

Symantec™ ApplicationHA Installation and Upgrade Guide

Windows on VMware

6.1

Symantec™ ApplicationHA Installation and Upgrade Guide

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Europe, Middle-East, and Africa semea@symantec.com

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<http://www.symantec.com/connect/storage-management>

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Introducing Symantec ApplicationHA

This chapter includes the following topics:

- [What is Symantec ApplicationHA](#)
- [About ApplicationHA licensing](#)
- [Supported software](#)
- [Symantec ApplicationHA ports and firewall settings](#)
- [Getting started with ApplicationHA](#)

What is Symantec ApplicationHA

ApplicationHA is one of the application availability management solutions from Symantec. It provides monitoring capabilities for applications running inside virtual machines managed by a VMware vCenter Server. Symantec ApplicationHA adds a layer of application awareness to the core HA functionality offered by VMware virtualization technology.

Symantec ApplicationHA is based on Symantec™ Cluster Server (VCS) and uses similar concepts such as agents, resources, and service groups. However, it does not include the high availability cluster components such as the Group Membership and Atomic Broadcast (GAB) and Low Latency Transport (LLT). Symantec ApplicationHA has a lightweight server footprint that allows faster installation and configuration.

Key benefits include the following:

- Out of the box integration with VMware vCenter Server.

- Full visibility and control over applications with the ability to start, stop, and monitor applications running inside virtual machines.
- Standardized way to manage applications using a single interface that is integrated with either VMware vSphere Client or the VOM Management Server console.
- Specialized Application Maintenance mode, in which ApplicationHA allows you to intentionally take an application out of its purview for maintenance or troubleshooting.
- Integration with VMware SRM Server that provides the capability to resume application monitoring after the virtual machines are started on the recovery site.

About ApplicationHA licensing

Symantec ApplicationHA is a licensed product. Licensing for Symantec ApplicationHA is based on the server operating systems in use.

During installation, the product installer provides the following options to specify the license details.

- **Keyless**
A keyless license installs the embedded keys. You can use the keyless license for 60 days.
If you install the product using the keyless option, a message is logged everyday in the Event Viewer indicating that you must perform any one of the following tasks, within 60 days of product installation. Failing this, a non-compliance error is logged every four hours.
 - Add the system as a managed host to a Veritas Operations Manager (VOM) Management Server.
For more details, refer to the VOM documentation.
 - Add an appropriate and valid license key on this system using the Symantec product installer from Windows Add or Remove Programs.
- **User Entered Key**
In case of an User Entered Key license, you must procure an appropriate license key from the Symantec license certificate and portal. The User Entered Key license allows you to use the product options based on the license key you enter.
<https://licensing.symantec.com/>

Note: Evaluation licenses are now deprecated.

Licensing notes

Review the following licensing notes before you install or upgrade the product:

- If you are installing the product for the first time, the "Keyless" option is selected by default.
- During the product upgrade, you can choose to change the license option to User Entered Key or Keyless.
- While repairing the product installation, licenses can be managed only if Keyless license option was selected during the installation. You cannot manage the licenses, if the license option selected was User Entered Key.
- If you choose Keyless as the license option, you must configure Veritas Operations Manager (VOM) within two months of product installation. Failing this, a warning message for non-compliance is displayed periodically. For more details on configuring VOM, refer to VOM product documentation.
- You can use the Windows Add Remove Programs, Symantec High Availability tab, and the Symantec High Availability Home View to manage the licenses. The Windows Add Remove Programs and the Symantec High Availability tab allows you to manage the licenses on local machine only. Where as, the Symantec High Availability Home View allows you to manage the licenses on local as well as remote machines.
- You can manage the licenses by adding or removing specific license keys on any virtual machine that has ApplicationHA installed.
Managing the licenses using the Symantec High Availability tab, and the Symantec High Availability Home View allows you to only add the license keys. You cannot remove the license keys or change the license option (Keyless to User Entered or vice-a-versa), using the Symantec High Availability tab, and the Symantec High Availability Home View.
To remove a license key or to change the license option (Keyless to User Entered or vice-a-versa), you must launch the product installer from the Windows Add Remove Programs.

Supported software

This section provides the list of supported operating systems and the supported VMware versions.

For the latest information on the supported hardware and software, and the supported applications, refer to the hardware and software compatibility lists at the following location:

For Software Compatibility List (SCL):

<http://www.symantec.com/docs/TECH209010>

For Hardware Compatibility List (HCL):

<http://www.symantec.com/docs/TECH208993>

Supported VMware versions

Table 1-1 lists the VMware Servers and management clients that are currently supported.

Table 1-1 Supported VMware Servers and Management Clients

VMware Servers and Management Clients	Versions
VMware ESX Server	4.0 (for ApplicationHA initiated reboot only), 4.1, 4.1 Update 1, 4.1 Update 2
VMware ESXi Server	4.0, 4.1, 5.0, 5.5
VMware vSphere Client	4.0, 4.1, 5.0, 5.5
VMware vCenter Server	4.0, 4.1, 4.1 Update 1, 5.0, 5.5 Note: VMware Fault Tolerance is not supported in case of vCenter Server 4.1
VMware vCenter Site Recovery Manager (SRM)	5.0, 5.1, 5.5

For the latest list of supported versions refer to the software compatibility list (SCL) at:

<http://www.symantec.com/docs/TECH209010>

Supported operating systems

You can install ApplicationHA on the virtual machines running any of the following operating systems:

- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

Supported Symantec Backup Exec versions

The following Symantec Backup Exec version is currently supported:

- Backup Exec 2010 R3

Symantec ApplicationHA ports and firewall settings

Symantec ApplicationHA uses certain ports and services during installation and configuration. If you have configured a firewall, ensure that the firewall settings allow access to these ports and services.

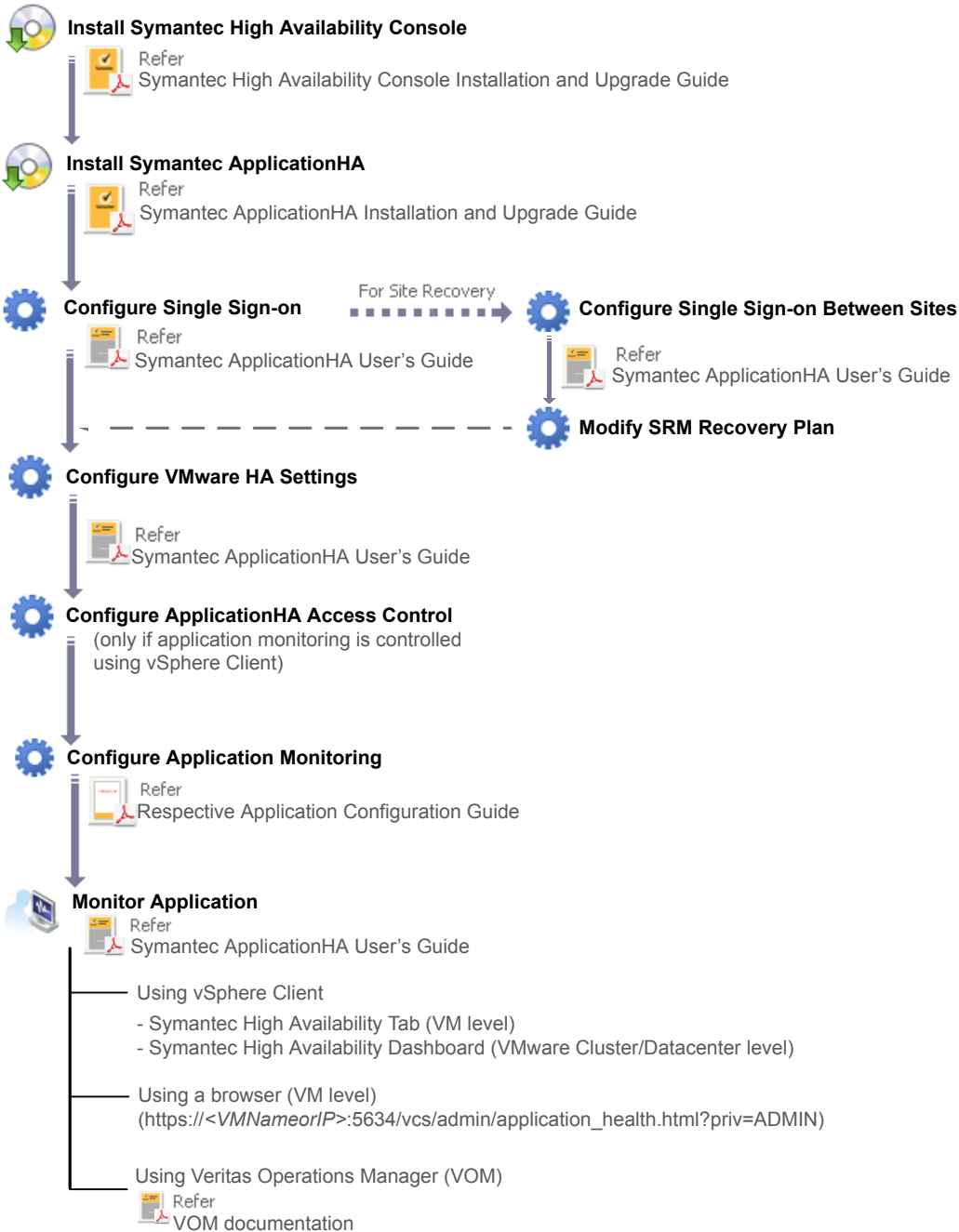
[Table 1-2](#) displays the services and ports used by Symantec ApplicationHA.

Table 1-2 Services and ports used by ApplicationHA

Component Name/Process	Port/Protocol	Description
File and Printer Sharing		Used by ApplicationHA installer while installing ApplicationHA. The installer uses this to copy the installation files to the machine.
Windows Management Instrumentation (WMI) service		Used by ApplicationHA installer while installing ApplicationHA. The installer uses this service to discover virtual machines.
Veritas Storage Foundation Messaging Service (xprtId)	5634 / TCP	Used for communications between the Symantec High Availability Console host machine and the virtual machines.

Getting started with ApplicationHA

The following figure represents the workflow for getting started with ApplicationHA and the corresponding document you must refer for details:



Note: The Symantec High Availability Console enables ApplicationHA integration with VMware vSphere Client to perform the following ApplicationHA tasks:

- Install ApplicationHA
- Configure cross site single sign-on for site recovery configuration
- Register virtual machine for auto recovery, if virtual machine auto recovery is configured
- Administer application monitoring

If you do not want to configure site recovery, register the virtual machine for auto recovery, or use the VMware vSphere Client to install ApplicationHA and administer application monitoring, then you need not install Symantec High Availability Console.

Installing Symantec ApplicationHA

This chapter includes the following topics:

- [Requirements for installing ApplicationHA](#)
- [About installing ApplicationHA](#)
- [Installing ApplicationHA using the installation wizard](#)
- [Performing an automated installation of ApplicationHA](#)
- [About installing ApplicationHA using the vSphere Client menu](#)

Requirements for installing ApplicationHA

The following prerequisites apply to the virtual machines where you want to install Symantec ApplicationHA:

- Ensure that the Windows Management Instrumentation (WMI) service is set to automatic and is enabled.
- For remote installations, ensure that the Computer Browser Service is set to automatic and running.
- Ensure that VMware Tools is installed. Install the version that is similar to or later than that available with VMware ESX.
- Ensure that your firewall settings allow access to ports used by Symantec ApplicationHA installer, wizard, and services.
See [“Symantec ApplicationHA ports and firewall settings”](#) on page 13.
- Ensure that the ICMP and the Windows Management Instrumentation (WMI) service is included in the firewall exceptions list.

Additional requirements

The following additional software requirements apply:

- Microsoft Internet Explorer version 6.0 or later
- Mozilla Firefox 3.x to 6.x
- Pop-up blockers are not enabled on the machine
- To view the Symantec High Availability tab in the vSphere Client, verify that the following settings are enabled in your Internet Explorer (IE) browser:

Tools > Internet Options, Advanced tab

- Use SSL 2.0
- Use SSL 3.0
- Use TLS 1.0

Tools > Internet Options, Security tab

- Active scripting
- Run ActiveX controls and plug-ins
- Script ActiveX controls marked safe for scripting

Tools > Manage Add-ons

- Shockwave Flash Object

- To view the Symantec High Availability tab on systems running Internet Explorer (IE) version 9, verify that IE Enhanced Security Setting is set to "Off" for the Administrator and the Users group.
- Installation media and licenses for all products and third-party applications.
- Adobe Flash Player
Install Adobe Flash Player version 11.1 or later on the systems from where you run the VMware vSphere Client to manage the virtual machines.
- When installing Symantec ApplicationHA, ensure that there are no parallel installations, live updates, or Microsoft Windows updates in progress.

About installing ApplicationHA

Install ApplicationHA on the virtual machines where you want to monitor applications.

You can install ApplicationHA using any of the following methods:

- For installing using the installation wizard
See ["Installing ApplicationHA using the installation wizard"](#) on page 18.
- For installing using the command line interface (CLI)
See ["Performing an automated installation of ApplicationHA"](#) on page 21.

- For installing using the vSphere Client menu
See [“About installing ApplicationHA using the vSphere Client menu”](#) on page 24.

Installing ApplicationHA using the installation wizard

Consider the following points before you proceed with the installation:

- The installer uses the logged-on user account context for installation. Verify that the logged-on user has local administrator privileges on the system where you want to install ApplicationHA.
- Symantec recommends that you first install the Symantec High Availability Console before installing ApplicationHA.
The Symantec High Availability plugin is registered during the Symantec High Availability Console installation.
During ApplicationHA installation, the installer verifies the Symantec High Availability plugin registration on the vCenter Server. If the plugin is not registered, the installer displays a prompt.
You can choose to proceed with ApplicationHA installation; however the Symantec High Availability plugin registration is required for configuring application monitoring from the vSphere Client.
- Using the product installer you can currently install ApplicationHA only on the local virtual machine.
- Installation of ApplicationHA also configures single sign-on between the virtual machine and the Symantec High Availability Console host. However, if the SSO configuration fails, you must manually configure it after the installation is complete. Use the Symantec High Availability tab to configure the SSO manually. For details refer to *Symantec™ ApplicationHA User's Guide*.
The single sign-on authentication is used for all operations on the virtual machine. This is also required so that the server does not prompt you for a user name and password each time you log on to the vSphere Client and click on a virtual machine to view its status.

Perform the following steps to install ApplicationHA using the installation wizard

- 1 Insert the software disk containing the installation package into your system's disc drive or download the installation package from the following location:

<https://fileconnect.symantec.com>

- 2 Allow the autorun feature to start the installation or double-click **Setup.exe**.
The CD browser appears.

Note: If you are installing the software using the product software disc, the CD browser displays the installation options for all the Symantec Storage and Application Availability Management Solutions. However, if you are downloading the installation package from the Symantec website, the CD browser displays the installation options only for the product to be installed.

- 3 Click **Symantec ApplicationHA** to download the required contents.
- 4 In the expanded tab, click **Install ApplicationHA (for VMware)** and then click **Run**.
- 5 On the Welcome panel, review the prerequisites and then click **Next**.

Note that the **Check for product updates** check box is selected by default. The product installer searches for the available product updates on the SORT website. You can then download and apply the available updates. If you do not want to apply the available patches, clear the selection of **Check for product updates** check box.

- 6 On the License panel, read the license terms, select **I accept the terms of License Agreement**, and then click **Next**.

The Participate in the **Symantec Product Improvement Program by submitting system and usage information anonymously** check box is selected by default. The Product Improvement Program allows the product installer to collect installation, deployment, and usage data and submit it anonymously to Symantec. The collected information helps identify how customers deploy and use the product. If you do not want to participate in the product improvement program, clear the selection of the check box.

- 7 On the Product Updates panel, review the list of available product updates.

This panel appears only if you have selected the **Check for product updates** check box on the Welcome panel.

The product updates comprise of the pre-installation patches, post-installation patches, High Availability Agents, and Array-Specific Modules. The panel lists the available pre-installation patches and the post-installation patches.

Download and apply the pre-installation patches in the sequence shown in the table and rerun the wizard. After the successful installation of the product, apply the post-installation patches. Also download and install the High Availability Agents and Array-Specific Modules from the SORT website.

<https://sort.symantec.com>

- 8 On the System Selection panel, the local host is selected by default. Click **Add**.

The wizard performs certain validation checks and notes the details in the Verification Details box.

To select the installation options, perform the following tasks:

- By default the wizard uses %ProgramFiles%\Veritas as the installation directory. To customize the installation directory, click **Browse** and select the desired location. Click **OK**.
If you are upgrading the product, the installation directory is selected by default.
- Select the required license type from the **License key** drop-down list.

Note: The default license type is "Keyless".

An embedded license key is installed, if you select the "Keyless" license type. You can use the keyless license for 60 days.

When you install the product using the keyless option, a message is logged everyday in the Event Viewer indicating that you must perform any one of the following tasks, within 60 days of product installation. Failing this, a non-compliance error is logged every four hours.

- Add the system as a managed host to a Veritas Operations Manager (VOM) Management Server.
For more details, refer to the VOM documentation.
- Add an appropriate and valid license key on this system using the Symantec product installer from Windows Add or Remove Programs.
If you select "User entered license key" as your license type, the License Details panel appears by default. On the License Details panel, enter the license key and then click **Add**.

The wizard validates the entered license keys and displays the relevant error if the validation fails. After the validation is complete, click **OK**.

- 9 On the System Selection panel, click **Next**.

Note that the wizard fails to proceed with the installation, unless the system has passed the validation checks and is ready for installation. In case the validation checks have failed, review the details and rectify the issue. Before you choose to proceed with the installation, select the system and click Re-verify to re-initiate the validation checks for this system.

- 10 On the Pre-install Summary panel, review the summary and click **Next**.

- 11 On the Installation panel, review the progress of installation and click **Next** after the installation is complete.

If the installation is not successful, the status screen shows installation failure.

- 12 On the Post-install Summary panel, review the installation result and click **Next** to configure single sign-on between the virtual machine and the Symantec High Availability Console.

If the installation has failed, refer to the log file for details. You may have to re-install the software.

- 13 On the Configuration panel, specify the required details and then click **Next**.

Note: If the SSO configuration fails you can rectify the cause and then retry. Alternatively, you can proceed to complete the installation and then manually configure the single sign-on. Use the Symantec High Availability tab or the Symantec High Availability view to manually configure SSO. Unless you configure single sign-on, you cannot configure application monitoring for an application running on the virtual machine.

Performing an automated installation of ApplicationHA

You can perform an automated or unattended installation of ApplicationHA using the Setup.exe command from the command prompt.

Ensure that the ApplicationHA software package directory is accessible from the command prompt on the virtual machine.

Note: If UAC is enabled, run the program or commands in the “Run as administrator” mode even if the logged-on user belongs to the local administrators group. Alternatively, log on as an "Administrator" (default administrator account) to perform the tasks.

To perform an automated installation

- 1 On the system where you want to install ApplicationHA, open the command prompt.
- 2 In the command window, navigate to the ApplicationHA software package root directory.
- 3 Use the following command syntax to install:

```
Setup.exe /s SOLUTIONS="10" install_mode=1 TELEMETRY=1
installldir="Installldir" node="System_Name"
licensekey="licensekey" GetPatchInfo=1
```

Here, the maximum length of the argument string is 2048 characters and the syntax is not case sensitive.

[Table 2-1](#) describes the parameters applicable for Setup.exe command.

Table 2-1 Command line parameters to install ApplicationHA

Parameter	Description
/s	Specifies the silent or unattended mode of installation. If not set, this launches the product installation wizard.
solutions	Set this parameter to install, repair or uninstall ApplicationHA. The possible value is 10 For example, Solutions= 10
install_mode	Specifies the type of operation. The possible values are: <ul style="list-style-type: none"> ■ 1= install ■ 4= repair ■ 5= uninstall

Table 2-1 Command line parameters to install ApplicationHA (*continued*)

Parameter	Description
Telemetry	<p>Set this parameter to participate in the Symantec Product Improvement Program by submitting system and usage information anonymously.</p> <p>The Product Improvement Program allows the product installer to collect installation, deployment, and usage data and submit it anonymously to Symantec. The collected information helps identify how customers deploy and use the product. If you do not want to participate in the product improvement program, set this parameter to 0.</p>
installdir	<p>This is an optional parameter.</p> <p>Set the installation directory path. The path must start and end with a quotation mark.</p> <p>If you do not specify a path, the default installation directory is <i>%ProgramFiles%\Veritas</i>.</p> <p>Example: <code>installdir="C:\Program Files\Veritas"</code></p>
node	<p>This is an optional parameter.</p> <p>Set the physical name of the local system. The system name must start and end with a quotation mark ("").</p> <p>Example: <code>node="SystemA"</code></p>
licensekey	<p>Set the license key for the installation. Enter multiple keys by separating them with a comma (e.g. 123-345-567-789-123, 321-543-765-789-321, etc.). Do not enter spaces around the comma. The license key must start and end with a quotation mark ("").</p> <p>This parameter is applicable only if you plan to use the "User entered license key" as your license type. You need not specify this parameter for "Keyless" license type.</p> <p>If you do not specify a license key, the embedded keyless license is installed by default.</p>

Table 2-1 Command line parameters to install ApplicationHA (*continued*)

Parameter	Description
GetPatchInfo	<p>Set this parameter to search for available product updates.</p> <ul style="list-style-type: none"> ■ 1 = Lists available updates ■ 0 = Does not list available updates <p>Default value is 1.</p> <p>The product updates comprise of the pre-installation patches, post-installation patches, High Availability Agents, and Array-Specific Modules. If you set this parameter to 1, then the available pre-installation patches and post-installation patches are listed. If any pre-installation patches are available, then the setup exits to let you download and apply the pre-installation patches. Apply the pre-installation patches in the sequence displayed and rerun the setup with GetPatchInfo = 0. After the successful installation of the product, apply the post-installation patches. Also download and install the High-Availability Agents and Array-Specific Modules from the SORT website.</p>

After the installation is complete, proceed to configure the single sign-on between the local system and the Symantec High Availability Console. For details refer to the *Symantec™ ApplicationHA User's Guide*.

About installing ApplicationHA using the vSphere Client menu

Installation of ApplicationHA using the vSphere Client menu involves the following tasks:

- Copying the platform-specific guest installation package on the Console host. See [“Copying the platform-specific installation package”](#) on page 24.
- Installing ApplicationHA. See [“Installing ApplicationHA using the vSphere Client menu”](#) on page 25.

Copying the platform-specific installation package

You must perform this task only in case of the following situations:

- You have installed the Symantec High Availability Console Server using a product software disc for Linux operating system, but plan to install ApplicationHA on Windows systems.

- You have installed the Symantec High Availability Console Server using a product software disc for Windows operating system, but plan to install ApplicationHA on Linux systems.

Perform the following to copy the platform-specific guest installation package on the Console host

- 1 On the Console host, insert the platform-specific product software disc into your system drive.

- 2 Navigate to the following path.

<Installation Path>\ApplicationHA\Console\installer

- 3 Run the Copyinstaller.bat file.

- 4 Enter the parameters in the following format.

```
CopyInstaller <Source>
```

Where,

Source: The directory path where the installer disc is mounted or copied.

For example,

```
CopyInstaller <D:>dvd2-linux\rhel5_x86_64
```

```
CopyInstaller <F:>dvd2-linux\sles11_x86_64
```

Installing ApplicationHA using the vSphere Client menu

Consider the following points before you proceed with the installation.

- Ensure that you have installed and enabled VMware Tools on the machine/s where you want to install ApplicationHA. Ensure that the VMware Tools version is compatible with the ESX version in your environment.
- The installer uses the logged-on user account context for installation. Verify that the logged-on user has local administrator privileges on the system where you want to install ApplicationHA.
- If UAC is enabled on the systems, log on using the Default Administrator user account.
- Symantec recommends that you first install the Symantec High Availability Console before installing ApplicationHA. The Symantec High Availability plugin is registered during the Symantec High Availability Console installation. The Symantec High Availability plugin is required for vSphere Client integration. If the plugin is not registered, the option to install ApplicationHA will not be available in the vSphere Client.

- Installation of ApplicationHA configures single sign-on between the systems and the Console host. However, if the SSO configuration fails, you must manually configure it after ApplicationHA installation is complete. Use the Symantec High Availability tab to manually configure SSO.

For details refer to *Symantec™ ApplicationHA User's Guide*.

The single sign-on authentication is used for all operations on the system. This is also required so that the server does not prompt you for a user name and password each time you log on to the vSphere Client and click on a system to view its status.

- The installer allows remote installation. You can launch the installer from any system, cluster or a datacenter in your network.

In case of remote installations, ensure that the logged-on user has local administrator privileges on all the remote systems where you wish to install ApplicationHA.

Perform the following steps to install ApplicationHA using the vSphere Client menu

- 1 Using the vSphere Client, connect to the vCenter Server and navigate to **Home > Solutions and Applications > Symantec High Availability**.

On the Getting Started tab, click **Install Guest Components**

Alternatively,

Using the vSphere Client, connect to the vCenter Server and navigate to **Home > Hosts and Clusters**.

From the vCenter inventory tree view, right-click on the datacenter, cluster or any of the system and select **Symantec High Availability > Install Guest Components**.

This launches the Symantec High Availability Guest Components Installer.

- 2 On the Welcome panel, review the prerequisites and then click **Next**.
- 3 On the vCenter Server User Details panel, specify the vCenter Server user credentials and then click **Next**.

Note: The user account must have vCenter Server privileges for "create tasks", "update tasks" and "acquire guest control ticket" on the systems.

The wizard discovers only those systems where the user has these permissions.

4 On the Product Selection panel, select **ApplicationHA 6.1**.

The Packages included table lists the installation packages that are included in the selected product.

Review the license agreement that is available against the corresponding package, select **I accept the terms of license agreement** and then click **Next**.

A package is installed based on the operating system that runs on selected systems.

5 On the System Selection panel, perform the following tasks:

- Select the systems on which you want to install ApplicationHA.
 To select the systems
 - Click **Add**.
 - On the Select Virtual Machines panel, select the desired systems, specify the required details and click **OK**.
 The specified details apply to all the selected systems. If they are different for one or more systems, you can edit them later.
- If required, edit the user credentials and the license key entered.
 If the user credentials and license key is different for an individual system, you can edit the details inline.
 If the details to be edited are same for multiple systems, select the desired machines and click **Edit**. On the **Edit virtual machine details** panel, enter the details that apply to the selected systems and click **OK**.

Note: You can customize the installation directory only for the systems running Windows operating system.

- Click **Install** to begin the installation.
 The installer performs the required validation checks on the selected systems and moves to the Installation panel, if all the selected systems pass the validation checks.
 If the validation checks fail on any of the systems, the status is reflected as follows:
 For systems that pass the validation checks: **Ready for install**.
 For systems that do not pass the validation checks: **Verification failed**
 To view the cause of validation failure, select the system. The details are displayed in the Verification Details box.
 Rectify the issue and then click **Install**.
 The installer re-validates the failed systems.

The installer does not proceed with the installation unless all the selected systems have passed the validation checks.

- 6 On the Installation panel, review the progress of the tasks queued. After all the tasks are queued and the status is marked as **complete**, click **Finish**.

This indicates that the selected systems are queued for installation.

You can now view the installation progress under the Recent Tasks on vSphere Client.

After the installation is complete single sign-on is configured for the systems with the Symantec High Availability Console host. You can now proceed to configure application monitoring, using the Symantec High Availability tab.

For details, refer to the individual application configuration guide.

Note: If the SSO configuration has failed for a system and you select that system from vSphere Client to configure application monitoring for an application, then the Symantec High Availability tab first displays a panel to specify the system user credentials. This configures the single sign-on for the system with the Symantec High Availability Console host. After you configure the single sign-on you can configure application monitoring for an application running on the system.

Upgrading to ApplicationHA 6.1

This chapter includes the following topics:

- [About upgrading to ApplicationHA 6.1](#)
- [Upgrading to ApplicationHA 6.1 using the product installer](#)
- [Performing an automated upgrade to ApplicationHA 6.1](#)
- [About upgrading to ApplicationHA 6.1 using the vSphere Client menu](#)

About upgrading to ApplicationHA 6.1

[Table 3-1](#) lists the supported paths for upgrading ApplicationHA

Table 3-1 ApplicationHA upgrade matrix

Upgrade from	Upgrade to
ApplicationHA 5.1 SP2 guest components	ApplicationHA 6.1
ApplicationHA 6.0 guest components	

Note: If you have installed ApplicationHA Console or Symantec High Availability 6.0.1 Console, then you must first upgrade the Console to Symantec High Availability 6.1 Console. ApplicationHA Console or Symantec High Availability 6.0.1 Console do not support ApplicationHA 6.1.

For supported Console upgrade paths, refer to *Symantec High Availability Console Installation and Upgrade Guide*.

You can upgrade to ApplicationHA 6.1 using any of the following method:

- Using the product installer
See “[Upgrading to ApplicationHA 6.1 using the product installer](#)” on page 30.
- Using the command line
See “[Performing an automated upgrade to ApplicationHA 6.1](#) ” on page 33.
- Using the vSphere Client integrated menu
See “[About upgrading to ApplicationHA 6.1 using the vSphere Client menu](#)” on page 36.

Upgrading to ApplicationHA 6.1 using the product installer

Perform the following steps to upgrade to ApplicationHA 6.1 using the installation wizard

Note: If you have installed ApplicationHA Console or Symantec High Availability 6.0.1 Console, then you must first upgrade the Console to Symantec High Availability 6.1.

ApplicationHA Console or Symantec High Availability 6.0.1 Console do not support ApplicationHA 6.1.

For supported Console upgrade paths, refer to Symantec High Availability Console Installation and Upgrade Guide.

- 1 Insert the software disk containing the installation package into your system's disc drive or download the installation package from the following location:
<https://fileconnect.symantec.com>
- 2 Allow the autorun feature to start the installation or double-click **Setup.exe**.
The CD browser appears.

Note: If you are installing the software using the product software disc, the CD browser displays the installation options for all the Symantec Storage and Application Availability Management Solutions. However, if you are downloading the installation package from the Symantec website, the CD browser displays the installation options only for the product to be installed.

- 3 Click **Symantec ApplicationHA** to download the required contents.

4 In the expanded tab, click **Install ApplicationHA (for VMware)** and then click **Run**.

5 On the Welcome panel, review the prerequisites and then click **Next**.

Note that the **Check for product updates** check box is selected by default. The product installer searches for the available product updates on the SORT website. You can then download and apply the available updates. If you do not want to apply the available patches, clear the selection of **Check for product updates** check box.

6 On the License panel, read the license terms, select **I accept the terms of License Agreement**, and then click **Next**.

The Participate in the **Symantec Product Improvement Program by submitting system and usage information anonymously** check box is selected by default. The Product Improvement Program allows the product installer to collect installation, deployment, and usage data and submit it anonymously to Symantec. The collected information helps identify how customers deploy and use the product. If you do not want to participate in the product improvement program, clear the selection of the check box.

7 On the Product Updates panel, review the list of available product updates.

This panel appears only if you have selected the **Check for product updates** check box on the Welcome panel.

The product updates comprise of the pre-installation patches, post-installation patches, High Availability Agents, and Array-Specific Modules. The panel lists the available pre-installation patches and the post-installation patches.

Download and apply the pre-installation patches in the sequence shown in the table and rerun the wizard. After the successful installation of the product, apply the post-installation patches. Also download and install the High Availability Agents and Array-Specific Modules from the SORT website.

8 On the System Selection panel, the local host is selected by default. Click **Add**.

The wizard performs certain validation checks and notes the details in the Verification Details box.

To select the installation options, perform the following tasks:

- By default the wizard uses %ProgramFiles%\Veritas as the installation directory. To customize the installation directory, click **Browse** and select the desired location. Click **OK**.

Note: The installation directory is selected by default. You cannot change the installation directory during an upgrade.

- Select the required license type from the **License key** drop-down list.

Note: The default license type is "Keyless".

An embedded license key is installed, if you select the "Keyless" license type. You can use the keyless license for 60 days.

When you install the product using the keyless option, a message is logged everyday in the Event Viewer indicating that you must perform any one of the following tasks, within 60 days of product installation. Failing this, a non-compliance error is logged every four hours.

- Add the system as a managed host to a Veritas Operations Manager (VOM) Management Server.

For more details, refer to the VOM documentation.

- Add an appropriate and valid license key on this system using the Symantec product installer from Windows Add or Remove Programs. If you select "User entered license key" as your license type, the License Details panel appears by default. On the License Details panel, enter the license key and then click **Add**.

The wizard validates the entered license keys and displays the relevant error if the validation fails. After the validation is complete, click **OK**.

- 9 On the System Selection panel, click **Next**.

Note that the wizard fails to proceed with the installation, unless the system has passed the validation checks and is ready for installation. In case the validation checks have failed, review the details and rectify the issue. Before you choose to proceed with the installation, select the system and click Re-verify to re-initiate the validation checks for this system.

- 10 On the Pre-install Summary panel, review the summary and click **Next**.

- 11 On the Installation panel, review the progress of installation and click **Next** after the installation is complete.

If the installation is not successful, the status screen shows installation failure.

- 12 On the Post-install Summary panel, review the installation result and click **Next** to configure single sign-on between the virtual machine and the Symantec High Availability Console.

If the installation has failed, refer to the log file for details. You may have to re-install the software.

- 13 On the Configuration panel, specify the required details and then click **Next**.

Note: You must complete the single sign-on (SSO) configuration as part of the upgrade process. Unlike fresh install, do not choose to configure the SSO later. Unless the SSO is configured the Veritas Storage Foundation Messaging Service fails to start. This service is used for the communication between the Symantec High Availability Console and the local system.

Performing an automated upgrade to ApplicationHA 6.1

You can upgrade to ApplicationHA 6.1 using the Setup.exe command from the command prompt.

Note: If UAC is enabled, run the program or commands in the "Run as administrator" mode even if the logged-on user belongs to the local administrators group. Alternatively, log on as an "Administrator" (default administrator account) to perform the tasks.

To perform an automated upgrade

- 1 On the system where you want to upgrade to ApplicationHA 6.1, open the command prompt.
- 2 In the command window, navigate to the ApplicationHA software package root directory.
- 3 Use the following command syntax to install:

```
Setup.exe /s SOLUTIONS="10" install_mode=1 TELEMETRY=1
installldir="Installldir" node="System_Name"
licensekey="licensekey" GetPatchInfo=1
```

Here, the maximum length of the argument string is 2048 characters and the syntax is not case sensitive.

Note: The installation directory used during the previous installation is selected by default. You cannot customize the installation directory during the upgrade.

[Table 3-2](#) describes the parameters applicable for Setup.exe command.

Table 3-2 Command line parameters to upgrade to ApplicationHA 6.1

Parameter	Description
/s	Specifies the silent or unattended installation. If not set, this launches the product installation wizard.
solutions	Set this parameter to install, upgrade, repair or uninstall ApplicationHA. The possible value is 10. For example, Solutions= 10
install_mode	Specifies the type of operation. The possible values are: <ul style="list-style-type: none"> ■ 1= install ■ 4= repair ■ 5= uninstall

Table 3-2 Command line parameters to upgrade to ApplicationHA 6.1
(continued)

Parameter	Description
Telemetry	<p>Set this parameter to participate in the Symantec Product Improvement Program by submitting system and usage information anonymously.</p> <p>The Product Improvement Program allows the product installer to collect installation, deployment, and usage data and submit it anonymously to Symantec. The collected information helps identify how customers deploy and use the product. If you do not want to participate in the product improvement program, set this parameter to 0.</p>
node	<p>This is an optional parameter.</p> <p>Set the physical name of the local system. The system name must start and end with a quotation mark ("").</p> <p>Example: node="SystemA"</p>
licensekey	<p>Set the license key for the installation. Enter multiple keys by separating them with a comma (e.g. 123-345-567-789-123, 321-543-765-789-321, etc.). Do not enter spaces around the comma. The license key must start and end with a quotation mark ("").</p> <p>This parameter is applicable only if you plan to use the "User entered license key" as your license type. You need not specify this parameter for "Keyless" license type.</p> <p>If you do not specify a license key, the embedded keyless license is installed by default.</p>
GetPatchInfo	<p>Set this parameter to search for available product updates.</p> <ul style="list-style-type: none"> ■ 1 = Lists available updates ■ 0 = Does not list available updates <p>Default value is 1.</p> <p>The product updates comprise of the pre-installation patches, post-installation patches, High Availability Agents, and Array-Specific Modules. If you set this parameter to 1, then the available pre-installation patches and post-installation patches are listed. If any pre-installation patches are available, then the setup exits to let you download and apply the pre-installation patches. Apply the pre-installation patches in the sequence displayed and rerun the setup with GetPatchInfo = 0. After the successful installation of the product, apply the post-installation patches. Also download and install the High-Availability Agents and Array-Specific Modules from the SORT website.</p>

Reboot the system after the upgrade is complete.

If the single sign-on configuration needs to be reconfigured, then select the virtual machine from the vCenter Server inventory. Select the Symantec High Availability tab and then provide the user account details to reconfigure SSO.

About upgrading to ApplicationHA 6.1 using the vSphere Client menu

Upgrading to ApplicationHA 6.1, using the vSphere Client menu involves the following tasks:

- Copying the platform-specific guest installation package on the Console host. See [“Copying the platform-specific installation package”](#) on page 24.
- Upgrade ApplicationHA. See [“Installing ApplicationHA using the vSphere Client menu”](#) on page 25.

Copying the platform-specific guest installation package

You must perform this task only in case of the following situations:

- You have installed the Symantec High Availability Console Server using a product software disc for Linux operating system, but plan to install the guest components on Windows systems.
- You have installed the Symantec High Availability Console Server using a product software disc for Windows operating system, but plan to install the guest components on Linux systems.

Perform the following to copy the platform-specific guest installation package on the Console host

- 1 On the Console host, insert the platform-specific product software disc into your system drive.
- 2 Navigate to the following path.

<Installation Path>\ApplicationHA\Console\installer

- 3 Run the Copyinstaller.bat file.
- 4 Enter the parameters in the following format.

```
CopyInstaller <Source>
```

Where,

Source: The directory path where the installer disc is mounted or copied.

For example,

```
CopyInstaller <D:>dvd2-linux\rhe15_x86_64
```

```
CopyInstaller <F:>dvd2-linux\sles11_x86_64
```

Upgrading to ApplicationHA 6.1 using the vSphere Client menu

Consider the following points before you proceed with the upgrade.

- The installer uses the logged-on user account context for installation. Verify that the logged-on user has local administrator privileges on the system where you want to install.
- If UAC is enabled on the systems, log on using the Default Administrator user account.
- The installer allows remote installation. You can launch the installer from any system, cluster or a datacenter in your network.
In case of remote installations, ensure that the logged-on user has local administrator privileges on all the remote systems where you wish to install the guest components.
- You must reboot the system after the upgrade is complete.

Perform the following steps to upgrade to ApplicationHA 6.1 using the vSphere Client menu

- 1 Using the vSphere Client, connect to the vCenter Server and navigate to **Home > Solutions and Applications > Symantec High Availability**.

On the Getting Started tab, click **Install Guest Components**

Alternatively,

Using the vSphere Client, connect to the vCenter Server and navigate to **Home > Hosts and Clusters**.

From the vCenter inventory tree view, right-click on the datacenter, cluster or any of the system and select **Symantec High Availability > Install Guest Components**.

This launches the Symantec Symantec High Availability Guest Components Installer.

- 2 On the Welcome panel, review the prerequisites and then click **Next**.
- 3 On the vCenter Server Details panel, specify the vCenter Server user credentials and then click **Next**.

The user account must have the following privileges:

- ApplicationHA administrator privileges to perform the installation on the systems.
- vCenter privileges for "create tasks", "update tasks" and "acquire guest control ticket" on the systems.

The wizard discovers only those systems where the user has these permissions.

- 4 On the Product Selection panel, select **ApplicationHA**.

The Packages included table lists the installation packages that are included in the selected product.

Review the license agreement that is available against the corresponding package, select **I accept the terms of license agreement** and then click **Next**.

A package is installed based on the operating system that runs on selected systems.

- 5 On the System Selection panel, perform the following tasks:
 - Select the systems on which you want to upgrade ApplicationHA.
To select the systems
 - Click **Add**.

- On the Select Virtual Machines panel, select the desired systems, specify the required details and click **OK**.

The specified details apply to all the selected systems. If they are different for one or more systems, you can edit them later.

- If required, edit the user credentials and the license key entered. If the user credentials and license key is different for an individual system, you can edit the details inline. If the details to be edited are same for multiple systems, select the desired machines and click **Edit**. On the **Edit virtual machine details** panel, enter the details that apply to the selected systems and click **OK**.

Note: You cannot modify the installation directory. The directory that is selected during installation is selected by default.

- Click **Install** to begin the installation. The installer performs the required validation checks on the selected systems and moves to the Installation panel, if all the selected systems pass the validation checks. If the validation checks fail on any of the systems, the status is reflected as follows:
For systems that pass the validation checks: **Ready for install**.
For systems that do not pass the validation checks: **Verification failed**.
To view the cause of validation failure, select the system. The details are displayed in the Verification Details box.
Rectify the issue and then click **Install**.
The installer re-validates the failed systems.

The installer does not proceed with the installation unless all the selected systems have passed the validation checks.

- 6 On the Installation panel, review the progress of the tasks queued. After all the tasks are queued and the status is marked as **complete**, click **Finish**.

This indicates that the selected systems are queued for installation.

You can now view the installation progress under the Recent Tasks on vSphere Client.

Reboot the system after the upgrade is complete.

Note: If the SSO configuration has failed for a system and you select that system from vSphere Client to configure application monitoring for an application, then the Symantec High Availability tab first displays a panel to specify the system user credentials. This configures the single sign-on for the system with the Symantec High Availability Console host.

Repairing ApplicationHA installation and managing licenses

This chapter includes the following topics:

- [Repairing ApplicationHA installation](#)
- [About managing ApplicationHA licenses](#)

Repairing ApplicationHA installation

To repair ApplicationHA installation, use the ApplicationHA installer. You can repair the installation on the local system only. Repairing an installation remotely is not supported.

Repairing fixes the missing or corrupt files, shortcuts, and registry entries on the local system and restores the installation to its original state.

Note: Repairing does not fix the missing or corrupt product license files. To add, modify or repair licenses refer to "Managing Licenses".

Consider the following points before you proceed:

- If the virtual machine is added as a managed host to the VOM central server, then before repairing ApplicationHA installation you must repair the Veritas Operations Manager (Host Component) on the system.
- While the installer is repairing the installation, application monitoring may be temporarily suspended.

If you have configured application monitoring, then the Symantec High Availability view and the Symantec High Availability dashboard in the vSphere Client may not display the most current status of the applications and services on the system.

- The installer uses the logged-on user account context to perform the repair. Verify that the logged-on user has local administrator privileges on the system where you want to repair the installation.
- The Virtual Machine Auto Recovery configuration is restored when the Backup Exec Virtual Machine Auto-Recovery database and the Symantec High Availability Console Server database are synchronized after ApplicationHA installation is repaired.

To repair ApplicationHA installation

- 1 On the system open Windows Add or Remove Programs.
- 2 In the Add or Remove Programs window, select **Symantec ApplicationHA 6.1 (for VMware)** and then click **Change** to launch the Symantec ApplicationHA installer.
- 3 On the Mode Selection panel, click **Repair** and then click **Next**.
- 4 Click **OK** on the dialog box that prompts you to repair the Veritas Operations Manager (Host Component).

Refer to VOM documentation for more information.

- 5 On the System Selection panel the installer automatically selects the local system for repair and begins the validation checks. After the status shows as *Ready for repair*, click **Next**.

You can repair the installation on the local system only.

If the system does not meet the required criteria, the status is reflected as *Verification failed*. To view the cause of a validation failure, click the Information icon. Rectify the issue and then click **Re-verify** to perform the validation checks again.

The wizard does not proceed with the repair unless the system has passed the validation checks.

- 6 On the Pre-install Summary panel, review the pre-update summary and then click **Next**.

Click **Save Report** if you wish to save the summary report for reference.

Note: The **Automatically reboot systems after installer completes the operation** check box is selected by default.

To manually reboot the system later, clear the check box selection.

The installer stops the required services before repair and restarts them after the system reboot is complete.

- 7 On the Installation panel review the installation progress. After the panel indicates that the installation is complete, click **Next**.
- 8 On the Post-install Summary panel, review the installation results and then click **Next**.

If the installation has failed, review the post-install summary report and refer to the wizard log file for details.

You may have to repeat the installation repair in case the installation fails.
- 9 On the Configuration panel, specify the required details and then click **Next**.

If the SSO configuration fails you can rectify the cause and then retry. Alternatively, you can proceed to complete the installation and then manually configure the single sign-on. Use the Symantec High Availability tab or the Symantec High Availability view to manually configure SSO. Unless you configure single sign-on, you cannot configure application monitoring for an application running on the virtual machine.

This completes ApplicationHA installation repair.

About managing ApplicationHA licenses

You may want to update your licenses or add a license key if you had selected 'Keyless' license option.

You can update the licenses by adding or removing specific license keys on any system that has ApplicationHA installed. Removing of license keys is supported only if you manage the licenses using the Windows Add or Remove Programs.

Use any of the following methods to manage the licenses:

- Connect to the vCenter Server and navigate to **Home > Solutions and Application > Symantec High Availability**.

Use this method to manage licenses on local and remote systems.

See [“Managing ApplicationHA licenses through vSphere Client menu”](#) on page 45.

- Connect to the vCenter Server and select the system for which you want to update the licenses. Select the Symantec High Availability tab and click Licenses. Use this method to manage licenses on the local system. See [“Managing ApplicationHA licenses through Symantec High Availability tab”](#) on page 45.
- Navigate to the Windows Add or Remove Programs to launch the Symantec ApplicationHA installer and then choose the Add or Remove option. Use this method to manage licenses on the local system. See [“Managing ApplicationHA licenses using the product installer”](#) on page 44.

Managing ApplicationHA licenses using the product installer

Perform the following steps to manage ApplicationHA licenses, using the product installer. You must perform these steps on the system where you want to update the licenses.

Note: The system must have ApplicationHA installed.

To manage the ApplicationHA licenses

- 1 Launch the Windows Add or Remove Programs.
- 2 Select **Symantec ApplicationHA 6.1 (for VMware)** and then click **Change** to launch the **Symantec ApplicationHA** installer.
- 3 On the Mode Selection panel, select **Add or Remove** and then click **Next**.
- 4 On the System Selection panel, choose the appropriate license type from the **License key** drop-down list. If you do not want to change the license type, click **Edit**.
- 5 On the License Details panel, enter the license key and then click **Add**.

Note: If you select "User entered license key" as your license type, the License Details panel appears by default.

The wizard validates the entered license keys.

- 6 On the System Selection panel, click **Next**.
- 7 On the Pre-install Summary panel, review the summary and then click **Next**.

- 8 On the Installation panel, review the installation progress and click **Next** after the installation is complete.
- 9 On the Post-install Summary panel, review the installation result and click **Next**.
The specified licenses take effect immediately.

Managing ApplicationHA licenses through Symantec High Availability tab

Perform the following steps to manage ApplicationHA licenses through the Symantec High Availability tab.

To manage the ApplicationHA licenses

- 1 Connect to the vCenter Server and from the Host and Clusters select the virtual machine for which you want to update the licenses.
- 2 Click the **Symantec High Availability** tab and then click **Licenses**.
- 3 On the License Management panel, enter the new license key in the **Enter license key** text box and then click **Add**.
- 4 Click **Close**.

Managing ApplicationHA licenses through vSphere Client menu

Perform the following steps to manage ApplicationHA licenses through vSphere Client menu. You can manage licenses on local and remote virtual machines.

To manage the ApplicationHA licenses

- 1 Connect to the vCenter Server and navigate to **Home > Solutions and Applications > Symantec ApplicationHA**
- 2 Click the **License Management** tab.
- 3 Select the desired virtual machines and click **Next**.
Only the machines that are powered ON can be selected.
- 4 Select a virtual machine and click **Add License**.
Use the **CTRL** key to select multiple virtual machines.
- 5 Enter the license key in the **Add License Key** text box and click **Validate Key**.
The installer validates the license key. For successful validation the status reflects **New license applied**. In case of validation failure, the status reflects **Validation Failed. Enter a valid license key**. Click **Ok**.
- 6 Click **Apply**.

The specified license keys take effect immediately.

To view the details of the existing licenses, select the individual virtual machine. The details are displayed in the **Existing License Details** table.

Uninstalling ApplicationHA

This chapter includes the following topics:

- [About uninstalling ApplicationHA](#)
- [Uninstalling ApplicationHA](#)
- [Performing an automated uninstallation of ApplicationHA](#)

About uninstalling ApplicationHA

You can uninstall ApplicationHA using any of the following methods:

- Using the installation wizard
See [“Uninstalling ApplicationHA”](#) on page 48.
- Using the command line interface (CLI)
See [“Performing an automated uninstallation of ApplicationHA ”](#) on page 49.

Note the following points before you uninstall ApplicationHA:

- If application monitoring is configured on the virtual machine, you must first remove the configuration. This is required for a clean uninstall of ApplicationHA.
- The installer uses the logged-on user account context for uninstallation. Verify that the logged-on user has local Administrator privileges on the system where you want to uninstall.
- A reboot is required post uninstallation. The installer can automatically reboot the systems after the uninstallation is complete. If you wish to reboot the systems later, uncheck the automatic reboot option on the wizard's Pre-uninstall Summary panel.
- Remote uninstall is not supported.
- Ensure that the Application Information service is running on all the systems. To start the service type the following on the command prompt:

```
net start appinfo
```

Uninstalling ApplicationHA

Perform the following steps to uninstall ApplicationHA.

To uninstall ApplicationHA

- 1 On a virtual machine launch Windows Add or Remove Programs.
- 2 In the Add or Remove Programs window, select **Symantec ApplicationHA 6.1 (for VMware)** and then click **Uninstall**.

This launches the Symantec ApplicationHA installer.

- 3 Review the prerequisites on the Welcome panel and then click **Next**.
- 4 On the System Selection panel, the wizard selects the local host by default and begins the validation checks. After the status reflects "Ready for uninstall", click **Next**.

If a system does not meet the required criteria, the status is reflected as **Verification failed**.

Rectify the issue and then click **Re-verify** to perform the validation checks again.

The wizard does not proceed with the uninstallation unless the system passes the validation checks.

- 5 On the Pre-uninstall Summary panel, review the pre-uninstallation summary and then click **Next**.

Note that the **Automatically reboot systems after installer completes the operation** checkbox is selected by default. If you do not want the installer to reboot the system after the uninstallation, clear the **Automatically reboot systems after installer completes the operation** check box.

You must manually reboot the system later.

- 6 On the Un-installation panel review the un-installation progress. After the panel indicates that the tasks are complete, click **Next**.

- 7 On the Post-uninstall Summary panel, review the results and then click **Next**.
 If the uninstallation has failed, review the post-uninstall summary report and refer to the wizard log file for details.
- 8 Click **Yes** on the dialog box that prompts for the system reboot.
 Click **No** if you wish to reboot the system later.
 The uninstallation requires a reboot of the system. If you had not selected the automatic reboot option, you must manually reboot the system.
 This completes Symantec ApplicationHA uninstallation.

Performing an automated uninstallation of ApplicationHA

You can perform an automated or unattended uninstallation of ApplicationHA using the Setup.exe command from the command prompt.

Note: If UAC is enabled, run the program or commands in the “Run as administrator” mode even if the logged-on user belongs to the local administrators group. Alternatively, log on as an "Administrator" (default administrator account) to perform the tasks.

To perform an automated uninstallation

- 1 On the system where you want to uninstall ApplicationHA, open the command prompt.
- 2 Use the following command syntax to uninstall ApplicationHA:

```
Setup.exe /s SOLUTIONS="10" install_mode=5 TELEMETRY=1
installldir="Installldir" node="System_Name"
licensekey="licensekey" GetPatchInfo=1
```

Here, the maximum length of the argument string is 2048 characters and the syntax is not case sensitive.

[Table 5-1](#) describes the parameters applicable for Setup.exe command.

Table 5-1 Command line parameters to install ApplicationHA

Parameter	Description
/s	Specifies the silent or unattended mode of installation. If not set, this launches the product installation wizard.

Table 5-1 Command line parameters to install ApplicationHA (*continued*)

Parameter	Description
solutions	<p>Set this parameter to install, repair or uninstall ApplicationHA.</p> <p>The possible value is 10</p> <p>For example, Solutions= 10</p>
install_mode	<p>Specifies the type of operation.</p> <p>The possible values are:</p> <ul style="list-style-type: none"> ■ 1= install ■ 4= repair ■ 5= uninstall
Telemetry	<p>Set this parameter to participate in the Symantec Product Improvement Program by submitting system and usage information anonymously.</p> <p>The Product Improvement Program allows the product installer to collect installation, deployment, and usage data and submit it anonymously to Symantec. The collected information helps identify how customers deploy and use the product. If you do not want to participate in the product improvement program, set this parameter to 0.</p>
installdir	<p>This is an optional parameter.</p> <p>Set the installation directory path. The path must start and end with a quotation mark.</p> <p>If you do not specify a path, the default installation directory is <i>%ProgramFiles%\Veritas</i>.</p> <p>Example: <code>installdir="C:\Program Files\Veritas"</code></p>
node	<p>This is an optional parameter.</p> <p>Set the physical name of the local system. The system name must start and end with a quotation mark ("").</p> <p>Example: <code>node="SystemA"</code></p>

Table 5-1 Command line parameters to install ApplicationHA (*continued*)

Parameter	Description
licensekey	<p>Set the license key for the installation. Enter multiple keys by separating them with a comma (e.g. 123-345-567-789-123, 321-543-765-789-321, etc.). Do not enter spaces around the comma. The license key must start and end with a quotation mark (").</p> <p>This parameter is applicable only if you plan to use the "User entered license key" as your license type. You need not specify this parameter for "Keyless" license type.</p> <p>If you do not specify a license key, the embedded keyless license is installed by default.</p>
GetPatchInfo	<p>Set this parameter to search for available product updates.</p> <ul style="list-style-type: none"> ■ 1 = Lists available updates ■ 0 = Does not list available updates <p>Default value is 1.</p> <p>The product updates comprise of the pre-installation patches, post-installation patches, High Availability Agents, and Array-Specific Modules. If you set this parameter to 1, then the available pre-installation patches and post-installation patches are listed. If any pre-installation patches are available, then the setup exits to let you download and apply the pre-installation patches. Apply the pre-installation patches in the sequence displayed and rerun the setup with GetPatchInfo = 0. After the successful installation of the product, apply the post-installation patches. Also download and install the High-Availability Agents and Array-Specific Modules from the SORT website.</p>

After the installation is complete, proceed to configure the single sign-on between the local system and the Symantec High Availability Console. For details refer to the *Symantec™ ApplicationHA User's Guide*.

Troubleshooting Symantec ApplicationHA installation

This chapter includes the following topics:

- [Symantec ApplicationHA logging](#)
- [Guest installation using the vSphere Client menu may fail with access rights error](#)
- [Restarting the vCenter Server or its service during the ApplicationHA guest components installation displays "Error" in vSphere Client tasks](#)
- [Reverting the virtual machine snapshot requires you to cancel the ApplicationHA guest components installation](#)
- [Non-supported operating system icon displayed for the selected virtual machine](#)

Symantec ApplicationHA logging

This section describes how to troubleshoot common problems that may occur while installing Symantec ApplicationHA. The chapter lists the error messages and describes the associated problem. Recommended resolution is included, where applicable.

Troubleshooting issues require looking at the log files created by the various components.

ApplicationHA installer logging

Symantec ApplicationHA installer logs contain details about the installation tasks and the overall progress status. These logs are useful for resolving common installation related issues.

The installer creates the log directory as soon as you launch the wizard.

The log file is located at

`%AllUsersProfile%\Veritas\VPI\log\`

Where, %AllUsersProfile% expands to `C:\ProgramData.`

Symantec High Availability Console logging

Use the `hagetcf` utility to collect the Symantec High Availability Console logs. This utility retrieves and writes detailed diagnostic information about the monitoring configuration. These details are useful for debugging configuration related issues.

After you install the Symantec High Availability Console the `hagetcf` utility is available in the following directory on the Console host:

`<installdirectory>\ApplicationHA\bin`

Here, `<installdirectory>` is the directory where you install the Console, typically, `C:\Program Files\Veritas.`

Perform the following steps to collect the Symantec High Availability Console logs:

- 1 On the Symantec High Availability Console host, navigate to the following directory from the command prompt:

`<installdirectory>\ApplicationHA\bin`

- 2 Run the `hagetcf` utility from the directory. Type the following command:

`hagetcf -appserver`

The `hagetcf` utility writes the output to `%systemdrive%\hagetcf\mmyy_hhmm` directory.

For example, `C:\hagetcf\0819_2316.`

The directory contains several folders and log files representing various components.

Agent logging

Symantec ApplicationHA agents generate log files that are appended by letters. Letter A indicates the first log file, B the second, C the third, and so on.

The agent log components are defined as follows:

- Timestamp: the date and time the message was generated.
- Mnemonic: the string ID that represents the product (for example, VCS).

- Severity: levels include CRITICAL, ERROR, WARNING, NOTICE, and INFO (most to least severe, respectively).
- UMI: a unique message ID.
- Message Text: the actual message generated by the agent.

The agent logs are located at `<%vcs_home%>log\agent_A.txt`.

Here, `<%vcs_home%>` is set during ApplicationHA guest component installation is typically, `C:\Program Files\Veritas\Cluster Server`.

The format of the agent log is as follows:

Timestamp (Year/MM/DD) | Mnemonic | Severity | UMI | Agent Type | Resource Name | Entry Point | Message Text

A typical agent log resembles:

```
2010/08/22 18:46:44 VCS ERROR V-16-10051-6010
GenericService:Service_ClipSrv_res:online:Failed to start the service 'ClipSrv'.
Error = 1058.
```

Symantec High Availability view logging

The Symantec High Availability view generates log files that are appended by letters. The log files are segregated based on operations and configuration settings, as follows:

- Operations and wizard logging

ApplicationHA logs operations logs include the Symantec ApplicationHA Configuration Wizard logs and logs related to the various operations performed from the Symantec High Availability view.

Operations logs are located at `<%vcs_home%>log\AppControlOperations_A.log`.

Here, `<%vcs_home%>` is set during ApplicationHA guest component installation is typically, `C:\Program Files\Veritas\Cluster Server`.

The Symantec ApplicationHA Configuration Wizard also maintains in-memory logs that are available only during the time the wizard is running. These logs are maintained on a per session basis. The in-memory logs are purged after the wizard is closed. These logs are not stored in any file or directory.
- Configuration settings logging

Application monitoring configuration settings related changes are logged separately and are available at:

`<%vcs_home%>log\AppControlSettings_A.log`.

Here, `<%vcs_home%>` is set during ApplicationHA guest component installation is typically, `C:\Program Files\Veritas\Cluster Server`.

These settings are accessible from the Settings link on the Symantec High Availability view.

- Symantec High Availability view logging
The Symantec High Availability view also maintains in-memory logs of the operations performed from the view. These logs are available only until the time the logs window is open. To view the current logs, click the **View Logs** link available on the right hand side in the Symantec High Availability view. A window appears within the view. This window displays the details of the operations performed.

Guest installation using the vSphere Client menu may fail with access rights error

ApplicationHA guest installation performed using the vSphere Client menu may fail with the following error:

```
Failed to create directory on the virtual machine.  
You do not have access rights to this file.
```

This error occurs if you install the guest components on a virtual machine with UAC enabled.

Workaround:

Disable UAC and continue with the installation.

Alternatively, exit the wizard and launch it again using the Default Administrator account.

Restarting the vCenter Server or its service during the ApplicationHA guest components installation displays "Error" in vSphere Client tasks

If the vCenter Server or its service happen to fail or restart during the ApplicationHA guest components installation, the vSphere Client displays "Error" as the installation status. However, the guest components installation may continue on the virtual machines.

Workaround:

After the vCenter Server or its service restarts, click on each of the selected virtual machine and verify if the ApplicationHA health view appears in the vSphere Client.

Reverting the virtual machine snapshot requires you to cancel the ApplicationHA guest components installation

Presence of ApplicationHA health view indicates successful installation of the guest components. However, if the ApplicationHA health view is not present, refer to the ApplicationHA logs for installation details.

The ApplicationHA logs are located on the virtual machine at the following location:

```
%AllUsersProfile%\ApplicationData\Veritas\VPI\log\<<date_timestamp>\.
```

Reverting the virtual machine snapshot requires you to cancel the ApplicationHA guest components installation

If you revert the virtual machine snapshot during the ApplicationHA guest components installation, the vSphere Client continues to show a stale entry of the installation task and displays the error "There is one entry in Queue for the virtual machine", if you initiate the installation again.

Workaround:

Before initiating the installation again, run the following utility to cancel the installation task from the vSphere Client.

```
https://ApplicationHAConsole_IP:14152/ac/CancelGuestInstallation?  
VmId=VirtualMachine_ID&VmUser=UserName&VmPassword=Password
```

Alternatively,

```
https://ApplicationHAConsole_IP:14152/ac/CancelGuestInstallation?  
VmName=VirtualMachine_Name&VmUser=UserName&VmPassword=Password
```

Where,

The virtual machine user name and password must be the one specified during the guest installation.

Note: You can also use this utility if you plan to cancel the queued installation task or to cancel the installation tasks that held-up in the same state for a long time.

Non-supported operating system icon displayed for the selected virtual machine

Even if the virtual machine runs a supported operating system the System Selection page of the guest installation wizard launched using the vSphere Client menu displays a non-supported operating system icon.

This situation occurs if you run the ApplicationHA guest installation wizard from the vSphere Client menu immediately after,

- the virtual machine is powered on
- reverting the virtual machine snapshot

The wizard shows the non-supported operating system icon for the virtual machine due to the delay in retrieving the virtual machine operating system details.

Workaround:

Allow certain time lapse after you power on or revert the snapshot of a virtual machine and then proceed to install the guest components.

ApplicationHA tunable parameters

This appendix includes the following topics:

- [ApplicationHA installation parameters](#)

ApplicationHA installation parameters

This section provides the list of tunable parameters that you can customize while installing ApplicationHA, using the vCenter integrated menu.

These parameters are listed in the "appServerConfig.properties" file that is located on the Console host at the following location:

C:\ProgramData\Symantec\ApplicationHA\conf\appServerConfig.properties

Note: After you edit the parameter values, you must restart the Symantec ApplicationHA Service.

[Table A-1](#) lists the parameters for which you can customize the default values.

Table A-1 Guest components tunable parameters

Parameter	Description
VIIMaxInstallerThreadCount	Determines the number of virtual machines on which the guest installer package is simultaneously copied. Default value= 4

Table A-1 Guest components tunable parameters (*continued*)

Parameter	Description
VIPollingInterval	Determines the time interval for polling the installation progress on the virtual machine. The default interval between two consecutive polling tasks is 15 minutes.
VIIQueueTimeout	Determines the time span for which a virtual machine is queued for installation. Default= 120 minutes. If the virtual machine is queued for installation for more than 120 mins a time out error occurs and the virtual machine is removed from the installation queue.
VIICopyTimeout	Determines the time span for copying the guest installer package to the virtual machine, from the Console host. Default= 45 mins If the time taken to copy the installer package exceeds 45 mins, a time out error occurs and the installation is aborted.
VIIGuestInstallTimeout	Determines the time taken to complete the guest installation. Default= 45 mins If the time taken for installation exceeds 45 mins, a time out error occurs and the installation is aborted.

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