

Veritas™ Cluster Server One Getting Started Guide

AIX, HP-UX, Linux, Solaris

5.0

Veritas™ Cluster Server One Getting Started Guide

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Symantec's maintenance offerings include the following:

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Contacting Technical Support

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www.symantec.com/business/support/assistance_care.jsp

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:

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Customer service

Customer service information is available at the following URL:

www.symantec.com/techsupp/

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- 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

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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:

clustering_docs@symantec.com

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	customercare_apac@symantec.com
Europe, Middle-East, and Africa	semea@symantec.com
North America and Latin America	supportolutions@symantec.com

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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:

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Select your country or language from the site index.

Veritas Cluster Server One Getting Started Guide

This document includes the following topics:

- [Overview](#)
- [Late-breaking news](#)
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- [About Veritas Storage Foundation High Availability](#)
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- [About VCS One agents](#)
- [Supported platforms and software for the Policy Master](#)
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Overview

This guide provides an overview of the software that is included in this release and the contents of the product software discs. It also explains the different license types and functionality levels, and describes the method for installing Veritas™ Cluster Server One (VCS One) by Symantec.

Late-breaking news

For the latest information about updates, patches, and software issues for this release, read the Late-Breaking News TechNote:

<http://entsupport.symantec.com/docs/330554>

Also, be sure to read the *Veritas Cluster Server One Release Notes* and the *Veritas Cluster Server One Installation Guide* before you install.

Licensing

VCS One is a licensed product. During installation, you will be required to select the appropriate license type for your installation.

Table 1-1 lists the VCS One license types.

Table 1-1 VCS One license types

VCS One license type	Description
Demo	A demo license, which entitles you to use the product for 30 days for evaluation purposes only. After one year, the product auto-disables high availability (HA) for the Policy Master and significantly reduces functionality.
NFR	A not-for-resale license, which is limited to one year. For use by Symantec partners and customers for stack certification and testing purposes. After one year, the product auto-disables high availability (HA) for the Policy Master and significantly reduces functionality.
Permanent	A permanent license.

VCS One provides three levels of functionality as described in **Table 1-2**. You can purchase and use the functionality level that meets your business needs.

Table 1-2 VCS One functionality levels

Functionality level	Provides	Features
VCS One Start	<ul style="list-style-type: none">■ The ability to monitor, start, stop, and move applications	VCS One with all features enabled except: <ul style="list-style-type: none">■ Auto-failover■ Priority-based application availability
VCS One HA	<ul style="list-style-type: none">■ The ability to monitor, start, stop, and move applications■ Failover capability within a local site	VCS One with all features enabled except failover across sites
VCS One HA/DR	<ul style="list-style-type: none">■ The ability to monitor, start, stop, and move applications■ Failover capability across sites	VCS One with all features enabled

Note: If you purchased VCS One Start, make sure that you set the GrpFaultPolicy and NodeFaultPolicy attributes to NoFailover for each service group you create when you create the group. For information about how to set these attributes when you create a service group, see the *Veritas Cluster Server One User's Guide*.

About Veritas Cluster Server One

VCS One adds powerful capabilities to the high availability and application-management features of Veritas Cluster Server (VCS). These capabilities include multi-tier applications that run across different operating systems. VCS One provides run-time control and automated, policy-based placement for enterprise applications. It also provides failover capability within and across sites.

VCS One helps companies meet the challenge of managing growth in an application environment with flat or declining IT staff levels. VCS One allows datacenters to automate application control by sharing server resources, allowing for improved operator efficiency and server consolidation.

VCS One's client-server architecture provides a scalable and highly available application management solution. In this architecture, the clients are the systems and a highly available, specialized application that is called the Policy Master provides centralized server management.

The Policy Master runs on Solaris and Linux platforms. VCS One clients run on AIX, HP-UX, Linux, and Solaris.

See “[Supported platforms and software for the Policy Master](#)” on page 12.

See “[Supported platforms and software for the client](#)” on page 13.

Before you install VCS One, read the *Veritas Cluster Server One Release Notes* and the *Veritas Cluster Server One Installation Guide*. These guides are available in the following locations on the VCS One software discs under each platform directory:

- `platform/docs/vcsone_notes.pdf`
- `platform/docs/vcsone_install.pdf`

About Symantec Product Authentication Service

Symantec Product Authentication Service (AT) validates clients and users, and secures communications within the VCS One cluster. AT installation is integrated with the VCS One installer. No separate installation for AT is required.

About Veritas Storage Foundation High Availability

This release includes components of Veritas Storage Foundation High Availability (HA) as part of the VCS One Policy Master.

The VCS One Policy Master nodes use Veritas Storage Foundation HA to make the VCS One Policy Master highly available. Veritas Storage Foundation HA installation is integrated with the VCS One installer. No separate installation is required.

Veritas Storage Foundation HA includes Veritas Cluster Server (VCS), Veritas File System by Symantec (VxFS), and Veritas Volume Manager by Symantec (VxVM) with varying feature levels:

- Veritas Cluster Server is a clustering solution that eliminates downtime, facilitates server consolidation and failover, and effectively manages a wide range of applications in heterogeneous environments.
- Veritas File System is a high performance journaling file system that provides easy management and quick recovery for applications. Veritas File System delivers scalable performance, continuous availability, increased I/O throughput, and structural integrity.
- Veritas Volume Manager removes the physical limitations of disk storage. It enables you to configure, share, manage, and optimize storage I/O performance

online without interrupting data availability. Veritas Volume Manager also provides easy-to-use, online storage management tools to reduce downtime.

About NetApp filer

VCS One Policy Master nodes can use either Veritas Storage Foundation HA or NetApp network-attached storage (NAS) devices for shared storage. NetApp filer is a family of NAS appliances from NetApp that are highly scalable, storing terabytes of data.

You may choose to install the Policy Master on NetApp NAS storage that is provided by a NetApp filer. If you make this choice, the installer prompts you to mount the NFS mount point to a local directory on all systems where you plan to install the Policy Master.

About VCS One agents

This section describes the three types of VCS One agents:

- VCS One comes packaged (bundled) with platform-specific sets of agents that enable VCS One to provide high availability. These include agents for mount points, IP addresses, and file systems. After you install VCS One on a client system, these agents are available immediately.

For more information about VCS One bundled agents, see the *Veritas Cluster Server One Bundled Agents Reference Guide*.

- Both VCS One and VCS also provide a set of agents that enable high availability for key enterprise applications for third-party products. These agents include the following:

- Databases
- Replication solutions
- Middleware solutions
- Enterprise applications

These agents are available in the Agent Pack, which is updated quarterly. The same Agent Pack applies to both VCS One and VCS. The Agent Pack is included with VCS One and available by downloading it.

For information on how to download the Agent Pack, see the following URL: <https://fileconnect.symantec.com>

To download, you need to enter the serial number that is associated with your product.

Before you install and configure a VCS One agent for an enterprise application, check that you have the latest agent version. You may view the latest agent versions by clicking on the "Veritas Cluster Server Agents Support Matrix" link on this Web page:

http://www.symantec.com/business/products/agents_options.jsp?pcid=1019&pvid=20_1

For more information about VCS One agents for enterprise applications, see the individual agent's guide, the Agent Pack, or contact Symantec Consulting Services.

- To create custom agents for applications, contact Symantec consulting services or develop custom agents yourself. Creating custom agents requires knowledge of VCS One, scripting skills, and basic programming logic.

For more information about creating VCS One agents, see the *Veritas Cluster Server One Agent Developer's Guide* or contact Symantec Consulting Services.

Supported platforms and software for the Policy Master

This section lists the supported platforms for the VCS One Policy Master and the Veritas Storage Foundation High Availability (HA) versions that are installed with the Policy Master.

Supported platforms for the Policy Master

Table 1-3 shows the operating systems and architectures supported by the VCS One Policy Master.

VCS One operates on subsequent kernel and patch releases provided the operating systems maintain kernel application binary interface (ABI) compatibility.

Table 1-3 Supported operating systems and architectures for the Policy Master

Operating system	Architecture
Red Hat Enterprise Linux 5 (RHEL 5)	x64 (Intel Xeon, AMD Opteron)
Solaris 10 Update 3 and later	64-bit SPARC

Supported versions of Storage Foundation for the Policy Master

Veritas Storage Foundation HA is installed with the VCS One Policy Master.

[Table 1-4](#) lists the Storage Foundation HA versions that are installed with the VCS One Policy Master.

Table 1-4 Storage Foundation HA versions that are installed with the Policy Master

Policy Master platform	Architecture	Storage Foundation version installed
Red Hat Enterprise Linux 5 (RHEL 5)	x64 (Intel Xeon, AMD Opteron)	Veritas Storage Foundation High Availability 5.0 MP3
Solaris 10 Update 3 and later	64-bit SPARC	Veritas Storage Foundation High Availability 5.0 MP3 RP1. The VCS One Policy Master also supports Veritas Storage Foundation High Availability 4.x, although it is not installed with the Policy Master.

Supported platforms and software for the client

The VCS One client runs on Linux, Solaris, AIX, and HP-UX.

VCS One operates on subsequent kernel and patch releases provided the operating systems maintain kernel application binary interface (ABI) compatibility.

Supported Linux platforms

[Table 1-5](#) shows the operating systems and architectures supported by the VCS One client.

Table 1-5 Supported Linux operating systems and architectures

Operating system	Architecture
Red Hat Enterprise Linux 4 (RHEL 4)	x86 (32-bit)
Red Hat Enterprise Linux 4 (RHEL 4)	x64 (Intel Xeon, AMD Opteron)
Red Hat Enterprise Linux 5 (RHEL 5)	x64 (Intel Xeon, AMD Opteron)

Table 1-5 Supported Linux operating systems and architectures (*continued*)

Operating system	Architecture
SUSE Linux Enterprise Server Linux 10, SP2	x64 (Intel Xeon, AMD Opteron)
SUSE Linux Enterprise Server Linux 11	x64 (Intel Xeon, AMD Opteron)

Supported Solaris platforms

[Table 1-6](#) shows the Solaris operating systems and architectures supported by the VCS One client.

Table 1-6 Supported Solaris operating systems and architectures

Operating system	Architecture
Solaris 9	64-bit SPARC
Solaris 10 Update 3 and later	64-bit SPARC
Solaris 10 Update 3 and later	x64

Supported AIX platforms

[Table 1-7](#) shows the AIX operating systems and architectures supported by the VCS One client.

Table 1-7 Supported AIX operating systems and architectures

Operating system	Architecture
AIX 5.3	Power5
AIX 6.1	Power5 and Power6

Supported HP-UX platforms

[Table 1-8](#) shows the HP-UX operating systems and architectures supported by the VCS One client.

Table 1-8 Supported HP-UX operating systems and architectures

Operating system	Architecture
HP-UX 11i v2 with the September 2007 Quality Pack	IA and PA

Table 1-8 Supported HP-UX operating systems and architectures (*continued*)

Operating system	Architecture
HP-UX 11i v3 with the September 2007 Quality Pack	IA and PA

Supported versions of Storage Foundation for the client

Veritas Storage Foundation for client nodes is not included with VCS One, but is recommended. Although it is not installed with the VCS One client, Storage Foundation is supported on VCS One client nodes. This section includes information about the versions of Veritas Storage Foundation supported by the VCS One client.

[Table 1-9](#) lists the Storage Foundation versions supported on VCS One client nodes.

Table 1-9 Storage Foundation versions that are supported on VCS One client nodes

Client platform	Architecture	Storage Foundation version supported
Red Hat Enterprise Linux 4 (RHEL 4)	x86 (32-bit)	Veritas Storage Foundation 4.x
Red Hat Enterprise Linux 4 (RHEL 4)	x64 (Intel Xeon, AMD, Opteron)	Veritas Storage Foundation 4.x and 5.0 MP3
Red Hat Enterprise Linux 5 (RHEL 5)	x64 (Intel Xeon, AMD, Opteron)	Veritas Storage Foundation 5.0 MP3
SUSE Linux Enterprise Server Linux 10, SP2	x64 (Intel Xeon, AMD, Opteron)	Veritas Storage Foundation 5.0 MP3
SUSE Linux Enterprise Server Linux 11	x64 (Intel Xeon, AMD, Opteron)	Veritas Storage Foundation 5.0 Release Update 1 (RU1)
Solaris 9	64-bit SPARC	Veritas Storage Foundation 4.x and 5.0 MP3
Solaris 10 Update 3 and later	64-bit SPARC	Veritas Storage Foundation 4.x and 5.0 MP3
Solaris 10 Update 3 and later	x64	Veritas Storage Foundation 5.0

Table 1-9 Storage Foundation versions that are supported on VCS One client nodes (*continued*)

Client platform	Architecture	Storage Foundation version supported
AIX 5.3	Power5	Veritas Storage Foundation 4.x and 5.0 MP3
AIX 6.1	Power5 and Power6	Veritas Storage Foundation 5.0 MP3 for AIX 6.1
HP-UX 11i v2 with the September 2007 Quality Pack	IA and PA	Veritas Storage Foundation 5.0 MP1
HP-UX 11i v3 with the September 2007 Quality Pack	IA and PA	Veritas Storage Foundation High Availability 5.0 for HP-UX 11i v3

Supported hardware

For information on supported hardware, see the hardware compatibility list (HCL) in the following TechNote. The hardware compatibility information for Veritas Storage Foundation and High Availability Solutions 5.0 MP1, MP2, and MP3 applies for VCS One:

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

How the discs are organized

The VCS One media kit includes multiple software discs. The supported platforms are shown on the disc label.

You can install only the Symantec software products for which you have purchased a license, even if other products are included on the software discs.

Software disc contents

[Table 1-10](#) lists the contents of the software discs in this release.

Table 1-10 Software disc contents

DVD	Disc name	Contents
1	Veritas Cluster Server One 5.0 <ul style="list-style-type: none"> ■ Red Hat Enterprise Linux 4.0 x86 and x64 ■ Red Hat Enterprise Linux 5.0 x64 	<ul style="list-style-type: none"> ■ Red Hat Enterprise Linux 4.0 x86 (32-bit): VCS One Client Binaries ■ Red Hat Enterprise Linux 4.0 x64: VCS One Client Binaries ■ Red Hat Enterprise Linux 5.0 x64: VCS One Policy Master and Client Binaries
2	Veritas Cluster Server One 5.0 <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server 10 x64 ■ SUSE Linux Enterprise Server 11 x64 	<ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server 10 x64: VCS One Client Binaries ■ SUSE Linux Enterprise Server 11 x64: VCS One Client Binaries
3	Veritas Cluster Server One 5.0 for Solaris <ul style="list-style-type: none"> ■ Solaris 9 SPARC ■ Solaris 10 SPARC and x64 	<ul style="list-style-type: none"> ■ Solaris 9 64-bit SPARC: VCS One Client Binaries ■ Solaris 10 64-bit SPARC: VCS One Policy Master and Client Binaries ■ Solaris 10 x64: VCS One Client Binaries
4	Veritas Cluster Server One 5.0 for AIX and HP-UX <ul style="list-style-type: none"> ■ AIX 5.3 ■ AIX 6.1 ■ HP-UX 11i v2 ■ HP-UX 11i v3 	<ul style="list-style-type: none"> ■ AIX 5.3: VCS One Client Binaries ■ AIX 6.1: VCS One Client Binaries ■ HP-UX 11i v2: VCS One Client Binaries ■ HP-UX 11i v3: VCS One Client Binaries

Disc directory structure

This section includes information about the disc directory structure and contents of the software discs that are included in this release.

Disc directory structure for VCS One

The Veritas Cluster Server One software discs include directories for each supported platform. Each disc also includes a directory named `/simulator/windows/` that contains the executable file for the VCS One Simulator for Windows.

[Table 1-11](#) lists the VCS One directories and contents of discs 1 through 4 under each platform directory.

Table 1-11 Discs 1 to 4: VCS One disc subdirectories under each platform directory

Directory or file name	Description	Disc 1 RHEL	Disc 2 SLES	Disc 3 Solaris	Disc 4 AIX, HP-UX
cluster_server_one	VCS One packages	✓	✓	✓	✓
depot	VCS One packages Note: This directory is present only for HP-UX for VCS One.				✓
docs	VCS One product documentation	✓	✓	✓	✓
gnu	GNU compression utilities Note: This directory is not present for HP-UX for VCS One.			✓	✓
installer	Product installation script	✓	✓	✓	✓
perl	Perl language binaries and library functions	✓	✓	✓	✓
support	Support tools for debugging Note: This directory is not present for HP-UX for VCS One.	✓	✓	✓	✓

Directory structure for the Agent Pack

[Table 1-12](#) lists the directories and contents of the Agent Pack that is included with VCS One and available by downloading it.

Table 1-12 Agent Pack directories

Directory or file name	Contents
aix	Application, database, and replication agents for AIX
getting_started.pdf	<i>High Availability Agent Pack Getting Started Guide</i>
hpux	Application, database, and replication agents for HP-UX.

Table 1-12 Agent Pack directories (*continued*)

Directory or file name	Contents
linux	Application, database, and replication agents for Linux
perl	Perl language binaries and library functions
solaris	Application, database, and replication agents for Solaris
windows	Application agents for Windows Note: The Windows agents are not applicable in this release of VCS One.

About installation

The VCS One product installation consists of:

- Installing and configuring the VCS One Policy Master
- Installing the VCS One clients
- Installing applicable high availability agents

Use the product installer to install VCS One. The product installer menu makes it easier to select installation options.

Before you install VCS One, read the:

- Late-Breaking News TechNote
- *Veritas Cluster Server One Release Notes*
- *Veritas Cluster Server One Installation Guide*.

The *Veritas Cluster Server One Installation Guide* includes information about creating and using response files for bulk or unattended VCS One client installations.

Before you install enterprise agents from the Agent Pack, read their installation and configuration guides. The agent documentation is included with the Agent Pack.

Documentation

The following sections contain important information about VCS One product documentation.

Email your comments about the documentation to:

clustering_docs@symantec.com

Finding product documentation

Product documents are in Adobe Portable Document Format (PDF) on the software discs.

To access product documentation

- ◆ Go to the `docs` subdirectory under the platform-specific directory on any VCS One software disc.

All VCS One product documentation is included in this location except the *Veritas Cluster Server One Getting Started Guide* (`getting_started.pdf`). This guide is available at the top level of each VCS One software disc.

Note: Product documentation is not installed with the product. Symantec recommends that you copy the documentation to the `/opt/VRTS/docs` directory for future reference.

About the guides

[Table 1-13](#) lists the titles and file names of the VCS One guides.

Table 1-13 Veritas Cluster Server One documentation set

Document	File name
<i>Veritas Cluster Server One Getting Started Guide</i>	<code>getting_started.pdf</code>
<i>Veritas Cluster Server One Release Notes</i>	<code>vcstone_notes.pdf</code>
<i>Veritas Cluster Server One Installation Guide</i>	<code>vcstone_install.pdf</code>
<i>Veritas Cluster Server One User's Guide</i>	<code>vcstone_users.pdf</code>
<i>Veritas Cluster Server One Command Reference Guide</i>	<code>vcstone_commands.pdf</code>
<i>Veritas Cluster Server One Bundled Agents Reference Guide</i>	<code>vcstone_bundled_agents.pdf</code>
<i>Veritas Cluster Server One Agent Developer's Guide</i>	<code>vcstone_agent_dev.pdf</code>

[Table 1-14](#) shows the guides that are included with VCS One and the recommended order in which to read them.

Table 1-14 Read the VCS One guides in this order

Read in this order	Title	Description
1	<i>Veritas Cluster Server One Getting Started Guide</i>	Provides an overview of the product and the contents of the software discs
2	<i>Veritas Cluster Server One Release Notes</i>	Describes new features, system requirements, known issues, and fixed issues
3	<i>Veritas Cluster Server One Installation Guide</i>	Contains installation instructions and sample installation output
4	<i>Veritas Cluster Server One User's Guide</i>	<ul style="list-style-type: none"> ■ Defines the components, architecture, and theory of operations ■ Outlines VCS One cluster design principles ■ explains how to use VCS One

Table 1-15 shows the reference guides that are included with VCS One. These guides do not need to be read in a particular order.

Table 1-15 VCS One reference guides

Title	Description
<i>Veritas Cluster Server One Command Reference Guide</i>	Contains information about VCS One commands
<i>Veritas Cluster Server One Bundled Agents Reference Guide</i>	Contains information about the agents that are packaged (bundled) with VCS One
<i>Veritas Cluster Server One Agent Developer's Guide</i>	Explains how to create a custom agent
<p>Examples of enterprise agent guides:</p> <ul style="list-style-type: none"> ■ <i>Veritas Cluster Server One Agent for Oracle Installation and Configuration Guide</i> ■ <i>Veritas Cluster Server One Agent for DB2 Installation and Configuration Guide</i> 	These guides explain how to install and configure enterprise agents. Enterprise agents are not bundled with VCS One. They are included with the Agent Pack.

Online manual pages

On UNIX systems, online manual pages are installed under the following directory:

`/opt/VRTS/man`