

Symantec™ ApplicationHA 6.2 Release Notes - Linux on KVM

Symantec™ ApplicationHA Release Notes

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- Hardware information

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- Version and patch level
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- Router, gateway, and IP address information
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 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
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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.

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

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Symantec ApplicationHA Release Notes

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Introduction

This document provides important information about Symantec ApplicationHA 6.2. Review this entire document before you install or upgrade ApplicationHA.

This is Document Version: 6.2 Rev 1.

Before you start, make sure that you refer to the latest version of this document. You can find the latest version here:

<https://sort.symantec.com>

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), 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.
- Speedy fault management of select applications by using the Intelligent Monitoring Framework (IMF).
- 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 or later.
- 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 (Symantec High Availability view or tab) to manage 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).

Changes in this release

This section lists the new features as well as changes in attributes, platform support, and RPMs.

Change in packaging of certain ApplicationHA agents and VRTSacclib

Starting with this release 6.2, certain Symantec ApplicationHA agent RPMs and VRTSacclib will not be packaged as part of ApplicationHA installation media. You must download the required application agents from the latest Agent Pack release on [SORT](#).

However, there is no change in the packaging of the agents for the following applications; they continue to be packaged as part of the ApplicationHA installation media:

- Oracle Database
- Apache HTTP Server
- DB2
- Generic (custom) applications

The following table lists each application and its related ApplicationHA agent RPM that you must download from [SORT](#):

Table 1-1

Application	ApplicationHA agent RPM
JBoss Application Server	VRTSjboss
MySQL Server	VRTSmysql
WebSphere MQ	VRTSmq6
Required for all the above applications	VRTSacclib

Intelligent Monitoring Framework

VRTSamf is a new RPM introduced in this release. The package enables Symantec ApplicationHA agents to leverage the Intelligent Monitoring Framework (IMF) module.

IMF offers a way for ApplicationHA agents to avoid polling for state changes among the monitored application components. IMF allows the agents to register which components to monitor. When the state of an applicationcomponent changes, IMF immediately notifies the agent. Corrective action can therefore be immediately taken once an event occurs. IMF enables the ApplicationHA agents to monitor a large number of components with a minimal effect on performance.

IMF support for the following ApplicationHA agents is introduced in this release:

- Apache HTTP Server
- DB2 Database
- Oracle Database
- Generic (custom) applications

Note: The Symantec High Availability Configuration wizard by default enables IMF support. To disable IMF support, you must use Symantec Cluster Server (VCS) commands.

Online upgrade for ApplicationHA

You can perform an online upgrade to ApplicationHA 6.2 by using the installer, while keeping your applications online. Ensure that you use one of the supported upgrade paths listed in the *Symantec ApplicationHA Installation Guide*.

During this upgrade process, ApplicationHA does not monitor the configured applications for high availability.

Added operating system support

Support for the following Operating System distributions is introduced in this release:

- Red Hat Enterprise Linux 7

Discontinued in this release

Support for the following features, terms, components, or operating systems is discontinued in release 6.2:

- Red Hat Enterprise Linux 5

System requirements

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.

- The software compatibility list (SCL) contains information about supported software and it is updated regularly. For the latest information on supported software, visit the following URL
<http://www.symantec.com/docs/TECH225258>
- For the latest information on application versions supported by Symantec high availability agents, see:
<https://sort.symantec.com/agents>
- 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>

- For information about the supported operating systems, hardware and software requirements, supported applications and other general requirements, also see the *Symantec™ ApplicationHA Installation and Upgrade Guide*.

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).

Compatibility with other clustering products

Symantec ApplicationHA runs on Symantec Cluster Server (VCS). The version of VCS used by ApplicationHA is a customized version of VCS. Many components have been removed in order to provide a lighter footprint inside the virtual machine. You cannot run both ApplicationHA and VCS together inside the same virtual machine. There is no method to upgrade from ApplicationHA to VCS.

Additionally ApplicationHA does not co-exist with other clustering solutions offered by Symantec. These include, Symantec Storage Foundation High Availability, Clustered File System, Clustered File System High Availability and Clustered Volume Manager.

Symantec High Availability tab issue

If you install both Symantec Storage Foundation (SF) and ApplicationHA on the same virtual machine, and then remove SF, the Symantec High Availability tab on the vSphere client stops working. (2136077)

Workaround

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.

When you remove SF, you automatically remove the VRTSsfmh rpm from the system. The vSphere client needs the VRTSsfmh rpm to communicate with the virtual machine.

To reinstate VRTSsfmh, perform the following steps:

- 1 Install VRTSspt and VRTSsfmh rpms from the ApplicationHA install media.
- 2 Stop the xprtld service:

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

- 3 Add following line to the `/etc/opt/VRTSsfmh/xprtld.conf` file, if not present:

```
namespaces vcs=/opt/VRTSvcs/portal
```

- 4 Start the xprtld service:

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

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 VRTSsfmh RPM contains the 'Veritas Storage Foundation Messaging Service' (xpftld) 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 6	rhel6_x86_64
Red Hat Enterprise Linux 7	rhel7_x86_64

For example, to install ApplicationHA on a machine running the RHEL 6 operating system,

```
# cd cdrom_root/applicationha/rhel6_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)

Users cannot modify the default log path for Symantec High Availability Wizard

The Symantec High Availability Wizard by default writes its backend logs to the following directory:

```
/var/VRTSvcs/log.
```

ApplicationHA users cannot modify this default path. No workaround exists for this issue. (3609791)

Application monitoring may not resume on exiting maintenance mode

If you suspend application monitoring from the Symantec High Availability view, and later resume it by clicking **Exit Maintenance Mode**, application monitoring may not resume as expected.

If you then refresh the tab/view, the Configure Application Monitoring link may appear. This issue may occasionally occur in any setup because of variations in the time taken by internal commands to complete, after you click **Exit Maintenance Mode**. In some cases, before the internal commands are complete, the High Availability Daemon (HAD) module may shut down and stop application monitoring. (3640282)

Workaround

Perform the following steps:

1. From the command line, execute the following command:

```
# /opt/VRTSvcs/bin/hastart -onenode
```
2. From the Symantec High Availability view, try to resume application monitoring by clicking **Exit Maintenance Mode**.

Software fixes and enhancements in this release

This section provides information about the Symantec ApplicationHA incidents that have been fixed in this release.

Incident number	Description
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3335745	While upgrading ApplicationHA, the install program does not provide users with the option to specify keyless licensing.
3491170	ApplicationHA installer displays incorrect EULA path for non-English locales
3491158	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.

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_62_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_62_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_62_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_62_kvm_lin.pdf	Describes how to configure application monitoring for Oracle.
<i>Symantec ApplicationHA Generic Agent Configuration Guide</i>	applicationha_gen_agent_62_kvm_lin.pdf	Describes how to configure application monitoring for a generic application.
<i>Symantec ApplicationHA Agent for DB2 Configuration Guide</i>	applicationha_db2_agent_62_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_62_kvm_lin.pdf	Describes how to configure application monitoring for Apache HTTP Server.

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>