgrade Veritas Storage Foundation for Oracle.

## DB2-Linux (840486)

Problems uninstalling or upgrading Veritas Storage Foundation for DB2 when Veritas Storage Foundation Cluster File System is installed on the same system.

If Veritas Storage Foundation for DB2 and Veritas Storage Foundation Cluster File System are installed on the same machine, do not use the installer to uninstall if you are planning to uninstall only one product.

If you want to uninstall the product, you must uninstall the Veritas Storage Foundation for DB2 packages manually.

### To uninstall the Veritas Storage Foundation for DB2 packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Stop the repository database and unmount the repository volume.

In a stand-alone configuration: Stop the database repository:

```
# /opt/VRTSdbcom/bin/sfua_db_config -o stopdb
```

Unmount the database repository:

```
# /opt/VRTSdbcom/config/sfua_rep_mount stop
```

In an HA configuration: Stop VCS processes on either the local system or all systems.

To stop VCS processes on the local system:

```
# hstop -local
```

To stop VCS processes on all systems:

```
# hstop -all
```

- 3 Remove the Veritas Storage Foundation for DB2 packages using the `rpm -e` command.

```
# rpm -e VRTSd2gui-common VRTSdb2ed-common VRTSdbcom-common VRTSdbdoc
```

If Veritas Storage Foundation for DB2 and Veritas Storage Foundation Cluster File System are installed on the same machine and you are upgrading both products, use the installer to upgrade Veritas Storage Foundation Cluster File System first. Then, use the installer to upgrade Veritas Storage Foundation for DB2.

If the second upgrade fails, remove the Veritas Storage Foundation for DB2 packages as described above, then run the installer to upgrade Veritas Storage Foundation for DB2.

## Veritas Storage Foundation Cluster File System for Oracle RAC known issues

The following new additional issue exists in 5.0 RU3 release of Veritas Storage Foundation Cluster File System for Oracle RAC.

### Fencing utilities `vxfenswap` and `vxfentsthdw` error (1846607)

The `chk_ssh_passwdless()` function in the `vxfenswap` script requires correction when passwordless communication is not set up on the node for which the command is executed. After proper configuration, the `vxfenswap` command works without issues.

### Workaround

In order to run fencing utilities `vxfenswap` and `vxfentsthdw`, please ensure that you have `ssh/rsh` configured for password free logins, and provide configuration for the node on which these commands are executed.

## Veritas Volume Replicator known issues

Known issues in the Veritas Volume Replicator 5.0 release are listed in the *Veritas Volume Replicator 5.0 Release Notes*, which is available at the following URL:

<http://entsupport.symantec.com/docs/283839>

### Veritas Volume Replicator 5.0 RU3 known issues

There are no new additional known issues in this 5.0 RU3 release of Veritas Volume Replicator.

### Veritas Volume Replicator 5.0 MP3 known issues

The following are new additional known issues in this 5.0 MP3 release of Veritas Volume Replicator.

#### Mirrors are not synchronized when volumes created using `init=active` option (1287111)

For volumes created using `init=active` option, the mirrors (plexes) are not synchronized. The `vradmin verifydata` command could incorrectly report differences for such volumes. To rectify this situation, synchronize mirrors (plexes) and resynchronize the secondary by doing Automatic Synchronization, Full Synchronization, or Difference-based Synchronization.

### VVR support with previous disk group version (1371981)

After upgrading to 5.0MP3 from a earlier version of VVR, the disk group version remains at the previous version unless you explicitly upgrade the disk group version. In a shared disk group environment with an older disk group version (110 or 120), the following issue may occur. If the master node on the primary CVM-VVR cluster fails, the RLINK may go into DETACHED and STALE state after the RVGLogowner service group fails over to the surviving node. Additionally, the `passthru` and `srl_header_err` flags are set on the primary RVG.

This issue may also occur in a private disk group environment after a reboot, when SRL recovery takes place.

### Workaround

Upgrade the disk group version to the latest (140) using the following command:

```
# vxdg upgrade diskgroup
```

## Veritas Volume Replicator 5.0 MP1 known issues

The following known issue exists in the 5.0 MP1 release of Veritas Volume Replicator.

### Issue with VVR VEA in the Japanese locale (616709)

In the Japanese locale, the Add Bunker wizard page has truncated text. When you add a bunker using VVR VEA, the description text for the Bunker DG and Protocol fields is truncated.

The incomplete text should read as follows:

- Bunker DG: If protocol is Storage the Bunker DG is expected to have been imported on the Primary host.
- Protocol: Protocol should be set to Storage when Bunker storage is directly accessible from the Primary host.

## Veritas Storage Foundation for Oracle known issues

Known issues in the Veritas Storage Foundation for Oracle 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

## Veritas Storage Foundation for Oracle 5.0 RU3 known issues

The following new additional known issues exist in the 5.0 RU3 release of Veritas Storage Foundation for Oracle.

### Temporary files and `dbed` operations (1840689)

Temporary files must be cleaned up from `/tmp` directory after `dbed` operations.

### Environment variable issue and `dbed` snapshot command (1840686)

The `dbed_vmsnap -o snapshot` fails if the `ORACLE_SID` environment variable is not set.

## Veritas Storage Foundation for Oracle 5.0 MP3 known issues

The following new known issues exist in the 5.0 MP3 release of Veritas Storage Foundation for Oracle.

### Datafile rollback in a Dynamic Storage Tiering environment fails to rollback the files (1227083)

In a Dynamic Storage Tiering setup, when you execute the `dbed_ckptrollback` command using the `-F <datafile>` option, the operation may fail and display the following error:

```
#$ dbed_ckptrollback -S $ORACLE_SID -H $ORACLE_HOME -c Checkpoint_name -F datafile_name.dbf
```

```
Rolling back files using Checkpoint_XXXXXXXXX ...
VXDBA_PRODUCT vxckptadm WARNING V-81-4565
The following files/directories do not reside on VxFS file systems:
VXDBA_PRODUCT vxckptadm WARNING V-81-999
datafile_name.dbf
VXDBA_PRODUCT vxckptadm
ERROR V-81-4562 Storage Rollback failed.
SFORA rb.file
ERROR V-81-3046 Could not roll back datafiles.
```

This is only observed in the Dynamic Storage Tiering setup.

### Workaround

You must restart the Veritas `vxdbd` daemon using the following procedure.

**To restart the Veritas vxdbd daemon.**

- 1 Check the Veritas vxdbd daemon status using the following command:

```
# /etc/init.d/vxdbdctrl status
Status of Veritas vxdbd
/opt/VRTSdbcom/bin/vxdbd ping SUCCESS
```

- 2 Stop the Veritas vxdbd daemon using the following command:

```
# /etc/init.d/vxdbdctrl stop
Stopping Veritas vxdbd
```

- 3 Start the Veritas vxdbd daemon using the following command:

```
# /etc/init.d/vxdbdctrl start
Starting Veritas vxdbd
/opt/VRTSdbcom/bin/vxdbd start SUCCESS
```

After restarting the Veritas vxdbd daemon, you may attempt the rollback operation again.

**VRTSddlpr directory may exist in /opt/ after uninstalling the stack (1315258)**

After uninstalling VRTSddlpr package, the /opt/VRTSddlpr directory may still exist.

**Workaround**

After uninstalling the VRTSddlpr package, you must manually clean up the /opt/VRTSddlpr directory.

**VRTSdbcom directory may exist in /opt/ after uninstalling the stack (1315247)**

After uninstalling the stack, the directory /opt/VRTSdbcom may still exist.

**Workaround**

After uninstalling the stack, you must manually clean up the /opt/VRTSdbcom directory .

**VRTSdbms3 directory may exist in /opt/ after uninstalling the stack (1315262)**

After uninstalling VRTSdbms3 package, the /opt/VRTSdbms3 directory may still exist.

## Workaround

After uninstalling the `VRTSdbms3` package, you must manually clean up the `/opt/VRTSdbms3` directory.

## VRTSvxms directory exists in /opt/ even after uninstalling the stack (1316534)

After uninstalling the stack, the `VRTSvxms` directory may still exist.

## Workaround

After uninstalling the stack, you must check the `VRTSvxms` directory and all its subdirectories to see if they are empty.

You may manually clean up the `VRTSvxms` directory and all its subdirectories only if they are empty.

## Reverse Resync not supported if database is created using Oracle Managed Files (1192729)

If an Oracle database is created with Oracle Managed Files (OMF), then `reverse_resync` operations would fail.

The following errors are displayed:

```
oracle@swlx07:~> /opt/VRTSdbed/bin/dbed_vmsnap -S $ORACLE_SID \  
-f sp4 -o
```

```
reverse_resync_begin  
dbed_vmsnap started at 2007-12-28 12:02:42
```

```
SFORA dbed_vmsnap WARNING V-81-5725 After reverse_resync_commit  
is performed, you need to recreate the Authentication Password  
File using the ORAPWD utility.
```

```
SFORA dbed_vmsnap ERROR V-81-4882 An error occurred while  
reconfiguring Oracle instance 'sfora'.
```

```
SFORA dbed_vmsnap ERROR V-81-4881 Log file is at  
/tmp/dbed_vmclonedb.12313/nomount.log.
```

```
SFORA dbed_vmsnap ERROR V-81-4918 Database sfora has not been  
correctly recovered.
```

```
SFORA dbed_vmsnap ERROR V-81-4881 Log file is at  
/tmp/dbed_vmclonedb.12313/recover.log.
```

## Workaround

The `reverse_resync` operation for a database created with OMF is not supported in the 5.0 Release Update 3 release.

There is no workaround for this issue.

## **Veritas Storage Foundation for Oracle 5.0 MP2 known issues**

The following are known issues in the 5.0 MP2 release of Veritas Storage Foundation for Oracle.

### **Cannot unmount single-host clone in HA environment after failover (818522)**

In an HA environment, after successfully taking a snapshot and cloning the database on the same host where primary is running, if a node failover happens then `dbed_vmclonedb -o umount` does not work.

#### **Workaround**

Fix the issue that caused the failover to the other node, and then fallback to the fixed node.

## **Veritas Storage Foundation for Oracle 5.0 MP1 known issues**

The following are known issues in the 5.0 MP1 release of Veritas Storage Foundation for Oracle.

### **Cannot unmount single-host clone in HA environment after failover (818522)**

In an HA environment, after successfully taking a snapshot and cloning the database on the same host where primary is running, if a node failover happens then `dbed_vmclonedb -o umount` does not work.

#### **Workaround**

Fix the issue that caused the failover to the other node, and then fallback to the fixed node.

### **Problems uninstalling or upgrading Veritas Storage Foundation for Oracle when Veritas Storage Foundation Cluster File System is installed on the same system (840486)**

If Veritas Storage Foundation for Oracle and Veritas Storage Foundation Cluster File System are installed on the same machine, do not use the installer to uninstall if you are planning to uninstall only one product.

You must uninstall the Veritas Storage Foundation for Oracle packages manually if you want to uninstall the product.



### To uninstall the Veritas Storage Foundation for Oracle packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Remove the Veritas Storage Foundation for Oracle packages using the `rpm -e` command.

```
# rpm -e VRTSorgui-common VRTSdbed-common VRTSdbcom-common \  
VRTSdbdoc
```

### **dbed\_vmclonedb -p failed to create clonedb with modified pfile (852188)**

If you are running the `dbed_vmclonedb -p` or the `dbed_clonedb -p` command, the pfile modification will fail if there is an unquoted or unescaped special character in the primary instance's pfile. The following error will be displayed:

```
SFORA pfile_mod ERROR V-81-5781 Parse error in file  
/oracle/dbs/<pfile_name>. line 6: .
```

```
SFORA dbed_vmclonedb WARNING V-81-5788 Pfile modification failed.  
Clone instance <CLONE SID> may not start.
```

### Workaround

To avoid this issue, make sure all special characters in the primary instance's pfile are either placed within quotes or escaped.

You can check the Oracle Reference Manual for a list of special characters which must be either placed within quotes or escaped when used as pfile parameter values. In some cases, Oracle will process pfile correctly at startup even if a parameter values contains unquoted special characters. However, the pfile parser we use strictly enforces the pfile specification contained in the Oracle Reference Manual.

---

**Note:** The primary instance's pfile is saved at the time of snapshot creation. If you attempt to clone the database using that snapshot you will be using the saved pfile, not the current pfile. Therefore you must create a new snapshot in order to ensure that the clone will use an updated pfile.

---

### **One-time scheduled tasks need Specific Date (861274)**

When scheduling a one-time task from the GUI, the task may not be executed if a Specific Date (Include Date) is not set for it.

## Database FlashSnap archive log destinations (862092, 862687)

With Oracle Release 10g and above, Database FlashSnap clones do not support `DB_RECOVERY_FILE_DESTINATION` as the sole mandatory archive log destination. This issue will not be detected by FlashSnap validation with `dbed_vmchecksnap`, or by the snapshot command `dbed_vmsnap`. However, recovery will fail when attempting to clone a database using the snapshot, and the message "ORA-01195: online backup of file 1 needs more recovery to be consistent" may appear in the log file.

### Workaround

Define a mandatory log archive destination that is not `DB_RECOVERY_FILE_DESTINATION` and set the `ARCHIVELOG_DEST` parameter of the snapplan to this value.

## Veritas Storage Foundation for DB2 known issues

Known issues in the Veritas Storage Foundation for DB2 5.0 release are listed in the *Veritas Storage Foundation 5.0 Release Notes*, which is available at the following URL.

<http://entsupport.symantec.com/docs/283859>

## Veritas Storage Foundation for DB2 5.0 RU3 known issues

There are no new additional known issues in the 5.0 MP3 release of Veritas Storage Foundation for DB2.

## Veritas Storage Foundation for DB2 5.0 MP3 known issues

The following known issues exist in the 5.0 MP3 release of Veritas Storage Foundation for DB2.

### Cannot completely rollback a 5.0GA checkpoint in 5.0 MP3 (1228785)

Storage checkpoints which were created in the 5.0 GA release environment do not work as expected when you rollback in 5.0 MP3 environment. When you rollback these checkpoints, the `dbed_ckptrollback` command completes successfully but gives an 'unexpected end of file' error.

An error message similar to the following is displayed :

```
gunzip: /tmp/11547203191175220319723820319/dbcfg_to_use.  
NODE0000.Z: unexpected end of file
```

### **Workaround**

There is no workaround for this issue.

## **Veritas Storage Foundation for DB2 5.0 MP2 known issues**

### **Veritas Enterprise Administrator known issues**

The following known issues exist in Veritas Enterprise Administrator.

#### **Veritas Enterprise Administrator 5.0 RU3 known issues**

The following new additional known issues exist in the 5.0 RU3 release of Veritas Enterprise Administrator.

##### **VEA GUI and df -k command show different results (1848098)**

The VEA GUI and df -k display different results. The VEA GUI **Properties** tab displays incorrect disk space used on a volume.

##### **No VEA login to Windows 4.x (1849818)**

Login to Windows 4.x stack box fails through VEA graphical user interface. The VEA interface uses IBM JRE which encounters problems during the SSL handshakes. Because the VEA interface uses anonymous cipher suites that are not supported by IBM JRE, the VEA interface running on 5.0 RU3 machines cannot be used to connect to the 4.x VEA server (running on Linux, Solaris, AIX, Windows, or HP). There are no workarounds available for this issue.

#### **Veritas Enterprise Administrator 5.0 MP3 known issues**

Veritas Enterprise Administrator includes the following additional known issues in 5.0 MP3:

##### **Issue with SNMP settings through Tools (1209747)**

This issue is specific to Rule Manager window in the VEA Client which is running on a Linux system. When `Default SNMP Settings` dialog is launched in Rule Manager using menu `Tools->Default SNMP Settings`, the `Hostname` field does not allow any characters to be entered.

### Workaround

#### To resolve this issue

- 1 Click on the `Port` field in `Default SNMP Settings` dialog.
- 2 Enter the port number in the `Port` field.
- 3 Click on `Hostname` field to enter hostname details.

## Veritas Storage Foundation Graphical User Interface known issues

### Cannot convert mountpoint to volume set using the Java Graphical User Interface (1176531)

When you use the Java Graphical User interface to convert a mountpoint into a volume set, the operation is not successful.

#### Workaround

You must use the `dbdst_convert` command line interface to convert a mountpoint volume to a volume set. You must not use the Java Graphical User Interface to convert volumes.

### Adding two storage classes consecutively through VEA Java Graphical User Interface fails (1231856)

When you use the VEA Java Graphical User Interface to add the first class, the operation is successful. However, when you use the VEA Java Graphical User Interface to add a second class, you may see the following error:

```
SFORA dbdst_admin V-81-6212  
Do not add or remove class in a single command.
```

This issue is encountered only with Graphical User Interface and not with the command line interface.

#### Workaround

You must logout and disconnect from VEA. Then you must start a new session to add a second class through the Graphical User Interface.

Alternatively, you may use the `dbdst_admin` command in the command line interface to add a new class:

```
# /opt/VRTS/bin/dbdst_admin -D DB4 -o addclass=NEWCLASS:"newclass"
```

## Some disks may not appear in the VEA GUI (1826607)

Whenever the VxVM disk naming scheme is modified, the VEA GUI needs to recognize the new naming scheme.

### Workaround

If the VEA GUI is not showing the new disk names, use the **Actions > Refresh** menu item for proper disk updating.

## Disks or volumes may not appear in the VEA GUI (1727003)

After you configure any Storage Foundation product, some disks or volumes may not appear in the VEA GUI.

### Workaround

Restart the Storage Agent using the following command:

```
# /opt/VRTSobc/pa133/bin/vxpalctrl -a StorageAgent -c restart
```

# Documentation

Symantec's Veritas Storage Foundation 5.0 Release Update 3 documentation set is available on the Symantec website at the following URL:

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

## Storage Foundation guides

The following manuals, along with the online help, comprise the Veritas Storage Foundation 5.0 MP3 documentation set:

[Table 2-1](#) describes the guides in the Veritas Storage Foundation 5.0 MP3 documentation set.

**Table 2-1** Guides in Veritas Storage Foundation documentation set

Guide Title	Filename
<i>Third-party Legal Notices</i>	3rdpartyattributions.pdf
<i>Veritas Storage Foundation and High Availability Getting Started Guide</i>	getting_started.pdf
<i>Read me end user license agreement documentation</i>	README_EULA
<i>Veritas Storage Foundation read me first</i>	readme_first.txt

**Table 2-1** Guides in Veritas Storage Foundation documentation set (*continued*)

Guide Title	Filename
<i>Veritas Storage Foundation Release Notes (this document)</i>	sf_notes.pdf
<i>Veritas Storage Foundation Installation Guide</i>	sf_install.pdf
<i>Veritas Enterprise Administrator User's Guide</i>	vea_users.pdf
<i>Veritas File System Administrator's Guide</i>	vxfs_admin.pdf
<i>Veritas File System Programmer's Reference Guide</i>	vxfs_ref.pdf
<i>Veritas Volume Manager Administrator's Guide</i>	vxvm_admin.pdf
<i>Veritas Storage Foundation Cluster File System Administrator's Guide</i>	sfcfs_admin.pdf

## Veritas Volume Replicator documentation

The following Veritas Volume Replicator documentation is available with the Veritas Volume Replicator option:

[Table 2-2](#) describes the Veritas Volume Replicator documentation set.

**Table 2-2** Guides in Veritas Volume Replicator documentation set

Guide Title	Filename
<i>Veritas Volume Replicator Administrator's Guide</i>	vvr_admin.pdf
<i>Veritas Volume Replicator Planning and Tuning Guide</i>	vvr_planning.pdf
<i>Veritas Volume Replicator Web Console Administrator's Guide</i>	vvr_web_admin.pdf
<i>Veritas Volume Replicator Advisor User's Guide</i>	vvr_advisor_users.pdf
<i>Veritas Cluster Server Agents for Veritas Volume Replicator Configuration Guide</i>	vvr_agents_config.pdf

## Veritas Storage Foundation for Databases documentation Changes

Support for database products for this RU3 release will be announced as soon as possible in the *Late Breaking News Technote* on the Symantec Technical Support website:

<http://entsupport.symantec.com/docs/285834>

The following documentation is available with the Veritas Storage Foundation for Databases options:

[Table 2-3](#) describes the Veritas Volume Replicator documentation set.

**Table 2-3** Guides in Veritas databases documentation set

Guide Title	Filename
<i>Veritas Storage Foundation for DB2 Administrator's Guide</i>	sf_db2_admin.pdf
<i>Veritas Storage Foundation for DB2 Graphical User Interface Guide</i>	sf_db2_gui.pdf
<i>Veritas Storage Foundation for Oracle Administrator's Guide</i>	sf_ora_admin.pdf
<i>Veritas Storage Foundation for Oracle Graphical User Interface Guide</i>	sf_ora_gui.pdf
<i>Veritas Storage Foundation for Sybase Administrator's Guide</i>	sf_syb_admin.pdf

The 5.0 MP3 release introduced changes to the documentation for Veritas Storage Foundation for Databases. The `VRTSordoc` and `VRTSd2doc` packages no longer exist. All database guides are now in one package, `VRTSdbdoc`. New guides have been created for the GUI documentation and the PDF names have changed for existing guides.

## Veritas Cluster Server documentation

The following Veritas Cluster Server documentation is available with all Veritas Storage Foundation HA product suites:

[Table 2-4](#) describes the Veritas Cluster Server documentation set.

**Table 2-4** Guides in Veritas Cluster Server documentation set

Guide Title	Filename
<i>Veritas Cluster Server Release Notes</i>	vcs_notes.pdf
<i>Veritas Cluster Server Installation Guide</i>	vcs_install.pdf
<i>Veritas Cluster Server User's Guide</i>	vcs_users.pdf

**Table 2-4** Guides in Veritas Cluster Server documentation set (*continued*)

Guide Title	Filename
<i>Veritas Cluster Server Agent Developer's Guide</i>	vcs_agent_dev.pdf
<i>Veritas Cluster Server Bundled Agents Reference Guide</i>	vcs_bundled_agents.pdf
<i>VCS Enterprise Agent for Oracle Installation and Configuration Guide</i>	vcs_oracle_install.pdf
<i>VCS Enterprise Agent for DB2 Installation and Configuration Guide</i>	vcs_db2_install.pdf
<i>VCS Enterprise Agent for Sybase Installation and Configuration Guide</i>	vcs_sybase_install.pdf

## Manual Pages

The Veritas online manual pages are installed in the `/opt/VRTS/man` directory. This directory can be added to the `MANPATH` environment variable.

If the `MANPATH` environment variable does not include `/opt/VRTS/man`, you can view the desired manual page by entering the following command:

```
# man -M /opt/VRTS/man manual_page_name
```

---

**Note:** Installing documentation and online manual pages is optional.

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