

Veritas Storage Foundation™ Release Notes

Solaris

5.0 Maintenance Pack 3



Veritas Storage Foundation™ Release Notes

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

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

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Storage Foundation Release Notes

This document includes the following topics:

- [Overview of this release](#)
- [Changes in Storage Foundation](#)
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- [Software limitations](#)
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Overview of this release

This document provides release information about the products in the Veritas Storage Foundation 5.0 Maintenance Pack 3 (MP3) product line:

- Veritas Storage Foundation™ (Basic, Standard, Standard HA, Enterprise, and Enterprise HA)

- Veritas Storage Foundation™ for Oracle (Standard, Enterprise, and HA Editions)
- Veritas Storage Foundation™ for DB2 (Standard, Enterprise, and HA Editions)
- Veritas Storage Foundation™ for Sybase (Standard, Enterprise, and HA Editions)
- Veritas™ Volume Manager (VxVM)
- Veritas™ File System (VxFS)
- Veritas™ Volume Replicator (VVR)
- Veritas Storage Foundation™ Cluster File System (SFCFS)

Veritas Storage Foundation™ QuickStart is not available in this release.

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 the latest information on updates, patches, and known issues regarding this release, see the following TechNote on the Symantec Technical Support website:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/281987>

For Solaris x64,

<http://entsupport.symantec.com/docs/286955>

The hardware compatibility list (HCL) is available at:

For Solaris SPARC and x64,

<http://entsupport.symantec.com/docs/283161>

The hardware TechNote is available at:

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

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

This document does not contain release information for Veritas Cluster Server.

See the *Veritas Cluster Server Release Notes*.

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

Changes in Storage Foundation

This section describes the changes in Veritas Storage Foundation 5.0 MP3.

Installation and upgrade

Storage Foundation installation and upgrade includes the following changes in 5.0 MP3:

Veritas Installation Assessment Service

The Veritas Installation Assessment Service (VIAS) utility assists you in getting ready for a Veritas Storage Foundation and High Availability Solutions installation or upgrade. The VIAS utility allows the preinstallation evaluation of a configuration, to validate it prior to starting an installation or upgrade.

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

Simplified installation and configuration

Installation and configuration procedures have been simplified, based on usability testing.

Simplified upgrade procedures

Upgrade procedures have been simplified and automated, based on usability testing.

JumpStart installation

The installer provides a change to create sample start and finish files for a JumpStart installation.

Storage Foundation

Storage Foundation includes the following changes in 5.0 MP3:

Storage Foundation and Storage Foundation Cluster File System documentation changes

There are changes to the Storage Foundation and Storage Foundation Cluster File System documentation. The *Veritas Storage Foundation Cluster File System Installation Guide* ([sfcfs_install.pdf](#)) and the *Veritas Storage Foundation Cluster File System Release Notes* ([sfcfs_notes.pdf](#)) no longer exist. The Storage Foundation Cluster File System installation content exists in the *Veritas Storage Foundation Installation Guide* ([sf_install.pdf](#)) and the Storage Foundation Cluster File System Release Notes content exists in the *Veritas Storage Foundation Release Notes* ([sf_notes.pdf](#)).

Logical Domains support

Support for the new Logical Domains (LDom)s feature from Sun Microsystems has been incorporated into this release of Veritas Storage Foundation.

For setting up Logical Domains on Solaris, refer to the *Veritas Storage Foundation and High Availability Solutions Application Note: Support for Logical Domains with 5.0 Maintenance Pack 3a* at the following URL:

<http://entsupport.symantec.com/docs/307635>

Quick I/O and Veritas ODM

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.

SmartMove™ feature

SmartMove reduces the time and I/O required to attach or reattach a plex to an existing VxVM volume, in the specific case where a VxVM volume has a VxFS file system mounted on it. The SmartMove feature uses the VxFS information to detect free extents and avoid copying them.

SmartMove provides the following benefits:

- Less I/O is sent through the host, through the storage network and to the disks/LUNs
- Faster plex creation, resulting in faster array migrations
- Ability to migrate from a traditional LUN to a thinly provisioned LUN, removing unused space in the process

In this release, the feature is turned off by default. To turn on and use the full functionality the SmartMove feature, see the following URL:

<http://entsupport.symantec.com/docs/306479>

To use the SmartMove feature, VxVM and VxFS must be version 5.0 MP3 or later.

Thin Storage Reclamation support

Thin Storage is an array vendor solution for allocating storage to applications only when the storage is truly needed, from a pool of free storage. Thin Storage attempts to solve the problem of under utilization of available array capacity.

Thin Storage Reclamation-capable arrays and LUNs allow the administrators to release once-used storage to the pool of free storage. Storage is allocated from the free pool when files are created and written to in the file system. However, this storage is not released to the free pool when files get deleted; the administrator must perform the operation of reclaiming this storage for the free pool.

Veritas File System supports reclamation of the free blocks in the file system on Veritas Volume Manager-backed file systems. The operation of reclamation can be done on a disk, LUN, full file system, or part of a file system using the `vxdisk` and `fsadm` commands, and the `vxfs_ts_reclaim` API.

Note: The Storage Foundation Thin Reclamation feature is not supported on the Solaris x64 operating environment.

Veritas Volume Manager

Veritas Volume Manager includes the following changes in 5.0 MP3:

Support for iSCSI devices

Veritas Volume Manager now provides support for the use of iSCSI devices in DMP. VxVM provides the same functionality available on Fibre Channel devices for iSCSI devices. This feature is available on all the supported iSCSI arrays. In addition, VxVM provides new interfaces to obtain Fibre Channel and iSCSI configuration information visible to the host. Wherever support from the operating system is available, you can also view and set iSCSI session parameters to improve the performance of iSCSI devices.

Grow root disk partition

VxVM now supports growth of the root disk partitions in a few easy steps.

Boot disk recovery

The process to create a failback disk has been simplified. You can now use the VxVM commands to break off the root mirrors and make the mirror disk bootable.

The resulting mirror of the boot disk can be used as a failback disk in case of upgrade failure.

Enhancements to the Dynamic Multipathing feature

This release provides a number of enhancements to the Dynamic Multipathing (DMP) features of VxVM. These enhancements simplify administration, and improve display of detailed information about the connected storage.

Improved Dynamic Multipathing device naming

The DMP device naming feature has been enhanced to provide a more consistent and user friendly approach for naming the DMP devices.

The following enhancements apply regardless of the specified naming scheme:

- DMP now enables you to assign customized names for DMP devices. You can specify customized names for individual devices, or you can use a file containing user-defined names to assign multiple names.
- You can specify a DMP device name to commands using the name of any of its subpaths. The output displays the DMP device name assigned.
- In a symmetric cluster, the DDL-generated enclosure-based names for DMP devices are now consistent across all the nodes in the cluster.
- Device names can be made persistent. This is the default for the enclosure-based naming (EBN) scheme.

The following enhancements apply to the EBN naming scheme:

- DDL generates the device name in the format *enclosure_index*. If you specify the `use_avid` argument, the name is generated with the Array Volume ID for the index number to provide a more meaningful name.

Default behavior for I/O throttling

By default, DMP is now configured with no I/O throttling. In previous releases, I/O throttling was set to on. Use the `vxdmpadm setattr` command with the `recoveryoption` keyword to configure I/O throttling for DMP.

Specifying a minimum number of active paths

You can now configure a minimum redundancy level, which is the minimum number of paths for the devices under an enclosure. Use the `redundancy` option of the `vxdmpadm getdmpnode` command to display any devices that have fewer than the minimum number of paths. You can also configure DMP to notify you when the number of active paths falls below the configured minimum.

Enhanced subpaths listing

The `vxddmpadm getsubpaths` command now provides the ability to list all subpaths known to DMP, subpaths of an enclosure, or subpaths through an array port or pwwn. To list the paths through an array port, specify either a combination of enclosure name and array port id, or the array port WWN.

The default listing of the `vxddmpadm getsubpaths` command is sorted by enclosure name, then by DMP node and within that by pathname. The new option `-s` enables you to sort the output based on path name, DMP node name, enclosure name, or host controller name.

Enhanced I/O statistics

The following enhancements have been made to I/O statistics:

Queued and Erroneous I/O counts

The `vxddmpadm iostat show` command now provides options to display queued I/O counts (`-q` option) and erroneous I/O counts (`-e` option). These options are applicable for DMP node, path and controller.

Filter zero entries

The `vxddmpadm iostat show` command now provides the `-z` option to filter out entities for which all data entries are zero. This option is especially useful in a cluster environment, when many paths are required for failover capabilities, but the paths are not being used for I/O.

Specifying units for statistics data

You can now specify the units in which the statistics data is displayed. The `-u` option accepts `k`, `m` and `g` arguments to display throughput in kilo-, mega-, and giga- system blocks. The `us` argument displays average read/write time in microseconds. By default, the read/write times are displayed in milliseconds up to 2 decimal places. The throughput data is displayed in terms of 'BLOCKS' and the output is scaled, meaning that the small values are displayed in small units and the larger values are displayed in bigger units, keeping significant digits constant. The `bytes` argument to `-u` option can be used to display throughput in exact number of bytes.

Cumulative I/O statistics

The `vxddmpadm iostat` command now has a `groupby` clause to provide cumulative I/O statistics listing per `dmpnode`, controller, array port id, host-array controller pair and enclosure. If the `groupby` clause is not specified then the statistics are displayed per path.

Miscellaneous improvements to DMP I/O statistics

The following improvements have been made to the DMP I/O statistics output:

The way in which average read/write time is calculated has been corrected.

By default, the average read/write time is displayed in milliseconds up to two places after the decimal point. Use the new option `-u us` to display the average read/write time in microseconds.

The average I/O size is set to 512 bytes.

The `vxddmpadm iostat show` command now shows full names for disks with target WWN. If the output exceeds 80 columns, then the output is wrapped.

Making DMP restore options persistent

The restore policy, restore interval, and restore period are now persistent across reboot. In addition to being set as options to the `vxddmpadm start restore` command, these attributes can also be set using the `vxddmpadm settune` command. The new tunables are: `dmp_restore_policy`, `dmp_restore_interval`, and `dmp_restore_cycles`.

In addition, there is a new tunable, `dmp_enable_restore`, which enables the path restoration thread to be started.

New log file location for DMP events

The log file location for DMP events is `/var/vx/dmpevents.log`. For backward compatibility, `/etc/vx/dmpevents.log` is a soft link to `/var/vx/dmpevents.log`.

Extended device attributes displayed in `vxdisk list`

The `vxdisk list` command now displays extended device attributes like hardware mirrors for certain arrays.

Display `use_all_paths` attribute for an enclosure

Display value of `use_all_paths` attribute for an enclosure.

Viewing information about the ASLs installed on the system

The `/usr/lib/vxvm/diag.d/vxcheckasl` command has been enhanced to provide all the information regarding the ASLs (all those installed in the system), the devices (all seen by OS) and all the possible ways in which these ASLs can interact with these devices.

Displaying the count of LUNs in an enclosure

The `vxddmpadm listenclosure` command now displays the count of LUNs in its default output.

Displaying LUN serial number

The `vxddmpadm getdmpnode` command now includes the option `-v` to display the LUN serial number along with other information.

Displaying HBA details

The `vxddmpadm getctlr` output has been enhanced to display HBA vendor details and the Controller ID. For iSCSI devices, the Controller ID is the IQN or IEEE-format based name. For FC devices, the Controller ID is the WWN. Because the WWN is obtained from Event Source Daemon, this field is blank if the Event Source Daemon is not running.

New exclude and include options for the vxddmpadm command

The `vxddmpadm` command now includes `exclude` and `include` commands to suppress or unsuppress devices from VxVM, respectively.

This provides a command line interface for these operations, which previously required user interaction.

New command for reporting DMP node information

The `vxddmpadm` command now includes the `list` command to display information about a DMP node, including all of the attributes that are set for that DMP node. The `vxddmpadm list` command can be used for a specified `dmpnode`, all `dmpnodes`, all `dmpnodes` on the `path name` or `dmpnodename`, or all `dmpnodes` in an enclosure.

Setting attributes for all enclosures

The `vxddmpadm setattr` command now has the `all` option for enclosure, array type and arrayname. The `all` option allows you to set the attributes (`iopolicy`, `failover_policy`, `recoveryoption`) on all the enclosures specified. Also, `vxddmpadm setattr arraytype array_type` sets the attribute for all array types derived from the given `array_type`.

Support for ALUA JBOD devices

DDL has now improved the support for JBOD devices to include ALUA JBOD devices. DMP now provides immediate basic support for any ALUA compliant array.

Full support still requires an array support library (ASL) for that array. See the Hardware Compatibility List (HCL) for details about supported arrays.

Enhancements to the Cluster Volume Manager

Cluster Volume Manager has been enhanced.

Local detach policy now supported with Veritas Cluster Server clusters and with Dynamic Multipathing Active/Passive arrays

In a CVM environment, it is possible that a failure of site is local to the node doing the I/O. In such cases, a shared disk group can be associated with a “local detach” policy. With this option, the node that encounters the site failure requests another node or a set of nodes to verify if the site is accessible. If the failure is local to the node, the volume is disabled on that node without doing any configuration updates over the cluster. With the local detach policy, the behavior of cluster configuration with sites is the same as with regular cluster configuration.

Prior to this release, the local detach policy was not recommended for certain environments. This release removes the restrictions for using the local detach policy, as follows:

The local detach policy can now be used in CVM or CFS clusters which are managed by VCS. The new behavior notifies the VCS agents of the local failure.

Also, the local detach policy can now be used in a DMP environment with Active/Passive arrays.

Distributed Volume Recovery

In Cluster Volume Manager (CVM), upon a node crash, the mirror recovery is initiated by the CVM master. Prior to this release, the CVM master also performed all of the recovery I/O. In this release, the CVM master can distribute recovery tasks to other nodes in the cluster. Distributing the recovery tasks is desirable in some situations so that the CVM master can avoid an I/O or CPU bottleneck.

When distribution of volume recovery is turned on, the master distributes recovery tasks in a round-robin fashion to other nodes in the cluster. By default, all of the nodes in the cluster can participate in volume recovery. You can also exclude particular nodes from the volume recovery.

To turn on the distribution of volume recovery, add the keyword `distribute` in the file `/etc/default/vxrecover`. You can also specify the `distribute` keyword when running `vxrecover`.

To disable this feature, remove the `distribute` keyword from the file `/etc/default/vxrecover`. If the feature is not enabled, the master performs the resynchronization tasks locally, as in the previous release.

The distributed volume resynchronization functionality does not depend on the disk group version, and hence works with older version disk groups.

Campus Cluster enhancements

The Campus Cluster feature provides the capability of mirroring volumes across sites, with hosts connected to storage at all sites through a Fibre Channel network.

In this release, the following enhancements have been made to the Campus Cluster feature:

Site tagging of disks or enclosures

The following enhancements to `vxdisk` are related to site tagging:

- Site tagging operations on multiple disks or enclosures are now supported.
- New option to rename a site tag on a disk or enclosure.

Automatic site tagging

The `vx dg settag` command now provides an option for automatic tagging of a site. You can specify that an enclosure is automatically tagged with a particular site name. When you add a LUN belonging to that enclosure to a disk group, the LUN is tagged with the site name specified.

Site renaming

The `vx dg` command has a new `renamesite` option. The `renamesite` option renames the existing site record that is configured on the disk group. The `renamesite` option also associates all of the volume objects to the new site.

Veritas Volume Replicator

Veritas Volume Replicator includes the following changes in 5.0 MP3:

VVR support for shared disk groups (CVM support)

VVR now supports shared disk groups (CVM support) on the Solaris x64 platform.

Veritas File System

Veritas File System includes the following changes in 5.0 MP3:

Dynamic Storage Tiering enhancements

The Dynamic Storage Tiering (DST) has the following enhancements in this release:

- Dynamic Storage Tiering APIs are enhanced to provide a new interface for managing allocation policies of Storage Checkpoints at creation time and later, and for managing named data stream allocation policies.

- The `fspadm` command now supports UID, GID, and TAG elements in the placement policy XML file.
- Improved `fspadm` command scan performance.
- Suppressed the processing of the chosen RULE.
- Parser support for UID, GID, and TAG elements in a DST policy.
- What-if support for `analyze` and `enforce` without requiring the policy to be assigned.
- Storage Checkpoint data placement support in a DST policy.
- Upgrade to SQLite 3.3.9
- Shared DB thread handle support
- CPU and I/O throttling support for DST scans.
- New command, `fstag`, for file tagging.
- New command, `fspm`, for creating XML policies.

Mount `mntlock` and `mntunlock` options

You can specify the `mntlock` option with the `mount` command, which prevents a file system from being unmounted by an application. This option is useful for an application that does not want the file systems that the application is monitoring to be improperly unmounted by other applications or administrators. Clustering applications, such as Veritas Cluster Server (VCS), are particularly expected to benefit.

The `mntunlock` option of the `umount` command reverses the `mntlock` option if you previously locked the file system.

Write performance improvement

Depending on the features active on a file system, write performance is improved as much as 10% compared to the 5.0 Maintenance Pack 1 release.

Veritas Storage Foundation for Oracle

Veritas Storage Foundation for Oracle includes the following change in 5.0 MP3.

Support for new database

Veritas Storage Foundation for Oracle provides support for the Oracle™ 11g database in the 5.0 MP3 release.

The following features of Veritas Storage Foundation for Databases are supported in the Oracle 11g environment:

- Storage Checkpoints
- Storage mapping
- Database cloning (`clonedb`)
- Database Flashsnap
- Tiered storage for databases (DBDST)
- Quick I/O
- Veritas Extension for Oracle Disk Manager (ODM)

For 11g on Solaris:

If you are using ODM and plan to use the `init_ora` "memory_target", you must apply the patch for Oracle bug 664726.

Veritas Storage Foundation for DB2

Veritas Storage Foundation for DB2 includes the following change in 5.0 MP3.

Support for new database

Veritas Storage Foundation for DB2 provides support for the DB2 9.5 database in the 5.0 MP3 release.

The following features of Veritas Storage Foundation for Databases are supported in the DB2 9.5 environment:

- Storage checkpoints
- Storage mapping
- Database cloning (`clonedb`)
- Database Flashsnap
- Tiered storage for databases (DBDST)
- Concurrent I/O

Quick I/O is not supported for DB2 9.5. This is because DB2 9.5 sets preallocation on by default and preallocation does not work with Quick I/O files.

Veritas Storage Foundation Cluster File System

Veritas Storage Foundation Cluster File System includes the following changes in 5.0 MP3:

Number of parallel fsck threads to run during recovery is tunable

In prior releases the number of parallel fsck threads that could be active during recovery was set to 4. In this release the default depends on the number of CPUs in the system, but is tunable within given limits.

See the *Veritas Storage Foundation Cluster File System Administrator's Guide*.

Solaris 10 operating environment non-global zone support

As of the 5.0 MP1 release, `VRTSvxfs` and `VRTSodm` support clustered file systems mounted within Solaris 10 operating environment non-global zones, including loopback file systems (lofs).

Quick I/O and Veritas ODM

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. Existing licenses will enable these features after 5.0 MP3 is installed or upgraded on the system. This will not require the addition of a new license.

Required patches

This section lists any required patches for this release.

Required Solaris patches

Before installing Veritas Storage Foundation, ensure that the correct Solaris patches are installed.

See <http://sunsolve.sun.com> for the latest Solaris patch updates.

The following patches are required for Solaris SPARC:

Table 1-1 Solaris SPARC patches

Operating system	Sun patch number
Solaris 8	108528-29 111095-33 111412-23 111413-20 112438-03 113766-05 128624-06

Table 1-1 Solaris SPARC patches (*continued*)

Operating system	Sun patch number
Solaris 9	114477-04
Solaris 10	118833-36 118918-24 119254-53 119578-30 120011-14 120272-19 123839-07 125503-02 125547-02 125731-02 125891-01 126419-01 126540-02 126897-02 127127-11 127755-01

The following patches are required for Solaris x64:

Table 1-2 Solaris x64 patches

Operating system	Sun patch number
Solaris 10	118344-14 118855-36 119043-11 119131-33 119375-13 120012-14 125732-02 125914-02

Storage Foundation for Databases supported features

The following sections list the supported features for each platform in the 5.0 MP3 release of Storage Foundation for Databases.

Supported features for Solaris SPARC

For Solaris SPARC, the following features of Storage Foundation for Databases are supported in this release.

Storage Foundation for Oracle features

For Oracle 9i, Oracle 10g, and 11g, all features of Storage Foundation for Oracle are supported in this release.

You can refer to the *5.0MP3 Veritas Storage Foundation Installation Guide* for detailed information on supported database version and Solaris combinations for Oracle.

Storage Foundation for DB2 features

For DB2 8.1, DB2 8.2 and DB2 9.1, all features of Storage Foundation for DB2 are supported in this release.

For DB2 9.5, all features of Storage Foundation for DB2, with the exception of Quick I/O, are supported in this release.

You can refer to the *5.0MP3 Veritas Storage Foundation Installation Guide* for detailed information on supported database version and Solaris combinations for DB2.

Storage Foundation on Storage Foundation for Sybase features

For Sybase 12.5 and Sybase 15, the following table lists the Storage Foundation for Sybase features which are supported in this release.

Table 1-3 Solaris supported features for Sybase

Sybase version	Storage Foundation for Sybase features
Sybase 12.5	<ul style="list-style-type: none">■ Quick I/O■ Concurrent I/O
Sybase 15	<ul style="list-style-type: none">■ Quick I/O■ Concurrent I/O

You can refer to the *5.0MP3 Veritas Storage Foundation Installation Guide* for detailed information on supported database version and Solaris combinations for Sybase.

Supported features for Solaris Opteron 2.10

For Solaris Opteron 2.10, the following features of Storage Foundation for Databases are supported in this release.

Storage Foundation for Oracle features

For Oracle 9i and Oracle 10g, all features of Storage Foundation for Oracle are supported on Solaris Opteron in this release.

At the time of the 5.0 MP3 release, Oracle 11g is not supported on Solaris Opteron. For Oracle 11g, there is no support for any feature of Storage Foundation for Oracle on Solaris Opteron in this release.

Storage Foundation for Sybase features

For Sybase 12.5 and Sybase 15, the following table lists the Storage Foundation for Sybase features which are supported in this release.

Table 1-4 Solaris Opteron supported features on Storage Foundation for Sybase

Sybase version	Storage Foundation for Sybase features
Sybase 12.5	<ul style="list-style-type: none">■ Quick I/O■ Concurrent I/O
Sybase 15	<ul style="list-style-type: none">■ Quick I/O■ Concurrent I/O

You can refer to the *5.0MP3 Veritas Storage Foundation Installation Guide* for detailed information on supported database version and Solaris Opteron combinations for Sybase.

System requirements

This section describes the system requirements for this release.

Software and hardware requirements

For information on hardware requirements, see the hardware compatibility list. The hardware compatibility list (HCL) is available at:

<http://entsupport.symantec.com/docs/283161>

For information on specific HA setup requirements, see the *Veritas Cluster Server Installation Guide*.

Supported Solaris operating systems

This section lists the supported operating systems for this release of Veritas Storage Foundation products, including Veritas Storage Foundation Cluster File System.

Veritas Storage Foundation is supported on the following Solaris operating systems:

- Solaris 8 (SPARC Platform 32-bit and 64-bit)
- Solaris 9 (SPARC Platform 32-bit and 64-bit)
- Solaris 10 (SPARC or x64 Platform 64-bit)

If necessary, upgrade Solaris before you install the Veritas products.

Install all the latest required Solaris patches listed in the *Veritas Storage Foundation Release Notes*.

See “[Required Solaris patches](#)” on page 20.

For information about the use of this product in a VMware Environment on Solaris x64, refer to <http://entsupport.symantec.com/docs/289033>

Storage Foundation Cluster File System node requirements

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

Component product release notes

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

The following component product release notes are included as PDF files on the software disc:

- *Veritas Storage Foundation Release Notes* (`sf_notes.pdf`)
- *Veritas Cluster Server Release Notes* (`vcs_notes.pdf`)

Software limitations

The following sections describe Veritas Storage Foundation software limitations that exist 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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

5.0 MP3 Veritas Storage Foundation software limitations

The following are additional software limitations in the 5.0 MP3 release of Veritas Storage Foundation.

qiomkfile and odmmkfile commands must be run as a privileged user

The `qiomkfile` and `odmmkfile` commands must be run as a privileged user. This behavior has changed from the previous releases where these commands could be run by any user.

5.0 MP1 Veritas Storage Foundation software limitations

There are no additional Veritas Storage Foundation software limitations in the 5.0 MP1 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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

5.0 MP3 Veritas Volume Manager software limitations

There are no new additional software limitations in this 5.0 MP3 release of Veritas Volume Manager.

5.0 MP1 Veritas Volume Manager software limitations

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

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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

5.0 MP3 Veritas File system software limitations

The following are new additional software limitations in this 5.0 MP3 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.

Support of Solaris Zones

See the *Veritas File System Administrator's Guide* for information on Veritas Storage Foundation support of Solaris Zones (non-global zones).

5.0 MP1 Veritas File system software limitations

There are no additional Veritas File System software limitations in the 5.0 MP1 release.

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283893>

For Solaris x64,

<http://entsupport.symantec.com/docs/289319>

5.0 MP3 Veritas Storage Foundation Cluster File System software limitations

The following are new additional software limitations in this 5.0 MP3 release of Veritas Storage Foundation Cluster File System.

Compatibility with previous versions of Veritas File System

A disk layout Version 7 file system created with VxFS 5.0 software will not be accessible if the VxFS 5.0 file system software is removed and the system is reverted to VxFS 4.1.

In addition, if a disk layout Version 7 file system exists on a boot disk and VxFS 5.0 is removed, the host will not reboot successfully and will remain at the `bcheckrc` prompt. To reboot the host successfully, first edit the `fstab` file and comment out disk layout Version 7 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.

Consistent distribution and kernel version for Storage Foundation Cluster File System

For Solaris all the nodes in a SFCFS cluster must be at the same OS version and patch level. In addition, mixing nodes running 32-bit kernel with nodes running 64-bit kernel is not supported with SFCFS.

For Solaris x64 all the nodes in a SFCFS cluster must be at the same OS version and patch level.

5.0 MP1 Veritas Storage Foundation Cluster File System software limitations

There are no additional Veritas Storage Foundation Cluster File System software limitations in the 5.0 MP1 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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

5.0 MP3 Veritas Storage Foundation for Databases software limitations

There are no additional Veritas Storage Foundation for Databases software limitations in the 5.0 MP3 release.

5.0 MP1 Veritas Storage Foundation for Oracle software limitations

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

DBDST limitations with non-English filenames and placement class names (599164, 270905)

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.

Differing locales produces unintelligible characters in GUI (605487)

The GUI does not support Oracle 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 Oracle user locale (client).

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

Some Storage Foundation for Oracle 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.

Veritas Enterprise Administrator limitations

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.

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)

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`

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.

5.0 MP1 Veritas Storage Foundation for DB2 software limitations

The following are additional software limitations in the 5.0 MP1 release of Veritas Storage Foundation for DB2.

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.

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

Some Veritas Storage Foundation for DB2 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.

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 the CLI.

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)

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 DB2:

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

Cannot restore if tablespace is converted from Quick I/O to regular file after backup (25272)

If you convert a tablespace from a Quick I/O file to a regular file after backing up the database, you will not be able to restore the tablespace from that backup. For example, if you take a backup of a database that has a DMS tablespace with Quick I/O files as containers, and later convert the Quick I/O files to regular files, restoring the database from that backup will fail.

Workaround

Use the `qio_recreate` command to re-create the necessary Quick I/O files before you restore the database.

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.

5.0MP1 Veritas Storage Foundation for Sybase software limitations

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

Poor Sybase performance with Concurrent I/O (836921)

Due to the way Sybase Adaptive Server Enterprise manages devices that use operating system files, the performance of Concurrent I/O files may not be as good as the performance of Quick I/O. Sybase has opened a feature request (CR

444156 - Enhance CIO on Veritas Storage Foundation) to fully exploit the Veritas Concurrent I/O feature in ASE. Until that support is delivered, we recommend customers continue to use Quick I/O for their Sybase database files.

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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283918>

For Solaris x64,

<http://entsupport.symantec.com/docs/289329>

5.0 MP3 Veritas Volume Replicator software limitations

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

Support for local zones

VVR is supported in the global zone only. Note that although VVR cannot be executed in a non-global zone, VVR can support applications that run in non-global zones, provided the data resides on VxVM volumes in a global zone. For example, if an application is mounted on Veritas File System in a non-global zone and the file system uses VxVM volumes in a global zone, VVR can be used to replicate such an application's data. VVR and VxVM commands must be executed in the global zone. If you are replicating an application running in a non-global zone,

the global zone administrator requires application context to perform tasks such as snapshots and IBCs.

Solaris 10 zone feature limitation

Limitation in tasks requiring application context

VVR and VxVM commands must be executed in the global zone. If you are replicating an application running in a non-global zone, the global zone administrator requires application context to perform tasks such as snapshots and IBCs.

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 recommended 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.

Limitations in the RVGSnapshot agent

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

Fixed issues

The following sections describe Veritas Storage Foundation issues that were fixed in this release.

Veritas Storage Foundation fixed issues

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

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

5.0 MP3 Veritas Storage Foundation fixed issues

There are no additional Veritas Storage Foundation fixed issues in the 5.0 MP3 release.

5.0 MP1 Veritas Storage Foundation fixed issues

There are no additional Veritas Storage Foundation fixed issues in the 5.0 MP1 release.

Veritas Volume Manager fixed issues

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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas Volume Manager 5.0 MP3 fixed issues

[Table 1-5](#) describes fixed issues in the Veritas Volume Manager 5.0 MP3 release.

Table 1-5 Veritas Volume Manager fixed issues

Incident	Description
592685	Fixed a <code>vxddmpadm getddmpnode help</code> usage error.
779060	Enhanced VxVM to perform faster failover/plex detach for mirrored volumes.
934142	Fixed a failure that occurred when importing a version 60 diskgroup.
971002	Fixed a failure that occurred when using the <code>vxddmpadm setattr</code> command to update the dynamic multipathing events.log.
973256	VxVM displayed the same dynamic multipathing node for two different LUNs.
990003	<code>vxddctl upgrade</code> would hang during an upgrade from VxVM 4.1 to 5.0.
993551	Growing a volume with a DCO association caused <code>vxconfigd</code> to hang.
1053089	Enhanced the <code>vxrecover</code> command to handle multiple recoveries.
1084199	The Oracle recovery process would loop when trying to read the next mirror.
1087183	The <code>vxconfigd</code> daemon core dumped on the primary during flashsnap.
1092390	Fixed a memory leak in <code>vxconfigd</code> .
1120131	Fixed a system panic in DCO detach during a link failover.
1150763	Fixed an issue in which running <code>vxdisk updateudid</code> on an imported diskgroup disk could render the diskgroup unable to be imported.
1152033	The <code>vxconfigd</code> daemon core dumped during a BCV diskgroup import.
1194738	Fixed a panic in <code>vxio</code> due to an incorrect calculation of number of DCOs.
1201755	The <code>vxrelocd</code> daemon failed to work during a simulated disk failure when using a layered volume.
1204200	The <code>vxdg join</code> command failed due to a transaction abort.
1210160	Different <code>iotime</code> computation units used by <code>vxio</code> and <code>vxddmp</code> resulted in a false insane DMP node.
1213564	Fixed a panic that occurred during a DCO update.

Table 1-5 Veritas Volume Manager fixed issues (*continued*)

Incident	Description
1224737	Deported diskgroup disks from Clariion A/PF LUNs that were not on the preferred path were not accessible.
1228536	Running <code>vxvg flush</code> on a slave node in a CVM cluster disabled the disk.
1232013	The <code>vxconfigd</code> daemon core dumped while importing a diskgroup.
1245037	The "Operations requires transaction" error occurred during snapshot creation.
1248303	Fixed a panic in <code>vxdmp</code> that was caused by an invalid CPU table address.
1264340	The <code>vxdmpadm getattr arrayname name recoveryoption</code> command core dumped when more than one enclosure of a given type was attached.
1267134	The <code>vxconfigd</code> daemon core dumped due to stack corruption.
1280387	Fixed a panic that occurred when using the <code>vxsnap admir</code> command to take a link-breakoff snapshot.
1288418	The current primary path was not getting set on a DMP node in a CVM environment when all of the ports on a switch were disabled from the host side, and then the ports were enabled.
1293922	Enhanced VxVM to include an online plex comparison utility.
1299252	VxVM commands hung because <code>vxconfigd</code> was waiting for a configuration update to finish.
1321195	Fixed a panic on CVM nodes.
1034591	Changed DMP get path state code to check only for write protection for Symmetrix.
1046926	The same DMP node was used for two different disks when the LUN number of a DMP node was deallocated and reassigned to another physical device.
1057146	DCO maps were cleared due to a failed attempt to attach a plex, which led to data corruption.
1067870	A DCO volume moved to another disk when the volume was grown, due to <code>vxassist grow</code> not honoring the allocation specification.

Table 1-5 Veritas Volume Manager fixed issues (*continued*)

Incident	Description
1078615	Added support for initialization of LUNs greater than 2 TB.
1086982	Fixed a false serial split brain detection during DR.
1097834	Added a failover mode for Clarion arrays.
1107078	The <code>vxconfigd</code> daemon core dumped at startup in CBR.
1107156	Added instantaneous device suppression support in DMP.
1183331	The <code>vxconfigrestore -p</code> command failed with a syntax error.
1204981	Fixed an error that occurred with the <code>vxdisk scandisk</code> command for <code>/dev/cciss/*</code> devices.
1205065	Fixed an incorrect error message for disabling the root disk or a failed disk.
1214356	The <code>vxconfigd</code> daemon transactions failed after a minor number conflict and temporary remapping of shared volumes.
1230360	Fixed a system panic when one of the mirrored volume's plexes went down due to LUN access failure.
1265972	After a crash or reboot, a node failed to re-join the CVM cluster.
1035027	Fixed a memory leak in the VxVM and DMP plugin of VxMS.
1176580	Fixed a CVM node panic that occurred when cables were unplugged from an array.
1050994	Using the <code>vxassist grow</code> command on a striped-mirror, log volume failed with the "Cannot update volume" error message.
1104933	Fixed an incorrect calculation of disk capacity done by the <code>vxdisksetup</code> command.
1065478	Fixed a panic in DMP due to stale DMP nodes.

Veritas Volume Manager 5.0 MP1 fixed issues

[Table 1-6](#) describes fixed issues in the Veritas Volume Manager 5.0 MP1 release.

Table 1-6 Veritas Veritas Volume Manager fixed issues

Incident	Description
528677	Volume relayout is now supported for site-confined volumes and for site-consistent volumes.
540351	Reattaching a site when the disks were in the serial-split brain condition gave an error message.
540523	Under some circumstances, DMP nodes could be incorrectly enabled.
563524	Split, join and move operations failed on a source disk group that had any site-confined volumes.
584200	The vxmake command could not be used to recreate site records. This is now supported if the -d option is used to read from a description file.
601274	In a CVM cluster, DMP did not fail over to a secondary path when the primary paths were disconnected.
605743	If a disk group were split from a source disk group, volumes in the split-off disk group did not retain their volume tags.
609199	When the vxdmpadm disable command was applied to a primary path on one node in a CVM cluster, the other nodes did not fail over to the secondary path.
611333, 622508	DMP could not obtain the correct serial number for a device if its LUN serial number contained a comma. This problem was seen on EMC Symmetrix arrays with more than 8096 LUNs.
614061, 614787	Adding cache volumes (used by space-optimized instant snapshots) to volume sets could cause data corruption and system panics.
614061, 614787	Adding cache volumes (used by space-optimized instant snapshots) to volume sets could cause data corruption and system panics.
617331, 631334	I/O was not restored on a path that was re-enabled after a failback or a non-disruptive upgrade (NDU) operation.
618317	A system crash could occur while bringing up cluster if I/O were performed on a unopened path.
621832	Immediately after installation, the vxesd daemon had the DVD mount point as its current working directory, which prevented the DVD from being unmounted.
625877	The error <code>"/etc/vx/vxvm-startup: line 241: /usr/sbin/vxddladm: No such file or directory"</code> was seen at boot time.

Table 1-6 Veritas Veritas Volume Manager fixed issues (*continued*)

Incident	Description
643089	Relayout from mirror-stripe to concat-mirror did not work for site-consistent volumes.
645749	Growing a volume by a specified amount did not work for a site-consistent volume with more than 2 disks per site.
793159	Automatic reattachment of a remote site did not work correctly.
801445	The DMP feature to detect and respond to intermittently failing paths was turned off by default in the 5.0 release, and the values of the <code>dmp_health_time</code> and <code>dmp_path_age</code> tunables were both set to 0. This feature is now enabled by default in 5.0 MP1. The default values of <code>dmp_health_time</code> and <code>dmp_path_age</code> are 60 and 300 seconds respectively.

Veritas Storage Foundation Enterprise Administrator 5.0 MP3 fixed issues

There are no additional Veritas Storage Foundation Enterprise Administrator fixed issues in the 5.0 MP3 release.

Veritas Storage Foundation Enterprise Administrator 5.0 MP1 fixed issues

[Table 1-7](#) describes fixed issues in the Veritas Enterprise Administrator 5.0 MP1 release.

Table 1-7 Veritas Enterprise Administrator fixed issues

Incident	Description
578688	The maximum size of the Alert and Task logs has been documented as 2MB.
596284	An Action pull-down menu item did not exist for the Layout View, the Disk View or the Volume View.
599060	Controller states were reported as "Not Healthy" when they are actually healthy, and "Healthy" when they were actually not healthy.
614761	The volume set creation wizard showed cache volumes in the "Available Volumes" list.

Table 1-7 Veritas Enterprise Administrator fixed issues (*continued*)

Incident	Description
616661	When connecting to the central host, an "OutOfBoundException" error could occur.
618146	A Java exception error occurred in the Statistics View.

Veritas Web GUI 5.0 MP3 fixed issues

There are no additional Veritas Web GUI fixed issues in the 5.0 MP3 release.

Veritas Web GUI 5.0 MP1 fixed issues

[Table 1-8](#) describes fixed issues in the Veritas Web GUI 5.0 MP1 release.

Table 1-8 Veritas Web GUI fixed issues

Incident	Description
564455	Removing a volume from a volume set returned a Java exception.
565072	Creating a file system on a disabled volume returned both success and failure messages.
566619	The Scan Disks By Controller View did not list the available controllers.
574410	Attempting to create a volume without an existing disk group produced a misleading error.
575262	Disabling a path to a SENA storage array produced an erroneous message.
576794	Ghost entries for disconnected disks in the All Disks View could not be removed by using the GUI.
596648	Messages about failures to import disk groups were not displayed by the Web GUI.
601157	The wizard could report that an ISP volume was created successfully when the command log showed that it was not.
605468	Forcibly removing a volume from a volume set displayed an erroneous message.
607026	At least one object had to be selected in the GUI before a disk could be initialized.
608573	Deleting a volume that had just been deleted produced a Java exception.

Table 1-8 Veritas Web GUI fixed issues (*continued*)

Incident	Description
611894	Removing a disk from a disk group displayed an erroneous message.
615395	Attempting to delete an active cache volume failed with an error message that was incomplete.
619039	Messages about exceeding the Storage Foundation Basic soft limitations were not displayed by the Web GUI.
639751	Help for the Scan Disks by Controller page was missing.
805595, 807387	Migrating from Central mode to Standalone mode caused the Action Agent package (VRTSaa) to be removed.

Veritas File System fixed issues

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

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas File System 5.0 MP3 fixed issues

[Table 1-9](#) describes fixed issues in the Veritas File System 5.0 MP3 release.

Table 1-9 Veritas File System fixed issues

Incident	Description
823590	Fixed a deadlock involving POSIX threads when the threads memory mapped VxFS files.
995917	Fixed an inode table overflow that occurred when upgrading disk layout Version 5 to Version 6 with the <code>vxupgrade</code> command.
1048438	Fixed a performance degradation in <code>vx_logbuf_clean()</code> .
1051524	Fixed an issue in which direct I/O to a disabled data volume in a volume set would cause a panic.

Table 1-9 Veritas File System fixed issues (*continued*)

Incident	Description
1087692	Fixed an issue in which the <code>vx_quota</code> command could fail with "permission denied" error.
1093636	Backed out changes to <code>vx_extfree()</code> introduced in incident 544066.
1099215	Fixed a possible infinite loop in <code>vx_write_alloc3()</code> due to a fragmented file system.
1143812	Removed the check for a Concurrent I/O license.
1167380	Fixed an incorrect use of the <code>fse_funmounted</code> flag that resulted in EIO errors.
1207239	Fixed a panic in <code>vx_getblk_cmn()</code> that could be caused when a Storage Checkpoint was mounted after the <code>ls -@</code> command was run against the primary file system.
1213253	The <code>fsadm -b</code> command sometimes failed to shrink a file system.
1254405	Fixed a panic in <code>vx_dnlc_purge_ip()</code> that was caused by a dereference to a NULL <code>d_flhead</code> pointer.
1255517	The <code>df</code> command had different output depending on if a file system was local or part of a cluster.
1283708	Fixed an issue in which records specified with the <code>vxdump -B</code> command were incorrectly calculated if the value was larger than 2 gigabytes.

Veritas File System 5.0 MP1 fixed issues

[Table 1-10](#) describes fixed issues in the Veritas File System 5.0 MP1 release.

Table 1-10 Veritas File System fixed issues

Incident	Description
616323	<p>For WebGUI online help, the following issues have been fixed:</p> <p>For the Remount Storage Checkpoint operation, the More info link on the second wizard page does not function properly for cluster file systems.</p> <p>For the Unmount Storage Checkpoint operation, the More info link on the second wizard page does not function properly for cluster file systems.</p>

Table 1-10 Veritas File System fixed issues (*continued*)

Incident	Description
770917	Inode ownership issues detected in large directory related code paths have been fixed.
770935	Prevented the system from panicking when setting access time (atime) or modification time (mtime) of named data streams by calling <code>vxfs_nattr_utimes()</code> API on 32-bit kernel.
770953	<code>fsck</code> used to create the lost+found directory with the <code>rwrxrwx</code> permissions if it decided to create one. Now, it creates the directory with the <code>rwrx-xr-x</code> permissions, which is consistent with the behavior of <code>mkfs</code> .
770964	<code>fsck</code> has been enhanced to replay file systems created with earlier log versions on volume sets.
771086	Fixed an <code>fsck</code> problem in which users could end up creating multiple lost+found directories when running the <code>fsck -o full</code> command and answering <code>fsck</code> questions interactively. Now, <code>fsck</code> creates only one. It also checks for multiple lost+found entries and removes duplicate directory entries.
771996	Enhanced VxFS to use less CPU when doing administrative tasks on the devices of multi-volume file systems.
772013	Enhanced the <code>fsck</code> command to enforce the lost+found file name in the root directory of the file system to be a directory file type.
777012	If the system crashed or there was a metadata I/O error, after the <code>fsadm</code> command reorganized the lost+found directory, running the <code>fsck -o full</code> command may not have been able to clean the file system with regard to names that needed to be added to the lost+found directory. The problem happened on single-volume and multi-volume file systems.
785649	A situation where <code>vxfsconvert</code> of a dusty file system loops forever in user-level code when an inode with pending truncation operation is encountered has been fixed.
793022	<code>vxfs_nattr_open()</code> API interface has been fixed to shrink files, as appropriate, when invoked with <code>O_TRUNC</code> flag.
793030	<code>vxfsutil.h</code> uses <code>struct timeval</code> in one of the function declarations, but does not include <code>time.h</code> . This causes user applications to report warnings during compilation. This issue has been fixed by including <code>time.h</code> in <code>vxfsutil.h</code> .

Table 1-10 Veritas File System fixed issues (*continued*)

Incident	Description
795073	The increased CPU utilization when writing to a file system that is almost full due to more background processing threads than are actually required being enqueued has been fixed.
858866	Resolved a failure in VxFS that caused installation to fail on an alternate disk when using Solaris Live Upgrade driven through CPI.

Veritas Storage Foundation Cluster File System fixed issues

Fixed issues 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:

For Solaris SPARC:

<http://entsupport.symantec.com/docs/283893>

For Solaris x64:

<http://entsupport.symantec.com/docs/289319>

Veritas Storage Foundation Cluster File System 5.0 MP3 fixed issues

Table 1-11 describes fixed issues in the Veritas Storage Foundation Cluster File System 5.0 MP3 release.

Table 1-11 Veritas Storage Foundation Cluster File System fixed issues

Incident	Description
1155353	Fixed an issue in which upgrading from disk layout Version 6 to Version 7 caused <code>fsck</code> to fail on the upgraded file system.
1167284	Fixed a live lock issue in <code>vx_iupdat_msg()</code> that resulted in the ENOTOWNER error.
1178621	Fixed an SFCFS multi-transaction server inode leak.
1314995	Fixed a leak of attribute inodes that caused the attribute ilist to become very large.

Veritas Storage Foundation Cluster File System 5.0 MP1 fixed issues

Table 1-12 describes fixed issues in the Veritas Storage Foundation Cluster File System 5.0 MP1 release.

Table 1-12 Veritas Storage Foundation Cluster File System fixed issues

Incident	Description
612406	Push the entire extent for an ilist hole. This will prevent multi-entry holes.
645227	The file system was hanging due to a rare race between the merge and activation of File Change Log (FCL) which lead to a deadlock. The problem has been resolved by ensuring that the merge threads try for the FCL global lock and proceed only if the lock is available.
770917	In some code paths related to large directory support, the cluster member (node) was not taking and holding the ownership of the inode for which the extents are to be re-organized. So, an assertion was being triggered when another member node of the cluster tried to revoke ownership of the inode. The problem has been resolved by correcting the ownership issues in large directory related code paths.
771892	A deadlock was occurring during CFS recovery. Log replay, which is performed as the first step during CFS recovery when a node crashes, was found to block in certain scenarios on an inode that the replay is trying to process. The problem has been resolved by freeing all inodes in the chunk one at a time without marking other inodes as busy.
771970	When a file is truncated, the truncate request is shipped to the cluster member that has the current ownership of the inode. There were certain inconsistencies in pre-splitting a buffer in the presence of clones, when the truncate request was shipped to another node of the cluster leading to an assertion. The problem has been resolved by changing the truncation code paths to handle the pre-splitting of buffers at a later stage during truncation, for both locally mounted and cluster mounted file systems.
771998	Add CFS support for solaris 10 local zones as of the 5.0 MP1 release. VRTSvxfs and VRTSodm now support Clustered File Systems mounted within Solaris 10 local zones. This includes LOFS and direct mounts.

Table 1-12 Veritas Storage Foundation Cluster File System fixed issues
(continued)

Incident	Description
771999	A node in a cluster was hanging under heavy CFS activity in the cluster. When all the worker threads servicing callbacks from a queue were blocked, the callbacks that were still lying in the same queue faced a deadlock. The problem has been resolved by queuing the callbacks that need to be processed to unblock other callbacks into a different queue, and processing them at a higher priority.
775611	Upon encountering an I/O error, the file system is correctly disable but a internal inconsistency check fails. The check failure in this instance is quite benign and cannot cause customer data corruption since the file system is safely disabled upon encountering an I/O error of this nature. To further diagnose this condition, a new consistency check has been added.
782024	Under heavy inode cache stress, file system recovery on a cluster file system was hanging after an I/O error. The problem has been resolved by ensuring that the code paths that attempt to reuse an inode do not wait for a dirty/bad/inactive inode to become free if recovery initiated by a disabled file system is currently in progress. If there are no inodes available for re-use, a new inode will be allocated to ensure that the recovery proceeds to completion.
793030	The vxfsutil.h was using 'struct timeval' in one of the function declarations without including time.h resulting in a warning message during compilation. The problem has been resolved by including time.h in vxfsutil.h.

Veritas Volume Replicator fixed issues

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

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283918>

For Solaris x64,

<http://entsupport.symantec.com/docs/289329>

Veritas Volume Replicator 5.0 MP3 fixed issues

Table 1-13 describes fixed issues in the Veritas Volume Replicator 5.0 MP3 release.

Table 1-13 Veritas Volume Replicator Fixed Issues

Incident	Description
1083609	VVR would have a hang on the primary with a heavy I/O load.
1085178	Fixed a replication hang due to outbound packets stalling.
1085219	Fixed a panic that occurred during the difference-based synchronization of an RVG.
1210105	"Operation requires transaction" errors occurred in VVR environments with a medium to large configuration size.
1281421	Fixed a panic that occurred during DCM protection due to a duplicate free.
1281987	Fixed an I/O hang that occurred after rlink was disconnected.
1315725	vxio had uncorrectable read/write errors with Oracle SmartSync.
1091734	Enhanced VVR to Allow <code>vol_rp_increment</code> and <code>vol_rp_decrement</code> to be tunables that can be modified from the <code>vxtune</code> interface.
840217	The <code>vradmin syncrvg</code> and the <code>vradmin syncvol</code> commands did not work correctly for volumes larger than 1TB.

Veritas Volume Replicator vradmin 5.0 MP1 fixed issues

[Table 1-14](#) describes fixed issues in the Veritas Volume Replicator vradmin 5.0 MP1 release.

Table 1-14 Veritas Volume Replicator vradmin fixed issues

Incident	Description
641439	A security issue was discovered that could have resulted in a Low or Medium Severity attack against the VVR Administration service port, TCP/8199. The attacker would have needed to gain access to the network or gotten the user to visit a malicious site from which the attacker could initiate the attack. An attack could crash the vradmind service (which auto restarts in 60 seconds). Potentially, an attack could degrade system performance if the attack was sustained.
776831	Migration of the Primary could not be done after one node of Primary cluster panicked.

Table 1-14 Veritas Volume Replicator vradmin fixed issues (*continued*)

Incident	Description
786185	Replicating from the Bunker to a Secondary generated startrep notification continuously, causing the GUI to hang.

Veritas Volume Replicator Web GUI 5.0 MP3 fixed issues

There are no additional Veritas Volume Replicator Web GUI fixed issues in the 5.0 MP3 release.

Veritas Volume Replicator Web GUI 5.0 MP1 fixed issues

[Table 1-15](#) describes fixed issues in the Veritas Volume Replicator Web GUI 5.0 MP1 release.

Table 1-15 Veritas Volume Replicator Web GUI fixed issues

Incident	Description
516812	On HP-UX, uninstalling did not remove all VRW files and directories.
576729	When a user without sufficient privileges tried to use the Create Primary wizard, the operation resulted in an incorrect error message.
611792	When a user tried to create a Primary without specifying the RVG name, the operation resulted in an RVG with an invalid configuration being created.
612565	VRW sometimes displayed the sizes of the SRL and data volumes incorrectly for an RDS replicating between VVR 4.1 and VVR 5.0 on the HP-UX operating system.
615758	If a CVM master node contains a private disk group, a Primary RVG created in that disk group was not displayed in the VVR Web GUI.
615769	When you created a Primary with the VVR Web GUI while connected to the master node of a CVM cluster, the Create Primary wizard did not display private disk group names in the disk group selection list.
615834	In a shared disk group environment, in some cases, clicking on the link for a Secondary disk group did not display the view of the disk group.
766453	If the list of disk groups is empty, clicking the Next button showed a blank screen.

Table 1-15 Veritas Volume Replicator Web GUI fixed issues (*continued*)

Incident	Description
768497	In the Create Primary wizard, sometimes non-free volumes were displayed in the volume list as free volumes.
770478	In some situations, the Current Logging field showed the value SRL when it should have been DCM.
776618	The Creating a Primary wizard failed when the list of data volumes was too long.
784039	In a VVR setup using a bunker Secondary with the STORAGE protocol, if the bunker disk group had been deported and imported several times, VRW displayed incorrect information about the RDS.
785051	The Deactivate Bunker operation was failing to find the activated bunker.
859597	A volume could be resized incorrectly and data could be lost if the requested size contained a decimal point.

Veritas Volume Replicator VEA 5.0 MP3 fixed issues

There are no additional Veritas Volume Replicator VEA fixed issues in the 5.0 MP3 release.

Veritas Volume Replicator VEA 5.0 MP1 fixed issues

[Table 1-16](#) describes fixed issues in the Veritas Volume Replicator VEA 5.0 MP1 release.

Table 1-16 Veritas Volume Replicator VEA fixed issues

Incident	Description
602261	In some situations, the Current Logging field showed the value SRL when it should have been DCM.
612565	VVR VEA sometimes displayed the sizes of the SRL and data volumes incorrectly for an RDS replicating between VVR 4.1 and VVR 5.0 on the HP-UX operating system.
616709	In the Japanese locale, the Add Bunker wizard page showed truncated text.
776622	The Creating a Primary wizard failed when the list of data volumes was too long.

Table 1-16 Veritas Volume Replicator VEA fixed issues (*continued*)

Incident	Description
784039	In a VVR setup using a bunker Secondary with the STORAGE protocol, if the bunker disk group had been deported and imported several times, VVR VEA displayed incorrect information about the RDS.

Veritas Storage Foundation for Databases fixed issues

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

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas Storage Foundation for Oracle 5.0 MP3 fixed issues

The following new additional issues for Veritas Storage Foundation for Oracle have been fixed in the 5.0 MP3 release.

Table 1-17 Veritas Storage Foundation for Oracle fixed issues

Incident	Description
861696	When trying to view a snapplan log using the Web GUI, you no longer get the following error message: Unable to load operation You can load and view a snapplan log successfully in the Web GUI.
900779	If an Oracle query is implemented during the time period when the database is suspended, it no longer causes Oracle to hang and crash. [Titan case: 320-018-260]
1265172	If your system has <code>ssh</code> configured and login is disabled for security reasons, then the <code>sfdb_db_config</code> utility executed with the <code>-ssh</code> option displays the NIC interface. [Titan Case: 290-919-297]

Veritas Storage Foundation for Oracle 5.0 MP1 fixed issues

[Table 1-18](#) describes fixed issues in the Veritas Storage Foundation for Oracle 5.0 MP1 release.

Table 1-18 Veritas Storage Foundation for Oracle fixed issues

Incident	Description
567342	An unmounted checkpoint clone database reappears in the Java GUI tree after rescanning.
582069	<p>If SFDB commands are executed with a locale that differs from the locale in use when the SFDB server was started, the commands may fail with the following message:</p> <pre data-bbox="534 517 1022 569">([Sybase][ODBC Driver][Adaptive Server Anywhere]Syntax error).</pre>
582416	<p>Clicking the Help button on a GUI wizard produces the following error message:</p> <pre data-bbox="534 699 1150 751">Error V-39-53246-8 Get EntryPoint failed. Please check the manifest related information</pre>
584044	The GUI now shows the mount point information correctly if the user mounts a read/write checkpoint again.
597257	Removing VRTSdbms3 may leave behind /opt/VRTSdbms2/bin32/servername or /opt/VRTSdbms3 which can cause a new installation of VRTSdbms3 to fail.
600431	Storage Checkpoint operations are currently not supported for databases cloned with Database FlashSnap.
604849	You need not run dbed_update from the command line before starting an Oracle database from the GUI. Previously, the tablespace folder was empty when starting the Oracle database from the GUI, unless first running dbed_update from the command line.
604858	<p>In the datafile statistic wizard, if there are no statistics for a datafile, a warning message confirming that no statistics are available is now shown instead of showing only an empty table.</p> <p>Also, in the datafile statistic wizard, if a user does not select a statistic, the wizard now shows a warning message and will not advance to next page.</p>
605776	Previously, in the VEA GUI main window, the toolbar used the same hotkey of "V" for both View and View Mapping commands. Now View Mapping uses "M" as its hotkey.
605583	The repository database server now handles the ja_JP.PCK locale correctly.

Table 1-18 Veritas Storage Foundation for Oracle fixed issues (*continued*)

Incident	Description
607001	Repository changes resulting from executing SFDB Storage Checkpoint CLIs are no longer delayed in the SFDB GUI.
607082, 610519	A problem was fixed that sometimes caused Web GUI requests to produce the error message Error V-40-49408-54.
607618	Previously, when scheduling a start up clone database task from the GUI, after all the clone database information was entered in the Start Up Snapshot database page, the Next button was disabled, preventing the user from finishing the scheduled task creation.
608667	The Rescan and Properties commands in the popup-menu have the same short cut key 'R'. In the Create Shortcut Wizard, the Create checkpoint command now uses the 't' key as a shortcut, and the Retain this checkpoint... command uses the 'e' key. Previously both commands used the same short cut key 't'.
608697	You can now refresh the View Statistics wizard in the Firefox browser.
609684	Specifying with dbed_vmsnap a snapplan that does not exist no longer produces the error SFORA dbed_vmsnap ERROR V-81-6518 Could not find snapplan 'snap_plan' in repository.
611154, 611152	<p>Upgrading to SFDB 5.0 from a previous release's repository no longer produces the following error message after running dbed_update:</p> <pre data-bbox="583 1038 1244 1121">[Sybase][ODBC Driver][Adaptive Server Anywhere]Index 'UniqueSnapshotTablespace' for table 'SnapshotTablespace' would not be unique (23000).</pre> <p>SFORA dbed_update ERROR V-81-3048 Could not upgrade repository.</p>
611944, 611942	The sfua_db_config command no longer creates an extra /tmp directory.
615819	Running statistic tasks from the Web GUI is now fully supported when connecting to a 4.1 host. No error messages are produced when running "Create Statistic Task."
786989	The qio_getdbfiles_ora script now detects when an Oracle instance is in Standby mode.

Table 1-18 Veritas Storage Foundation for Oracle fixed issues (*continued*)

Incident	Description
853363	<p>The I/O performance of EMC Symmetrix arrays has been improved in this release.</p> <p>To enable these changes, after upgrading to this release, set the discovery mode of the VAIL provider to discover only those Symmetrix devices that are visible to the host, in the following order:</p> <ul style="list-style-type: none"> ■ Determine the agent name under which the Symmetrix provider is configured: <pre data-bbox="565 578 1157 630"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh -l</pre> <p>The agent name will be "VAILAgent" for installations of Veritas Storage Foundation, Veritas Storage Foundation for Databases, or Veritas Storage Foundation for RAC. It will be "StorageAgent" if VxFAS is configured.</p> ■ Set the discovery mode to discover host-visible devices only: <pre data-bbox="565 829 1184 881"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh \ -a agent_name -s 0</pre> <p>where <code>agent_name</code> is the agent name output from the <code>-l</code> option in the previous step.</p>

Veritas Storage Foundation for DB2 5.0 MP3 fixed issues

The following additional issues for Veritas Storage Foundation for DB2 have been fixed in the 5.0 MP3 release.

Using Web GUI to view snapplan log (861696)

When trying to view a snapplan log using the Web GUI, you no longer get the error message "Unable to load operation".

This issue has been fixed.

Veritas Storage Foundation for DB2 5.0 MP1 fixed issues

[Table 1-19](#) describes fixed issues in the Veritas Storage Foundation for DB2 5.0 MP1 release.

Table 1-19 Veritas Storage Foundation for DB2 fixed issues

Incident	Description
417505	Executing an offhost <code>db2ed_vmclonedb</code> command with the <code>-o umount</code> option no longer produces a Segmentation Fault message for both <code>online_snapshot</code> and <code>offline</code> modes.
567342	An unmounted checkpoint clone database reappears in the Java GUI tree after rescanning.
582069	SFDB commands no longer fail when executed within a locale that differs from the locale in use when the SFDB server was started.
584044	The GUI now shows the mount point information correctly if the user mounts a read/write checkpoint again.
597257	Removing <code>VRTSdbms3</code> may leave behind <code>/opt/VRTSdbms2/bin32/servername</code> or <code>/opt/VRTSdbms3</code> which can cause a new installation of <code>VRTSdbms3</code> to fail.
600490, 600492	The <code>db2ed_clonedb</code> and <code>db2ed_vmclonedb</code> commands now support automatic storage databases.
604858	In the datafile statistic wizard, if there are no statistics for a datafile, a warning message confirming that no statistics are available is now shown instead of showing only an empty table. Also, in the datafile statistic wizard, if a user does not select a statistic, the wizard now shows a warning message and will not advance to next page.
604853	If a DB2 database is not in the SFDB repository and a user tries to start the instance from the GUI, the database is now properly displayed in the GUI.
605583	The repository database server now handles the <code>ja_JP.PCK</code> locale correctly.
605776	Previously, in the VEA GUI main window, the toolbar used the same hotkey of "V" for both View and View Mapping commands. Now View Mapping uses "M" as its hotkey.
607082, 610519	A problem was fixed that sometimes caused Web GUI requests to produce the error message <code>Error V-40-49408-54</code> .
607890, 588559	DBDST commands no longer occasionally produce output messages that contain references to Oracle (SFORA) instead of to DB2 (SFDB2).

Table 1-19 Veritas Storage Foundation for DB2 fixed issues (*continued*)

Incident	Description
608667	The Rescan and Properties commands in the popup-menu have the same short cut key 'R'. In the Create Shortcut Wizard, the Create checkpoint command now uses the 't' key as a shortcut, and the Retain this checkpoint... command uses the 'e' key. Previously both commands used the same short cut key 't'.
608697	You can now refresh the View Statistics wizard in the Firefox browser.
610283, 781751	If a checkpoint uses a mount prefix that was already used for another checkpoint, db2ed_ckptmount now produces an error message. Previously, the command would quit silently with return code 1.
610783, 610519, 607082	The DBEDAgent no longer fails to start if it is installed as a central managed host.
611944, 611942	The sfua_db_config command no longer creates an extra /tmp directory.
612220	The db2ed_vmchecksnap command no longer shows a "grep: 0652-033 Cannot open - " error multiple times in its output.
615819	Running statistic tasks from the Web GUI is now fully supported when connecting to a 4.1 host. No error messages are produced when running "Create Statistic Task."

Table 1-19 Veritas Storage Foundation for DB2 fixed issues (*continued*)

Incident	Description
853363	<p>The I/O performance of EMC Symmetrix arrays has been improved in this release.</p> <p>To enable these changes, after upgrading to this release, set the discovery mode of the VAIL provider to discover only those Symmetrix devices that are visible to the host, in the following order:</p> <ul style="list-style-type: none"> ■ Determine the agent name under which the Symmetrix provider is configured: <pre data-bbox="615 578 1184 661"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh -l</pre> <p>The agent name will be "VAILAgent" for installations of Veritas Storage Foundation, Veritas Storage Foundation for Databases, or Veritas Storage Foundation for RAC. It will be "StorageAgent" if VxFAS is configured.</p> ■ Set the discovery mode to discover host-visible devices only: <pre data-bbox="615 864 1184 977"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh \ -a agent_name -s 0</pre> <p>where agent_name is the agent name out put from the -l option in the previous step.</p>

Veritas Storage Foundation for Sybase 5.0 MP3 fixed issues

There are no additional Veritas Storage Foundation for Sybase fixed issues in the 5.0 MP3 release.

Veritas Storage Foundation for Sybase 5.0 MP1 fixed issues

[Table 1-20](#) describes fixed issues in the Veritas Storage Foundation for Sybase 5.0 MP1 release.

Table 1-20 Veritas Storage Foundation for Sybase fixed issues

Incident	Description
582069	SFDB commands no longer fail when executed within a locale that differs from the locale in use when the SFDB server was started.

Table 1-20 Veritas Storage Foundation for Sybase fixed issues (*continued*)

Incident	Description
413352, 634093	<p>The <code>qio_convertdbfiles -u</code> command now converts any QIO files back to native files, even if the <code>mkqio.dat</code> file contains a file that does not reside on a VxFS filesystem.</p>
634095	<p>Non-root users can now use the Storage Mapping feature, which was added to the 5.0 release of Veritas Storage Foundation for Sybase.</p> <p>After installation, the root user must run the following command to permit Sybase users to view storage mapping:</p> <pre data-bbox="534 591 1139 734">/opt/VRTSobc/pal33/bin/veaconfig -c add_user -o host \ -r Operator -n user@host.unixpwd</pre> <p>For example:</p> <pre data-bbox="534 817 1126 899">/opt/VRTSobc/pal33/bin/veaconfig -c add_user \ -o rockfowl.veritas.com -r Operator \ -n sybase@rockfowl.veritas.com.unixpwd</pre>
853363	<p>The I/O performance of EMC Symmetrix arrays has been improved in this release.</p> <p>To enable these changes, after upgrading to this release, set the discovery mode of the VAIL provider to discover only those Symmetrix devices that are visible to the host, in the following order:</p> <ul style="list-style-type: none"> ■ Determine the agent name under which the Symmetrix provider is configured: <pre data-bbox="565 1211 1193 1234"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh -l</pre> <p>The agent name will be "VAILAgent" for installations of Veritas Storage Foundation, Veritas Storage Foundation for Databases, or Veritas Storage Foundation for RAC. It will be "StorageAgent" if VxFAS is configured.</p> ■ Set the discovery mode to discover host-visible devices only: <pre data-bbox="565 1416 1184 1468"># /opt/VRTSvail/bin/vail_symm_discovery_cfg.sh \ -a agent_name -s 0</pre> <p>where <code>agent_name</code> is the agent name out put from the <code>-l</code> option in the previous step.</p>

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

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.

Error message may appear after performing a CPI uninstall of Storage Foundation or an explicit pkgmgr of the VRTSdcli package (1373592)

After performing a `CPI uninstall` of Storage Foundation or an explicit `pkgmgr` of the `VRTSdcli` package the `/etc/rc2.d/S71xpirtld` and `/etc/rc2.d/K71xpirtld` files are executed as boot time startup scripts and the underlying binaries have been removed. The following error message may appear on the console:

```
./S71xpirtld: Command not found.
```

This message is harmless and can be ignored or you may remove the `/etc/rc2.d/S71xpirtld` and `/etc/rc2.d/K71xpirtld` scripts.

Workaround

To remove the scripts

- Remove the scripts manually, enter:

```
# rm -f /etc/rc2.d/S71xpirtld /etc/rc2.d/K71xpirtld
```

Using ODM with Storage Foundation

Starting with 5.0MP3, ODM is licensed with the Storage Foundation license key. To use ODM with Storage Foundation 5.0MP3, perform the following steps on all nodes before running `installmp`.

To install ODM for use with Storage Foundation 5.0MP3

- 1 Find the VRTSodm 5.0 package, located in the `storage_foundation_for_oracle/pkgs` directory in a compressed format.

- 2 Copy the VRTSodm package to a temporary directory.

```
cp storage_foundation_for_oracle/pkgs/VRTSodm.tar.gz /tmp
cd /tmp
```

- 3 Unzip and untar the VRTSodm package.

```
gunzip VRTSodm.tar.gz
tar -xvf VRTSodm.tar
```

- 4 Install the VRTSodm package manually.

```
pkgadd -d . VRTSodm
```

- 5 After VRTSodm has been installed, use `installmp` to upgrade to 5.0MP3.

The `installmp` script upgrades Storage Foundation and ODM to the 5.0MP3 level.

See the *Storage Foundation Installation Guide* for more information about the `installmp` script.

- 6 After installing 5.0MP3, configure ODM.

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

Solaris host must be rebooted to display Japanese text in the Storage Foundation Management Console after installing language pack (1009067)

After you install the Japanese language pack on a Solaris host, you must reboot the host to ensure that the Japanese text appears in the Storage Foundation Management Console. If you fail to reboot the host, the default English text will display. If this happens, you will have to manually remove the English text cache. The procedure to manually remove the English text cache is provided below.

To manually remove the English text cache

- 1 Stop the SFMS webserver using the following command:

```
# ./opt/VRTSob/webgui/veaw stop
```

- 2 Remove all the files with the extension as .jar using the following command:

```
# rm -rf /var/vx/isis/webScheme/*.jar
```

- 3 Restart the SFMS webserver using the following command:

```
# ./opt/VRTSob/webgui/veaw start
```

Error messages when upgrading Storage Foundation (1363507)

When you use the product installer to upgrade Storage Foundation (SF), you may see error messages such as the following:

The following processes failed to stop on HostA:

```
vxdump
vxio
vxspec
```

or

The following processes failed to start on HostB:

```
vxfen
had
```

These messages are harmless and can be ignored. The processes start correctly after reboot as required in SF upgrades.

Switch system locale to C before you install VRTSxxico and VRTSxxpbx packages (1278004)

For FR locale users, switch system locale to C before you install VRTSxxico and VRTSxxpbx. To switch system locale to C, export LANG=C and LC_ALL=C. For example:

```
export LANG=C
export LC_ALL=C
```

Folders remain after uninstall (1057756)

The following folders remain on the system after running sfuninstall to remove the software:

```
/etc/vx/  
/etc/fs/vxfs/  
/opt/VRTS/  
/opt/VRTSdcli/  
/opt/VRTSperl/  
/opt/VRTSvail/  
/usr/lib/vxvm/  
/var/vx/VRTSaa/  
/var/vx/isis/
```

Remove these folders manually if you are not re-installing the SF software.

Product installer does not support upgrading to a different Storage Foundation product and upgrading the product version in a single process

The Veritas product installer does not support upgrading to a different product in the Storage Foundation product line and upgrading the product version in a single process. For example, you cannot upgrade directly from Storage Foundation 4.0 to Storage Foundation Cluster File System 5.0 MP3. First, you must upgrade the Storage Foundation version from 4.0 to 5.0 MP3. Then, upgrade the product from Storage Foundation 5.0 MP3 to Storage Foundation Cluster File System 5.0 MP3.

Veritas Storage Foundation 5.0 MP1 known issues

There are no additional known issues in the 5.0 MP1 release of Veritas Storage Foundation.

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas Storage Foundation Basic 5.0 MP3 known issues

There are no additional known issues in this 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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

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.

vxddladm listsupport all command may not list all of the arrays (1320034)

The `vxddladm listsupport all` command may not list all of the arrays used by DMP.

Workaround

To list all of the supported arrays

1 Run the `vxddladm` command:

```
# vxddladm addsupport all
```

The `vxddladm addsupport all` command is informational and harmless to run.

2 Run the `vxddladm` command:

```
# vxddladm listsupport all
```

Error message when upgrading from VxVM 4.x on Solaris 8 to 5.0MP3 Solaris 10 (1238449)

When upgrading from VxVM 4.x on Solaris 8 to 5.0MP3 on Solaris 10, `vxddladm` may dump core. The following error message may display on the console:

```
Segmentation Fault - core dumped
```

This message is harmless and can be ignored.

Messages about failback when no failover has occurred (1377822)

On reboot, messages about failback may display on the console even when no failover has occurred. For example:

```
VxVM vxdmp V-5-0-0 failback issued for 226/0x80
```

These messages are harmless and may be ignored.

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.

Possible error message when installing or uninstalling VRTSvxvm package (1165924)

When uninstalling or installing VRTSvxvm package produces error message in the system log similar to the following example:

```
VxVM vxsvmdiag ERROR V-5-1-0 VC Volist failed: Iod,Info,Config device  
open fail
```

This message is harmless and can be ignored.

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.

Known issue with HDS 9500 and AMS/WMS series storage array with filesystems and SCSI INQ failing (966143)

There is a known issue with the HDS 9500 and AMS/WMS series storage arrays only for Solaris x64. The filesystems may become disabled, if a SCSI INQ is issued and fails.

This may vary depending on the number of luns. Please check with the array vendor for recommendations.

Workaround

Set the DMP tunable `dmp_scsi_timeout` to 120, then set the throttle by adding `set sd:sd_max_throttle=8` entry in the `/etc/system` file.

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.

Manually installing the VRTSvxvm patch requires a reboot (1180992)

After you manually install the `VRTSvxvm` patch, you must reboot the system.

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.

Removing VRTSvxvm patch manually fails if root is encapsulated

Using the `patchrm` command to remove `VRTSvxvm` causes error messages. If the root is encapsulated, it will not boot. This issue occurs with Sun patch 125731-01, Sun issues 6622037 and 6602694. Error messages such as the following display:

```
I/O warning: failed to load external entity
"/var/usr/share/lib/xml/dtd/service_bundle.dtd.1"
validity error : Could not load the external subset
"/usr/share/lib/xml/dtd/service_bundle.dtd.1"
svcs: Pattern 'vxvm-reconfig' doesn't match any instances
svcs: Pattern 'vxvm-recover' doesn't match any instances
```

Workaround:

Solution is to use patch 125731-02 or higher.

Upgrading external ASLs and APMs

The Storage Foundation 5.0 MP3 release only supports upgrading external ASL and APM packages from release 5.0 or later.

If your system uses any existing ASLs and APMs from 4.x release, you may need to download a 5.0 version from Symantec. Check the latest array support

information to determine whether an updated ASL or APM package is available for your arrays.

See the 5.0 MP3 Hardware Compatibility List for information about supported arrays.

Before upgrading a Storage Foundation product, you must manually remove any existing external ASL or APM packages which are lower than release 5.0.

After completing the upgrade, obtain the required updated ASLs or APMs to ensure the array is claimed correctly.

See the upgrading chapter of the *Storage Foundation Installation Guide* for details.

Veritas Volume Manager 5.0 MP1 known issues

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

DMP issues of Veritas Volume Manager

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

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.

Cluster issues of Veritas Volume Manager

The following are cluster issues 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`.

Domain controller mode in CVM clusters (603213)

The slave nodes in a CVM cluster only have access to I/O objects. If non-I/O related information (for example, volume tags) are to be made available on a slave node, a command must be shipped to the Storage Agent on the master node for execution. The results are then communicated back to the slave node.

The domain controller mode of VEA allows all nodes of a CVM cluster to be placed in the same domain with a central authentication server. This allows commands to be executed on any node within the domain if the executing process has sufficient rights.

Provided domain controller mode is configured, non-I/O related information is accessible via VEA on any node in a CVM cluster.

However, even if domain controller mode is enabled in a CVM cluster, ISP commands must be run on the master node. ISP commands that are run on a slave node are not redirected to the Storage Agent on the master node. Such commands fail if they require access to non-I/O related information that is unavailable on a slave node.

Delays in systems with DS4800 storage (616166)

In a cluster with a shared IBM System Storage DS4800 disk storage system that is under a very heavy I/O load, opening the primary paths of a LUN or joining a node may take a long time. For example, it can take up to 15 minutes for a node to join a single-node cluster where approximately 90 LUNS are present. This behavior occurs even if the node that is opening the LUN is not involved in the I/O activity, and even if is not busy in any other way.

Veritas Enterprise Administrator known issues

The following are VEA issues in this release of Veritas Volume Manager.

VRTSobc33 package not completely installed (865949)

The VRTSobc33 (Veritas Enterprise Administrator Core) package in this release may fail to install completely.

Action agent displays error V-39-53246-2

When action agent is selected from the Control Panel on the VEA client, the following error message displays:

```
Error V-39-53246-2
A plug-in Component may be corrupt.
```

```
Download of plug-in component failed.  
Do you want to retry?
```

Password field does not display on a localized Veritas Enterprise Administrator client

The password field in the Enter Password dialog of a localized Microsoft Windows VEA client does not display. This issue does not occur on a localized Solaris VEA client.

Veritas Web GUI known issues

The following are Veritas Web GUI issues 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.
```

Patch issues in 5.0 MP1 release of Veritas Volume Manager

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

Patch removal causes vxconfigd to dump core (796270)

If you use the `patchrm` command to remove the VxVM patch (122058-06), the `vxconfigd` daemon dumps core when it is restarted, and the following error message is displayed:

```
VxVM vxconfigd ERROR V-5-1-0 Bus error - core dumped.
```

The previous error can occur as follows:

- Any volume is open (for example, the root disk is encapsulated, or a file system on a VxVM volume is mounted).
- Any process is accessing VxVM drivers that cannot be unloaded. In this case, a workaround is to use the `kill vx` and `ps -ef | grep -i vx` commands to make sure that all `vx*` processes other than `vxconfigd` are stopped before removing the VxVM patch.

The error is harmless, and the patch is removed correctly. VxVM functions normally if the system is rebooted.

Device issues of Veritas Volume Manager

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

Extensible Firmware Interface support (303294, 834313, Sun Bug ID 6226760)

The Solaris 9 and 10 64-bit kernel Operating Systems provide support for disks larger than 1 terabyte. Disks of this size are formatted with the Extensible Firmware Interface (EFI) disk label rather than the VTOC disk label. EFI formatted disks are supported with Veritas Volume Manager only on Solaris 10 (SPARC).

Importing EMC BCV devices

The following procedure can be used to import a cloned disk (BCV device) from an EMC Symmetrix array.

To import an EMC BCV device

- 1 Verify that that the cloned disk, EMC0_27, is in the `error udid_mismatch` state:

```
# vxdisk -o alldgs list
DEVICE          TYPE          DISK          GROUP         STATUS
EMC0_1          auto:cdsdisk EMC0_1        mydg          online
EMC0_27         auto          -             -             error
udid_mismatch
In this example, the device EMC0_27 is a clone of EMC0_1.
```

- 2 Split the BCV device that corresponds to EMC0_27 from the disk group mydg:

```
# /usr/symcli/bin/symmir -g mydg split DEV001
```

In this example, the corresponding BCV device to EMC0_27 is DEV001.

- 3 Update the information that VxVM holds about the device:

```
# vxdisk scandisks
```

- 4 Check that the cloned disk is now in the `online udid_mismatch` state:

```
# vxdisk -o alldgs list
DEVICE          TYPE          DISK          GROUP         STATUS
EMC0_1          auto:cdsdisk EMC0_1        mydg          online
EMC0_27         auto:cdsdisk -             -             online udid_mismatch
```

- 5 Import the cloned disk into the new disk group `newdg`, and update the disk's UDID:

```
# vxdg -n newdg -o useclonedev=on -o updateid import mydg
```

- 6 Check that the state of the cloned disk is now shown as `online clone_disk`:

```
# vxdisk -o alldgs list
DEVICE          TYPE          DISK          GROUP         STATUS
EMC0_1          auto:cdsdisk EMC0_1        mydg          online
EMC0_27         auto:cdsdisk EMC0_1        newdg         online clone_disk
```

Localization issues of Veritas Volume Manager

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

Upgrading language packages (625958)

You must uninstall the old version of the language packages before installing the SF 5.0 language packages, `VRTSmulic` and `VRTSmuvmp`.

View Mapping screen (631174)

The View Mapping button and the field to enter a file or directory name in the VEA are not completely visible when viewed in the Japanese locale. These objects appear correctly if the window is made larger.

Help for Symantec Product Authentication Services (631206)

In the French, Japanese or Simplified Chinese locales, the help for the Symantec Product Authentication Services is displayed in English. Type the following commands to display the correct help for the locale:

```
# cd /opt/VRTSat/bin/sparcv9
# mv VxSS_Help.vxa VxSS_Help_en.vxa
# mv VxSS_Help_lang.vxa VxSS_Help.vxa
```

where `lang` is `fr`, `ja` or `zh` as appropriate for the locale.

Veritas File System known issues

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas File System 5.0 MP3 known issues

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

Package and patch installation in non-global zones

To ensure that the package and patch updates applied to Veritas products in the global zone are also propagated to the non-global zone, ensure that the non-global zones are in a bootable state. For example, to update the software installed in a system, the file system housing the root directory of the non-global zone must be mounted and the disk group housing the non-global zone must be online at the time that you run `patchadd`, `pkgadd`, or the CPI installation scripts.

Updates to VRTSodm in non-global zones

In the presence of non-global zones, `pkgadd` and `patchadd` transition the zones from the halted state to the administrative state, apply the package or patch, and then restore the zones to the halted state. However, installing the Veritas Oracle Disk Manager (`VRTSodm`) package and applying patches to the `VRTSodm` package in the non-global zones require the non-global zones to be in the booted state.

Veritas File System 5.0 MP1 known issues

The following are additional known issues in the 5.0 MP1 release of Veritas File System.

File Change Log tunable setting for proper functioning of Dynamic Storage Tiering applications

If the active placement policy of a given file system uses I/O or access temperatures, after the policy becomes active by being assigned, you must tune the file system's `fcl_malloc` tunable with the following command:

```
# vxtunefs -o fcl_maxalloc=0 mount_point
```

However, if any applications other than DST use FCL, this setting may conflict with those applications.

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283893>

For Solaris x64,

<http://entsupport.symantec.com/docs/289319>

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.

Upgrade warning messages (1399374)

If you are upgrading from SF CFS 4.1 MP2 to 5.0MP3, the following warning messages will be displayed:

```
SF CFS configuration could not be completed during installation
/VRTS/bin/cfscluster config -s> must be run after the system reboot
```

These messages may be disregarded. Do not run `cfscluster config` if you are performing an upgrade.

Possible error messages when upgrading SFCFS full upgrade (1323726)

When upgrading SFCFS full upgrade produces error messages in the system log for the following packages:

```
VRTSat, VRTScmccc, VRTScscm, VRTSdcli,VRTSmuob,VRTSvxvm,VRTSglm,VRTSgms,
VRTSweb
```

You can safely ignore these messages.

VRTSgab package not removed during upgrade from 4.1 to 5.0 MP3 (1229570)

The installer does not remove the VRTSgab package during upgrade from 4.1. You can safely ignore the error that the VRTS package was partially uninstalled.

Workaround

Use the `pkgrm` command to manually uninstall the package.

CFSMount resource may fault

During cluster startup in a SFRAC 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 are additional known issues in the 5.0 MP1 release of Veritas Storage Foundation Cluster File System.

Veritas File System patches fail (1198357)

Veritas File System patches fail to install when installing Storage Foundation for Oracle/RAC and Storage Foundation Cluster File System on a system that already has Veritas File System 5.0 installed.

Storage Foundation Cluster File System installation fails to apply the VxFS patches 121705 or 121706 or 121707 on a system that already has VxFS 5.0 installed because the extraction of the archive fails.

Workaround

Use the following procedure to install the patches.

To install the following patches on system01:

- 1 Download the patch file `patch_285887.pl` at the following URL:
<http://entsupport.symantec.com/docs/285887>.
- 2 Use the following command option with the installation script to properly apply VxFS Patch 121705-01:

```
# ./intallsfcfs -rsh -require complete_path_to_patchfile  
hostnames
```

Oracle-Solaris (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 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.

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

```
# pkgrm VRTSorgui VRTSdbed VRTSdbdoc VRTSdbcom
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

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-Solaris (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 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.

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

```
# pkgrm VRTSd2gui VRTSdb2ed VRTSdbdoc VRTSdbcom
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

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.

Sybase-Solaris (840486)

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

If Veritas Storage Foundation for Sybase 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 Sybase packages manually.

To uninstall the Veritas Storage Foundation for Sybase packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.

- 3 Remove the Veritas Storage Foundation for Sybase packages using the `pkgrm` command.

```
# pkgrm VRTSsybed VRTSdbdoc
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

If Veritas Storage Foundation for Sybase 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 Sybase.

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

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:

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283918>

For Solaris x64,

<http://entsupport.symantec.com/docs/289329>

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 `vradm` `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:

```
# vxvdx upgrade diskgroup
```

Veritas Volume Replicator 5.0 MP1 known issues

The following are additional known issues in the 5.0 MP1 release of Veritas Volume Replicator.

Resynchronizing data between VVR 4.1MP2 (Solaris) and VVR 5.0MP1 (846685)

You cannot use the `vradmin syncvol` command or the `vradmin syncrvg` command to resynchronize data if the Primary is using VVR 4.1MP2 on Solaris and the Secondary is using VVR 5.0MP1 or vice versa. Using these commands causes a coredump due to differences in the resynchronization code in these versions of VVR.

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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

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.

Error message not displayed if sfua_db_config fails (1139077)

If the `sfua_db_config` utility fails for any reason, an error message is not displayed in the output. The output may display an empty NIC array.

Workaround

There is no workaround for this issue.

dbed_analyzer command displays incomplete information for multiple tables with same name (1121139)

When the database has more than one table with same name in different schema, the `dbed_analyzer` displays incomplete information for the tables.

Workaround

There is no workaround for this issue.

After using dbed_ckptpolicy, dbf files display in addition to the checkpoint policy (1186193)

After creating Checkpoint policies using the `dbed_ckptpolicy` command, when you display the created policies using the following command,

```
# dbed_ckptpolicy -S SID -n -o display
```

dbf files are displayed along with the created Checkpoint policies.

Workaround

There is no workaround for this issue.

Solaris patch required to run Oracle 11g with ODM (1195397)

When you are running an instance on Solaris with ODM enabled, the Oracle instance may crash with ENOMEM.

Workaround

For Oracle 11g, you must apply the mandatory Oracle patch for bug 6647246.

This patch should be applied on top of Oracle 11g GA version 11.1.0.6.

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_XXXXXXXX ...
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.

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 MP3 release.

There is no workaround for this issue.

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.

File fragmentation check in the `qio_convertdbfiles` command may report errors (819430)

The file fragmentation check in `qio_convertdbfiles` may report errors when run on multi-volume file systems. These errors are harmless and may be safely ignored. This issue also causes the `dbed_checkconfig` command to fail with an error if run on a database which uses one or more multi-volume file systems. The method used to determine fragmentation in `qio_convertdbfiles` has been deprecated. The preferred way to check and resolve file or file system fragmentation is through the use of the `fsadm` tool.

Refer to the *Veritas File System Administrator's Guide* for more information on using `fsadm` to display and resolve file system fragmentation.

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 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.
- 3 Remove the Veritas Storage Foundation for Oracle packages using the `pkgrm` command.

```
# pkgrm VRTSorgui VRTSdbed VRTSdbdoc VRTSdbcom
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

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.

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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas Storage Foundation for DB2 5.0 MP3 known issues

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

Error message not displayed if sfua_db_config fails (1139077)

If the `sfua_db_config` utility fails for any reason, an error message is not displayed in the output. The output may display an empty NIC array.

Workaround

There is no workaround for this issue.

Veritas Storage Foundation for DB2 5.0 MP1 known issues

The following are additional known issues in the 5.0 MP1 release of Veritas Storage Foundation for DB2.

Semaphore 0 conflict causes DB2 commands to hang after system reboot (603674, 603722, 785803)

If after system reboot you experience a hang in `db2ed_update` or other SFDB2 commands on a Solaris 10 machine with DB2 v8.1 software installed, it may be caused by semaphore 0 being locked by the DB2 commands. This problem usually happens after a system reboot followed by a first-time `db2start`. The SFDB2 scripts usually hang in the `db2ed_dbprocli` commands.

The `db2hmon` process will crash with a SEGV error on a Solaris 10 machine with Solaris patch 119963-04 (refer to IBM APAR number IY85577). If `db2hmon` crashes during `db2start`, semaphore 0 may be locked by the DB2 process and this will cause SFDB2 CLI to hang.

If you have verified that your machine has the Solaris 10 patch 119963-04, you can do one of the following to resolve this hanging issue:

- Upgrade your DB2 v8.1 version to FixPak 13
- Disable DB2 health monitor for the DB2 instance
- If the above is not applicable, run `ipcrm -s 0` to clear the semaphore 0 lock state

Problems uninstalling or upgrading Veritas Storage Foundation for DB2 when Veritas Storage Foundation Cluster File System is installed on the same system (840486)

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.

You must uninstall the Veritas Storage Foundation for DB2 packages manually if you want to uninstall the product.

To uninstall the Veritas Storage Foundation for DB2 packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.
- 3 Remove the Veritas Storage Foundation for DB2 packages using the `pkgrm` command.

```
# pkgrm VRTSsd2gui VRTSdb2ed VRTSdbdoc VRTSdbcom
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

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.

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.

Veritas Storage Foundation for Sybase 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.

For Solaris SPARC,

<http://entsupport.symantec.com/docs/283886>

For Solaris x64,

<http://entsupport.symantec.com/docs/289317>

Veritas Storage Foundation for Sybase 5.0 MP1 known issues

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

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

If Veritas Storage Foundation for Sybase 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 Sybase packages manually if you want to uninstall the product.

To uninstall the Veritas Storage Foundation for Sybase packages

- 1 Review the uninstallation requirements in the *Veritas Storage Foundation Installation Guide*.
- 2 Follow steps 1 through 5 in the uninstallation procedure in "Uninstalling Veritas Storage Foundation" in the *Veritas Storage Foundation Installation Guide*.
- 3 Remove the Veritas Storage Foundation for Sybase packages using the `pkgrm` command.

```
# pkgrm VRTSsybed VRTSdbdoc
```

- 4 Verify the removal of the packages using the `pkginfo` command.

```
# pkginfo | grep VRTS
```

If Veritas Storage Foundation for Sybase 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 Sybase.

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

Veritas Storage Foundation Graphical User Interface known issues

The following new additional known issues exist in this 5.0 MP3 release of Veritas Storage Foundation Graphical User Interface.

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"
```

No longer supported

This section describes Veritas Storage Foundation features that will not be supported in future releases. Symantec advises customers to minimize the use of these features.

The following features will not be supported in the next release of Veritas Storage Foundation products:

- The `seconly` feature in SFCFS.
- Storage Expert.

- The use of the `vxvoladm` command line utility.
- Intelligent Storage Provisioning (ISP).
- FlashSnap Agent for Symmetrix (VxFAS), which was previously named the TimeFinder ToolKit (TFTK)
- The following features will not be supported in the next release of Veritas Storage Foundation for Oracle and Veritas Storage Foundation for DB2:
 - Java GUI interface for all SF Oracle features
 - Mapping related functions like ORAMAP, `vxstorage_stats` and `dbed_analyzer` for all versions of ORACLE
 - DB2 tools like Flashsnap, checkpoint, and DBDST for all versions of DB2.

Documentation

Product guides are available on the documentation disc in PDF and HTML formats.

Veritas documentation disc

The Veritas documentation disc provides searchable, HTML documentation for each product in this release. Printable PDF documents are also included on the disc.

All documentation is organized by product groups and located on the Veritas documentation disc.

Symantec's Veritas Storage Foundation 5.0 MP3 documentation set is available at the following URL:

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

Note: The Veritas Storage Foundation 5.0 MP3 documentation will be posted at once the product is released.

Relevant component product release notes

Read the relevant component product release notes before installing any version of Veritas Storage Foundation.

The following documents are relevant component product release notes:

- *Veritas Cluster Server Release Notes* (`vcs_notes.pdf`)
- *Veritas Storage Foundation for Oracle RAC Release Notes* (`sfrac_notes.pdf`)

Veritas Storage Foundation guides

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

[Table 1-21](#) describes the guides in the Veritas Storage Foundation documentation set.

Table 1-21 Guides in Veritas Storage Foundation documentation set

Guide Title	Filename
<i>Third-party Legal Notices</i>	3rdpartyattributions.pdf
<i>Veritas FlashSnap Point-In-Time Copy Solutions Administrator's Guide</i>	flashsnap_admin.pdf
<i>Veritas Storage Foundation and High Availability Getting Started Guide</i>	getting_started.pdf
<i>Veritas Storage Foundation JumpStart read me</i>	jumpstart_readme.txt
<i>Read me end user license agreement documentation</i>	README_EULA
<i>Veritas Storage Foundation read me first</i>	readme_first.txt
<i>Veritas Storage Foundation Release Notes (this document)</i>	sf_notes.pdf
<i>Veritas Storage Foundation Installation Guide</i>	sf_install.pdf
<i>Veritas Storage Foundation for DB2 Administrator's Guide</i>	sf_db2_admin.pdf
<i>Veritas Storage Foundation for Oracle Administrator's Guide</i>	sf_ora_admin.pdf
<i>Veritas Storage Foundation for Sybase Administrator's Guide</i>	sf_syb_admin.pdf
<i>Veritas Storage Foundation for DB2 Graphical User Interface Guide</i>	sf_db2_gui.pdf
<i>Veritas Storage Foundation for Oracle Graphical User Interface Guide</i>	sf_ora_gui.pdf
<i>Veritas Storage Foundation Intelligent Storage Provisioning Administrator's Guide</i>	sf_isp_admin.pdf
<i>Veritas Storage Foundation Intelligent Storage Provisioning Solutions Guide</i>	sf_isp_solutions.pdf

Table 1-21 Guides in Veritas Storage Foundation documentation set (*continued*)

Guide Title	Filename
<i>Veritas Storage Foundation Cross-Platform Data Sharing Administrator's Guide</i>	sf_cds_admin.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 Volume Manager Troubleshooting Guide</i>	vxvm_tshoot.pdf

Veritas Storage Foundation Cluster File System documentation

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

[Table 1-22](#) describes the Veritas Storage Foundation Cluster File System (CFS) documentation set.

Table 1-22 Guides in Veritas Storage Foundation Cluster File System documentation set

Guide Title	Filename
<i>Veritas Storage Foundation Cluster File System Administrator's Guide</i>	sfcfs_admin.pdf

Veritas Cluster Server documentation

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

[Table 1-23](#) describes the Veritas Cluster Server documentation set.

Table 1-23 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 1-23 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
<i>Dynamic Reconfiguration for Sun Enterprise Servers</i>	vcs_dynamic_reconfig.pdf

Veritas Volume Replicator documentation

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

[Table 1-24](#) describes the Veritas Volume Replicator documentation set.

Table 1-24 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 Oracle RAC documentation

The following Storage Foundation for Oracle RAC documentation is available with all Veritas Storage Foundation HA product suites:

[Table 1-25](#) describes the Storage Foundation for Oracle RAC documentation set.

Table 1-25 Guides in Storage Foundation for Oracle RAC documentation set

Guide Title	Filename
<i>Veritas Storage Foundation™ for Oracle RAC Installation and Configuration Guide</i>	sfrac_install.pdf
<i>Veritas Storage Foundation™ for Oracle RAC Release Notes</i>	sfrac_notes.pdf
<i>Veritas Storage Foundation™ for Oracle RAC Administrator's Guide</i>	sfrac_admin.pdf

Veritas Storage Foundation for Databases documentation Changes

The 5.0 release introduces 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.

[Table 1-26](#) indicates the PDF and document changes in this release.

Table 1-26 Veritas Storage Foundation for Databases guides

Guide Title	Previous PDF Name	Current PDF Name
<i>Veritas Storage Foundation for DB2 Administrator's Guide</i>	sf_db2_dbag.pdf	sf_db2_admin.pdf
<i>Veritas Storage Foundation for Oracle Administrator's Guide</i>	sf_ora_dbag.pdf	sf_ora_admin.pdf
<i>Veritas Storage Foundation for DB2 Graphical User Interface Guide (NEW)</i>	N/A	sf_db2_gui.pdf
<i>Veritas Storage Foundation for Oracle Graphical User Interface Guide (NEW)</i>	N/A	sf_ora_gui.pdf
<i>Veritas Storage Foundation for Oracle Graphical User Interface Guide (NEW)</i>	sf_syb_dbag.pdf	sf_syb_admin.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.

Documentation errata

The following describes documentation errata.

Web GUI help errata

The Web GUI help is updated in this Maintenance Pack to include corrections for several help screens.

Manual pages errata

Several manual pages have been updated in this Maintenance Pack to include corrections for several errors or omissions.

Dbdst_report manual page errata (1361604)

For the `dbdst_report` manual page, one of the usage examples is incorrectly displayed as follows:

```
$ /opt/VRTS/bin/dbdst_show_fs -S $ORACLE_SID -o audit
```

The correct usage example is:

```
$ /opt/VRTS/bin/dbdst_report -S $ORACLE_SID -o audit
```

Workaround

There is no workaround for this issue.

Dbdst manual pages errata (1121091)

You cannot access the correct manual pages for the `dbdst` commands if you type in the command name as follows:

```
# man dsdst_command_name
```

Workaround

You must append the correct database suffix for each `dbdst` command in order to access the correct man page for that `dbdst` command.

To obtain correct usage notes for the `dbdst` command in an Oracle environment, you must use the following command format:

```
# man dsdst_command_name_ora
```

To obtain correct usage notes for the `dbdst` command in a DB2 environment, you must use the following command format:

```
# man dsdst_command_name_db2
```

