

VERITAS Storage Foundation Cluster File System 4.1

Release Notes

HP-UX

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Release Notes

Introduction

VERITAS Storage Foundation Cluster File System (SFCFS) and Storage Foundation Cluster File System High Availability (SFCFS HA) compose the clustering functionality of VERITAS File System (VxFS) and are separately licensed features of Storage Foundation. Failover capabilities, such as monitoring system and application services and restarting them on a different system when hardware or software fails, are not required for the operation of SFCFS, but can be added to the cluster after installing and configuring SFCFS HA.

Note Read the following VERITAS Technical Support TechNote for the latest information on updates, patches, and software issues for this release:
<http://support.veritas.com/docs/275787>

Review this entire document before installing the product. For a list of new features and end product support, see the *VERITAS Storage Foundation Release Notes*.

Component Product Acronyms

The following list defines the acronyms used for VERITAS Storage Foundation Cluster File System component products. Product components are described in the *VERITAS Storage Foundation Installation Guide*.

CVM	VERITAS Volume Manager cluster functionality
VCS	VERITAS Cluster Server
VVR	VERITAS Volume Replicator
VEA	VERITAS Enterprise Administrator graphical user interface
VxFS	VERITAS File System
VxVM	VERITAS Volume Manager



System Requirements

HP-UX Operating System Requirements

This release of SFCFS is supported on September 2004 HP-UX 11i version 2.0 or later.

Hardware Compatibility

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

Patch Requirements

Patch requirements and versions are determined at the time of product release. Contact your vendor for the most current patch version and information. For a list of current patches for component products, see the *Storage Foundation Release Notes*.

Software Issues in SFCFS/SFCFS HA

This section describes software issues in this release of SFCFS.

Compatibility with Previous Versions of VxFS

A disk layout Version 6 file system created with VxFS 4.1 software will not be accessible if the VxFS 4.1 file system software is removed and the system is reverted to VxFS 3.5.

In addition, if a disk layout Version 6 file system exists on a boot disk and VxFS 3.5 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 6 file system

For additional information on compatibility issues with previous versions of VxFS, see the *VERITAS Storage Foundation Release Notes*.

Consistent HP-UX Distribution and Kernel Version for SFCFS

Cluster nodes must run the same HP-UX distribution and kernel version. You cannot mix 32-bit and 64-bit kernels in the same cluster. Cluster nodes must run 64-bit kernels; 32-bit kernels are not supported by VxFS.



CFS Agents Cannot Support Japanese Mount Points

None of the SFCFS agents (for example, `cfsmntadm` and `cfsmount`) work on a Japanese mount point. These commands fail on a Japanese operating system because the SFCFS agents require VCS and VCS currently does not support non-ASCII input.

Mounted VxFS File Systems May Prevent Rebooting

If you have VxFS file systems mounted and I/O is being done on those file systems and you try to reboot the machine, it might not reboot. To work around this issue, unmount all VxFS file systems that are mounted before rebooting the machine. [153253]

Fencing

If during the SFCFS installation procedure you chose to enable fencing but have yet to configure the coordinator disks, CVM will not join the cluster. If you choose to disable fencing, or if fencing cannot be supported in the current configuration, the following steps will disable fencing and allow shared disk groups to join:

1. Create the file `/etc/vxfenmode` on each node (if it does not already exist).
2. Add the string `vxfen_mode=disabled` to the file.

Required Upgrade for CVM Protocol

The CVM protocol must be upgraded before upgrading the disk group from previous versions.

▼ To upgrade the CVM protocol

1. Check the existing cluster protocol version:

```
# vxctl protocolversion
```

2. To upgrade the cluster protocol version to version 60 for the entire cluster, use the following command on the master node:

```
# vxctl upgrade
```



NIC Detection During Installation

Operating system limitations may affect the detection of valid network interconnect cards (NICs) during SFCFS/SFCFS HA installation. Specifically, more NICs for heartbeat links may be listed than are actually available. Verify which NICs are valid on your system before proceeding with the install.

To verify which NICs are valid, use the following command:

```
# ipconfig -a
```

Cache Advisories

Cache advisories are set with the `mount` command on individual file systems, but are not propagated to other nodes of a cluster.

To work around this issue, set the required cache advisories with the `vxtunefs` command instead.

Cached Quick I/O

This Quick I/O for Databases feature that caches data in the file system cache is not supported.

Delaylog Not Supported

The `-delaylog` mount option is not supported with cluster mounts. Metadata intensive operations, such as `untar` or `restore` of file systems containing a large number of files, are slower than VxFS local mounts. By default in SFCFS, the `log` mount option is used.

Quotas

When using quotas, the UID and GID for a user must be the same on each node in the cluster.

Local Scope for Named Pipes

Named pipes created on a cluster-mounted file system have only a local scope pertaining to the local node.

Devices other than named pipes cannot be created using the `mknod` command.

Do Not Define LD_LIBRARY_PATH to Contain CFS Mounted Directories

If SFCFS-mounted directories are present in the LD_LIBRARY_PATH environment variable, the system may hang in circumstances such as a forced unmount.

Turn Off VCS Volume-Level Resource Monitoring Before Deleting a Volume

If you are using VCS volume-level resource monitoring and you want to delete a volume, you must turn off monitoring for that volume before deleting it. If monitoring for the volume is not turned off, the VCS monitor disables access to the disk group in which the volume resided by changing the activation mode to off. Failure to turn off monitoring will require intervention to change the disk group activation mode back to its original setting. See the `vxdg(1M)` online manual page for information on disk group activation modes.

Swap Files Not Supported

Swap files are not supported on cluster-mounted file systems.

Nested Mounts Not Allowed on Cluster-Mounted File Systems

You cannot mount a local file system or another cluster file system on a cluster-mounted file system. Symbolic links can be used to point to a different mount point from a specific directory.

No Longer Supported

Version 4 and Version 5 File System Layouts

This is the last release of SFCFS to support Version 4 and Version 5 disk layouts. VERITAS recommends upgrading to disk layout Version 6. Maintenance patches for the 4.1 release of SFCFS will continue to support previous disk layouts. Use the `vxupgrade` or `vxconvert` command to upgrade to disk layout Version 6. See the *VERITAS File System Administrator's Guide* for details.



File System Snapshots

Support for file system snapshots may be discontinued in the next release of SFCFS. It will be replaced by Storage Checkpoints. VERITAS recommends using the Storage Checkpoints feature to create “point-in-time” copies.

I/O Error Mount Options

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

Available Documentation

After the installation procedure is complete, documents are available online under the `/opt/VRTS/docs` directory. Documents are provided as Adobe Portable Document Format (PDF) files and in a searchable HTML-based format. To view or print PDF documents, you must have the Adobe Acrobat Reader installed.

Installing documentation and online manual pages is optional.

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.

Release Notes and Installation Guides

Release notes and installation guides are not installed by any packages. VERITAS recommends that you copy them from the software disc to the `/opt/VRTS/docs` directory on your system after product installation so that they are available for future reference.

Release notes for component products of SFCFS are located under `storage_foundation_cluster_file_system/release_notes`.

Installation guides for component products of SFCFS are located under `storage_foundation_cluster_file_system/docs`.

Read the following installation guide and component product release notes before starting the installation:

- ◆ *VERITAS Storage Foundation Cluster File System* (*sfcfs_install.pdf*)
- ◆ *VERITAS Storage Foundation Release Notes* (*sf_notes.pdf*)
- ◆ *VERITAS Cluster Server Release Notes* (*vcs_notes.pdf*)

VERITAS Storage Foundation Cluster File System Guides

The following guides comprise the VERITAS Storage Foundation Cluster File System documentation set:

Guide Title	Filename
<i>VERITAS Storage Foundation Cluster File System Release Notes</i> (this document)	<i>sfcfs_notes.pdf</i>
<i>VERITAS Storage Foundation Cluster File System Installation and Administration Guide</i>	<i>sfcfs_install.pdf</i>

Related Documentation

The following manuals, along with the online help, provide important information about the software components for SFCFS/SFCFS HA.



VERITAS Storage Foundation Guides

Guide Title	Filename
<i>VERITAS Storage Foundation and High Availability Getting Started Guide</i>	<code>getting_started.pdf</code>
<i>VERITAS Storage Foundation Release Notes</i>	<code>sf_notes.pdf</code>
<i>VERITAS Storage Foundation Installation Guide</i>	<code>sf_install.pdf</code>
<i>VERITAS Storage Foundation Oracle Administrator's Guide</i>	<code>sf_ora_admin.pdf</code>
<i>VERITAS Array Integration Layer Configuration Guide</i>	<code>vail_config.pdf</code>
<i>VERITAS Storage Foundation Intelligent Storage Provisioning Administrator's Guide</i>	<code>sf_isp_admin.pdf</code>
<i>VERITAS Storage Foundation Cross-Platform Data Sharing Administrator's Guide</i>	<code>sf_cds_admin.pdf</code>
<i>VERITAS Enterprise Administrator (VEA 500 Series) Getting Started</i>	<code>veax5_getting_started.pdf</code>
<i>VERITAS Volume Manager Administrator's Guide</i>	<code>vxvm_admin.pdf</code>
<i>VERITAS Volume Manager Troubleshooting Guide</i>	<code>vxvm_tshoot.pdf</code>
<i>VERITAS Volume Manager Hardware Notes</i>	<code>vxvm_hwnotes.pdf</code>
<i>VERITAS FlashSnap Point-In-Time Copy Solutions Administrator's Guide</i>	<code>flashsnap_admin.pdf</code>
<i>VERITAS File System Administrator's Guide</i>	<code>vxfs_admin.pdf</code>

VERITAS Cluster Server Documentation

The following VERITAS Cluster Server documentation is available with VERITAS Storage Foundation Cluster File System HA:

Guide Title	Filename
<i>VERITAS Cluster Server Release Notes</i>	<code>vcs_notes.pdf</code>
<i>VERITAS Cluster Server Installation Guide</i>	<code>vcs_install.pdf</code>
<i>VERITAS Cluster Server User's Guide</i>	<code>vcs_users.pdf</code>
<i>VERITAS Cluster Server Agent Developer's Guide</i>	<code>vcs_agent_dev.pdf</code>
<i>VERITAS Cluster Server Bundled Agents Reference Guide</i>	<code>vcs_bundled_agents.pdf</code>
<i>VCS Enterprise Agent for Oracle Installation and Configuration Guide</i>	<code>vcs_oracle_install.pdf</code>



VERITAS Volume Replicator Documentation

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

Guide Title	Filename
<i>VERITAS Volume Replicator Release Notes</i>	vvr_notes.pdf
<i>VERITAS Volume Replicator Installation Guide</i>	vvr_install.pdf
<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

Manual Pages

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

Installing documentation and online manual pages is optional.

Getting Help

For technical assistance, visit <http://support.veritas.com> and select phone or email support. This site also provides access to resources such as TechNotes, product alerts, software downloads, hardware compatibility lists, and the VERITAS customer email notification service. Use the Knowledge Base Search feature to access additional product information, including current and past releases of product documentation.

Diagnostic tools are also available to assist in troubleshooting problems associated with the product. These tools are available on disc or can be downloaded from the VERITAS FTP site. See the `README.VRTSspt` file in the support directory for details.

For license information, software updates and sales contacts, visit <https://my.veritas.com/productcenter/ContactVeritas.jsp>. For information on purchasing product documentation, visit <http://webstore.veritas.com>.

