

Veritas Storage Foundation[™] Cluster File System Release Notes

AIX 6.1

5.0 Maintenance Pack 1 Update 1



Veritas Storage Foundation Cluster File System Release Notes

Copyright © 2008 Symantec Corporation. All rights reserved.

Storage Foundation Cluster File System 5.0 Maintenance Pack 1 Update 1

Symantec, the Symantec logo, Veritas, and Veritas Storage Foundation are trademarks or registered trademarks of Symantec Corporation or its affiliates in the U.S. and other countries. Other names may be trademarks of their respective owners.

The product described in this document is distributed under licenses restricting its use, copying, distribution, and decompilation/reverse engineering. No part of this document may be reproduced in any form by any means without prior written authorization of Symantec Corporation and its licensors, if any.

THIS DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID, SYMANTEC CORPORATION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING PERFORMANCE, OR USE OF THIS DOCUMENTATION. THE INFORMATION CONTAINED IN THIS DOCUMENTATION IS SUBJECT TO CHANGE WITHOUT NOTICE.

The Licensed Software and Documentation are deemed to be "commercial computer software" and "commercial computer software documentation" as defined in FAR Sections 12.212 and DFARS Section 227.7202.

Symantec Corporation
20330 Stevens Creek Blvd.
Cupertino, CA 95014
www.symantec.com

Third-party legal notices

Third-party software may be recommended, distributed, embedded, or bundled with this Symantec product. Such third-party software is licensed separately by its copyright holder. All third-party copyrights associated with this product are listed in the *Veritas Storage Foundation Cluster File System 5.0 Release Notes*.

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

<http://entsupport.symantec.com/docs/283986>

AIX is a registered trademark of IBM Corporation.

Licensing and registration

Veritas Storage Foundation Cluster File System is a licensed product. See the *Veritas Storage Foundation Cluster File System Installation Guide* for license installation instructions.

Technical support

For technical assistance, visit

http://www.symantec.com/enterprise/support/assistance_care.jsp and select phone or email support. Use the Knowledge Base search feature to access resources such as TechNotes, product alerts, software downloads, hardware compatibility lists, and our customer email notification service.

Contents

Introduction	6
New features	7
WPAR support	7
Veritas Volume Manager	7
Veritas File System	7
System requirements	8
Required patch	8
AIX operating system requirements	8
Storage Foundation Cluster File System node requirements	9
Hardware compatibility	9
Component product release notes	10
Migrating from AIX 5.3 to AIX 6.1	10
Installing for the first time	10
Preparing to upgrade to 5.0 MP1 Update 1 for AIX 6.1	11
Upgrading to 5.0 MP1 Update 1 for AIX 6.1	11
Phased upgrade stages	12
Full upgrade stages	13
Performing a phased upgrade	14
Performing a full upgrade	17
Removing 5.0 MP1 Update 1 for AIX 6.1	20
Software limitations	21
Fixed issues	22
Known issues	25
vxvol command fails	25
Oracle-AIX	26
DB2-AIX	26
No longer supported	27
seconly mount option	27
Version 4 disk layout	27
I/O error mount options	27

Storage Foundation Cluster File System Release Notes

Introduction

This document provides information specific to Storage Foundation Cluster File System (SFCFS) 5.0 Maintenance Pack 1 (MP1) Update 1 for AIX 6.1.

- For information on topics not covered in this document, such as SFCFS-specific software fixes and limitations, see the *Veritas Storage Foundation Cluster File System 5.0 Release Notes*.
- For information on topics not covered in this document, such as SFCFS-specific software fixes and limitations, also see the *Veritas Storage Foundation Cluster File System 5.0 MP1 Release Notes*.
- For information on Storage Foundation, including software fixes and limitations for Veritas File System, Veritas Volume Replicator, and Veritas Volume Manager, see the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes*.

Note: Read the following Veritas Technical Support TechNote for the latest information on updates, patches, and software issues for this release:

<http://entsupport.symantec.com/docs/282024>

The information in this TechNote may be crucial for the correct operation of Storage Foundation. Current information on the availability of fixes to the AIX operating system is available in this TechNote.

New features

Veritas Storage Foundation Cluster File System provides the following new features:

WPAR support

This release provides support for Workload Partition (WPAR) feature introduced in the AIX 6.1 operating system. Support for WPAR is limited in scope to the following:

- All packages of Storage Foundation product must be installed and configured in the global partition of AIX.
- Administration of Storage Foundation can be performed only in the global partition while storage resources of Storage Foundation, mainly file system mount points, can be used by system or application WPARs.
- File system administration within a WPAR is limited in scope as of this release.
- Execution of administrative tools of Storage Foundation may fail without appropriate error messages.

Veritas Volume Manager

The following new features have been incorporated into Veritas Volume Manager.

Live Partition Migration

Veritas Volume Manager and Cluster functionality of Veritas Volume Manager (CVM) are Live Partition Migration safe. That means, Veritas Volume Manager and Cluster functionality of Veritas Volume Manager will not be affected when a running logical partition and all of its running applications are migrated from one physical server to another without disrupting the operation of the logical partition.

Veritas File System

The following new features have been incorporated into Veritas File System.

Live Partition Migration

Veritas File System and Cluster functionality of Veritas File System (CFS) are Live Partition Migration safe. That means, Veritas File System and Cluster

functionality of Veritas File System will not be affected when a running logical partition and all of its running applications are migrated from one physical server to another without disrupting the operation of the logical partition.

System requirements

This section describes the system requirement for this release.

Before you install your Symantec products, you must read the Late Breaking News TechNote:

<http://entsupport.symantec.com/docs/282024>

Required patch

Before you install your Symantec products, you must read the following TechNote and perform the instructions:

<http://support.veritas.com/docs/300577>

AIX operating system requirements

SFCFS requires the following minimum AIX operating system and the appropriate technology level (TL) and service pack (SP) requirements:

- AIX 5.3 TL07 with SP2
See “[Required patch](#)” on page 8.
- AIX 6.1 with SP3
See “[Required patch](#)” on page 8.

Install or migrate AIX 5.3 or 6.1, and then install the appropriate TL and SP before installing 5.0 MP1 Update 1 for AIX 6.1.

Note: Using the package 5.0 MP1 Update 1 for AIX 6.1 to upgrade Storage Foundation Cluster File System will overwrite all earlier installations of Storage Foundation Cluster File System. So, use this package only if you are planning to upgrade the system to AIX 6.1.

The installation script for SFCFS verifies that the installation of AIX is at the proper TL before the upgrade to MP1 begins. Additional requirements for SP or other fixes are not verified by the install script. Refer to the following TechNote for any additional requirements that may exist:

<http://entsupport.symantec.com/docs/282024>

The script will abort without upgrading any component of SFCFS if the target system fails to meet the AIX TL requirements.

Storage Foundation Cluster File System node requirements

All nodes in a cluster file system must have the same operating system version and update level.

Hardware compatibility

For information on servers, network controllers, and disk subsystems that support SFCFS, see the hardware compatibility list available at <http://entsupport.symantec.com/docs/283161>

Component product release notes

In addition to reading these 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 Veritas software disc:

Veritas Storage Foundation Release Notes (sf_notes.pdf)

Veritas Cluster Server Release Notes (vcs_notes.pdf)

Because release notes are not installed by any packages and are not on the documentation disc, it is recommended that you copy them from the software disc to the `/opt/VRTS/docs` directory so they are available on your system for reference.

Migrating from AIX 5.3 to AIX 6.1

See the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes* for instructions on migrate from AIX 5.3 to AIX 6.1.

Installing for the first time

For new installations, directly install the package Storage Foundation Cluster File System 5.0 MP1 Update 1 for AIX 6.1. Review and follow the installation procedure for Storage Foundation Cluster File System 5.0 described in the *Veritas Storage Foundation Cluster File System 5.0 Installation Guide*.

Preparing to upgrade to 5.0 MP1 Update 1 for AIX 6.1

If you are upgrading an installed Veritas Storage Foundation 5.0 or higher system, read the *Veritas Storage Foundation Installation Guide* or *Veritas Storage Foundation Cluster File System Installation Guide* for instructions on how to preserve the existing configuration information.

In particular, perform the following actions:

- Make a record of the mount points for VxFS file systems and VxVM volumes that are defined in the `/etc/filesystems` file. You will need to recreate these entries in the `/etc/filesystems` file on the freshly installed system.
- Before upgrading, ensure that you have made backups of all data that you want to preserve. In particular, you will need the information in such as `/etc/filesystems`. You should also run the `vxlicrep`, `vxdisk list`, and `vxprint -ht` commands, and record the output from these. You may need this information to reconfigure your system after the upgrade.
- Use the `vxlicrep` command to make a record of the currently installed Veritas licenses.

You should also review the *Veritas Storage Foundation Release Notes* or *Veritas Storage Foundation Cluster File System Release Notes*, and all documents in the `release_notes` directory for important release information.

Upgrading to 5.0 MP1 Update 1 for AIX 6.1

An upgrade requires stopping cluster failover functionality during the entire procedure. The upgrade is performed in a number of stages depending on the type of upgrade you are performing. The supported upgrade paths are:

- SFCFS 5.0 or higher to 5.0 MP1 Update 1 for AIX 6.1

Caution: Phased upgrade procedure results in system PANIC on configurations where LLT is configured over UDP and this known issue is fixed in 5.0 MP1. This issue is specific to configurations where LLT is configured over UDP and not present in usual LLT Ethernet configurations.

Full upgrade procedure should be used for upgrading from SFCFS 5.0 or higher to SFCFS 5.0 MP1 Update 1 for AIX 6.1 on configurations where LLT is configured over UDP.

Phased upgrade stages

A phased upgrade minimizes downtime by upgrading portions of the cluster, one at a time. Although the entire cluster is offline for a shorter period than a full upgrade, this method requires command-line interaction and some manual configuration.

Stages of a phased upgrade

- 1 Freeze service group operations and stop VCS on the cluster.
- 2 Select a group of one or more cluster nodes to upgrade, and leave a group of one or more nodes running.
- 3 Take the first group offline and install the software patches.
- 4 Take the second group offline **before** bringing the first group online.
- 5 Bring the first group (with the newly installed patches) online to restart cluster failover services.
- 6 Upgrade the remaining nodes in the second group and bring them online. The cluster is fully restored.

Proceed to [“Performing a phased upgrade”](#) on page 14.

Full upgrade stages

A full upgrade upgrades the product on the entire cluster and the cluster remains offline for the duration of the procedure. Minimal command-line interaction and some manual configuration are required.

Stages of a full upgrade

- 1 Freeze service group operations and stop VCS on the cluster.
- 2 Take all nodes in the cluster offline and install the software patches.
- 3 Bring all the nodes (with the newly installed patches) online to restart cluster failover services. The cluster is fully restored.

Proceed to [“Performing a full upgrade”](#) on page 17.

Performing a phased upgrade

This section describes how to upgrade to 5.0 MP1 Update 1 for AIX 6.1.

To upgrade to 5.0 MP1 Update 1 for AIX 6.1

- 1 Log in as superuser.
- 2 Verify that `/opt/VRTS/bin` is in your PATH so you can execute all product commands.
- 3 From any node in the cluster, make the VCS configuration writable:

```
# haconf -makerw
```
- 4 Enter the following command to freeze HA service group operations on each node:

```
# hasys -freeze -persistent node_name
```
- 5 Make the configuration read-only:

```
# haconf -dump -makero
```
- 6 Select the group of nodes that are to be upgraded first, and follow [step 7](#) through [step 32](#) for these nodes.
- 7 Stop VCS by entering the following command on each node in the group being upgraded:

```
# hastop -local
```
- 8 On each node, use the following command to check if any VxFS file systems or Storage Checkpoints are mounted:

```
# mount | grep vxfs
```
- 9 On each node in the cluster, unmount all Storage Checkpoints and file systems:

```
# umount /checkpoint_name  
# umount /filesystem
```
- 10 If there are still disk groups that are imported at this time then proceed to [step 11](#), otherwise skip to [step 14](#).
- 11 If you have created any Veritas Volume Replicator (VVR) replicated volume groups (RVGs) on your system, perform the following steps:
 - a Stop all applications that are involved in replication. For example, if a data volume contains a file system, unmount it.
 - b Use the `vxrvg stop` command to stop each RVG individually:

```
# vxrvg -g diskgroup stop rvg_name
```

- c On the Primary node, use the `vxrlink status` command to verify that all RLINKs are up-to-date:
`vxrlink -g diskgroup status rlink_name`
To avoid data corruption, do not proceed until all RLINKs are up-to-date.
- 12 Stop activity to all VxVM volumes. For example, stop any applications such as databases that access the volumes, and unmount any file systems that have been created on the volumes.
- 13 On each node, stop all VxVM volumes by entering the following command for each disk group:
`vxvol -g diskgroup stopall`
- 14 Check if the VEA service is running:
`/opt/VRTS/bin/vxsvcctrl status`
If the VEA service is running, stop it:
`/opt/VRTS/bin/vxsvcctrl stop`
- 15 Insert the Veritas software disc on any node and mount the CD-ROM. For example:
`mount -V cdrfs -o ro /dev/cd0 /mnt/cdrom`
- 16 Change to the top-level directory on the CD-ROM:
`cd /mnt/cdrom`
- 17 To upgrade the Storage Foundation Cluster File System, you must invoke the `installmp` command from one of your cluster nodes using the option that corresponds to your configuration:
 - n To install on the local system only, enter the following command:
`./installmp`
 - n To install on more than one system using secure shell (SSH) utilities, enter the following command:
`./installmp node_name1 node_name2 ...`
 - n To install on more than one system using remote shell (RSH) utilities, enter the following command:
`./installmp node_name1 node_name2 ... -rsh`
- 18 After the initial system checks are complete, press **Return** to start the requirements checks.
- 19 After the requirements checks are complete, press **Return** to start upgrading the packages. If you are upgrading multiple nodes, you have the option of upgrading them simultaneously. You will be prompted after the upgrade is complete.
- 20 When installation is complete, note the locations of the summary, log, and response files indicated by the installer.

- 21 Stop VCS on each of the second group of nodes:

```
# hastop -local
```
- 22 Reboot the upgraded nodes. Assuming the reboot was successful, application failover is now available for the first group of nodes.
- 23 If necessary, reinstate any missing mount points in the `/etc/filesystems` file on each node.
- 24 If any VCS configuration files need to be restored, stop the cluster, restore the files to the `/etc/VRTSvcs/conf/config` directory, and restart the cluster.
- 25 Make the VCS configuration writable again from any node in the upgraded group:

```
# haconf -makerw
```
- 26 Enter the following command on each node in the upgraded group to unfreeze HA service group operations:

```
# hasys -unfreeze -persistent node_name
```
- 27 Make the configuration read-only:

```
# haconf -dump -makero
```
- 28 Bring the CVM service group online on each node in the upgraded group:

```
# hagrps -online cvm -sys node_name
```
- 29 Restart all the volumes by entering the following command for each disk group:

```
# vxvol -g diskgroup startall
```
- 30 If you stopped any RVGs in [step 11](#), restart each RVG:

```
# vxrvgs -g diskgroup start rvg_name
```
- 31 Remount all VxFS file systems and Storage Checkpoints on all nodes:

```
# mount /filesystem  
# mount /checkpoint_name
```
- 32 Check if the VEA service was restarted:

```
# /opt/VRTS/bin/vxsvcctrl status
```

If the VEA service is not running, restart it:

```
# /opt/VRTS/bin/vxsvcctrl start
```
- 33 Repeat [step 7](#) through [step 32](#) for the second group of nodes.

Note: When the installer installs software, some software may be applied rather than committed. It is the responsibility of the system administrator to commit the software, which can be performed later using the `-c` option of the `installmp` command.

Performing a full upgrade

The following procedure describes upgrading a standalone system.

To upgrade the Storage Foundation software on a standalone system

- 1 Log in as superuser.
- 2 Verify that `/opt/VRTS/bin` is in your PATH so you can execute all product commands.
- 3 On any node in the cluster, run the following command:

```
# hstop -all
```

This stops VCS on all nodes in the cluster.
- 4 Use the following command to check if any VxFS file systems or Storage Checkpoints are mounted:

```
# mount | grep vxfs
```
- 5 Unmount all Storage Checkpoints and file systems:

```
# umount /checkpoint_name  
# umount /filesystem
```
- 6 If there are still disk groups that are imported at this time then proceed to [step 7](#), otherwise skip to [step 10](#).
- 7 If you have created any Veritas Volume Replicator (VVR) replicated volume groups (RVGs) on your system, perform the following steps:
 - a Stop all applications that are involved in replication. For example, if a data volume contains a file system, unmount it.
 - b Use the `vxrvg stop` command to stop each RVG individually:

```
# vxrvg -g diskgroup stop rvg_name
```
 - c On the Primary node, use the `vxrlink status` command to verify that all RLINKs are up-to-date:

```
# vxrlink -g diskgroup status rlink_name
```

To avoid data corruption, do not proceed until all RLINKs are up-to-date.
- 8 Stop activity to all VxVM volumes. For example, stop any applications such as databases that access the volumes, and unmount any file systems that have been created on the volumes.
- 9 Stop all VxVM volumes by entering the following command for each disk group:

```
# vxvol -g diskgroup stopall
```

To verify that no volumes remain open, use the following command:

```
# vxprint -Aht -e v_open
```

- 10 Check if the VEA service is running:
`/opt/VRTS/bin/vxsvcctrl status`
If the VEA service is running, stop it:
`/opt/VRTS/bin/vxsvcctrl stop`
- 11 Insert the Veritas software disc on any node and mount the CD-ROM. For example:
`mount -V cdrfs -o ro /dev/cd0 /mnt/cdrom`
- 12 Change to the top-level directory on the CD-ROM:
`cd /mnt/cdrom`
- 13 To upgrade the Storage Foundation Cluster File System, you must invoke the `installmp` command from one of your cluster nodes using the option that corresponds to your configuration:
 - n To install on the local system only, enter the following command:
`./installmp`
 - n To install on more than one system using secure shell (SSH) utilities, enter the following command:
`./installmp node_name1 node_name2 ...`
 - n To install on more than one system using remote shell (RSH) utilities, enter the following command:
`./installmp node_name1 node_name2 ... -rsh`
- 14 After the initial system checks are complete, press **Return** to start the requirements checks.
- 15 After the requirements checks are complete, press **Return** to start upgrading the packages. If you are upgrading multiple nodes, you have the option of upgrading them simultaneously. You will be prompted after the upgrade is complete.
- 16 When installation is complete, note the locations of the summary, log, and response files indicated by the installer.
- 17 Shut down and reboot the system.
- 18 If necessary, reinstate any missing mount points in the `/etc/filesystems` file.
- 19 If any VCS configuration files need to be restored, stop the cluster, restore the files to the `/etc/VRTSvcs/conf/config` directory, and restart the cluster.
- 20 Restart all the volumes by entering the following command for each disk group:
`vxvol -g diskgroup startall`
- 21 If you stopped any RVGs in [step 7](#), restart each RVG:
`vxrvg -g diskgroup start rvg_name`

22 Remount all VxFS file systems and Storage Checkpoints:

```
# mount /filesystem  
# mount /checkpoint_name
```

23 Check if the VEA service was restarted:

```
# /opt/VRTS/bin/vxsvcctl status
```

If the VEA service is not running, restart it:

```
# /opt/VRTS/bin/vxsvcctl start
```

Note: When the installer installs software, some software may be applied rather than committed. It is the responsibility of the system administrator to commit the software, which can be performed later using the `-c` option of the `installmp` command.

Removing 5.0 MP1 Update 1 for AIX 6.1

Roll back of the 5.0 MP1 Update 1 for AIX 6.1 packages to the release 5.0 version of the packages is not supported. To restore release 5.0 on your system, you must completely remove 5.0 MP1 Update 1 for AIX 6.1, then reinstall Veritas Storage Foundation Cluster File System 5.0.

To uninstall the Veritas software

- 1 Log in as superuser.
- 2 Verify that `/opt/VRTS/bin` is in your `PATH` so you can execute all product commands.
- 3 Run the `hastop -all` command to take all service groups offline, and shut down VCS:

```
# /opt/VRTSvcs/bin/hastop -all
```

Note: Do not use the `-force` option when executing `hastop`. This will leave all service groups online and shut down VCS, causing undesired results during uninstallation of the packages.

- 4 Use the following command to check if any VxFS file systems or Storage Checkpoints are mounted:

```
# mount | grep vxfs
```
- 5 Unmount all Storage Checkpoints and file systems:

```
# umount /checkpoint_name  
# umount /filesystem
```
- 6 Stop activity to all VxVM volumes. For example, stop any applications such as databases that access the volumes, and unmount any file systems that have been created on the volumes.
- 7 Stop all VxVM volumes by entering the following command for each disk group:

```
# vxvol -g diskgroup stopall
```

To verify that no volumes remain open, use the following command:

```
# vxprint -Aht -e v_open
```
- 8 Check if the VEA service is running:

```
# /opt/VRTS/bin/vxsvcctrl status
```

If the VEA service is running, stop it:

```
# /opt/VRTS/bin/vxsvcctrl stop
```

- 9 To shut down and remove the installed Veritas packages, use the appropriate command in the `/opt/VRTS/install` directory. For example, to uninstall the Storage Foundation Cluster File System, use the following commands:

```
# cd /opt/VRTS/install
# ./uninstallsfdfs [-rsh]
```

You can use this command to remove the packages from one or more systems. The `-rsh` option is required if you are using the remote shell (RSH) rather than the secure shell (SSH) to uninstall the software simultaneously on several systems.

Note: Provided that the remote shell (RSH) or secure shell (SSH) has been configured correctly, this command can be run on a single node of the cluster to uninstall the software on all the cluster nodes.

After uninstalling the Veritas software, reinstall the release 5.0 software as described in the *Veritas Storage Foundation Installation Guide*, *Veritas Storage Foundation Cluster File System Installation Guide*, or *Veritas Cluster Server (VCS) Installation Guide*.

Software limitations

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

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

<http://entsupport.symantec.com/docs/283986>

The Veritas Storage Foundation, Veritas Volume Manager, Veritas File System, Veritas Volume Replicator, and Veritas Storage Foundation for Databases software limitations are listed in the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes*.

See the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes*.

There are no new Veritas Storage Foundation Cluster File System software limitations in this MP1 release.

Fixed issues

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

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

<http://entsupport.symantec.com/docs/283986>

The Veritas Storage Foundation, Veritas Volume Manager, Veritas File System, Veritas Volume Replicator, and Veritas Storage Foundation for Databases fixed issues are listed in the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1Release Notes*.

See the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1Release Notes*.

The following are new Veritas Storage Foundation Cluster File System fixed issues in 5.0 MP1 Update 1 for AIX 6.1 release

Incident	Description
1191435	Eliminated cio license check.

The following are new Veritas Storage Foundation Cluster File System fixed issues in 5.0 MP1 RP1, RP2, and RP3 releases.

Incident	Description
989892	System crashes due to inactive processing on an attribute inode that has already been zeroed out.
1000396	Made changes to utilize new DR op notification available in AIX 5.3 TL5 onward.
1006586	System panic during db2 fast pre-allocation with VxFS.
1029528	Changed VX_GET_NINODE value back to 57 in 4.x and later.
1030394	AIX : vm_releasep() should not be called from an interrupt context.
1036812	AIX system panic in vx_untimeout. Trying to dereference the structure "vx_tout_t *tout" which is already freed up

Incident	Description
1084308	Performance: dd on AIX call ftruncate and performs synchronous delxwri flushing.
1086336	Blocking lock request hangs in NFS over CFS.
1097671	Performance improved by removing VX_DELAY in vx_glock_grant and vx_rwlock_range_grant.
1097673	Enhancement to vx_getattr() done by taking IGLOCK in share mode.
1097682	Performance enhancement done in vx_logbuf_clean.
1097685	Performance enhancement done in fsck log replay.
1097763	In vxupgrade from Layout5 to Layout6, inode table was getting overflow.

The following are new Veritas Storage Foundation Cluster File System fixed issues in 5.0 MP1 release:

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.

Incident	Description
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.
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 disabled but an 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.

For a list of additional issues fixed in this release, see the following TechNote:

<http://entsupport.symantec.com/docs/285869>

Known issues

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

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

<http://entsupport.symantec.com/docs/283986>

The Veritas Storage Foundation, Veritas Volume Manager, Veritas File System, Veritas Volume Replicator, and Veritas Storage Foundation for Databases known issues are listed in the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes*.

See the *Veritas Storage Foundation 5.0 Maintenance Pack 1 Update 1 for AIX 6.1 Release Notes*.

The following are new Veritas Storage Foundation Cluster File System known issues in this MP1 release:

vxvol command fails

Sometimes when the cluster starts with multiple nodes, some shared volumes might remain in DISABLED state due to the failure of the vxvol command. If this occurs, the following message appears on the console:

```
VxVM vxvol ERROR V-5-1-10128 Error in cluster processing
```

Workaround: Follow these steps to recover from this situation:

- 1 For all the CVMVolDg and CFSMount resources that are faulted, run the following command on one of the nodes:

```
# hares -clear resourcename -sys system01
# hares -clear resourcename -sys system02
# hares -clear resourcename -sys system03
# hares -clear resourcename -sys system04
```
- 2 Start all volumes that are disabled by entering the following command on the CVM Master:

```
# vxvol -g diskgroup startall
```
- 3 For all the CVMVolDg resources whose faults were cleared in [step 1](#), run the following command on one of the nodes:

```
# hares -online resourcename -sys system01
# hares -online resourcename -sys system02
# hares -online resourcename -sys system03
# hares -online resourcename -sys system04
```
- 4 Mount the file systems by running the following command on any one node of the cluster:

```
# cfsmount filesystem
```

Oracle-AIX

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 2 in the uninstallation procedure in “Removing Storage Foundation packages” in the *Veritas Storage Foundation Installation Guide*.
- 3 Remove the Veritas Storage Foundation for Oracle packages using the `installp -u` command.

```
# installp -u VRTSorgui VRTSdbed VRTSdbdoc VRTSdbcom
```

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. [840486]

DB2-AIX

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 2 in the uninstallation procedure in “Removing Storage Foundation packages” in the *Veritas Storage Foundation Installation Guide*.
- 3 Remove the Veritas Storage Foundation for DB2 packages using the `installp -u` command.

```
# installp -u VRTsd2gui VRTsdb2ed VRTsdbdoc VRTsdbcom
```

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. [840486]

No longer supported

seconly mount option

The `seconly` mount option might not be supported in the next major release.

Version 4 disk layout

VxFS disk layout Version 4 is not supported in 5.0. Maintenance patches for the 4.0 release of SFCFS will continue to support previous disk layouts. Use the `vxupgrade` command to upgrade to disk layout Version 6 or 7.

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

Note: Version 7 is the default disk layout version for the 5.0 release.

I/O error mount options

In this and future releases, only `ioerror=disable` and `ioerror=mdisable` mount options are supported for cluster-mounted file systems. Other `ioerror` mount options are not supported.