

Symantec™ ApplicationHA agent for PrintShare Configuration Guide

Windows on Hyper-V

6.1

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Product_version: 6.1

Document_version: 6.1 Rev 0

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Introducing ApplicationHA agents

This chapter includes the following topics:

- [About ApplicationHA agents](#)
- [About intelligent monitoring framework](#)
- [About the agent functions and attributes](#)
- [About the ApplicationHA agent for Print Share](#)
- [How ApplicationHA agents monitor PrintShare](#)

About ApplicationHA agents

Agents are application-specific modules that plug into the ApplicationHA framework that manages the components of the configured applications.

The agents are installed when you install ApplicationHA. These agents start, stop, and monitor the components of the configured applications and report its state changes. If an application or its components fail, these agents restart the applications and its components on the virtual machine.

A virtual machine has one agent per component that monitors all the components of that type. For example, a single GenericService agent manages all services that are configured using the GenericService components. When the agent starts, it obtains the necessary configuration information from these components and then monitors the configured applications. The agents then periodically updates ApplicationHA with the component and application status.

Agents perform the following operations:

- Brings the components online

- Takes the components offline
- Monitors the components and reports the state changes

ApplicationHA agents are classified in the following categories:

- Infrastructure agents (bundled agents)
Infrastructure agents are packaged (bundled) with the base software and include agents for mount points, generic services and processes. These agents are immediately available for use after you install ApplicationHA.
- Application agents
Application agents are used to monitor third party applications such as Microsoft SQL Server, Microsoft Exchange and so on. These agents are packaged separately and are available in the form of an agent pack that gets installed when you install ApplicationHA.
The agent pack is released on a quarterly basis. The agent pack includes support for new applications as well as fixes and enhancements to existing agents. You can install the agent pack on an existing ApplicationHA installation.
Refer to the Symantec Operations Readiness Tools (SORT) Website for information on the latest agent pack availability:
<https://sort.symantec.com>

This document describes the ApplicationHA bundled agents along with their resource type definitions, attribute definitions, and sample configurations.

About intelligent monitoring framework

ApplicationHA provides Intelligent Monitoring Framework (IMF) to determine the status of the configured application and its components. IMF employs an event-based monitoring framework that is implemented using custom as well as native operating system-based notification mechanisms.

IMF provides instantaneous state change notifications. ApplicationHA agents detect this state change and then trigger the necessary actions.

IMF provides the following key benefits:

- Instantaneous notification
Faster fault detection resulting in faster fail over and thus less application down time.
- Ability to monitor large number of components
With reduced CPU consumption, IMF effectively monitors a large number of components.
- Reduction in system resource utilization

Reduced CPU utilization by ApplicationHA agent processes when number of components being monitored is high. This provides significant performance benefits in terms of system resource utilization.

About the agent functions and attributes

Every agent has a collection of attributes and performs a definite set of functions.

Attributes are the set of variables whose values configures the corresponding application component to function in a specific way. By modifying attribute values you can change the way in which ApplicationHA agent manages the component.

For example, the IP agent monitors an IP address. The specific address to be monitored is identified by the attribute "Address" whose value is the specific IP address.

Depending on the category to which an agent belongs, an agent performs either or all of the following functions:

Online	Brings the configured component online
Offline	Takes the configured component offline
Monitor	Verifies if the configured component is online

As part of the Monitor function, an agent reports the following states:

ONLINE	Indicates that the configured component is online
OFFLINE	Indicates that the configured component/application has faulted
UNKNOWN	Indicates that the agent encountered errors while monitoring the configured component

About the ApplicationHA agent for Print Share

The ApplicationHA agent for PrintShare monitors print shares and corresponding services on the virtual machine. They work together to make a shared network printer highly available.

Note: The ApplicationHA agent for PrintShare supports only Windows Server 2008 R2.

You cannot configure Print Share on a system running Windows Server 2012 and Windows Server 2012 R2.

The following two agents work together to make a shared network printer highly available:

- **PrintShare agent**
 Provides monitoring for print shares and high availability for the shares and network printers.
 See [“About the PrintShare agent”](#) on page 11.
- **ServiceMonitor agent**
 Provides monitoring for the Print Spooler service.
 See [“About the ServiceMonitor agent”](#) on page 12.

About the PrintShare agent

The ApplicationHA PrintShare agent makes print shares highly available. The agent ensures high availability for multiple shared printers, and brings the shares online, takes them offline, and monitors their status.

The PrintShare agent is represented by the PrintShare resource type.

Agent functions

Online	Adds a share to the network printer on the virtual server.
Offline	Removes the share from the network printer on the virtual server.
Monitor	Verifies that the share for the network printer exists.

State definitions

ONLINE	Indicates that the specified network printer is shared.
OFFLINE	Indicates that the specified network printer is not shared.
Monitor	Verifies that the share for the network printer exists.

Attributes

[Table 1-1](#) lists the required attributes of the PrintShare agent.

Table 1-1 Required attributes of PrintShare agent

Required attributes	Description
PrinterName	The name of the network printer to be shared. This attribute can take localized values. Type and dimension: string-scalar
ShareName	The name by which the network printer is shared. This attribute can take localized values. Type and dimension: string-scalar

[Table 1-2](#) lists the optional attributes of the PrintShare agent.

Table 1-2 Optional attributes of PrintShare agent

Optional attribute	Description
OnlineRetryLimit	This attribute specifies the number of times ApplicationHA retries to bring a resource online if the initial attempt to bring the resource online was unsuccessful. The default value is 1. Type and dimension: integer-scalar
RestartLimit	This attribute specifies the number of times ApplicationHA tries to bring a failed resource online before declaring it as Faulted. The default value is 1. Type and dimension: integer-scalar

About the ServiceMonitor agent

The Symantec ApplicationHA ServiceMonitor agent monitors the Print Spooler service. The ServiceMonitor agent is represented by the ServiceMonitor resource type. For more information about the agent, refer to the *Symantec ApplicationHA for Hyper-V Bundled Agents Guide*.

How ApplicationHA agents monitor PrintShare

The Symantec ApplicationHA agent for PrintShare monitors the configured resources, determines the status of these resources, brings them online, and takes them offline. The agent detects an application failure if the configured print shares

become unavailable. The agent then tries to start the shares for a configurable number of attempts. If the configured shares do not start, the agent reports the "Application critical state" to the Hyper-V host.

Depending on the configuration, the Hyper-V host then restarts the virtual machine. After the virtual machine restarts, the agent starts the configured Web sites and the associated application pools and brings the configured resources online on the system.

Configuring application monitoring

This chapter includes the following topics:

- [Considerations for configuring application monitoring](#)
- [Configuring application monitoring](#)

Considerations for configuring application monitoring

Symantec ApplicationHA provides an interface, Symantec ApplicationHA Health View, to configure and administer application monitoring.

A shortcut to access the Health View is created on the system's desktop after you install ApplicationHA. The Health View is Web-based and can be accessed using any of the available browser.

You can also access the Health View directly from a browser window using the following URL:

`https://VMNameorIP:5634/vcs/admin/application_health.html?priv=ADMIN`

Consider the following before you configure application monitoring:

- You can configure application monitoring on a virtual machine using the Symantec ApplicationHA Configuration Wizard. The wizard is launched when you click **Configure Application Monitoring** on the Symantec ApplicationHA Health View.
- You can use the wizard to configure monitoring for only one application per virtual machine.
To configure application monitoring on the same virtual machine, for any additional applications, you must use the VCS commands.

To configure another application using the wizard, you must first unconfigure the existing application monitoring configuration.

- The wizard runs in a logged-on user context. You must thus ensure that the logged-on user has administrative privileges on the virtual machine where you want to configure application monitoring.
- If you have configured a firewall, ensure that your firewall settings allow access to ports used by Symantec ApplicationHA installer, wizard, and services. For information about the ports used, refer to the *Symantec ApplicationHA Deployment Guide*.
- If the application data is stored on nested mount points, then it is required to set the dependency between these mount points. This enables ApplicationHA to monitor all the nested mount points.

To define the dependency between the nested mount points, you must set the value for MountDependsOn attribute of the MountMonitor agent. The value of this attribute must be specified as a key-value pair.

Where,

Key= mount path

Value= volume name

- After configuring print shares for monitoring, if you create another share, then these new components are not monitored as part of the existing configuration. In this case, you can either use the VCS commands to add the components to the configuration or unconfigure the existing configuration and then run the wizard again to configure all the components.

Note: When you configure or unconfigure application monitoring, it does not affect the state of the application. The application runs unaffected on the virtual machine.

Configuring application monitoring

Perform the following steps to configure monitoring for PrintShare on a virtual machine using the Symantec ApplicationHA Configuration Wizard.

Note: You can configure monitoring for multiple services and processes in a single wizard workflow. However, you cannot configure multiple applications simultaneously. To configure another application, run the wizard again.

To configure application monitoring for PrintShare

- 1 Launch the Symantec ApplicationHA Health View, using the shortcut created or in a browser, using the following URL:

`https://VMNameorIP:5634/vcs/admin/application_health.html?priv=ADMIN`

- 2 Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard.
- 3 Review the information on the Welcome panel and then click **Next**.
- 4 On the Application Selection panel, click **PrintShare** in the Supported Applications list.
- 5 On the PrintShare Monitoring Configuration panel, select the printers whose shares you want to configure for monitoring and then click **Configure**.

The panel displays printers and their associated print shares. You can add or edit the names of the new print shares only. You cannot change the names of the shares whose printers have already been shared.

- 6 On the ApplicationHA Configuration panel, the wizard performs the application monitoring configuration tasks, creates the required resources, and enables the application heartbeat that communicates with Hyper-V host.

The panel displays the status of each task. After all the tasks are complete, click **Next**.

If the configuration tasks fail, click **View Logs** to check the details of the failure. Rectify the cause of the failure and run the wizard again to configure the application monitoring.

- 7 On the Finish panel, click **Finish** to complete the wizard.

This completes the application monitoring configuration.

Use the ApplicationHA Health View to monitor the application status and control application monitoring.

For more details refer to the *Symantec ApplicationHA Deployment Guide*.

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