

# Veritas Storage Foundation™ and High Availability Solutions Getting Started Guide

Linux for IBM™ Power and x86\_64

5.0 Release Update 4



# Getting Started Guide

The software described in this book is furnished under a license agreement and may be used only in accordance with the terms of the agreement.

Product version: 5.0RU4

Document version: 5.0RU4.1

Part number : 20932027

## Legal Notice

Copyright © 2010 Symantec Corporation. All rights reserved.

Symantec, the Symantec Logo, Veritas Storage Foundation and Veritas 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.

This Symantec product may contain third party software for which Symantec is required to provide attribution to the third party ("Third Party Programs"). Some of the Third Party Programs are available under open source or free software licenses. The License Agreement accompanying the Software does not alter any rights or obligations you may have under those open source or free software licenses. Please see the Third Party Legal Notice Appendix to this Documentation or TPIP ReadMe File accompanying this Symantec product for more information on the Third Party Programs.

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.

THE 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 as defined in FAR 12.212 and subject to restricted rights as defined in FAR Section 52.227-19 "Commercial Computer Software - Restricted Rights" and DFARS 227.7202, "Rights in Commercial Computer Software or Commercial Computer Software Documentation", as applicable, and any successor regulations. Any use, modification, reproduction release, performance, display or disclosure of the Licensed Software and Documentation by the U.S. Government shall be solely in accordance with the terms of this Agreement.

Symantec Corporation  
350 Ellis Street  
Mountain View, CA 94043  
<http://www.symantec.com>

# Technical Support

Symantec Technical Support maintains support centers globally. Technical Support's primary role is to respond to specific queries about product features and functionality. The Technical Support group also creates content for our online Knowledge Base. The Technical Support group works collaboratively with the other functional areas within Symantec to answer your questions in a timely fashion. For example, the Technical Support group works with Product Engineering and Symantec Security Response to provide alerting services and virus definition updates.

Symantec's maintenance offerings include the following:

- A range of support options that give you the flexibility to select the right amount of service for any size organization
- Telephone and Web-based support that provides rapid response and up-to-the-minute information
- Upgrade assurance that delivers automatic software upgrade protection
- Global support that is available 24 hours a day, 7 days a week
- Advanced features, including Account Management Services

For information about Symantec's Maintenance Programs, you can visit our Web site at the following URL:

[www.symantec.com/techsupp/](http://www.symantec.com/techsupp/)

## Contacting Technical Support

Customers with a current maintenance agreement may access Technical Support information at the following URL:

[www.symantec.com/techsupp/](http://www.symantec.com/techsupp/)

Before contacting Technical Support, make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer on which the problem occurred, in case it is necessary to replicate the problem.

When you contact Technical Support, please have the following information available:

- Product release level
- Hardware information
- Available memory, disk space, and NIC information
- Operating system

- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
  - Error messages and log files
  - Troubleshooting that was performed before contacting Symantec
  - Recent software configuration changes and network changes

## Licensing and registration

If your Symantec product requires registration or a license key, access our technical support Web page at the following URL:

<https://licensing.symantec.com>

## Customer service

Customer service information is available at the following URL:

[www.symantec.com/business/support/assistance\\_care.jsp](http://www.symantec.com/business/support/assistance_care.jsp)

Customer Service is available to assist with the following types of issues:

- Questions regarding product licensing or serialization
- Product registration updates, such as address or name changes
- General product information (features, language availability, local dealers)
- Latest information about product updates and upgrades
- Information about upgrade assurance and maintenance contracts
- Information about the Symantec Buying Programs
- Advice about Symantec's technical support options
- Nontechnical presales questions
- Issues that are related to CD-ROMs or manuals

## Maintenance agreement resources

If you want to contact Symantec regarding an existing maintenance agreement, please contact the maintenance agreement administration team for your region as follows:

Asia-Pacific and Japan	<a href="mailto:customercare_apac@symantec.com">customercare_apac@symantec.com</a>
Europe, Middle-East, and Africa	<a href="mailto:semea@symantec.com">semea@symantec.com</a>
North America and Latin America	<a href="mailto:supportsolutions@symantec.com">supportsolutions@symantec.com</a>

## Additional enterprise services

Symantec offers a comprehensive set of services that allow you to maximize your investment in Symantec products and to develop your knowledge, expertise, and global insight, which enable you to manage your business risks proactively.

Enterprise services that are available include the following:

Symantec Early Warning Solutions	These solutions provide early warning of cyber attacks, comprehensive threat analysis, and countermeasures to prevent attacks before they occur.
Managed Security Services	These services remove the burden of managing and monitoring security devices and events, ensuring rapid response to real threats.
Consulting Services	Symantec Consulting Services provide on-site technical expertise from Symantec and its trusted partners. Symantec Consulting Services offer a variety of prepackaged and customizable options that include assessment, design, implementation, monitoring, and management capabilities. Each is focused on establishing and maintaining the integrity and availability of your IT resources.
Educational Services	Educational Services provide a full array of technical training, security education, security certification, and awareness communication programs.

To access more information about Enterprise services, please visit our Web site at the following URL:

[www.symantec.com](http://www.symantec.com)

Select your country or language from the site index.

# Contents

Technical Support .....	4	
Chapter 1	Product overview .....	9
	About this release .....	9
	Veritas Storage Foundation product suites .....	10
	About Veritas Storage Foundation and High Availability	
	products .....	14
	Component software .....	14
	Veritas Cluster Server .....	15
	Veritas high availability agents .....	16
	Veritas Volume Replicator .....	18
	Veritas Storage Foundation .....	19
	Veritas Storage Foundation Basic .....	19
	Veritas Storage Foundation for DB2 .....	21
	Veritas Storage Foundation for Oracle .....	22
	Veritas Storage Foundation for Sybase .....	23
	Storage Foundation Cluster File System .....	23
	Storage Foundation Cluster File System for Oracle RAC .....	24
Chapter 2	How the discs are organized .....	27
	Contents of the software discs in the media kit .....	27
	Contents of the product disc .....	27
	Disc directory structure .....	28
Chapter 3	Where to find more information .....	35
	Documentation .....	35
	Service and support .....	36





# Product overview

This chapter includes the following topics:

- [About this release](#)
- [Veritas Storage Foundation product suites](#)
- [About Veritas Storage Foundation and High Availability products](#)

## About this release

Veritas Storage Foundation and High Availability Solutions 5.0 Release Update 4 adds support for Linux on the following platforms:

- SUSE Linux Enterprise Server 10 (SLES 10) with SP3 on IBM™ Power and on x86\_64
- SUSE Linux Enterprise Server 11 (SLES 11) on IBM™ Power

The following documentation is updated and available on the product disc for this 5.0 RU4 release:

- *Veritas Storage Foundation and High Availability Solutions Getting Started Guide*
- *Veritas Storage Foundation and High Availability Solutions Read This First*

For additional information, refer to the 5.0 RU3 documentation. The 5.0RU3 documentation is available on the 5.0RU3 distribution disks, and online from the Symantec Veritas Storage Foundation 5.0 RU3 website:

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

# Veritas Storage Foundation product suites

The following table lists the Symantec products and optionally licensed features available with each Veritas Storage Foundation product suite.

**Table 1-1** Contents of Veritas Storage Foundation products

Storage Foundation version	Products and features
Storage Foundation Basic	Veritas File System Veritas Volume Manager
Storage Foundation Standard	Veritas File System Veritas Volume Manager Optionally licensed features: Veritas Volume Replicator
Storage Foundation Standard HA	Veritas File System Veritas Volume Manager Veritas Cluster Server Optionally licensed features: Veritas Volume Replicator
Storage Foundation Enterprise	Veritas File System Veritas Volume Manager Veritas Storage Checkpoint option Optionally licensed features: Veritas Volume Replicator
Storage Foundation Enterprise HA	Veritas File System Veritas Volume Manager Veritas Storage Checkpoint option Veritas Cluster Server Optionally licensed features: Veritas Volume Replicator

**Table 1-1** Contents of Veritas Storage Foundation products (*continued*)

Storage Foundation version	Products and features
Storage Foundation for Oracle Standard	Veritas File System Veritas Volume Manager Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Optionally licensed features: Veritas Volume Replicator
Storage Foundation for Oracle Enterprise	Veritas File System Veritas Volume Manager Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Veritas Storage Mapping option Veritas Database Flashsnap Optionally licensed features: Veritas Volume Replicator
Storage Foundation for Oracle Enterprise HA	Veritas File System Veritas Volume Manager Veritas Cluster Server Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Veritas Storage Mapping option Veritas Database Flashsnap Optionally licensed features: Veritas Volume Replicator

**Table 1-1** Contents of Veritas Storage Foundation products (*continued*)

Storage Foundation version	Products and features
Storage Foundation for DB2 Standard	Veritas File System Veritas Volume Manager Veritas Quick I/O option Optionally licensed features: Veritas Volume Replicator
Storage Foundation for DB2 Enterprise	Veritas File System Veritas Volume Manager Veritas Quick I/O option Veritas Storage Checkpoint option Veritas Database Flashsnap Optionally licensed features: Veritas Volume Replicator
Storage Foundation for DB2 Enterprise HA	Veritas File System Veritas Volume Manager Veritas Cluster Server Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Veritas Storage Mapping option Veritas Database Flashsnap Optionally licensed features: Veritas Volume Replicator
Storage Foundation for Sybase Standard	Veritas File System Veritas Volume Manager Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Optionally licensed features: Veritas Volume Replicator

**Table 1-1** Contents of Veritas Storage Foundation products (*continued*)

Storage Foundation version	Products and features
Storage Foundation for Sybase Enterprise	Veritas File System Veritas Volume Manager Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Optionally licensed features: Veritas Volume Replicator
Storage Foundation for Sybase Enterprise HA	Veritas File System Veritas Volume Manager Veritas Cluster Server Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Veritas Storage Mapping option Optionally licensed features: Veritas Volume Replicator
Storage Foundation Cluster File System	Veritas File System Veritas Volume Manager Veritas Storage Checkpoint option Veritas Storage Mapping option Optionally licensed features: Veritas Volume Replicator
Storage Foundation Cluster File System HA	Veritas File System Veritas Volume Manager Veritas Cluster Server Veritas Storage Checkpoint option Veritas Storage Mapping option Optionally licensed features: Veritas Volume Replicator

**Table 1-1** Contents of Veritas Storage Foundation products (*continued*)

Storage Foundation version	Products and features
Storage Foundation Cluster File System for Oracle RAC	Veritas File System Veritas Volume Manager Veritas Cluster Server Veritas Quick I/O option Veritas Extension for Oracle Disk Manager option Veritas Storage Checkpoint option Veritas Storage Mapping option Optionally licensed features: Veritas Volume Replicator

## About Veritas Storage Foundation and High Availability products

The following sections describe the products and component software available in this Veritas Storage Foundation and High Availability Solutions 5.0RU4 release.

### Component software

The following component software is in this Veritas Storage Foundation and High Availability Solutions release.

#### Symantec Product Authentication Service

The Symantec Product Authentication Service is a common Symantec feature. This feature validates the identities that are based on existing network operating system domains (such as NIS and NT) or private domains. The authentication service protects communication channels among Symantec application clients and services through message integrity and confidentiality services.

Before you install the authentication service, read the Storage Foundation and High Availability Solutions appendix in the *Symantec Product Authentication Service Installation Guide*.

Refer to the Veritas Storage Foundation 5.0 RU3 documentation set online:

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

Before setting up the authentication service, read the product installation guide and release notes.

## Storage Foundation Manager

Storage Foundation Manager (SFM) provides a centralized management console for Veritas Storage Foundation products. You can use SFM to monitor, visualize, and manage storage resources and generate reports about those resources. SFM simplifies and improves management of complex data center resources and reduces planned and unplanned downtime.

To download Storage Foundation Manager 2.0 and related documentation, please visit:

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

See the *Veritas Storage Foundation Manager Installation Guide* for more information.

For more information about SFM, visit the following URL:

<http://www.symantec.com/enterprise/sfms>

## Web Server for Storage Foundation Host Management

Web Server for Storage Foundation Host Management provides web-based management capabilities for Storage Foundation products. After installing the Web server, you can remotely administer Storage Foundation products without requiring a client-side installation.

## Veritas Cluster Server

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

For additional information, the 5.0RU3 release media contains the following documentation:

```
distribution/cluster_server/docs/vcs_notes.pdf
distribution/cluster_server/docs/vcs_install.pdf
distribution/cluster_server/docs/vcs_users.pdf
distribution/cluster_server/docs/vcs_bundled_agents.pdf
distribution/cluster_server/docs/vcs_agent_dev.pdf
```

where *distribution* is the architecture directory such as, ppc64.

## Installation overview

Cluster Server is included in all Veritas high availability (HA) products. If you have purchased a Veritas product suite that includes Cluster Server, it is installed and updated as part of that product suite. Do not install or update it as an individual component.

## About this product

Veritas Cluster Server by Symantec (VCS) is an open systems clustering solution that provides the following benefits:

- Eliminates the downtime
- Facilitates the consolidation and the failover of servers
- Effectively manages a wide range of applications in heterogeneous environments

## Veritas high availability agents

Before you install this product, review the preliminary information and follow the instructions in the relevant agent installation and configuration guide.

The high availability agents are in the `cluster_server` directory. You cannot install or configure agents using the product installer. Before you start the installation, read the relevant agent installation and configuration guide.

These documents are located at the following directory in the 5.0RU3 release media.

For Linux:

```
distribution/cluster_server/docs
/vcs_db2_install.pdf
distribution/cluster_server/docs
/vcs_oracle_install.pdf
distribution/cluster_server/docs
/vcs_sybase_install.pdf
```

where *distribution* is the architecture directory such as, ppc64.

## Installation overview

Agents are typically installed as part of a Storage Foundation product.



## About this product

Veritas agents provide high availability for specific resources and applications. Each agent manages resources of a particular type. For example, the Oracle agent manages Oracle databases. Typically, agents start, stop, and monitor resources and report state changes.

In addition to the database agents that are provided in this release, other agents are available through an independent Symantec offer. The independent Symantec offer is called the Veritas Cluster Server Agent Pack. The agent pack includes the currently shipping agents and is re-released quarterly to add the new agents that are now under development.

Contact your Symantec sales representative for the following details:

- The application agents and the replication agents that are included in the agent pack
- Agents under development
- Agents available through Symantec consulting services

## Supported high availability agents

The following high availability agents are supported.

For Linux:

[Table 1-2](#) lists the supported software for the version 5.0 high availability agents for DB2, Oracle, and Sybase.

**Table 1-2** Supported high availability agents

Agent	Agent version	VCS version	Application	Application version	OS version and architecture
DB2 Enterprise Server Edition 9.5 and 9.7	5.0 RU4	5.0 and later	DB2 Enterprise Server Edition	9.5 and 9.7	SLES 10 SP3 on x86_64 SLES 10 SP3 on IBM Power SLES 11 on IBM Power
Oracle 10g R2	5.0 RU4	5.0 and later	Oracle Database Enterprise Edition	10g R2	SLES 10 SP3 on x86_64 SLES 10 SP3 on IBM Power

**Table 1-2** Supported high availability agents (*continued*)

Agent	Agent version	VCS version	Application	Application version	OS version and architecture
Oracle 11g	5.0 RU4	5.0 and later	Oracle Database Enterprise Edition	11g	SLES 10 SP3 on x86_64
Sybase	5.0 RU4	5.0 and later	Sybase Adaptive Server Enterprise Version 15	15	SLES 10 SP3 on IBM Power

Before configuring a high availability agent with VCS, verify that you have the latest agent version.

For a complete list of the Veritas high availability agents and the software that the agents support, see the Veritas Cluster Server Agents Support Matrix at:

<http://www.symantec.com/business/cluster-server>

## Veritas Volume Replicator

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

For more information, refer to the Veritas Storage Foundation 5.0 RU3 documentation set online:

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

The 5.0RU3 release media contains the following documentation:

```
distribution/storage_foundation/docs
/sf_notes.pdf
distribution/storage_foundation/docs/sf_install.pdf
```

where *distribution* is the architecture directory such as, ppc64.

### About this product

Veritas Volume Replicator by Symantec is an optional, separately-licensable feature of Veritas Volume Manager. Volume Replicator is a fully integrated

component of Veritas Volume Manager. This component replicates data to remote locations over any standard IP network to provide continuous data availability.

The Volume Replicator option is available with Veritas Storage Foundation Standard and Enterprise products.

## Veritas Storage Foundation

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

The 5.0RU4 release media contains the following documentation:

```
distribution/sfha_readfirst.pdf  
distribution/getting_started.pdf
```

For more information, refer to the Veritas Storage Foundation 5.0 RU3 documentation set online:

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

For more information about HA installations, the 5.0RU3 release media includes the following documents:

```
distribution/cluster_server/docs/vcs_install.pdf  
distribution/cluster_server/docs/vcs_notes.pdf
```

where *distribution* is the architecture directory such as, ppc64

## Veritas Storage Foundation Basic

Veritas Storage Foundation Basic by Symantec (SF Basic) is a special product that is available on a separate Storage Foundation Basic disc. It is also available by download from the Symantec Web site. SF Basic is not part of the Storage Foundation and High Availability Solutions product suite. For complete information on ordering this product, licensing, and technical support, visit the following URL:

[www.symantec.com/enterprise/sfbasic](http://www.symantec.com/enterprise/sfbasic)

Use SF Basic with Veritas Storage Foundation Management Server to set up a centrally managed host to monitor, visualize, and manage storage resources across multiple installations. SF Management Server is a separately available product.

For information on ordering SF Management Server, visit the following Symantec Web site:

[www.symantec.com/enterprise/sfms](http://www.symantec.com/enterprise/sfms)

## About this product

Storage Foundation Basic supports all Storage Foundation Standard features, however, there are deployment, licensing, and technical support limitations.

## Limited deployment

Storage Foundation Basic has a limited set of configurations.

SF Basic deployment is limited to the following configurations:

- Maximum four VxVM volumes per physical server (excludes the system volumes that are required for starting root disks)
- Maximum four VxFS file systems per physical server (excludes root file systems)
- Maximum server capacity of two CPU sockets

## Licensing

Storage Foundation Basic includes a limited-use license. Customers must comply with the terms stated in the End-User License Agreement.

## Technical support

Technical support is self-service only, available from the Veritas Support Web site. You can purchase additional support corresponding to the terms of the Storage Foundation Basic license.

To access the self-service knowledge base, go to the following location:

<http://entsupport.symantec.com>

When contacting Support with questions about Storage Foundation Basic, be prepared to provide your product license key. You can determine your currently installed license by running the Veritas license report utility as shown in the following example:

```
# vxlicrep
....
License Key      = WXYZ-9999-WXY7-WXYZ-WXYZ-WX3
Product Name    = Veritas Storage Foundation Basic
```

## Installation overview

The Veritas Storage Foundation software is on the Veritas Storage Foundation Basic disc. You cannot install Storage Foundation Basic if another Veritas Storage Foundation product is installed unless that product is first removed from the system.

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the release documents.

Refer to the following documents:

```
distribution/getting_started.pdf  
distribution/sfha_readfirst.pdf
```

where *distribution* is the architecture directory such as, ppc64.

## Veritas Storage Foundation for DB2

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

For additional information, the 5.0RU3 release media contains the following documentation:

```
distribution/storage_foundation/docs/sf_notes.pdf  
distribution/storage_foundation/docs/sf_install.pdf
```

For HA installations, also refer to the following documents in the 5.0RU3 release media.

```
distribution/cluster_server/docs/vcs_notes.pdf  
distribution/cluster_server/docs/vcs_install.pdf
```

where *distribution* is the architecture directory such as, ppc64.

## About Veritas Storage Foundation for DB2®

Veritas Storage Foundation for DB2® by Symantec is an integrated set of system software enhancements and configuration guidelines. The enhancements and

guidelines help DB2 database administrators configure a database system with high performance, availability, manageability, and reliability.

You add high availability functionality to Storage Foundation for DB2 HA by installing Veritas Cluster Server software.

## Veritas Storage Foundation for Oracle

In this release, Veritas Storage Foundation for Oracle is supported on SLES 10 SP3 on Linux for IBM™ Power and x64\_86 platform. Veritas Storage Foundation for Oracle is not supported on SLES 11 on Linux for IBM™ Power.

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Storage Foundation High Availability Read This First*

These documents are located at the following directories in the 5.0RU3 release media.

`distribution/storage_foundation/docs/sf_notes.pdf`

`distribution/storage_foundation/docs/sf_install.pdf`

For HA installations, also refer to the following documents in the 5.0RU3 release media..

`distribution/cluster_server/docs/vcs_notes.pdf`

`distribution/cluster_server/docs/vcs_install.pdf`

where *distribution* is the architecture directory such as, `ppc64`.

### About Veritas Storage Foundation for Oracle®

Veritas Storage Foundation for Oracle® by Symantec is an integrated set of system software enhancements and configuration guidelines. The enhancements and guidelines help Oracle database administrators configure a database system with high performance, availability, manageability, and reliability.

You add high availability functionality to Storage Foundation for Oracle HA by installing Veritas Cluster Server software.

## Veritas Storage Foundation for Sybase

In this release, Veritas Storage Foundation for Sybase is supported on SLES 10 SP3 on Linux for IBM™ Power. Veritas Storage Foundation for Sybase is not supported on SLES 10 SP3 on x64\_86, or SLES 11 on Linux for IBM™ Power.

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

For additional information, the 5.0RU3 release media contains the following documentation:

```
distribution/storage_foundation/docs/sf_notes.pdf  
distribution/storage_foundation/docs/sf_install.pdf
```

For high-availability installations, also refer to the following documents in the 5.0RU3 release media: :

```
distribution/storage_foundation/docs/sf_notes.pdf  
distribution/storage_foundation/docs/sf_install.pdf
```

where *distribution* is the architecture directory such as, `ppc64`.

### About Veritas Storage Foundation for Sybase®

Veritas Storage Foundation for Sybase® by Symantec is an integrated set of system software enhancements and configuration guidelines. The enhancements and guidelines help Sybase database administrators configure a database system with high performance, availability, manageability, and reliability.

You add high availability functionality to Storage Foundation for Sybase HA by installing Veritas Cluster Server software.

## Storage Foundation Cluster File System

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Veritas Storage Foundation and High Availability Read This First*

The 5.0RU4 release media contains the following documentation:

*distribution/getting\_started.pdf*

*distribution/sfha\_readfirst.pdf*

For more information, refer to the Veritas Storage Foundation 5.0 RU3 documentation set online:

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

For HA installations, read the following documents found on the 5.0RU3 release media:

*distribution/cluster\_server/docs/vcs\_install.pdf*

*distribution/cluster\_server/docs/vcs\_notes.pdf*

*distribution/cluster\_server/docs/vcs\_users.pdf*

*distribution/cluster\_server/docs/vcs\_bundled\_agents.pdf*

*distribution/cluster\_server/docs/vcs\_agent\_dev.pdf*

where *distribution* is the architecture directory such as, *ppc64*.

## About Veritas Storage Foundation Cluster File System

Veritas Storage Foundation Cluster File System by Symantec extends Veritas File System and Veritas Volume Manager to support shared data in a storage area network (SAN) environment. Using Storage Foundation Cluster File System, multiple servers can concurrently access shared storage and files transparently to applications.

Storage Foundation Cluster File System HA adds the failover functionality of Veritas Cluster Server. This functionality can protect everything from a single critical database instance to very large multiple-application clusters in networked environments. Veritas Storage Foundation Cluster File System also provides increased automation and intelligent management of availability and performance.

The Veritas Volume Replicator feature, which replicates data to remote locations over an IP network, can also be licensed with this product.

## Storage Foundation Cluster File System for Oracle RAC

Before you install this product, complete the following tasks:

- Read the product release notes.
- Review the preliminary information.
- Follow the instructions in the *Storage Foundation Installation Guide*.

These documents are located at the following directories in the release media.



<*distribution*>/storage\_foundation/docs/sf\_notes.pdf

<*distribution*>/storage\_foundation/docs/sf\_install.pdf

<*distribution*>/storage\_foundation\_cluster\_file\_system/docs/sfcfs\_admin.pdf

where <*distribution*> is the architecture directory such as, ppc64.



# How the discs are organized

This chapter includes the following topics:

- [Contents of the software discs in the media kit](#)
- [Disc directory structure](#)

## Contents of the software discs in the media kit

The Veritas Storage Foundation and High Availability Solutions media kit includes multiple software discs. The contents of each disc is shown on the disc label.

Find the location of the Getting Started Guide and Release Notes for each product in the corresponding product sections. Read the Getting Started guide and release notes for your product before you begin an installation procedure.

You can install only the Symantec software products for which you have purchased a license. Other products are included on the enclosed software discs but are not available.

## Contents of the product disc

The following products are on the product disc:

- Veritas Cluster Server
- Veritas File System
- Veritas Volume Manager
- Veritas Volume Replicator
- Veritas Storage Foundation
- Veritas Storage Foundation Cluster File System
- Veritas Storage Foundation for DB2

- Veritas Storage Foundation for Sybase
- Veritas Storage Foundation for Oracle
- Veritas Storage Foundation Cluster File System for Oracle RAC
- Symantec Product Authentication Service

## Disc directory structure

The media kit contains the Veritas product software on multiple discs. Disc 1 and Disc 2 contain the 5.0RU3 products.

[Table 2-1](#) and [Table 2-2](#) list the directory and contents of the Veritas Storage Foundation and High Availability Solutions 5.0 RU3 discs.

Disc 3 contains the Veritas Storage Foundation and High Availability Solutions 5.0RU4 products for the new platform support. Disc 3 has 4 directories. Each directory is listed in a table below.

[Table 2-3](#), [Table 2-4](#), [Table 2-5](#), and [Table 2-6](#) list the directory and contents of the Veritas Storage Foundation and High Availability Solutions 5.0RU4 disc.

**Table 2-1** Storage Foundation and High Availability Solutions Disc 1 directories: 5.0RU3

Directory name	Contents—Red Hat Enterprise 5.0
<code>rhel5_ppc64</code>	For Linux for IBM Power systems
<code>rhel5_ppc</code> subdirectory:	
<code>authentication_service</code>	Symantec Authentication Services packages and documentation
<code>cluster_management_console</code>	Veritas Cluster Server Centralized Management Console packages and scripts
<code>cluster_server</code>	Veritas Cluster Server packages, scripts, and documentation
<code>cluster_server_agents</code>	Veritas Cluster Server high availability agents for DB2, Oracle, and Sybase packages, scripts, and documentation
<code>installer</code>	Product installation script
<code>perl</code>	Perl language binaries and library functions

**Table 2-1** Storage Foundation and High Availability Solutions Disc 1 directories: 5.0RU3 (*continued*)

Directory name	Contents—Red Hat Enterprise 5.0
storage_foundation	Veritas Storage Foundation, Veritas File System, and Veritas Volume Manager packages, scripts, and documentation
storage_foundation_for_db2	Veritas Storage Foundation for DB2 packages, scripts, and documentation
storage_foundation_for_oracle	Veritas Storage Foundation for Oracle packages, scripts, and documentation
storage_foundation_cluster_file_system	Veritas Storage Foundation Cluster File System packages, scripts, and documentation
volume_manager	Veritas Volume Manager packages and scripts
volume_replicator	Veritas Volume Replicator packages, scripts, and documentation
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer

**Table 2-2** Storage Foundation and High Availability Solutions Disc 2 directories: 5.0RU3

Directory name	Contents—SUSE Linux Enterprise Server 10
sles10_ppc64	For Linux for IBM Power systems
sles10_ppc64 subdirectory:	
authentication_service	Symantec Authentication Services packages and documentation
cluster_management_console	Veritas Cluster Server Centralized Management Console packages and scripts
cluster_server	Veritas Cluster Server packages, scripts, and documentation
cluster_server_agents	Veritas Cluster Server high availability agents for DB2, Oracle, and Sybase packages, scripts, and documentation

**Table 2-2** Storage Foundation and High Availability Solutions Disc 2 directories: 5.0RU3 (*continued*)

Directory name	Contents—SUSE Linux Enterprise Server 10
installer	Product installation script
perl	Perl language binaries and library functions
storage_foundation	Veritas Storage Foundation, Veritas File System, and Veritas Volume Manager packages, scripts, and documentation
storage_foundation_for_db2	Veritas Storage Foundation for DB2 packages, scripts, and documentation
storage_foundation_for_sybase	Veritas Storage Foundation for Sybase packages, scripts, and documentation
storage_foundation_for_oracle	Veritas Storage Foundation for Oracle packages, scripts, and documentation
storage_foundation_cluster_file_system	Veritas Storage Foundation Cluster File System packages, scripts, and documentation
volume_manager	Veritas Volume Manager packages and scripts
volume_replicator	Veritas Volume Replicator packages, scripts, and documentation
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer

**Table 2-3** Storage Foundation and High Availability Solutions Disc 3 sles10\_ppc64 directory

Directory name	Contents—SUSE Linux Enterprise Server 10
sles10_ppc64	For Linux for IBM Power systems
sles10_ppc64 subdirectory:	
authentication_service	Symantec Authentication Services packages and documentation
cluster_server	Veritas Cluster Server packages, scripts, and documentation

**Table 2-3** Storage Foundation and High Availability Solutions Disc 3  
sles10\_ppc64 directory (*continued*)

Directory name	Contents—SUSE Linux Enterprise Server 10
cluster_server_agents	Veritas Cluster Server high availability agents for DB2, Oracle, and Sybase packages, scripts, and documentation
file_system	Veritas File System packages, scripts, and documentation
installer	Product installation script
perl	Perl language binaries and library functions
storage_foundation	Veritas Storage Foundation, Veritas File System, and Veritas Volume Manager packages, scripts, and documentation
storage_foundation_for_db2	Veritas Storage Foundation for DB2 packages, scripts, and documentation
storage_foundation_for_sybase	Veritas Storage Foundation for Sybase packages, scripts, and documentation
storage_foundation_for_oracle	Veritas Storage Foundation for Oracle packages, scripts, and documentation
storage_foundation_cluster_file_system	Veritas Storage Foundation Cluster File System packages, scripts, and documentation
storage_foundation_cluster_file_system_oracle_rac	Veritas Storage Foundation Cluster File System RAC packages, scripts, and documentation
volume_manager	Veritas Volume Manager packages and scripts
volume_replicator	Veritas Volume Replicator packages, scripts, and documentation
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer

**Table 2-4** Storage Foundation and High Availability Solutions Disc 3  
sles11\_ppc64 directory

Directory name	Contents—SUSE Linux Enterprise Server 11
sles11_ppc64	For Linux for IBM Power systems
sles11_ppc64 subdirectory:	
authentication_service	Symantec Authentication Services packages and documentation
cluster_server	Veritas Cluster Server packages, scripts, and documentation
cluster_server_agents	Veritas Cluster Server high availability agents for DB2, Oracle, and Sybase packages, scripts, and documentation
file_system	Veritas File System packages, scripts, and documentation
installer	Product installation script
perl	Perl language binaries and library functions
storage_foundation	Veritas Storage Foundation, Veritas File System, and Veritas Volume Manager packages, scripts, and documentation
storage_foundation_for_db2	Veritas Storage Foundation for DB2 packages, scripts, and documentation
storage_foundation_cluster_file_system	Veritas Storage Foundation Cluster File System packages, scripts, and documentation
volume_manager	Veritas Volume Manager packages and scripts
volume_replicator	Veritas Volume Replicator packages, scripts, and documentation
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer



**Table 2-5** Storage Foundation and High Availability Solutions Disc 3  
sles10\_x86\_64 directory

Directory name	Contents—SUSE Linux Enterprise Server 10
sles10_x86_64	For Linux for x86_64
sles10_x86_64 subdirectory:	
authentication_service	Symantec Authentication Services packages and documentation
cluster_server	Veritas Cluster Server packages, scripts, and documentation
cluster_server_agents	Veritas Cluster Server high availability agents for DB2, Oracle, and Sybase packages, scripts, and documentation
installer	Product installation script
installmp	Patch installation script
perl	Perl language binaries and library functions
storage_foundation	Veritas Storage Foundation, Veritas File System, and Veritas Volume Manager packages, scripts, and documentation
storage_foundation_for_db2	Veritas Storage Foundation for DB2 packages, scripts, and documentation
storage_foundation_for_oracle	Veritas Storage Foundation for Oracle packages, scripts, and documentation
storage_foundation_cluster_file_system	Veritas Storage Foundation Cluster File System packages, scripts, and documentation
storage_foundation_cluster_file_system_oracle_rac	Veritas Storage Foundation Cluster File System RAC packages, scripts, and documentation
volume_manager	Veritas Volume Manager packages and scripts
volume_replicator	Veritas Volume Replicator packages, scripts, and documentation
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer

**Table 2-6** Storage Foundation and High Availability Solutions Disc 3  
sles\_10\_i586 directory

Directory name	Contents—SUSE Linux Enterprise Server 10
sles10_i586	For Linux for SLES10 32 bit
sles10_i586 subdirectory:	
authentication_service	Symantec Authentication Services packages and documentation
cluster_server	Veritas Cluster Server packages, scripts, and documentation
installer	Product installation script
perl	Perl language binaries and library functions
windows	Volume Replicator advisor Windows clients, VCS Windows installers, VCS Cluster Server Centralized Management installers, Symantec Product Authentication Services installer

# Where to find more information

This chapter includes the following topics:

- [Documentation](#)
- [Service and support](#)

## Documentation

Veritas Storage Foundation and High Availability Solutions 5.0 Release Update 4 adds support for Linux on the following platforms:

- SUSE Linux Enterprise Server 10 (SLES 10) with SP3 on IBM Power and on x86\_64
- SUSE Linux Enterprise Server 11 (SLES 11) on IBM Power

The following documentation is updated and available on the product disc for this 5.0 RU4 release:

- *Veritas Storage Foundation and High Availability Solutions Getting Started Guide*
- *Veritas Storage Foundation and High Availability Solutions Read This First*

For additional information, refer to the Veritas Storage Foundation 5.0 RU3 documentation set online:

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

Veritas documents are in Adobe Portable Document Format (PDF) on the product discs or downloaded software.

## Service and support

To access the self-service knowledge base, go to the following URL:

<http://entsupport.symantec.com>