

Symantec™ ApplicationHA 6.1 Release Notes - Linux on KVM

Symantec™ ApplicationHA 6.1 Release Notes

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

Product Version: 6.1

Document Version: 6.1 Rev 1

Legal Notice

Copyright © 2013 Symantec Corporation. All rights reserved.

Symantec, the Symantec Logo, the Checkmark Logo, Veritas, Veritas Storage Foundation, CommandCentral, NetBackup, Enterprise Vault, and LiveUpdate 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.

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

The Licensed Software and Documentation are deemed to be commercial computer software as defined in FAR 12.212 and subject to restricted rights as defined in FAR Section 52.227-19 "Commercial Computer Software - Restricted Rights" and DFARS 227.7202, "Rights in Commercial Computer Software or Commercial Computer Software Documentation", as applicable, and any successor regulations, whether delivered by Symantec as on premises or hosted services. Any use, modification, reproduction release, performance, display or disclosure of the Licensed Software and Documentation by the U.S. Government shall be solely in accordance with the terms of this Agreement.

Symantec Corporation
350 Ellis Street
Mountain View, CA 94043

<http://www.symantec.com>

Technical Support

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

Symantec's support offerings include the following:

- A range of support options that give you the flexibility to select the right amount of service for any size organization
- Telephone and/or Web-based support that provides rapid response and up-to-the-minute information
- Upgrade assurance that delivers software upgrades
- Global support purchased on a regional business hours or 24 hours a day, 7 days a week basis
- Premium service offerings that include Account Management Services

For information about Symantec's support offerings, you can visit our website at the following URL:

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

All support services will be delivered in accordance with your support agreement and the then-current enterprise technical support policy.

Contacting Technical Support

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

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

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

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

- Product release level
- Hardware information

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

Licensing and registration

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

www.symantec.com/business/support/

Customer service

Customer service information is available at the following URL:

www.symantec.com/business/support/

Customer Service is available to assist with non-technical questions, such as the following types of issues:

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

Support agreement resources

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

Asia-Pacific and Japan customercare_apac@symantec.com

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

North America and Latin America [supportolutions@symantec.com](mailto:supportsolutions@symantec.com)

Documentation

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

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

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

doc_feedback@symantec.com

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

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

About Symantec Connect

Symantec Connect is the peer-to-peer technical community site for Symantec's enterprise customers. Participants can connect and share information with other product users, including creating forum posts, articles, videos, downloads, blogs and suggesting ideas, as well as interact with Symantec product teams and Technical Support. Content is rated by the community, and members receive reward points for their contributions.

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

Symantec ApplicationHA Release Notes

This document includes the following topics:

- [Introduction](#)
- [What is Symantec ApplicationHA](#)
- [Salient features](#)
- [What's new](#)
- [System requirements](#)
- [Software limitations](#)
- [Known issues](#)
- [Software fixes and enhancements in 6.1](#)
- [No longer supported](#)
- [Documentation](#)

Introduction

This document provides important information about Symantec ApplicationHA 6.1. Review this entire document before you install or upgrade ApplicationHA.

The information in the Release Notes supersedes the information provided in the product documents for ApplicationHA.

For the latest patches available for this release, go to:
<https://sort.symantec.com/patch/matrix>.

What is Symantec ApplicationHA

Symantec ApplicationHA provides monitoring capabilities for applications running inside virtual machines in the KVM virtualization environment. Symantec ApplicationHA adds a layer of application awareness to the core high availability (HA) functionality offered by Symantec™ Cluster Server (VCS) in the physical machine.

Symantec ApplicationHA is based on 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), Low Latency Transport (LLT), Intelligent Monitoring Framework (IMF), and Veritas Fencing (VxFEN). Symantec ApplicationHA has a lightweight server footprint that allows faster installation and configuration.

Key benefits include the following:

- Out of the box integration with VCS.
- Full visibility and control over applications with the ability to start, stop, and monitor applications running inside virtual machines.
- High availability of the application as well as the virtual machine inside which the application runs.
- Graded application fault-management responses such as:-
 - Application restart
 - ApplicationHA-initiated, graceful internal reboot (soft reboot) of a virtual machine
 - VCS-initiated, external reboot (hard reboot) of virtual machine
 - Failover of the virtual machine to another VCS node.
- Specialized Application Maintenance mode, in which ApplicationHA allows you to intentionally take an application out of its purview for maintenance or troubleshooting.

Salient features

Following are the salient features of ApplicationHA:

- Support for enterprise applications such as Oracle Database, Apache HTTP Server, DB2, JBoss Application Server, WebSphere Application Server, and WebSphere MQ.
- Simple workflow for installation and configuration

- Access control based on organization, user group, or other organizational entities such as clusters, using Veritas Operations Manager (VOM) 6.0.
- Option to install ApplicationHA with a keyless license. Veritas Operations Manager (VOM)-integrated option to view and manage licenses (evaluation and permanent license keys).
- Ability to centrally manage installations of Symantec storage and high availability management products across a data center, using a deployment server.
- Single GUI for managing applications running on Windows, Linux, AIX, and Solaris SPARC platforms.
- Ability to view component dependency of configured applications over the GUI
- Ability to configure graceful reboot of virtual machines in case of an application failure
- Continued updates and additional application support distributed via Symantec Agent Pack releases
- VCS support for ApplicationHA, which enables you perform application-aware monitoring of the virtualization infrastructure (virtual machines).

What's new

The enhancements in this release of Symantec ApplicationHA are as follows:

Change of packaging in the ApplicationHA 6.1 installation media

With this release, Symantec ApplicationHA is packaged along with the Storage Foundation and High Availability (SFHA) 6.1 installation media. This change eliminates the need to download and manage separate installation media for ApplicationHA.

Keyless licensing

Keyless licensing is a user-friendly licensing option for deploying and managing Storage Foundation and High Availability (SFHA) product installations.

Keyless licensing uses a management server model (via Veritas Operations Manager) to ensure fair and authorized installation and upgrades of all SFHA component products, including Symantec ApplicationHA. This method eliminates the need to maintain a large inventory of license keys for various instances and releases of SFHA stack products installed in your data center.

Support for centralized installations using the Deployment Server

The Deployment Server lets you store multiple release images in one central location and deploy them to systems of any supported platform.

You can load and store product binaries for Symantec products dating back to version 5.1 in a central repository. You can use the Deployment Server for performing the following tasks:

- Version checking
- Release image management
- Install or upgrade systems
- Update metadata and preferences

Changes related to product name branding

Beginning with the 6.1 release, Storage Foundation and High Availability Solutions product names are rebranded.

[Table 1-1](#) lists the rebranded Storage Foundation and High Availability Solutions products.

Table 1-1 Rebranded Storage Foundation and High Availability Solutions products

Old product name	New product names with Symantec branding
Veritas Storage Foundation	Symantec Storage Foundation (SF)
Veritas Dynamic Multi-Pathing	Symantec Dynamic Multi-Pathing (DMP)
Veritas Replicator Option	Symantec Replicator Option
Veritas Volume Replicator	Symantec Volume Replicator (VVR)
Veritas Storage Foundation Cluster File System HA	Symantec Storage Foundation Cluster File System HA (SFCFSHA)
Veritas Storage Foundation for Oracle RAC	Symantec Storage Foundation for Oracle RAC (SFRAC)
Veritas Storage Foundation HA	Symantec Storage Foundation HA (SFHA)
Veritas Cluster Server	Symantec Cluster Server (VCS)
Veritas Disaster Recovery Advisor	Symantec Disaster Recovery Advisor (DRA)

Table 1-1 Rebranded Storage Foundation and High Availability Solutions products (*continued*)

Old product name	New product names with Symantec branding
Veritas Storage Foundation and High Availability Solutions	Symantec Storage Foundation and High Availability Solutions (SFHAS)
Veritas High Availability Agent Pack	Symantec High Availability Agent Pack
Veritas File System Software Development Kit	Symantec File System Software Development Kit

Symantec rebranding does not apply to the following:

- Product acronyms
- Command names
- Error messages
- Alert messages
- Modules and components
- Feature names
- License key description
- Veritas Operations Manager product branding

System requirements

- For information about the supported operating systems, hardware and software requirements, supported applications and other general requirements, see the *Symantec™ ApplicationHA Installation and Upgrade Guide*.
- For important updates regarding this release, review the Late-Breaking News TechNote on the Symantec Technical Support website:
<http://www.symantec.com/docs/TECH211540>
- For the latest patches available for this release, go to:
<https://sort.symantec.com/>
- The hardware compatibility list contains information about supported hardware and is updated regularly. For the latest information on supported hardware visit the following URL:
<http://www.symantec.com/docs/TECH211575>

Before installing or upgrading Storage Foundation and High Availability Solutions products, review the current compatibility list to confirm the compatibility of your hardware and software.

Software limitations

The following limitations apply to this release of the product.

Configuration wizard does not support hardware monitoring

You cannot configure hardware components such as storage and network, using the ApplicationHA wizard.

Workaround

- You can ensure that these components do not require monitoring. For example, for storage, you can add appropriate entries in the `/etc/fstab` file.
- Alternately, you can configure hardware components by using the Command Line Interface of Symantec Cluster Server (VCS) or Veritas Operations Manager (VOM).

ApplicationHA configuration wizard supports only one application per virtual machine

You can use the Symantec ApplicationHA Configuration wizard to monitor only one application per virtual machine.

Workaround

If you are familiar with underlying VCS and VOM concepts, you can add more applications or application components for monitoring.

For more information on how to use VCS commands or VOM to configure additional applications, see the following technical note:

<http://www.symantec.com/docs/TECH159846>

You cannot edit an application monitoring configuration

Once you configure an application, ApplicationHA does not support edits or additions to the configuration.

Workaround

Remove existing configuration and then re-configure

Simultaneous multiple installations may be slow

If you try to install ApplicationHA guest components on a large number of systems, the process may take a long time.

Workaround

Specify smaller batches of systems while using the ApplicationHA install program or response file for multi-system installations.

Known issues

The following known issues exist in this release of the product.

App.RestartAttempts setting does not take effect if value is set to 2 or more

App.RestartAttempts configuration option defines the number of times Symantec ApplicationHA tries to restart a failed application or its component. Its value can range from 1 to 6.

For certain application configurations, this setting fails to take effect if its value is set to 2 or more. After successfully configuring an application, if there is a fault in the application or its dependent component, ApplicationHA attempts to restart it once. If the application fails to start, ApplicationHA reports the application state as faulted. (2508392)

This issue is applicable only for the following applications/components:

On Linux

- Custom Application
- JBoss Application Server
- WebSphere Application Server
- WebSphere MQ
- Apache HTTP Server
- DB2

Workaround

Currently there is no workaround to resolve this issue.

Symantec recommends that for applications mentioned earlier, you set the App.RestartAttempts value to 1.

This ensures that ApplicationHA makes at least one attempt to restart the failed component. If the component still fails to start, ApplicationHA then declares it as faulted and takes further action as per the configuration settings (for example, a graceful reboot of the virtual machine).

Application monitoring configuration freezes

This issue occurs if you configure application monitoring on systems where host names start with a hyphen. (2038685)

The application monitoring configuration may freeze and the ApplicationHA view in the vSphere Client may not display the status of the application. If the configured application fails, ApplicationHA takes no action.

Symantec recommends that you rename systems whose host names start with a hyphen before installing ApplicationHA and configuring application monitoring on those systems.

Symantec ApplicationHA commands do not display the time as per the locale settings

This issue occurs with all the ApplicationHA commands that display the date and time stamp in the output. The date and time stamp do not display as per the locale settings on the system. They are displayed only in English. (2142740)

ApplicationHA fails to work if Veritas Operations Manager is uninstalled

The Managed Host components of Veritas Operations Manager (VOM) are installed on the physical machine and the virtual machine, during the ApplicationHA installation. (2361128, 2323516)

Uninstallation of VOM removes the VRTSsfmh RPM which breaks the ApplicationHA functionality. The sfmh RPM contains the 'Veritas Storage Foundation Messaging Service' (xprtld) that is used by both, ApplicationHA and VOM.

Note: This issue also occurs when you uninstall the Veritas Operations Manager Central Server.

Workaround

Perform the following steps

- 1 Insert the ApplicationHA software disc into your system drive and navigate to the directory that contains the RPM for the required operating system:

Operating system	Directory
Red Hat Enterprise Linux 5	rhel5_x86_64
Red Hat Enterprise Linux 6	rhel6_x86_64

For example, to install ApplicationHA on a machine running the RHEL 5 operating system,

```
# cd cdrom_root/applicationha/rhel5_x86_64/rpms
```

- 2 Run the following command:

```
# rpm -ivh VRTSsfmh-*.rpm
```

Where * is the version of the Linux rpm. For example, version 4.1.119.0 for ApplicationHA 6.0 and 6.0.0.0 for ApplicationHA 6.1.

- 3 Stop the `xprtld` service.

```
# /etc/init.d/xprtld stop
```

- 4 Ensure that the file `/etc/opt/VRTSsfmh/xprtld.conf` contains the following text:

```
namespaces vcs=/opt/VRTSvcsvcs/portal
```

- 5 Start the `xprtld` service.

```
# /etc/init.d/xprtld start
```

Refreshing the Symantec High Availability view multiple times displays a network connectivity error

This issue is typically observed in case of IE7 browser.

Symantec High Availability view refreshes the application status every 60 seconds. However, in case of network failure if you manually refresh the ApplicationHA view multiple times, IE displays a network connectivity error. (2379946, 2379707)

If you click **Ok** on the error message and then click another virtual machine on the VOM Management Server console, then the Symantec High Availability view displays the application status of an unknown application.

This issue also occurs if you refresh the Symantec High Availability view and simultaneously reset the virtual machine.

Workaround

For details, refer to the following knowledge base article from Microsoft.

http://support.microsoft.com/kb/927917#more_information

VCS configuration incorrectly retains read-write mode

When you execute the `enable_applicationha` script on the physical machine, if an error occurs, the script exits. However, the VCS configuration remains in the read-write mode. In this mode, the configuration is vulnerable to unintentional editing. (2607134)

Workaround

Revert the VCS configuration to the read-only mode by using the following command:

```
# haconf -dump -makero
```

Configuration option of ApplicationHA installer malfunctions

When you run the Symantec ApplicationHA installer, it displays the following option to configure ApplicationHA: **Configure an Installed Product**.

If you specify this option, the installer fails to configure ApplicationHA. Instead, the installer starts stopping certain ApplicationHA processes. (2621468)

Workaround

Do not use the installer option to configure an application. Instead, to configure Symantec ApplicationHA for monitoring an application, use one of the following methods:

- If you have already installed ApplicationHA, navigate to the following URL, and use the **Configure Application Monitoring** link to launch the Symantec ApplicationHA Application Monitoring Configuration Wizard:

```
https://<virtualmachineNameorIPaddress>:5634/vcs/admin/  
application_health.html?priv=ADMIN
```

- You can launch the wizard from the Symantec High Availability view of the Veritas Operations Manager Management Server Console.
For more information on working with VOM and accessing the ApplicationHA, see the *Symantec ApplicationHA User's Guide*.

Heartbeat service group may fail to come online

If the high availability daemon (HAD) on the virtual machine is restarted, the configured heartbeat service group (VCSAppMonHBSG) does not automatically come online. (2605506)

Workaround

To continue application monitoring, you must manually bring the VCSAppMonHBSG online by using the following command:

```
# /opt/VRTSvcs/bin/hagrp -online VCSAppMonHBSG -sys System
```

Where *System* is name of the virtual machine.

Attributes of a virtual machine may retain stale values

If the physical host crashes, the virtual machines may indicate stale values for attributes such as ConnectionState and SysState. The settings are updated after a virtual machine fails over to a new physical host. (2611726)

Oracle agent configuration may affect upgrade to ApplicationHA 6.1

If you have configured Oracle database instances for detail monitoring with ApplicationHA 6.0 or earlier, you cannot perform a live upgrade to ApplicationHA 6.1. This limitation is caused due to an agent attribute that is specific to the ApplicationHA agent for Oracle. (3331997)

Workaround

Perform the following steps:

1. Unconfigure detail monitoring.
2. Upgrade to ApplicationHA 6.1.
3. Reconfigure detail monitoring of Oracle database instances, if required, by using the LevelTwoMonitorFreq attribute.

For more information, see the *Symantec ApplicationHA Agent for Oracle Configuration Guide*.

Install program does not provide keyless licensing option during upgrade

If you try to upgrade to ApplicationHA 6.1 but do not have a valid license key already installed, the install program prompts you to specify a valid license key. In this step,

the install program presently does not provide you with the option to specify keyless licensing. (3335745, 3336308)

Workaround

Perform the following steps

1. When the installer prompts you to specify a license key, if you want to specify keyless licensing, enter 'q' to quit the install program.
2. From the command line, execute the following command:

```
# /opt/VRTS/install/installapplicationha61 -license sys1
```

Where sys 1 is the name of the system where you want to enable keyless licensing.

ApplicationHA installer displays incorrect EULA path for non-English locales

During ApplicationHA 6.1 installation on guests running Linux, AIX, or Solaris SPARC operating systems, the installer prompts the user to accept the End User's License Agreement (EULA) at following locations for Japanese and Chinese locales, respectively:

```
applicationha/EULA/ja/
```

```
applicationha/EULA/zh/
```

No EULA exists at the said locations. (3344863)

Workaround

ApplicationHA 6.1 users must read and accept the following EULA:

```
applicationha/EULA/en/EULA_ApplicationHA_Ux_6.1.pdf
```

Software fixes and enhancements in 6.1

Incident number Description

2141382	When you install ApplicationHA on a virtual machine, and then try to install Symantec Storage Foundation (SF), you may notice errors in the SF installation.
---------	--

No longer supported

Support for the following features, terms, components, or operating systems is discontinued in release 6.1:

- Veritas Operations Manager 5.0 or earlier
- Veritas Operations Manager Add-on for ApplicationHA management
- Symantec ApplicationHA tab is replaced by the Symantec High Availability view. The view is displayed in a separate browser session that can be launched directly from the Veritas Operations Manager Management Server Console GUI.
- Embedded evaluation license keys

Documentation

Symantec Storage Foundation and High Availability Solutions product documentation is available in the Adobe Portable Document Format (PDF) on the product discs or with the downloaded software. See the release notes for information on documentation changes in this release.

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

Symantec ApplicationHA guides are also available in the PDF format on the software media in the `/docs/applicationha` directory. Additional documentation is available online.

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

Documentation set

This topic describes the Symantec ApplicationHA documentation set that includes release notes, an installation guide, a user's guide, and agent guides.

Symantec ApplicationHA documentation

[Table 1-2](#) lists the documentation for Symantec ApplicationHA.

Table 1-2 Symantec ApplicationHA documentation

Document title	File name	Description
<i>Symantec ApplicationHA Release Notes</i>	applicationha_notes_61_kvm_lin.pdf	Describes the new features and software and system requirements. This document also contains a list of limitations and issues known at the time of the release.
<i>Symantec ApplicationHA Installation Guide</i>	applicationha_install_61_kvm_lin.pdf	Describes the steps for installing and configuring Symantec ApplicationHA. Some of the most common troubleshooting steps are also documented in this guide.
<i>Symantec ApplicationHA User's Guide</i>	applicationha_users_61_kvm_lin.pdf	Provides information about configuring and managing Symantec ApplicationHA in Kernel-based Virtual Machine (KVM) virtualization environments. Some of the most common troubleshooting steps are also documented in the guide.
<i>Symantec ApplicationHA Agent for Oracle Configuration Guide</i>	applicationha_oracle_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for Oracle.
<i>Symantec ApplicationHA Generic Agent Configuration Guide</i>	applicationha_gen_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for a generic application.
<i>Symantec ApplicationHA Agent for WebSphere MQ Configuration Guide</i>	applicationha_webspheremq_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for WebSphere MQ.
<i>Symantec ApplicationHA Agent for WebSphere Application Server Configuration Guide</i>	applicationha_websphereas_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for WebSphere Application Server.
<i>Symantec ApplicationHA Agent for DB2 Configuration Guide</i>	applicationha_db2_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for DB2.
<i>Symantec ApplicationHA Agent for Apache HTTP Server Configuration Guide</i>	applicationha_apache_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for Apache HTTP Server.
Symantec™ ApplicationHA Agent for MySQL Configuration Guide (This document is available online)	applicationha_mysql_agent_61_kvm_lin.pdf	Describes how to configure application monitoring for MySQL.

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

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