

Symantec™ Storage Foundation for Sybase ASE CE 6.2 Release Notes - Solaris

Symantec™ Storage Foundation for Sybase ASE CE Release Notes

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Product version: 6.2

Document version: 6.2 Rev 1

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- Product release level
- Hardware information

- Available memory, disk space, and NIC information
- Operating system
- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
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Europe, Middle-East, and Africa	semea@symantec.com
North America and Latin America	supportsolutions@symantec.com

Documentation

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

<https://sort.symantec.com/documents>

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

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For information regarding the latest HOWTO articles, documentation updates, or to ask a question regarding product documentation, visit the Storage and Clustering Documentation forum on Symantec Connect.

<https://www-secure.symantec.com/connect/storage-management/forums/storage-and-clustering-documentation>

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Symantec Storage Foundation for Sybase ASE CE Release Notes

This document includes the following topics:

- [About this document](#)
- [Component product release notes](#)
- [About Symantec Storage Foundation for Sybase ASE CE](#)
- [About Symantec Operations Readiness Tools](#)
- [Important release information](#)
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- [System requirements](#)
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About this document

This document provides important information about Symantec Storage Foundation for Sybase ASE CE (SF Sybase CE) version 6.2 for Solaris. Review this entire document before you install or upgrade SF Sybase CE.

The information in the Release Notes supersedes the information provided in the product documents for SF Sybase CE.

This is "Document version: 6.2 Rev 1" of the *Symantec Storage Foundation for Sybase ASE CE Release Notes*. Before you start, make sure that you are using the latest version of this guide. The latest product documentation is available on the Symantec website at:

<https://sort.symantec.com/documents>

Component product release notes

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

Product guides are available at the following location on the software media in PDF formats:

`/docs/product_name`

Symantec recommends copying the files to the `/opt/VRTS/docs` directory on your system.

This release includes the following component product release notes:

- *Symantec Storage Foundation Release Notes (6.2)*
- *Symantec Cluster Server Release Notes (6.2)*
- *Symantec Storage Foundation Cluster File System High Availability Release Notes (6.2)*

About Symantec Storage Foundation for Sybase ASE CE

Symantec Storage Foundation™ for Sybase® Adaptive Server Enterprise Cluster Edition (SF Sybase CE) by Symantec leverages proprietary storage management and high availability technologies to enable robust, manageable, and scalable deployment of Sybase ASE CE on UNIX platforms. The solution uses cluster file system technology that provides the dual advantage of easy file system management as well as the use of familiar operating system tools and utilities in managing databases.

SF Sybase CE integrates existing Symantec storage management and clustering technologies into a flexible solution which administrators can use to:

- Create a standard toward application and database management in data centers. SF Sybase CE provides flexible support for many types of applications and databases.
- Set up an infrastructure for Sybase ASE CE that simplifies database management while fully integrating with Sybase ASE CE clustering solution.
- Apply existing expertise of Symantec technologies toward this product.

The solution stack comprises the Symantec Cluster Server (VCS), Veritas Cluster Volume Manager (CVM), Veritas Cluster File System (CFS), and Symantec Storage Foundation, which includes the base Veritas Volume Manager (VxVM) and Veritas File System (VxFS).

Benefits of SF Sybase CE

SF Sybase CE provides the following benefits:

- Use of a generic clustered file system (CFS) technology or a local file system (VxFS) technology for storing and managing Sybase ASE CE installation binaries.
- Support for file system-based management. SF Sybase CE provides a generic clustered file system technology for storing and managing Sybase ASE CE data files as well as other application data.
- Use of Cluster File System (CFS) for the Sybase ASE CE quorum device.
- Support for a standardized approach toward application and database management. A single-vendor solution for the complete SF Sybase CE software stack lets you devise a standardized approach toward application and database management. Further, administrators can apply existing expertise of Veritas technologies toward SF Sybase CE.
- Easy administration and monitoring of SF Sybase CE clusters using Veritas Operations Manager.
- Enhanced scalability and availability with access to multiple Sybase ASE CE instances per database in a cluster.
- Prevention of data corruption in split-brain scenarios with robust SCSI-3 Persistent Reservation (PR) based I/O fencing.
- Support for sharing all types of files, in addition to Sybase ASE CE database files, across nodes.
- Increased availability and performance using Symantec Dynamic Multi-Pathing (DMP). DMP provides wide storage array support for protection from failures and performance bottlenecks in the Host Bus Adapters (HBAs) and Storage Area Network (SAN) switches.

- Fast disaster recovery with minimal downtime and interruption to users. Users can transition from a local high availability site to a wide-area disaster recovery environment with primary and secondary sites. If a node fails, clients that are attached to the failed node can reconnect to a surviving node and resume access to the shared database. Recovery after failure in the SF Sybase CE environment is far quicker than recovery for a failover database.
- Support for block-level replication using VVR.

About Symantec Operations Readiness Tools

Symantec Operations Readiness Tools (SORT) is a website that automates and simplifies some of the most time-consuming administrative tasks. SORT helps you manage your datacenter more efficiently and get the most out of your Symantec products.

SORT can help you do the following:

Prepare for your next installation or upgrade

- List product installation and upgrade requirements, including operating system versions, memory, disk space, and architecture.
- Analyze systems to determine if they are ready to install or upgrade Symantec products and generate an Installation and Upgrade custom report.
- List patches by product or platform, and in the order they need to be installed. Display and download the most recent patches or historical patches.
- Display Array Support Library (ASL) details by vendor, platform, or Storage Foundation and High Availability (SFHA) version. ASLs make it easier to manage arrays that are connected to SFHA-based servers.
- List VCS and ApplicationHA agents, documentation, and downloads based on the agent type, application, and platform.

Identify risks and get server-specific recommendations

- Analyze your servers for potential environmental risks. Generate a Risk Assessment custom report with specific recommendations about system availability, storage use, performance, and best practices.
- Display descriptions and solutions for thousands of Symantec error codes.

- Improve efficiency
- Get automatic email notifications about changes to patches, array-specific modules (ASLs/APMs/DDIs/DDLs), documentation, product releases, Hardware Compatibility Lists (HCLs), and VCS/ApplicationHA agents.
 - Quickly gather installed Symantec product and license key information from across your production environment. Generate a License/Deployment custom report that includes product names, versions, and platforms, server tiers, Symantec Performance Value Units (SPVUs), and End of Service Life dates.
 - List and download Symantec product documentation including product guides, manual pages, compatibility lists, and support articles.
 - Access links to important resources on a single page, including Symantec product support, SymConnect forums, customer care, Symantec training and education, Symantec FileConnect, the licensing portal, and my.symantec.com. The page also includes links to key vendor support sites.
 - Use a subset of SORT features from your iOS device. Download the application at:
<https://sort.symantec.com/mobile>

Note: Certain features of SORT are not available for all products. Access to SORT is available at no extra cost.

To access SORT, go to:

<https://sort.symantec.com>

Important release information

- For important updates regarding this release, review the Late-Breaking News TechNote on the Symantec Technical Support website:
<http://www.symantec.com/docs/TECH225259>
- For the latest patches available for this release, go to:
<https://sort.symantec.com/>
- The hardware compatibility list contains information about supported hardware and is updated regularly. For the latest information on supported hardware, visit the following URL:
<http://www.symantec.com/docs/TECH211575>

- The software compatibility list summarizes each Storage Foundation and High Availability (SFHA) Solutions product stack and the product features, operating system versions, and third-party products it supports. For the latest information on supported software, visit the following URL:
<http://www.symantec.com/docs/TECH225258>

Note: Before you install or upgrade SFHA Solutions products, review the current compatibility lists to confirm the compatibility of your hardware and software.

Changes introduced in SF Sybase CE 6.2

This section lists the changes in Symantec Storage Foundation for Sybase ASE CE 6.2.

Release level terminology changes

With the 6.2 release, terms that are used to describe patch-based releases have changed as follows:

Table 1-1 Release level terminology changes

Pre 6.0.1	6.0.x, 6.1, 6.1.x	6.2 and forward	Status	Available from
P-Patch	Public hot fix	Patch	Official	SORT
Hot fix	Private hot fix	Hot fix	Unofficial	Customer support

Official patch releases are available from SORT. This release was previously referred to as a P-Patch or a Public hot fix and is now referred to as a Patch. Unofficial patch releases are available from customer support. Hot fix is the only unofficial patch release.

Changes related to installation and upgrades

The product installer includes the following changes in SF Sybase CE 6.2.

Connecting to the SORT website through a proxy server

The product installer connects to the Symantec Operations Readiness Tools (SORT) website for several purposes, such as downloading the latest installer patches, and uploading installer logs. Deployment Server can connect to SORT to automatically

download Maintenance or Patch release images. In this release, before running the product installer or Deployment Server, you can use the following proxy settings to connect to SORT through proxy servers:

```
# https_proxy=http://proxy_server:port
# export https_proxy
# ftp_proxy=http://proxy_server:port
# export ftp_proxy
```

Support for upgrading SF Sybase CE using the web-based installer for Solaris 10 Live Upgrade

You can use the Symantec web-based installer to upgrade SF Sybase CE as part of the Live Upgrade.

On a node in the cluster, run the web-based installer on the DVD to upgrade SF Sybase CE on all the nodes in the cluster.

The program uninstalls the existing version of SF Sybase CE on the alternate boot disk during the process. At the end of the process, SF Sybase CE 6.2 is installed on the alternate boot disk.

Support for setting up ssh and rsh connection using the `pwdutil.pl` utility

The password utility, `pwdutil.pl`, is bundled in the 6.2 release under the `scripts` directory. The users can run the `pwdutil.pl` utility to set up the `ssh` and `rsh` connection automatically.

Support for centralized installations using the Deployment Server

The Deployment Server is a script that makes it easier to install or upgrade SFHA releases. The Deployment Server lets you store multiple release images in one central location and deploy them to systems of any supported UNIX or Linux platform (6.1 or later). Prior to 6.1, releases still require the same platform, architecture, distribution, and version of the operating system. You can use the Deployment Server if you want to install or upgrade multiple releases and or multiple platforms.

The Deployment Server lets you do the following as described in [Table 1-2](#).

Table 1-2 Deployment Server functionality

Feature	Description
Install or Upgrade systems with Install Bundle and Install Template	<ul style="list-style-type: none"> ■ Install or upgrade systems with an Install Bundle. ■ Install packages on systems based on the information stored in the Install Template.
Define or modify Install Bundles	Define or modify Install Bundles and save them using the Deployment Server.
Create Install Templates	Discover installed components on a running system that you want to replicate on new systems.
Connecting the Deployment Server to SORT using a proxy server	Use a proxy server, a server that acts as an intermediary for requests from clients, for connecting the Deployment Server to the Symantec Operations Readiness Tools (SORT) website.
Platform Filtering	On the Set Preference menu, choose Selected Platforms to filter the platforms that are currently being used in the deployment environment.

Note: The Deployment Server is available only for the script-based installer, not the web-based installer.

See the *Installation Guide* for more information.

Symantec Storage Foundation for Sybase ASE CE gets installed in secure mode by default

Symantec Storage Foundation for Sybase ASE CE gets installed in secure mode by default. You are advised to install SF Sybase CE in secure mode to be able to control guest user access to secure clusters and encrypt communication between SF Sybase CE components. You can choose the non-secure mode during installation; however, the product installer warns you during the installation with the following message:

```
Symantec recommends that you install the cluster
in secure mode. This ensures that communication between
cluster components is encrypted and cluster information
is visible to specified users only.
```

The upgrade from non-secure mode continues to happen in non-secure mode. The upgrade from secure mode advises you to control user access to secure clusters.

Changes to I/O fencing

Symantec Cluster Server (VCS) includes the following changes to I/O fencing in 6.2:

Raw disk I/O fencing policy is not supported

Symantec does not support raw disk policy for I/O fencing. Use DMP as the I/O fencing policy for coordinator disks that have either a single hardware path or multiple hardware paths to nodes.

For more information, refer to the *Installation Guide* and *Administrator's Guide*.

Layered volume enhancements for recovery and snapshots

In this release, a new enhancement is done for layered volumes so that when storage disconnection and subsequent reconnection happen, only inconsistent regions in the affected sub-volume are synchronized using the FastResync feature. In case of a storage failure, the mirror of the sub-volume on that storage will be detached and the future IOs on the sub-volume will be tracked by the DCO associated with the parent volume. When such a detached mirror is reattached after restoring storage connectivity, only regions that are inconsistent in the mirror would be synchronized using the FastResync feature.

Prior to this release, for a layered volume, if the storage within a mirror of a sub-volume became inaccessible, it led to full synchronization of that mirror when the storage was reconnected.

For more information about FastResync, see the *Symantec Storage Foundation for Sybase ASE CE Administrator's Guide*.

Read policy enhancement

In this release, to optimize the read performance, changes have been made in the plex read policies on VxVM volumes. When there are more than one mirror available to serve the read IO, VxVM will select the set of mirrors that will provide the optimal performance and round robin between those. In selecting the set of mirrors, the internal logic will take into account various factors such as site locality, disk connectivity, media type, layout(striping), etc. You can override the logic and set any plex as the preferred mirror or set a round-robin read policy to round robin between all the mirrors of a volume.

For more information about read policies, see the *Administrator's Guide*.

The `vxattachd` daemon added as a VCS resource

In this release, the automatic site reattachment daemon, `vxattachd`, has been added in the list of resources monitored by VCS. The ProcessOnOnly agent in VCS will now monitor the `vxattachd` daemon. If the `vxattachd` process is not running, then in the next monitor cycle this agent will detect and restart it.

For more information about the `vxattachd` daemon, see the *Administrator's Guide*.

System requirements

This section describes the system requirements for this release.

Important preinstallation information for SF Sybase CE

Before you install SF Sybase CE, make sure that you have reviewed the following information:

- Preinstallation checklist for your configuration. Go to [the SORT installation checklist tool](#). From the drop-down lists, select the information for the Symantec product you want to install, and click **Generate Checklist**.
- Hardware compatibility list for information about supported hardware: <http://www.symantec.com/docs/TECH211575>
- For important updates regarding this release, review the Late-Breaking News Technote on the Symantec Technical Support website: <http://www.symantec.com/docs/TECH225259>
- Sybase ASE CE documentation for additional requirements pertaining to your version of Sybase ASE CE.

Hardware requirements

[Table 1-3](#) lists the hardware requirements for SF Sybase CE.

Table 1-3 Hardware requirements for basic clusters

Item	Description
SF Sybase CE systems	Two to four systems with two or more CPUs. For details on the additional requirements for Sybase ASE CE, see the Sybase ASE CE documentation.
DVD drive	A DVD drive on one of the nodes in the cluster.

Table 1-3 Hardware requirements for basic clusters (*continued*)

Item	Description
Disk space	<p>You can evaluate your systems for available disk space by running the product installation program. Navigate to the product directory on the product disc and run the following command:</p> <pre># ./installsfbasece -precheck node_name</pre> <p>For details on the additional space that is required for Sybase ASE CE, see the Sybase ASE CE documentation.</p>
RAM	Each SF Sybase CE system requires at least 8 GB.
Network	<p>Two or more private links and one public link.</p> <p>Links must be 100BaseT or gigabit Ethernet directly linking each node to the other node to form a private network that handles direct inter-system communication. These links must be of the same type; you cannot mix 100BaseT and gigabit.</p> <p>Symantec recommends gigabit Ethernet using enterprise-class switches for the private links.</p> <p>You can also configure aggregated interfaces.</p>
Fiber Channel or SCSI host bus adapters	At least one additional SCSI or Fibre Channel Host Bus Adapter per system for shared data disks.

Supported Solaris operating systems

This section lists the supported operating systems for this release of Symantec products. For current updates, visit the Symantec Operations Readiness Tools Installation and Upgrade page: https://sort.symantec.com/land/install_and_upgrade.

Table 1-4 shows the supported operating systems for this release.

Table 1-4 Supported operating systems

Operating systems	Levels	Chipsets
Solaris 10	Update 9, 10, and 11	SPARC

Supported Sybase ASE CE releases

SF Sybase CE supports Sybase ASE CE 15.5 only at time of publication.

For the latest information on the supported Sybase ASE CE database versions, see the following Technical Support TechNote:

<http://www.symantec.com/docs/DOC4848>

See the Sybase ASE CE documentation for more information.

Supported SF Sybase CE configurations

The following Sybase configuration options are required in an SF Sybase CE environment:

- Set SF Sybase CE fencing to "sybase" mode.
- Configure Sybase private networks on LLT links
- Set Sybase cluster membership to "vcs" mode.
- Configure Sybase instances under VCS control.

Veritas File System requirements

Veritas File System requires that the values of the Solaris variables `lwp_default_stksize` and `svc_default_stksize` are at least 0x6000. When you install the Veritas File System package, `VRTSvxfs`, the `VRTSvxfs` packaging scripts check the values of these variables in the kernel. If the values are less than the required values, `VRTSvxfs` increases the values and modifies the `/etc/system` file with the required values. If the `VRTSvxfs` scripts increase the values, the installation proceeds as usual except that you must reboot and restart the installation program. A message displays if a reboot is required.

To avoid an unexpected need for a reboot, verify the values of the variables before installing Veritas File System. Use the following commands to check the values of the variables:

```
For Solaris 10: # echo "lwp_default_stksize/X" | mdb -k
                lwp_default_stksize:
                lwp_default_stksize:          6000

                # echo "svc_default_stksize/X" | mdb -k
                svc_default_stksize:
                svc_default_stksize:          6000
```

If the values shown are less than 6000, you can expect a reboot after installation.

Note: The default value of the `svc_default_stksize` variable is 0 (zero), which indicates that the value is set to the value of the `lwp_default_stksize` variable. In this case, no reboot is required, unless the value of the `lwp_default_stksize` variable is too small.

To avoid a reboot after installation, you can modify the `/etc/system` file with the appropriate values. Reboot the system prior to installing the packages. Add the following lines to the `/etc/system` file:

```
For Solaris 10:  set lwp_default_stksize=0x6000
                 set rpcmod:svc_default_stksize=0x6000
```

Supported replication technologies for global clusters

SF Sybase CE supports the software replication technology Veritas Volume Replicator (VVR) for global cluster configurations.

Fixed issues

This section covers the incidents that are fixed in this release.

Issues fixed in SF Sybase CE 6.2

There are no fixed issues in SF Sybase CE 6.2.

Installation and upgrades fixed issues

This section describes the incidents that are fixed related to installation and upgrades in this release.

Table 1-5 Fixed issues related to installation and upgrades

Incident	Description
3325954	On Solaris 10 <code>xprtld</code> will not be started if user use jumpstart to install product
3326196	Rolling upgrade may encounter a problem if open volumes from different disk groups have the same name.
3341674	For Solaris 11.1 or later, the system can panic when system is rebooted after turning <code>dmp_native_support</code> to on.

Table 1-5 Fixed issues related to installation and upgrades (*continued*)

Incident	Description
3442070	If you select rolling upgrade task from the Install Bundles menu, the Installer exits with an error.

Cluster Volume Manager fixed issues

This section describes the incidents that are fixed in Cluster Volume Manager (CVM) in this release.

Table 1-6 Cluster Volume Manager fixed issues

Incident	Description
640213	The node panics in case of overlapping reconfigurations due to race conditions.
3592783	For the FSS partially shared storage configuration, after you run <code>hastop -all</code> and then <code>hastart</code> , remote disks, which are not part of the disk group, are not visible in <code>vxdisk -o alldgs list</code> .
3582470	Data change object (DCO) volume gets created using the same node's disks for both plexes.
3573908	Multiple <code>cbrbk.tmp\$\$</code> files in the <code>/var/tmp</code> folder on each node do not clean up properly.
3552008	The <code>vxconfigrestore</code> (<code>vxvol resync</code>) operation hangs on the master node while recovering a stripe-mirror volume.
3551050	The <code>vx*</code> commands are not able to connect to <code>vxconfigd</code> .
3538683	After a master panic, the new master does not start plex resync when the older master comes online and joins the cluster.
3537519	The <code>vxdisk unexport</code> command hangs and then <code>vxconfigd</code> gets fault in an asymmetric array connection setup.
3528908	When the slave node contributing storage left the cluster, the <code>vxconfigd</code> command dumps core on the master node.
3523731	VxVM command check for device compliance prior to doing FSS operations on disks.

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

Incident	Description
3508390	DCO object is unnecessarily marked in the BADLOG mode in cascade failure scenarios, and it results in requiring a full-recovery and can result in lost snapshots as well.
3505017	When the <code>da_name</code> is the same as the existing <code>dm_name</code> , the <code>vx dg addisk</code> operation from slave fails.
3496673	On a Flexible Storage Sharing (FSS) disk group, the read I/O performance is impacted.
3495811	When you create a disk group, the disk shows LMISSING state when the SCSI PGR operation fails.
3489167	Plex(es) on remote disks goes to DISABLED state because of a plex I/O error encountered after slave node reboot in Cluster Volume Manger (CVM).
3484570	Accessing CVM messages after decrementing the reference count causes a panic.
3482026	The <code>vxattachd(1M)</code> daemon reattaches plexes of manually detached site.
3430256	Space allocation for Volume: Single DAS disk in a disk group takes more preference than shared storage in that disk group.
3422704	Unique prefix generation algorithm redesign for forming cluster wide consistent name (CCN).
3411438	The <code>preferred</code> and <code>round-robin</code> read policy settings should be honoured irrespective of local connectivity to the plexes.
3394940	Anomaly numbers are displayed in the <code>vxstat</code> output.
3383625	When a cluster node that contributes the storage to the Flexible Storage Sharing (FSS) disk group rejoins the cluster, the local disks brought back by that node do not get reattached.
3373747	Adding new nodes to the 22-node cluster causes Cluster File System (CFS) failures after CVM deletes 2 nodes.
3368361	When siteconsistency is configured within a private disk group and Cluster Volume Manager (CVM) is up, then the reattach operation of a detached site fails.

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

Incident	Description
3329603	The <code>vxconfigd</code> related error messages are observed in system log files on every node for large cluster setups.
3300418	VxVM volume operations on shared volumes cause unnecessary read I/Os.
3286030	Vxattachd debug messages get displayed on the console during a reboot.
3283418	Writes from the source node hang due to heavy workload on the target node.
3281160	When autoreminor is set off, no error is thrown when you import a disk group having the same minor number as that of the existing imported disk group.
3152304	When connectivity to some of the plexes of a volume is lost from all nodes, an I/O hang occurs.
2705055	The <code>preferred</code> and <code>round-robin</code> read policy settings should be honoured irrespective of local connectivity to the plexes.

LLT, GAB, and I/O fencing fixed issues

[Table 1-7](#) lists the fixed issues for LLT, GAB, and I/O fencing.

Table 1-7 LLT, GAB, and I/O fencing fixed issues

Incident	Description
3335137	Fencing configuration fails if SysDownPolicy is set to AutoDisableNoOffline in online service groups.
3473104	When virtual NICs are configured under LLT without specifying the MTU size 1500 in lltab, cluster does not function properly. For example, VCS engine commands may hang and print below message in the engine logs: VCS CRITICAL V-16-1-51135 GlobalCounter not updated
3331801	SMF services for VCS kernel components may go into maintenance state when installed in a new boot environment.
3031216	The dash (-) in a disk group name causes vxfcntlshdw(1M) and Vxfenswap(1M) utilities to fail.

Table 1-7 LLT, GAB, and I/O fencing fixed issues (*continued*)

Incident	Description
3471571	Cluster nodes may panic if you stop the HAD process by force on a node and reboot that node.
3532859	The Coordpoint agent monitor fails if the cluster has a large number of coordination points.

Known issues

This section covers the known issues in this release.

SF Sybase CE issues

This section lists the known issues in SF Sybase CE for this release.

Sybase Agent Monitor times out (1592996)

Problem: The Sybase Agent Monitor has issues of timing out, in cases where qrmutil reports delay.

The Sybase Agent monitor times out, if qrmutil fails to report the status to the agent within the defined MonitorTimeout for the agent.

Solution: If any of the following configuration parameters for Sybase Database is increased, it will require a change in its MonitorTimeout value:

- quorum heartbeat interval (in seconds)
- Number of retries

If the above two parameters are changed, Symantec recommends that the MonitorTimeout be set to a greater value than the following: $((\text{number of retries} + 1) * (\text{quorum heartbeat interval})) + 5$.

Installer warning (1515503)

Problem: During configuration of Sybase instance under VCS control, if the quorum device is on CFS and is not mounted, the following warning message appears on the installer screen:

```
Error: CPI WARNING V-9-40-5460 The quorum file /qrmnt/qfile
cannot be accessed now. This may be due to a file system not being mounted.
```

The above warning may be safely ignored.

Unexpected node reboot while probing a Sybase resource in transition (1593605)

Problem: A node may reboot unexpectedly if the Sybase resource is probed while the resource is still in transition from an online to offline state.

Normally the monitor entry point for Sybase agent completes with 5-10 seconds. The monitor script for the Sybase agent uses the `qrmutil` binary provided by Sybase. During a monitor, if this utility takes longer time to respond, the monitor entry point will also execute for longer duration before returning status.

Resolution: During the transition time interval between online and offline, do not issue a probe for the Sybase resource, otherwise the node may reboot.

Unexpected node reboot when invalid attribute is given (2567507)

Problem: A node may reboot unexpectedly if the Home, Version, or Server attributes are modified to invalid values while the Sybase resources are online in VCS.

Resolution: Avoid setting invalid values for the Home, Version, or Server attributes while the Sybase resources are online in VCS, to avoid panic of the node.

Bus error while stopping the ports (2358568)

Problem: When the `hastop -local` command or the `hastop -all` command is issued, the `fuser -kill` command is issued on the mounted Sybase mount point. This results in bus error and a core dump, though the ports stop cleanly.

Resolution: Before issuing the `hastop -local` command or the `hastop -all` command, ensure that the `uafstartup.sh` script is stopped, so that the `fuser -kill` command is not issued on the mounted Sybase mount point.

Installation known issues

This section describes the known issues during installation and upgrade.

Stopping the installer during an upgrade and then resuming the upgrade might freeze the service groups (2574731)

The service groups freeze due to upgrading using the product installer if you stopped the installer after the installer already stopped some of the processes and then resumed the upgrade.

Workaround: You must unfreeze the service groups manually after the upgrade completes.

To unfreeze the service groups manually

- 1 List all the frozen service groups

```
# hagr -list Frozen=1
```

- 2 Unfreeze all the frozen service groups:

```
# haconf -makerw  
# hagr -unfreeze service_group -persistent  
# haconf -dump -makero
```

Flash Archive installation not supported if the target system's root disk is encapsulated

Symantec does not support SF Sybase CE installation using Flash Archive if the target system's root disk is encapsulated.

Make sure that the target system's root disk is unencapsulated before starting the installation.

On Solaris 10, a flash archive installed through JumpStart may cause a new system to go into maintenance mode on reboot (2379123)

If a Flash archive is created on a golden host with encapsulated root disks, when this Flash archive is installed onto another host through JumpStart, the new system may go to maintenance mode when you initially reboot it.

This problem is caused by the predefined root disk mirror in the Flash archive. When the archive is applied to a clone system, which may have different hard drives, the newly cloned system may get stuck at root disk mirroring during reboot.

Workaround: Create the Flash archive on a golden host with no encapsulated root disks. Run `vxunroot` to clean up the mirrored root disks before you create the Flash archive.

The Configure Sybase ASE CE Instance in VCS option creates duplicate service groups for Sybase binary mount points (2560188)

The CPI installer does not check to see if Sybase binary mount points are already configured on systems, nor does it give an error message. It creates a duplicate service group for Sybase binary mount points.

This issue will be resolved in a later release.

After Live Upgrade to Solaris 10 Update 10/Update 11, boot from an alternate boot environment fails [2370250]

If your setup involves volumes in a shared disk group that are mounted as CFS in a cluster, then during Live Upgrade using the `vxlustart` command from any supported Solaris version to Solaris 10 Update 10/11, boot from an alternate boot environment may fail.

Workaround:

- 1 Run the `vxlufinish` command. Enter:

```
# vxlufinish
```

- 2 Manually delete the entries of all the volumes of shared disks that are mounted as CFS in the `/altroot.5.10/etc/vfstab` directory. Enter:

```
rm -rf /altroot.5.10/etc/vfstab
```

- 3 Restart the system.

On Sparc, Live Upgrade from Solaris 9 to Solaris 10 Update 10 may fail (2424410)

On Sparc, Live Upgrade from Solaris 9 to Solaris 10 Update 10 may fail with the following error:

```
Generating file list.
Copying data from PBE <source.24429> to ABE <dest.24429>.
99% of filenames transferredERROR: Data duplication process terminated
unexpectedly.
ERROR: The output is </tmp/lucreate.13165.29314/lucopy.errors.29314>.

29794 Killed
Fixing zonepaths in ABE.
Unmounting ABE <dest.24429>.
100% of filenames transferredReverting state of zones in PBE
<source.24429>.
ERROR: Unable to copy file systems from boot environment <source.24429>
to BE <dest.24429>.
ERROR: Unable to populate file systems on boot environment <dest.24429>.
Removing incomplete BE <dest.24429>.
ERROR: Cannot make file systems for boot environment <dest.24429>.
```

This is a known issue with the Solaris `lucreate` command.

Workaround: Check with Oracle for possible workarounds for this issue.

The Installer fails to unload GAB module while installation of SF packages [3560458]

The Installer succeeds to upgrade SF package from 6.0.1 to 6.0.5 or from 6.1 to 6.1.1, but GAB module (for 6.0.1 or 6.1) fails to unload and remains in loaded state. The issue is seen with the recent updates of Solaris OS 11U1 (SRU 8). During un-installation of SF Sybase CE packages, unloading of GAB fails.

Workaround: Restart the system. Restarting the system will unload the module successfully.

I/O fencing known issues

This section covers the known issues related to I/O fencing in this release.

When I/O fencing is not up, the svcs command shows VxFEN as online (2492874)

Solaris 10 SMF marks the service status based on the exit code of the start method for that service. The VxFEN start method executes the `vxfen-startup` script in the background and exits with code 0. Hence, if the `vxfen-startup` script subsequently exits with failure then this change is not propagated to SMF. This behavior causes the `svcs` command to show incorrect status for VxFEN.

Workaround: Use the `vxfenadm` command to verify that I/O fencing is running.

The vxfenswap utility does not detect failure of coordination points validation due to an RSH limitation (2531561)

The `vxfenswap` utility runs the `vxfenconfig -o modify` command over RSH or SSH on each cluster node for validation of coordination points. If you run the `vxfenswap` command using RSH (with the `-n` option), then RSH does not detect the failure of validation of coordination points on a node. From this point, `vxfenswap` proceeds as if the validation was successful on all the nodes. But, it fails at a later stage when it tries to commit the new coordination points to the VxFEN driver. After the failure, it rolls back the entire operation, and exits cleanly with a non-zero error code. If you run `vxfenswap` using SSH (without the `-n` option), then SSH detects the failure of validation of coordination of points correctly and rolls back the entire operation immediately.

Workaround: Use the `vxfenswap` utility with SSH (without the `-n` option).

Fencing does not come up on one of the nodes after a reboot (2573599)

If VxFEN unconfiguration has not finished its processing in the kernel and in the meantime if you attempt to start VxFEN, you may see the following error in the `/var/VRTSvcs/log/vxfen/vxfen.log` file:

```
VXFEN vxfenconfig ERROR V-11-2-1007 Vxfen already configured
```

However, the output of the `gabconfig -a` command does not list port b. The `vxfenadm -d` command displays the following error:

```
VXFEN vxfenadm ERROR V-11-2-1115 Local node is not a member of cluster!
```

Workaround: Start VxFEN again after some time.

Stale .vxfendargs file lets hashadow restart vxfend in Sybase mode (2554886)

When I/O fencing is configured in customized mode, `vxfend`, the user mode daemon of I/O fencing, creates the `/opt/VRTSvcs/lock/.vxfendargs` file. VCS uses this file to restart the `vxfend` daemon when it gets killed. However, VCS does not use this file when I/O fencing is configured in Sybase mode. This file is not removed from the system when I/O fencing is unconfigured.

If user configures I/O fencing in Sybase mode and an old `/opt/VRTSvcs/lock/.vxfendargs` file is present in the system from an earlier configuration of I/O fencing in customized mode, then VCS attempts to restart the `vxfend` daemon every time it is killed. This interferes with the functioning of I/O fencing in the Sybase mode.

Workaround: Before you configure I/O fencing in Sybase mode, delete the `/opt/VRTSvcs/lock/.vxfendargs` file if it is present in the system.

The vxfenswap utility deletes comment lines from the /etc/vxfemode file, if you run the utility with hacli option (3318449)

The `vxfenswap` utility uses RSH, SSH, or hacli protocol to communicate with peer nodes in the cluster. When you use `vxfenswap` to replace coordination disk(s) in disk-based fencing, `vxfenswap` copies `/etc/vxfemode` (local node) to `/etc/vxfemode` (remote node).

With the `hacli` option, the utility removes the comment lines from the remote `/etc/vxfemode` file, but, it retains comments in the local `/etc/vxfemode` file.

Workaround: Copy the comments manually from local `/etc/vxfsenmode` to remote nodes.

Software limitations

This section covers the software limitations of this release.

See the corresponding Release Notes for a complete list of software limitations related to that component or product.

See [“Documentation”](#) on page 31.

Only one Sybase instance is supported per node

In a Sybase ASE CE cluster, SF Sybase CE supports only one Sybase instance per node.

SF Sybase CE is not supported in the Campus cluster environment

SF Sybase CE does not support the Campus cluster. SF Sybase CE supports the following cluster configurations. Depending on your business needs, you may choose from the following setup models:

- Basic setup
- Secure setup
- Central management setup
- Global cluster setup

See the *Installation Guide* for more information.

Hardware-based replication technologies are not supported for replication in the SF Sybase CE environment

You can use Veritas Volume Replicator (VVR), which provides host-based volume replication. Using VVR you can replicate data volumes on a shared disk group in SF Sybase CE. Hardware-based replication is not supported at this time.

SF Sybase CE installation is not supported by Web installer

SF Sybase CE does not support the Web-based installer at this time. You can use one of the following methods to install and configure SF Sybase CE.

- Interactive installation and configuration using the script-based installer

- Silent installation using the response file
- Installation using the JumpStart script file

See the *Installation Guide* for more information.

Limitations related to I/O fencing

This section covers I/O fencing-related software limitations.

Preferred fencing limitation when VxFEN activates RACER node re-election

The preferred fencing feature gives preference to more weighted or larger subclusters by delaying the smaller subcluster. This smaller subcluster delay is effective only if the initial RACER node in the larger subcluster is able to complete the race. If due to some reason the initial RACER node is not able to complete the race and the VxFEN driver activates the racer re-election algorithm, then the smaller subcluster delay is offset by the time taken for the racer re-election and the less weighted or smaller subcluster could win the race. This limitation though not desirable can be tolerated.

Stopping systems in clusters with I/O fencing configured

The I/O fencing feature protects against data corruption resulting from a failed cluster interconnect, or “split brain.” See the *Symantec Cluster Server Administrator's Guide* for a description of the problems a failed interconnect can create and the protection I/O fencing provides.

In a cluster using SCSI-3 based fencing, I/O fencing implements data protection by placing the SCSI-3 PR keys on both the data disks and coordinator disks. The VCS administrator must be aware of several operational changes needed when working with clusters protected by I/O fencing. Specific shutdown procedures ensure keys are removed from coordination points and data disks to prevent possible difficulties with subsequent cluster startup.

Using the reboot command rather than the shutdown command bypasses shutdown scripts and can leave keys on the coordination points and data disks. Depending on the order of reboot and subsequent startup events, the cluster may warn of a possible split brain condition and fail to start up.

Workaround: Use the shutdown -r command on one node at a time and wait for each node to complete shutdown.

Uninstalling VRTSvxvm causes issues when VxFEN is configured in SCSI3 mode with dmp disk policy (2522069)

When VxFEN is configured in SCSI3 mode with dmp disk policy, the DMP nodes for the coordinator disks can be accessed during system shutdown or fencing arbitration. After uninstalling VRTSvxvm package, the DMP module will no longer be loaded in memory. On a system where VRTSvxvm package is uninstalled, if VxFEN attempts to access DMP devices during shutdown or fencing arbitration, the system panics.

Documentation

Product guides are available in the PDF format on the software media in the `/docs/product_name` directory. Additional documentation is available online.

Make sure that you are using the current version of documentation. The document version appears on page 2 of each guide. The publication date appears on the title page of each document. The latest product documentation is available on the Symantec website.

<http://sort.symantec.com/documents>

Documentation set

Each product in the Storage Foundation and High Availability Solutions product line includes release notes, an installation guide, and additional documents such as administration and agent guides. In most cases, you may also need to refer to the documentation for the product's components.

The SFHA Solutions documents describe functionality and solutions that apply across the product line. These documents are relevant whichever SFHA Solutions product you use.

Note: The GNOME PDF Viewer is unable to view Symantec documentation. You must use Adobe Acrobat to view the documentation.

Symantec Storage Foundation for Sybase ASE CE documentation

[Table 1-8](#) lists the documentation for Symantec Storage Foundation for Sybase ASE CE.

The SFHA Solutions documents describe functionality and solutions relevant to the Sybase ASE CE product.

See [Table 1-12](#) on page 34.

Table 1-8 Symantec Storage Foundation for Sybase ASE CE documentation

Document title	File name	Description
<i>Symantec Storage Foundation for Sybase ASE CE Release Notes</i>	sfsybasece_notes_62_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of the product.
<i>Symantec Storage Foundation for Sybase ASE CE Installation and Configuration Guide</i>	sfsybasece_install_62_sol.pdf	Provides information required to install and configure the product.
<i>Symantec Storage Foundation for Sybase ASE CE Administrator's Guide</i>	sfsybasece_admin_62_sol.pdf	Provides information required for administering the product.

Symantec Storage Foundation Cluster File System High Availability documentation

[Table 1-9](#) lists the documentation for Symantec Storage Foundation Cluster File System High Availability.

The SFHA Solutions documents describe functionality and solutions relevant to the SFCFSA product.

See [Table 1-12](#) on page 34.

Table 1-9 Symantec Storage Foundation Cluster File System High Availability documentation

Document title	File name	Description
<i>Symantec Storage Foundation Cluster File System High Availability Release Notes</i>	sfcs_notes_62_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of the product.
<i>Symantec Storage Foundation Cluster File System High Availability Installation Guide</i>	sfcs_install_62_sol.pdf	Provides information required to install the product.
<i>Symantec Storage Foundation Cluster File System High Availability Administrator's Guide</i>	sfcs_admin_62_sol.pdf	Provides information required for administering the product.

[Table 1-10](#) lists the documents for Symantec Cluster Server.

Table 1-10 Symantec Cluster Server documentation

Title	File name	Description
<i>Symantec Cluster Server Release Notes</i>	vcs_notes_62_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of the product.
<i>Symantec Cluster Server Installation Guide</i>	vcs_install_62_sol.pdf	Provides information required to install the product.
<i>Symantec Cluster Server Administrator's Guide</i>	vcs_admin_62_sol.pdf	Provides information required for administering the product.
<i>Symantec Cluster Server Bundled Agents Reference Guide</i>	vcs_bundled_agents_62_sol.pdf	Provides information about bundled agents, their resources and attributes, and more related information.
<i>Symantec Cluster Server Agent Developer's Guide</i> (This document is available online only.)	vcs_agent_dev_62_unix.pdf	Provides information about the various Symantec agents and procedures for developing custom agents.
<i>Symantec Cluster Server Application Note: Dynamic Reconfiguration for Oracle Servers</i> (This document is available online only.)	vcs_dynamic_reconfig_62_sol.pdf	Provides information on how to perform dynamic reconfiguration operations on VCS clustered system domains of Oracle servers.
<i>Symantec Cluster Server Agent for DB2 Installation and Configuration Guide</i>	vcs_db2_agent_62_sol.pdf	Provides notes for installing and configuring the DB2 agent.
<i>Symantec Cluster Server Agent for Oracle Installation and Configuration Guide</i>	vcs_oracle_agent_62_sol.pdf	Provides notes for installing and configuring the Oracle agent.
<i>Symantec Cluster Server Agent for Sybase Installation and Configuration Guide</i>	vcs_sybase_agent_62_sol.pdf	Provides notes for installing and configuring the Sybase agent.

[Table 1-11](#) lists the documentation for Symantec Storage Foundation.

Table 1-11 Symantec Storage Foundation documentation

Document title	File name	Description
<i>Symantec Storage Foundation Release Notes</i>	sf_notes_62_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of the product.
<i>Symantec Storage Foundation Installation Guide</i>	sf_install_62_sol.pdf	Provides information required to install the product.
<i>Symantec Storage Foundation Administrator's Guide</i>	sf_admin_62_sol.pdf	Provides information required for administering the product.
<i>Veritas File System Programmer's Reference Guide</i> (This document is available online only.)	vxfs_ref_62_sol.pdf	Provides developers with the information necessary to use the application programming interfaces (APIs) to modify and tune various features and components of the Veritas File System.

Symantec Storage Foundation and High Availability Solutions products documentation

[Table 1-12](#) lists the documentation for Symantec Storage Foundation and High Availability Solutions products.

Table 1-12 Symantec Storage Foundation and High Availability Solutions products documentation

Document title	File name	Description
<i>Symantec Storage Foundation and High Availability Solutions—What's new in this release</i> (This document is available online.)	sfhas_whats_new_62_unix.pdf	Provides information about the new features and enhancements in the release.
<i>Symantec Storage Foundation and High Availability Solutions Getting Started Guide</i>	getting_started.pdf	Provides a high-level overview of installing Symantec products using the script-based installer. The guide is useful for new users and returning users that want a quick refresher.
<i>Symantec Storage Foundation and High Availability Solutions Solutions Guide</i>	sfhas_solutions_62_sol.pdf	Provides information about how SFHA Solutions product components and features can be used individually and in concert to improve performance, resilience and ease of management for storage and applications.

Table 1-12 Symantec Storage Foundation and High Availability Solutions products documentation (*continued*)

Document title	File name	Description
<i>Symantec Storage Foundation and High Availability Solutions Virtualization Guide</i> (This document is available online.)	sfhas_virtualization_62_sol.pdf	Provides information about Symantec Storage Foundation and High Availability support for virtualization technologies. Review this entire document before you install virtualization software on systems running SFHA products.
<i>Symantec Storage Foundation and High Availability Solutions SmartIO for Solid State Drives Solutions Guide</i>	sfhas_smartio_solutions_62_sol.pdf	Provides information on using and administering SmartIO with SFHA solutions. Also includes troubleshooting and command reference sheet for SmartIO.
<i>Symantec Storage Foundation and High Availability Solutions Disaster Recovery Implementation Guide</i> (This document is available online.)	sfhas_dr_impl_62_sol.pdf	Provides information on configuring campus clusters, global clusters, and replicated data clusters (RDC) for disaster recovery failover using Storage Foundation and High Availability Solutions products.
<i>Symantec Storage Foundation and High Availability Solutions Replication Administrator's Guide</i>	sfhas_replication_admin_62_sol.pdf	Provides information on using Volume Replicator (VVR) for setting up an effective disaster recovery plan by maintaining a consistent copy of application data at one or more remote locations.
<i>Symantec Storage Foundation and High Availability Solutions Troubleshooting Guide</i>	sfhas_tshoot_62_sol.pdf	Provides information on common issues that might be encountered when using Symantec Storage Foundation and High Availability Solutions and possible solutions for those issues.

Veritas Operations Manager (VOM) is a management tool that you can use to manage Symantec Storage Foundation and High Availability Solutions products. If you use VOM, refer to the VOM product documentation at:

<https://sort.symantec.com/documents>

Manual pages

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

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

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

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

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

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

See the `man(1)` manual page.

The latest manual pages are available online in HTML format on the Symantec website at:

<https://sort.symantec.com/documents>