

Veritas™ Cluster Server Release Notes

Windows Server 2003

5.1 Application Pack 1



Veritas Cluster Server Release Notes

Copyright © 2008 Symantec Corporation. All rights reserved.

Veritas Cluster Server 5.1 for Windows

Document Version: 5.1AP1.0

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

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

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

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

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

Third-party legal notices

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 TPIP ReadMe File accompanying this Symantec product for more information on the Third Party Programs.

Windows is a registered trademark of Microsoft Corporation.

Licensing and registration

Veritas Cluster Server is a licensed product. See the *Veritas Cluster Server Installation and Upgrade Guide* for license installation instructions.

Technical support

For technical assistance, visit

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

Contents

Introduction	8
Features and updates	9
Support for Microsoft SQL Server 2008	9
Folder level mount point support in SnapDrive	9
MPIO support using iSCSI	9
VCS MOM 2005 management pack for SQL 2008	10
Changes to the VCS NetAppSnapDrive agent	10
Changes to the VCS wizards	10
Requirements	11
Supported hardware	11
Supported Software	11
Installing Application Pack 1	13
Download locations	13
Preparing to install Application Pack 1	14
Installing Application Pack 1 using the GUI	17
Installing Application Pack 1 using the command line	18
Tasks after installing Application Pack 1	19
Upgrading SQL Server 2000/2005 to SQL Server 2008	21
Upgrading SQL on the first cluster node	22
Upgrading SQL on the additional failover node	23
Configuring SQL service group	24
Removing Application Pack 1	25
Preparing the VCS 5.1 cluster	25
Removing Application Pack 1 using the GUI	26
Removing Application Pack 1 from the command line	27
Known issues	29
VCS Cluster Configuration Wizard (VCW) does not detect the cluster after removing Application Pack 1 (1475202)	29
SQL instance running on 64-bit machine is not discovered by MOM 2005 server (1449804)	29
Version conflict error while importing the VCS 5.1 SQL management pack for MOM 2005 (1471181)	30
Cannot create or map LUNs on a node where an Exchange 2003 service group is brought online (1444066)	30
SQL Server 2008 Analysis and Agent service resources may go in to an unknown state (1466012)	31
Memory leak occurs in the VCS agent for SQL 2008 (1466183)	31

- VCS cluster configuration fails if Symantec Endpoint Protection 11.0 MR3 version is installed (1455690, 1315813) 32
- Issue while configuring a secure cluster (1466003) 33
- Software fixes and enhancements 34
- Documentation changes 35
 - Veritas Cluster Server Implementation Guide for Microsoft SQL 2008 35
 - Veritas Cluster Server Implementation Guide for Microsoft SQL 35
 - Veritas Cluster Server Administrator's Guide 35
 - Veritas Cluster Server Installation and Upgrade Guide 36
- Documentation 36
 - Commenting on documents 36

Veritas Cluster Server Release Notes

- [“Introduction”](#) on page 8
- [“Features and updates”](#) on page 9
- [“Requirements”](#) on page 11
- [“Installing Application Pack 1”](#) on page 13
- [“Upgrading SQL Server 2000/2005 to SQL Server 2008”](#) on page 21
- [“Removing Application Pack 1”](#) on page 25
- [“Known issues”](#) on page 29
- [“Software fixes and enhancements”](#) on page 34
- [“Documentation changes”](#) on page 35
- [“Documentation”](#) on page 36

Introduction

This document provides important information regarding Veritas Cluster Server (VCS) 5.1 Application Pack 1 for Windows. Review this entire document before using this product.

For general information regarding Veritas Cluster Server, see the following Web site:

<http://www.symantec.com>

For the latest information on updates, patches, and software issues regarding this release, see the following TechNote:

<http://entsupport.symantec.com/docs/303042>

For the latest information on supported software, see the Software Compatibility list at:

<http://www.symantec.com/business/support/index.jsp>

For the latest updates to array support and for supported hardware configurations, see the Hardware Compatibility list at:

<http://www.symantec.com/business/support/index.jsp>

Features and updates

The features and updates described below are introduced in Veritas Cluster Server 5.1 Application Pack 1 for Windows.

For a list of fixes and known issues in this release, see the respective sections.

See [“Known issues”](#) on page 29.

See [“Software fixes and enhancements”](#) on page 34.

Support for Microsoft SQL Server 2008

VCS 5.1 Application Pack 1 for Windows supports HA and DR configurations for Microsoft SQL Server 2008. Refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008* for instructions on how to configure a new HA and DR environment for SQL 2008.

Folder level mount point support in SnapDrive

VCS 5.1 Application Pack 1 for Windows provides folder level mount point support with NetApp SnapDrive. NetApp SnapDrive agent supports drive and volume mount points by configuring the attribute MountPath. You can create cascading volume mount points by mounting one mount point on another mount point. In such a case, you must specify the complete path in the MountPath attribute. For example,

```
MountPath = "T:\Volume1\Volume2"
```

The VCS application and service group configuration wizards allow selection of folder mount points.

MPIO support using iSCSI

VCS 5.1 Application Pack 1 for Windows now supports multipath I/O connections using iSCSI. You can configure multipathing in your storage environment using the supported iSCSI initiator. When MPIO is configured using iSCSI, only one initiator entry is added to the Initiator attribute of the NetAppSnapDrive agent.

VCS MOM 2005 management pack for SQL 2008

VCS 5.1 Application Pack 1 for Windows includes a VCS Management Pack for Microsoft SQL Server 2008. This management pack is for Microsoft Operations Manager 2005. The management pack file (.akm) is integrated with the Application Pack 1 package but you will need to import it separately. There is no change in the procedures for using this VCS management pack. Refer to the *Veritas Storage Foundation and High Availability Solutions Management Pack Guide for Microsoft Operations Manager 2005* for instructions on how to use this management pack to monitor SQL 2008 using Microsoft Operations Manager (MOM) 2005 in a VCS environment.

Changes to the VCS NetAppSnapDrive agent

In VCS 5.1 Application Pack 1 for Windows, the VCS NetAppSnapDrive agent has been modified to include support for NetApp SnapDrive version 6.0 release. In SnapDrive 6.0 support for Common Internet File System (CIFS) protocol has been deprecated. As a result, the VCS NetAppSnapDrive agent attribute `ShareName` need not be configured if you are using SnapDrive 6.0. The VCS NetAppSnapDrive agent ignores this attribute if SnapDrive 6.0 is used. In addition, the NetAppSnapDrive agent has been modified to address performance issues in cases where multiple NetApp LUNs are configured simultaneously in a service group.

Changes to the VCS wizards

The VCS application and service group configuration wizards provide an option (Advanced button on the Network Configuration panel or the virtual server configuration panel) to add the virtual server name to the Active Directory. The wizards discover all the Organization Units (OU) in the domain and populate them in a drop-down list. You specify an OU by selecting the OU name from the drop-down list.

This functionality is enhanced in the application pack. The wizards now allow you to type the Organization Unit name or search the OU name in the domain using the Windows "Find Organizational Units" dialog box. This makes searching and specifying an OU significantly easier in cases where there are a large number of Organizational Units in the domain and where the OU structure is deeply nested.

You can type the OU details in the format "CN=Computers,DC=domainname,DC=com". If you wish to search for an OU, you can click the ellipsis button and specify the search criteria in the Windows "Find Organizational Units" dialog box.

Requirements

Review the following product installation requirements before installing Veritas Cluster Server 5.1 Application Pack 1 for Windows. This application pack can only be applied to an existing installation of VCS 5.1 for Windows.

For VCS 5.1 for Windows installation and operating system requirements, see the *Veritas Cluster Server 5.1 for Windows Installation and Upgrade Guide*.

Supported hardware

Refer to the Hardware Compatibility List on the Symantec Support Web site at <http://www.symantec.com/business/support/index.jsp> to determine the approved hardware. The compatibility list contains information about supported hardware and is updated regularly. Before installing or upgrading VCS, review the current compatibility list to confirm the compatibility of your hardware and software.

Supported Software

The requirements for operating system and application support shown below supersede those requirements listed in the product documentation. For updates on software supported by this product, see

<http://entsupport.symantec.com/docs/303042>

Note: All VCS nodes must run the same Windows operating system and service pack level as well as the same VCS version and service pack level.

In addition to the software supported by VCS 5.1 for Windows, this release includes support for the following:

- Network Appliance Data ONTAP 7.3
- Network Appliance SnapDrive 4.1, 4.2.1, 5.0, 6.0
- Data ONTAP DSM for Windows MPIO 3.1, 3.2
- FCP Host Utilities for Native OS 3.0, 4.0, 5.0
- Network Appliance SnapManager for SQL 2.0
- Network Appliance SnapManager for Exchange version 3.1
- Microsoft iSCSI software initiator version 2.03 or later versions
- Microsoft SQL Server 2008 and their operating systems. Note that all systems must be running the same operating system.

Table 1-1 SQL Server 2008 and Windows Server support

SQL Server versions	Windows Server versions
Microsoft SQL Server 2008, 32-bit Standard Edition or Enterprise Edition or Web Edition	<ul style="list-style-type: none"> ■ Windows Server 2003 (32-bit) Standard Edition, Enterprise Edition or Datacenter Edition (SP2 required) ■ Windows Server 2003 R2 (32-bit) Standard Edition, Enterprise Edition, or Datacenter Edition (SP2 required)
Microsoft SQL Server 2008, 64-bit Standard Edition or Enterprise Edition or Enterprise IA64 Edition or Web Edition	<ul style="list-style-type: none"> ■ Windows Server 2003 for Itanium-based Systems Enterprise Edition or Datacenter Edition (SP2 required for both) ■ Windows Server 2003 Standard x64 Edition, Enterprise x64 Edition, or Datacenter x64 Edition (SP2 required) ■ Windows Server 2003 x64 Editions (for AMD64 or Intel EM64T): Standard x64 R2 Edition, Enterprise x64 R2 Edition, or Datacenter x64 R2 Edition (SP2 required)

Microsoft SQL Server 2005 and Microsoft SQL Server 2008 can exist in the same cluster and operate on or fail over to the same systems. However, only one default instance can exist on a system at one time. Additional instances that operate on or fail over to that system must be named instances. The number of named instances is limited only by the normal limit of instances for that version of SQL Server.

Installing Application Pack 1

This section provides information related to installing Application Pack 1.

Application Pack 1 can only be applied to an existing installation of VCS 5.1 for Windows. The tasks described in this application pack release notes presume that you have already configured a VCS cluster and created service groups in the VCS environment.

If you have not configured the VCS cluster, Symantec recommends that you first configure the cluster and then proceed with the steps described here. You can use the VCS Cluster Configuration Wizard (VCW) for cluster configuration. Refer to the *Veritas Cluster Server Administrator's Guide* for instructions.

Read the following topics:

- See “[Download locations](#)” on page 13.
- See “[Preparing to install Application Pack 1](#)” on page 14.
- See “[Installing Application Pack 1 using the GUI](#)” on page 17.
- See “[Installing Application Pack 1 using the command line](#)” on page 18.
- See “[Tasks after installing Application Pack 1](#)” on page 19.

Download locations

Download the packages for this release from the following locations:

Table 1-2 Application Pack 1 download paths

To install	Download packages from
VCS 5.1 for Windows App Pack 1 (32-bit)	http://entsupport.symantec.com/docs/315675
VCS 5.1 for Windows App Pack 1 (64-bit)	http://entsupport.symantec.com/docs/315676

Preparing to install Application Pack 1

Ensure the following before installing the application pack:

- Symantec recommends that you configure the VCS cluster, if not configured already. You can use the VCS Cluster Configuration Wizard (VCW) for cluster configuration. Refer to the *Veritas Cluster Server Administrator's Guide* for instructions.
- Make sure that you back up all your data.
- Make sure that you back up the system state.
- Test the system after each upgrade, especially after applying other product upgrades. An incremental upgrade eases the troubleshooting process.
- You must have network access to each remote computer.

Removing VCS Management Console

If one or more nodes in the cluster have Veritas Cluster Server Management Console 5.1 installed, you must remove the management console before installing the application pack. You can reinstall the management console later, after the upgrade.

To remove VCS Management Console 5.1

- 1 Stop the VCS Management Console. If the management console is clustered, take the CMC_MS service group offline.
- 2 Back up the console's data directory and datadir.conf files. Typically, the files are located at the following paths:
 - C:\Program Files\Symantec\VRTScmcm
 - or
 - C:\Program Files (x86)\Symantec\VRTScmcm
- 3 Remove VCS Management Console 5.1 from all nodes in the cluster using Windows Add/Remove Programs.

Saving and closing the cluster configuration

Use the VCS Cluster Manager (Java Console) to save and close the configuration. This operation involves saving the latest configuration to disk and changing the configuration state to read-only mode. You must also bring the service groups offline and stop VCS before installing the application pack.

To save and close the configuration

- ◆ From the VCS Cluster Manager (Java Console), click **File > Save** and **File > Close Configuration** on the Cluster Explorer toolbar.

To bring the service groups offline

- 1 From the VCS Cluster Manager (Java Console), right-click the service group and then click **Offline**.

or

From the command prompt, type:

```
hagrp -offline group_name -sys system_name
```

where *group_name* is the name of the service group and *system_name* is the node on which the group is online.

- 2 Repeat this for all service groups that are online.

To stop Veritas High Availability Engine (HAD)

- ◆ Stop HAD on all the cluster nodes that you wish to upgrade. Type the following at the command prompt:

```
hastop -all -force
```

Setting Windows driver signing options

When installing on remote or local systems running Windows Server 2003, you must set the Windows driver signing options to either Ignore or Warn. If the driver signing option is set to Ignore then the software will be automatically installed. If the driver signing option is set to Warn then a dialog box may prompt you to accept unsigned drivers.

If you do not change these options, the installation may fail on that computer during validation. After you complete the installation, reset the driver signing options to their previous states.

The driver signing options can be changed manually on each local system.

To change the driver signing options on each local system

- 1 Open the Control Panel and click **System**.
- 2 Click the **Hardware** tab and click **Driver Signing**.
- 3 In the Driver Signing Options dialog box, note the current setting, and select **Ignore** or **Warn** to allow installation to proceed.
- 4 Click **OK**.
- 5 Repeat for each computer.

With the Group Policy Object, the driver signing options can be changed using Microsoft's Group Policy Object in a Windows 2000 or Windows Server 2003 domain.

To change the driver signing options using the Group Policy Object

- 1 From the Domain Controller, click **Start > Programs > Administrator Tools**.
- 2 In the Active Directory Users and Computers snap-in, right-click the domain root, click **Properties**, and then click the **Group Policy** tab.
- 3 Click the default domain policy, and then click **Edit**.
- 4 Expand **Computer Configuration**, expand **Windows Settings**, and then expand **Security Settings**.
- 5 Expand **Local Policies**, expand **Security Options**, and then modify **Device: Unsigned driver installation** behavior to the setting **Silently succeed**.
- 6 To force an immediate refresh, type `gpupdate` at the command line.

Installing Application Pack 1 using the GUI

Download the Application Pack 1 installation files from the Symantec support page on the Symantec Web site.

See “[Download locations](#)” on page 13.

To install Application Pack 1 using the GUI

- 1 Navigate to the location of the extracted files and double click **Setup.exe**.
- 2 On the Symantec Product Installer panel, click **Veritas Storage Foundation and High Availability Solutions 5.1 for Windows Application Pack 1** to launch the installer wizard.
The Run Configuration Checker option is not applicable for a VCS 5.1 for Windows installation.
- 3 Review the prerequisites on the Welcome screen and click **Next**.
- 4 On the Options Selection panel, do the following and then click **Next**:
 - Check **Veritas Storage Foundation and High Availability Solutions 5.1 for Windows Application Pack 1** check box, if not checked already.
 - Check the **Microsoft SQL Server 2008 support** check box if you wish to configure SQL Server 2008 in a VCS environment.
 - Check the **NetApp SnapDrive 6.0** check box if you wish to use this version of SnapDrive in a VCS cluster environment.
- 5 On the Computer Selection panel, specify the computers for the application pack installation and then click **Next**.
Perform the following steps:
 - Specify the domain and computers for the installation. You can select the domain and computer from the drop down list. The list may take some time to populate depending on the domain and network size, speed, and activity. You can also type the computer name in the **Computer** field.
 - To add a computer for installation, click **Add**.
 - To remove a computer, click the computer in the Selected Computers for installation field and then click **Remove**.Repeat these steps for each computer.
- 6 The installer checks the prerequisites for the selected computers and displays the results. Review the information and click **Next**. If the validation fails, address the issue and click **Validate Again**. Click **Next** after all the computers are successfully validated.
- 7 Review the install report that contains information about options selected for installation and then click **Install** to begin the installation.

The installation shows the status and progress of the installation.

- 8 After the installation is complete on the selected systems, click **Next**.
- 9 Review the installation summary report and then click **Next**.
- 10 Click **Finish** to complete the installation.

Installing Application Pack 1 using the command line

Download the Application Pack 1 installation files from the Symantec support page on the Symantec Web site.

See “[Download locations](#)” on page 13.

You can perform a silent installation of Application Pack 1 using the Setup.exe command from the command prompt. With a silent installation, you can only install on one computer at a time.

To install Application Pack 1 using the command line

- 1 Click **Start > Run**, type **cmd** and then click **OK** to open the command prompt.
- 2 From the command prompt, navigate to the location where you have copied the application pack installation files.
- 3 To install the application pack, type the following command at the command prompt:

```
Setup.exe /s INSTALL_MODE=<InstallMode>  
SOLUTIONS=<SolutionID> NODE=<nodename> options=<Option  
ID>
```

[Table 1-3](#) describes the values that the parameters can take.

Table 1-3 Setup.exe: Silent install parameters

Parameter	Usage
/s	Set for silent mode. If not entered, the product installer GUI starts.
Install_Mode	Set to indicate an installation or uninstallation. 1 = To install or upgrade the product 5 = To uninstall The installer automatically detects whether it is a fresh install or an upgrade and performs the necessary tasks accordingly. The default value is 1. Example: INSTALL_MODE=1
Solutions	Set this value to 5 for Application Pack 1

Table 1-3 Setup.exe: Silent install parameters (continued)

Parameter	Usage
Node	Set the node name. Specify only one node at a time. The default setting is the local node. Example: Node=SysA
options	Option to select a feature to be installed. This can take the following values: <ul style="list-style-type: none">■ SQL2008 (SQL 2008 feature)■ NTAP60 (NetApp Snapdrive 6.0 feature) You can choose either or both options. When using both options, they must be separated by a comma. Enclose the options in double quotes. Example: Option Id="SQL2008,NTAP60"

Silent installation example: Local Server

This command installs the application pack on the local node. The application pack is installed to the same directory as the 5.1 base installation.

```
Setup.exe /s INSTALL_MODE=1 SOLUTIONS=5  
options="SQL2008,NTAP60"
```

Silent installation example: Remote Server

This command installs the application pack on a remote node. It states that the node it is installing is SysA. The application pack is installed to the same directory as the 5.1 base installation.

```
Setup.exe /s INSTALL_MODE=1 SOLUTIONS=5 NODE=SysA  
options="SQL2008,NTAP60"
```

Tasks after installing Application Pack 1

Tasks after installing the application pack may include the following depending on the environment at the site:

- [“Re-installing VCS Management Console 5.1”](#) on page 20
- [“Re-enabling VCS resources after the update”](#) on page 20

Re-installing VCS Management Console 5.1

To re-install VCS Management Console

- 1 Install VCS Management Console 5.1.
Refer to the *Veritas Cluster Server Management Console Implementation Guide*.
- 2 Restore the backed up the VCS Management Console 5.1 data files. These are the files that you had backed-up before installing the application pack.
See “[Removing VCS Management Console](#)” on page 14.
- 3 Start the VCS Management Console. If the management console is clustered, bring the CMC_MS service group online.

Re-enabling VCS resources after the update

Ensure that all service groups that were taken offline prior to the update are brought online again, in the appropriate order based on resource dependencies.

To bring a service group online

- 1 Bring the service groups online, in the appropriate order based on resource dependencies.
 - From the VCS Cluster Manager (Java Console), right-click the service group and click **Online**.
 - or
 - From the command prompt, type:

```
hagrp -online group_name -sys system_name
```

where *group_name* is the name of the service group and *system_name* is the node on which the group is online.
- 2 Repeat the step for additional service groups.

Upgrading SQL Server 2000/2005 to SQL Server 2008

The following steps describe how to upgrade your existing clustered SQL Server 2000 or SQL Server 2005 setup to SQL Server 2008. Complete these steps on all the cluster nodes that are part of the SQL service group, one node at a time.

At a high level, upgrading to SQL Server 2008 involves the following tasks:

- Upgrade SQL Server on the first cluster node
- Upgrade SQL Server on each additional failover node
- In case of a Disaster Recovery configuration, repeat the SQL upgrade procedures on the nodes at the secondary site. First upgrade the first cluster node at the DR site, and then the additional failover nodes.
- Delete the existing SQL 2000 or 2005 service group, including the service group at the DR site, if applicable.
- Create a SQL Server 2008 service group using the SQL 2008 Configuration Wizard. In case of a DR setup, create a service group at the secondary site also.

These steps are applicable only if you already have SQL 2000 or SQL 2005 set up in a VCS 5.1 for Windows cluster environment.

To configure a new HA and DR environment for SQL Server 2000 or SQL Server 2005, refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL*.

To configure a new HA and DR environment for SQL Server 2008, refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008*.

Note: In case of a Disaster Recovery setup, you must first upgrade SQL on the cluster nodes at the primary site and then proceed with the nodes at the secondary site. You must follow the same upgrade sequence at both sites, upgrade first node and then the additional nodes, as described in the procedures in this section.

Ensure that you do the following before the upgrade:

- Take a backup of the SQL databases.
- In case of a Disaster Recovery environment, ensure that the databases on the primary and secondary sites are synchronized and then stop the replication between the sites.
- Ensure that you have installed VCS 5.1 Application Pack 1 for Windows on all the SQL service group cluster nodes that you wish to upgrade. See [“Installing Application Pack 1”](#) on page 13.

- Make a note of the SQL virtual server name and all the IP addresses configured at both the primary and the secondary site, for the SQL setup in the DR environment. You will need these details later.

Upgrading SQL on the first cluster node

These steps assume a single SQL Server instance configured in a two-node cluster configuration.

To upgrade SQL Server on the first cluster node

- 1 On the node on which the SQL service group is online, take all the resources up to but excluding the NetAppSnapDrive (Mount in case of Windows LDM) resource, offline. Keep the NetAppSnapDrive (Mount in case of Windows LDM) resource online.
From the VCS Cluster Manager (Java Console), right-click the resource and select **Offline**. Click **Yes** in the confirmation pop-up box to take the resource offline.
- 2 Bring the registry replication (RegRep) resource online.
- 3 Make a backup copy of the SQL Server 2000 or SQL Server 2005 and the Registry (RegRep) directories from the shared disk and store them in a temporary location.
You will need the backed-up directories while upgrading SQL on the additional failover nodes, later.
- 4 Freeze the SQL Server service group.
From the VCS Cluster Manager (Java Console), right-click the SQL Server service group in tree view on the left pane, and click **Freeze > Persistent**.
- 5 Launch the Microsoft SQL Server 2008 installer and install SQL Server 2008 on the node. Make sure that you select the option to upgrade the existing SQL Server instance(s), when prompted to do so. The SQL Server 2008 installer then automatically places the SQL data files in the appropriate location.
Refer to the Microsoft SQL Server 2008 documentation for instructions.
- 6 Unfreeze and then take the SQL Server service group offline.
From the VCS Cluster Manager (Java Console), right-click the SQL Server service group in tree view on the left pane and click **Unfreeze**, and then take the entire service group offline on the node.
This completes the upgrade steps on the first cluster node. Proceed to upgrading SQL on the additional failover nodes.

Upgrading SQL on the additional failover node

Perform the following steps on each additional failover node that is part of the SQL service group.

To upgrade SQL Server on the additional node

- 1 Bring all the SQL service group resources up to and including the NetAppSnapDrive (Mount in case of Windows LDM) resource, online. From the VCS Cluster Manager (Java Console), right-click the resource and select **Online**. Click **Yes** in the confirmation pop-up box to bring the resource online.
- 2 Rename the SQL Server and the Registry (RegRep) directories on the shared disks. These directories were updated after the SQL 2008 install on the first node. You can also delete these directories, if desired.
- 3 Copy the backed-up SQL Server 2000 or SQL Server 2005 and the Registry (RegRep) directories from the temporary location to the shared disks. The backup directories are the same that you had backed up earlier while upgrading SQL on the first cluster node.
- 4 Bring the RegRep resource online. From the VCS Cluster Manager (Java Console), right-click the resource and select **Online**. Click **Yes** in the confirmation pop-up box to bring the resource online.
- 5 Freeze the SQL service group. From the VCS Cluster Manager (Java Console), right-click the SQL Server service group in tree view on the left pane and click **Freeze > Persistent**.
- 6 Launch the Microsoft SQL Server 2008 installer and install SQL Server 2008 on the node. Make sure that you select the option to upgrade the existing SQL Server instance(s), when prompted to do so. The SQL Server 2008 installer then automatically places the SQL data files in the appropriate location. Refer to the Microsoft SQL Server 2008 documentation for instructions.
- 7 Unfreeze and then take the SQL Server service group offline. From the VCS Cluster Manager (Java Console), right-click the SQL Server service group in tree view on the left pane and click **Unfreeze**, and then take the entire service group offline on the node. This completes the upgrade steps on the additional failover node. Proceed to configuring SQL service group in the cluster.

Configuring SQL service group

Perform the following steps on one of the cluster nodes at the primary site. This procedure requires you to run the SQL Server 2008 Configuration Wizard to configure the SQL 2008 service group. The SQL 2008 service group configuration steps are not described here. Refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008* for instructions.

Note: In case of a Disaster Recovery setup, repeat these steps on the first cluster node at the secondary site and then reconfigure the DR components. Refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008* for instructions.

To configure the SQL service group

- 1 Rename the Registry (RegRep) directory on the shared disk.
- 2 On the first cluster node, bring the NetAppFiler (DiskRes in case of Windows LDM) and NetAppSnapDrive (Mount in case of Windows LDM) resources of the SQL service group, online.
- 3 Delete the SQL service group.
From the VCS Cluster Manager (Java Console), right-click the SQL Server service group in tree view on the left pane and click **Delete**. Click **Yes** when prompted to confirm if you want to delete the service group.
- 4 Create the SQL Server 2008 service group using the SQL Server 2008 Configuration Wizard.
Refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008* for detailed instructions on how to create the service group using the SQL Server 2008 Configuration Wizard.
- 5 After creating the SQL Server 2008 service group, verify the configuration by switching the service group to another node in the cluster.
- 6 Delete the RegRep directory that you renamed in the first step.

Removing Application Pack 1

If you are removing the application pack and VCS 5.1, the application pack must be removed first. For information on removing VCS 5.1 for Windows, refer to the *Veritas Cluster Server 5.1 for Windows Installation and Upgrade Guide*.

Warning: Application Pack 1 contains support for several features including Microsoft SQL Server 2008 and NetApp SnapDrive 6.0. If you have configured these applications, then after removing Application Pack 1 you will not be able to use the supported features and applications in a VCS 5.1 for Windows clustered environment.

Read the following topics:

- See “[Preparing the VCS 5.1 cluster](#)” on page 25.
- See “[Removing Application Pack 1 using the GUI](#)” on page 26.
- See “[Removing Application Pack 1 from the command line](#)” on page 27.

Preparing the VCS 5.1 cluster

Before removing the application pack, make sure that you delete the SQL Server 2008 service group if it is configured in the cluster. Then, use the VCS Cluster Manager (Java Console) to save and close the configuration. This operation involves saving the latest configuration to disk and changing the configuration state to read-only mode. You must also bring the service groups offline and stop VCS before removing the application pack.

Warning: Some configurations may require other steps. Before removing the application pack or performing the following steps, check the Support website at the following URL for updates or additions to the procedure:
<http://entsupport.symantec.com/docs/316327>

Perform the following steps.

To save and close the configuration

- ◆ From the VCS Cluster Manager (Java Console), click **Save and Close Configuration** on the Cluster Explorer toolbar.

To bring the service groups offline

- ◆ From the VCS Cluster Manager (Java Console), right-click the service group and select the **Offline** menu option.
or

From the command prompt, type:

```
hagrp -offline group_name -sys system_name
```

where *group_name* is the name of the service group and *system_name* is the node on which the group is online.

Repeat this command for all service groups that are online.

To stop VCS High Availability Engine (HAD)

- ◆ Stop the Veritas High Availability Engine (HAD) on all the cluster nodes.

Type the following at the command prompt:

```
hastop -all -force
```

Removing Application Pack 1 using the GUI

The following procedure describes how to remove VCS 5.1 Application Pack 1 for Windows from the cluster. After removing the application pack, the system is restored to the VCS 5.1 for Windows version level.

To remove the application pack using the GUI

- 1 Open the Windows Control Panel and double-click **Add or Remove Programs**.
- 2 From the Add or Remove Programs dialog box, click **Veritas Storage Foundation and High Availability Solutions 5.1 for Windows Application Pack 1** and then click **Remove**.
- 3 Review the Welcome message and click **Next**.
- 4 Select the systems where you wish to remove the application pack from the Domain and Computer drop-down menus and click **Add**. Optionally, type the computer's name in the Computer field. Repeat this step to add other computers to the list.
The local system is listed in the Selected computers for uninstall list by default. To remove a system from the Selected computers for uninstall list, click the system and then click **Remove**.
- 5 After specifying the required cluster nodes, click **Next**. On the Validation screen, the installer checks the prerequisites for the selected systems and displays the results.
- 6 Review the information and click **Next**.
If a system fails validation, click the system in the systems list to display information about the failure. Address the problem and click **Validate Again** to repeat the validation process.
- 7 Review the information and click **OK**.

The Summary screen displays the settings and systems selected for removal.

- 8 Click **Uninstall** to begin the process. The Uninstall Status screen displays status messages and the progress of the removal.
If a removal fails, the status screen shows a failed status. Click **Next** to review the report, address the reason for failure, and repeat the removal on that computer.
If the removal is successful on all computers, the removal report screen appears. The status screen appears and lists all computers selected for removal, along with the status of each removal.
- 9 Click **Finish** to complete the uninstallation.

Removing Application Pack 1 from the command line

The following procedure describes how to remove VCS 5.1 Application Pack 1 for Windows using the Setup.exe command to perform a silent removal from the command line. With a silent removal, you can remove the application pack on only one computer at a time. After removing the application pack, the system is restored to the VCS 5.1 for Windows version level.

Examples showing the removal of the application pack are included at the end of this section.

To install Application Pack 1 using the command line

- 1 Click **Start > Run**, type **cmd** and then click **OK** to open the command prompt.
- 2 From the command prompt, navigate to the location where you have copied the application pack installation files.
- 3 To remove Application Pack 1, type the following command at the command prompt:

```
Setup.exe /s INSTALL_MODE=<InstallMode>
SOLUTIONS=<SolutionID> NODE=<nodename> options=<Option
ID>
```

[Table 1-3](#) describes the values that the parameters can take.

Table 1-4 Setup.exe: Silent install parameters

Parameter	Usage
/s	Set for silent mode. If not entered, the product installer GUI starts.

Table 1-4 Setup.exe: Silent install parameters (continued)

Parameter	Usage
Install_Mode	Set to indicate an installation or uninstallation. 1 = To install or upgrade the product 5 = To uninstall The installer automatically detects whether it is a fresh install or an upgrade and performs the necessary tasks accordingly. The default value is 1. Example: INSTALL_MODE=1
Solutions	Set this value to 5 for Application Pack 1
Node	Set the node name. Specify only one node at a time. The default setting is the local node. Example: Node=SysA
options	Option to select a feature to be installed. This can take the following values: <ul style="list-style-type: none"> ■ SQL2008 (SQL 2008 feature) ■ NTAP60 (NetApp Snapdrive 6.0 feature) You can choose either or both options. When using both options they must be separated by a comma. Enclose the options in double quotes. Example: Option Id="SQL2008,NTAP60"

Silent removal example: Local Server

This command removes the application pack from the local node.

```
Setup.exe /s INSTALL_MODE=5 SOLUTIONS=5
options="SQL2008,NTAP60"
```

Silent removal example: Remote Server

This command removes the application pack from a remote node. It states that the node it is removing it from is SysA.

```
Setup.exe /s INSTALL_MODE=5 SOLUTIONS=5 NODE=SysA
options="SQL2008,NTAP60"
```

Known issues

For a complete list of known issues as well as other late-breaking news, see <http://entsupport.symantec.com/docs/303042>.

The following issues have been reported for Application Pack 1.

VCS Cluster Configuration Wizard (VCW) does not detect the cluster after removing Application Pack 1 (1475202)

The VCS Cluster Configuration Wizard (VCW) fails to detect the existing cluster if VCS 5.1 Application Pack 1 for Windows is removed from the cluster nodes. This issue occurs only if you had created the cluster after installing Application Pack 1 on the cluster nodes.

This does not affect the cluster functionality. The Veritas High Availability Engine (HAD) is in running state and the service groups can fail over between the nodes.

Currently there is no fix available for this issue. Contact Symantec technical support for more information.

SQL instance running on 64-bit machine is not discovered by MOM 2005 server (1449804)

A SQL 2008 instance running on a cluster node is not discovered by MOM 2005 Server. This problem occurs because the MOM 2005 agent is 32-bit while the SQL Server instance is 64-bit.

Workaround:

To resolve this issue, create the following registry key in the 32-bit registry hive, if it does not exist already:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\
CurrentVersion\Uninstall\Microsoft SQL Server 10
```

Note: You need not create any registry value under this key.

Version conflict error while importing the VCS 5.1 SQL management pack for MOM 2005 (1471181)

A management pack version conflict error occurs when you try to import the VCS 5.1 management pack for SQL server in a Microsoft Operations Manager 2005 monitoring environment. This occurs if you have already imported the Microsoft SQL Server 2008 management pack before you import the VCS management pack.

The following error is displayed:

```
Version of Rule Group 'State Monitoring and Service  
Discovery' - '09.0.3043.0000' should be newer than  
'10.1.0001.0000'.
```

Workaround:

You can ignore the error and click **Continue** to proceed with the VCS management pack import process. There is no change in the SQL 2005 monitoring scripts included in the Microsoft SQL management pack version 10.1.0001.0000. The VCS management pack file (VCS_SQL2005_MOM2005.akm) version 09.0.3043.0000 will work as it is with Microsoft SQL management pack version 10.1.0001.0000.

Cannot create or map LUNs on a node where an Exchange 2003 service group is brought online (1444066)

If an Exchange 2003 service group is brought online on a node, the NetApp SnapDrive 6.0 instance takes a lot of time to connect to the NetApp filer. After the connection is established, you may not be able to create or map LUNs on the node. This happens because the computer host name is changed to the Exchange virtual computer name when the Exchange service group comes online. The SnapDrive instance still uses the physical host name to connect to the filer.

Workaround:

Restart the NetApp SnapDrive service from the services console after the Exchange 2003 service group comes online.

SQL Server 2008 Analysis and Agent service resources may go in to an unknown state (1466012)

The SQL Server 2008 Analysis service and SQL Server 2008 Agent service resources may go in to an UNKNOWN state when you bring the SQL Server 2008 service group online.

The following error is logged in the GenericService agent log:

```
VCS ERROR V-16-10051-6012
```

```
GenericService:MSOlap-NEW:online:Failed to wait for the  
service 'MSOLAP$NEW' to start. Error = 258
```

```
VCS ERROR V-16-10051-6012
```

```
GenericService:SQLServerAgent-NEW:online:Failed to wait for  
the service 'SQLAgent$NEW' to start. Error = 258
```

Workaround:

Probe the resources if they are in the UNKNOWN state.

Memory leak occurs in the VCS agent for SQL 2008 (1466183)

A memory leak occurs in the VCS agent for SQL Server 2008. This issue is observed when DBList based SQL database detail monitoring is configured. In this mode of detail monitoring, the VCS agent for SQL 2008 uses Microsoft ActiveX Data Objects (ADO) to access the SQL databases. The memory leak occurs due to the ADO connections made by the agent to each database configured in the DBList agent attribute. The amount of memory leak is negligible and should not cause any adverse effects on the SQL Server operations in the cluster.

Currently there is no fix available for this issue. Contact Symantec technical support for more information.

VCS cluster configuration fails if Symantec Endpoint Protection 11.0 MR3 version is installed (1455690, 1315813)

The VCS Cluster Configuration Wizard (VCW) fails to configure the cluster on systems where Symantec Endpoint Protection 11.0 MR3 version is installed.

The following error is displayed:

```
Failed to start the cluster. Error=FFFFFFFF. Failed to start services on all the nodes.
```

The wizard may also fail to ping systems that are selected to be a part of the cluster. VCW uses Internet Control Message Protocol (ICMP) to ping systems and ICMP traffic is blocked in SEP, by default.

Workaround:

Perform the following steps to resolve this issue:

- 1 Create a custom rule in SEP to allow ICMP traffic in both directions.
- 2 Create another custom rule in the SEP firewall rules table.
Specify the following details for the rule:
 - Rule type: Application
 - Application name: llt.sys
 - Action: allow
- 3 Move this rule to the top of the firewall rules table and then apply the firewall policy again.
- 4 Ensure that the SEP clients on the systems receive this policy (with the two rules you created earlier) and then proceed with the cluster configuration task.

Refer to the SEP documentation for detailed instructions on creating custom firewall rules.

Issue while configuring a secure cluster (1466003)

While configuring a secure cluster you may get the following error on the Configure Security Service Options panel of the VCS Cluster Configuration Wizard (VCW):

```
Symantec Product Authentication Service Configuration  
utility failed. Exit Code : 11
```

As a result, you may not be able to configure a secure cluster.

Workaround:

Note the following requirements before configuring a secure cluster:

- Disable Windows Firewall, if it is enabled.
- While specifying the Root Broker details in the VCW panel, specify the physical host name (instead of the IP address) of the Root Broker system.

If the error persists, perform the following steps:

- 1 From the command prompt, navigate to the following directory on the cluster system:

For 64-bit systems the path is as follows:

```
C:\Program
```

```
Files(x86)\Veritas\Security\Authentication\bin
```

Here, C:\Program Files (C:\Program Files(x86) for 64-bit) is presumed to be the installation directory for VCS.

- 2 Run the following command from the command prompt:

```
"vssregctl.exe -s -l -b
```

```
"Security\Authentication\AuthenticationBroker\AtPlugins\vx" -k "ABAuthSourceLocation" -v "C:\Program  
Files\Veritas\Security\Authentication\systemprofile\A  
BAuthSource" -t string"
```

For 64-bit systems, the command is as follows:

```
"Security\Authentication\AuthenticationBroker\AtPlugins\vx" -k "ABAuthSourceLocation" -v "C:\Program  
Files(x86)\Veritas\Security\Authentication\systemprof  
ile\ABAuthSource" -t string"
```

- 3 Proceed to configure a secure cluster using VCW.

Software fixes and enhancements

[Table 1-5](#) describes the other fixed issues and software enhancements and are referenced by the Symantec incident number.

Table 1-5 Fixed issues

Incident Number	Description
1298649	The VCS Exchange wizards may crash when folder mount points are present on the regrep volume.
1303538	The NetApp Snapdrive resource concurrency violation after primary node failure with failover to remote site.
1319212	Windows Active Directory dialog box to select and search Organizational Unit in the VCS Exchange Setup Wizard.
1373467	The VCS Exchange Setup Wizard should unmount the NetApp RegRep drive during pre-installation and post-installation tasks.
1398535	The SQL Configuration Wizard always sets Lanman attributes ADUpdateRequired and ADCriticalForOnline to True, no matter what the user specifies.

Documentation changes

The information in this section updates information provided in the product documentation for Veritas Cluster Server 5.1 for Windows.

Veritas Cluster Server Implementation Guide for Microsoft SQL 2008

This refers to Chapter 2, Installing the VCS database agent for SQL Server 2008, in the guide.

The chapter contains instructions for installing the VCS database agent for SQL Server 2008 and then configuring the cluster. The order in which you should perform these steps is incorrect.

You must install VCS 5.1 for Windows and configure the cluster using the VCS Cluster Configuration Wizard (VCW) first, and then install Application Pack 1 along with the VCS database agents for SQL Server 2008.

Veritas Cluster Server Implementation Guide for Microsoft SQL

This refers to Chapter 5, Configuring an MSDTC service group for high availability in the VCS 5.1 for Windows version of the guide.

The chapter contains instructions on using the SQL Server Configuration Wizard to configure the MSDTC client.

After installing Application Pack 1, you can no longer use the SQL Server Configuration Wizard to create or edit MSDTC client configuration for an MSDTC high availability setup. You have to manually configure the MSDTC client. The SQL Server Configuration Wizard does not support that task.

Refer to the *Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008* for instructions on how to configure the MSDTC client manually.

Veritas Cluster Server Administrator's Guide

This refers to Chapter 16, Connecting clusters-Creating global clusters, in the topic Prerequisites for global clusters on page 579. Line number 4 in the topic Cluster setup incorrectly states that the operating system versions can be different for systems participating in a global cluster.

Replace the sentence: "Clusters must be running on the same platform; the operating system versions can be different." with the following sentence: "Clusters must be running the same platform and operating system versions."

Veritas Cluster Server Installation and Upgrade Guide

In chapter 2, “Installing Veritas Cluster Server”, refer to the section “Installing the software from the command line”. The following information applies to the “Install_Mode” parameter description for the Setup.exe command on page 26.

The “Install_Mode” parameter default value 1 indicates to install or to upgrade the software. The installer automatically detects whether it is a fresh product install or an upgrade case, and performs the required tasks accordingly. In either cases, you must specify the required install features in the “Options” parameter for the Setup.exe command.

Documentation

Documentation is included on the Symantec software discs in Adobe Portable Document Format (PDF) in the directory `Docs\Cluster_Server`.

The complete set of new and updated documents for Application Pack 1 includes:

Title	File Name
<i>Veritas Cluster Server Implementation Guide for Microsoft SQL Server 2008</i>	VCS_NetApp_SQL2008.pdf
<i>Veritas Cluster Server Release Notes</i>	VCS_ReleaseNotes.pdf

Commenting on documents

Your feedback on product documentation is important to us. Send suggestions for improvements and reports on errors or omissions to sfwha_docs@symantec.com. Include the title and part number of the document (located in the lower left corner of the title page), and chapter and section titles of the text on which you are reporting. Our goal is to ensure customer satisfaction by providing effective, quality documentation. For assistance with topics other than documentation, visit:

<http://www.symantec.com/business/support/index.jsp>.