

Symantec™ ApplicationHA Agent for PrintShare Configuration Guide

Windows Server 2003 (x64), Windows
Server 2008 and 2008 R2 (x64)

6.0

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Contents

Technical Support	4	
Chapter 1	Introducing the Symantec ApplicationHA agents for PrintShare	9
	About the Symantec ApplicationHA agents	9
	About the Symantec ApplicationHA agents for PrintShare	10
	PrintShare agent	10
	Agent functions	11
	State definitions	11
	Attributes	11
	ServiceMonitor agent	12
	How Symantec ApplicationHA agent monitors print shares	12
Chapter 2	Configuring application monitoring with Symantec ApplicationHA	13
	About configuring application monitoring with Symantec ApplicationHA	13
	Before configuring application monitoring	14
	Configuring application monitoring for PrintShare	15
	Administering application monitoring using the ApplicationHA tab	18
	To configure or unconfigure application monitoring	19
	To view the status of configured applications	19
	To start or stop applications	21
	To enable or disable application heartbeat	21
	To suspend or resume application monitoring	21

Introducing the Symantec ApplicationHA agents for PrintShare

This chapter includes the following topics:

- [About the Symantec ApplicationHA agents](#)
- [About the Symantec ApplicationHA agents for PrintShare](#)
- [PrintShare agent](#)
- [ServiceMonitor agent](#)
- [How Symantec ApplicationHA agent monitors print shares](#)

About the Symantec ApplicationHA agents

Agents are the processes that manage applications and resources of the predefined resource types which are configured for applications and components on a system. The agents are installed when you install Symantec ApplicationHA. These agents start, stop, and monitor the corresponding resources that are configured for the applications and report state changes.

Symantec ApplicationHA agents are classified as follows:

- **Infrastructure 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 Symantec ApplicationHA. For more details about the infrastructure agents, refer to the *Symantec™ ApplicationHA Generic Agents Guide*.

- **Application agents**

Application agents are used to monitor third party applications such as Oracle, Microsoft SQL Server, and Microsoft Exchange. These agents are packaged separately and are available in the form of an agent pack that gets installed when you install Symantec ApplicationHA.

An 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 guest components installation.

Refer to the Symantec Operations Readiness Tools (SORT) Web site for information on the latest agent pack availability.

<https://sort.symantec.com>

The following sections provide details about the agent for PrintShare.

For more details about other application agents, refer to the application-specific configuration guide.

About the Symantec ApplicationHA agents for PrintShare

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

The PrintShare agents include the following:

- **PrintShare agent**

Provides monitoring for print shares and high availability for the shares and network printers

- **ServiceMonitor agent**

Provides monitoring for the Print Spooler service

PrintShare agent

The Symantec 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.

You can configure application monitoring for print shares on a virtual machine using the Symantec ApplicationHA Configuration Wizard. For information on

configuring monitoring for a print share, See [“Configuring application monitoring for PrintShare”](#) on page 15.

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.
UNKNOWN	Indicates that the agent could not determine the status of the resource.

Attributes

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

Table 1-1 PrintShare agent required attributes

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 PrintShare agent optional attributes

Required Attributes	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

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 Generic Agents Guide*.

How Symantec ApplicationHA agent monitors print shares

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 status to the underlying VCS engine. This results in resource fault, and then the Heartbeat agent reports the status to VMware HA.

Depending on the configuration, VMwareHA then restarts the virtual machine. After the machine restarts, the agent starts the configured shares and brings the configured resources online.

Configuring application monitoring with Symantec ApplicationHA

This chapter includes the following topics:

- [About configuring application monitoring with Symantec ApplicationHA](#)
- [Before configuring application monitoring](#)
- [Configuring application monitoring for PrintShare](#)
- [Administering application monitoring using the ApplicationHA tab](#)

About configuring application monitoring with Symantec ApplicationHA

This chapter describes the steps to configure application monitoring for print shares with Symantec ApplicationHA in a VMware virtualization environment.

Consider the following before you proceed:

- 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 ApplicationHA tab in VMware vSphere Client.
- Apart from the Symantec ApplicationHA Configuration Wizard, you can also configure application monitoring using the Veritas Cluster Server (VCS) commands. For more information, refer to the following Technote: <http://www.symantec.com/docs/TECH159846>

- Symantec recommends that you first configure application monitoring using the wizard before using VCS commands to add additional components or modify the existing configuration.
Apart from the application monitoring configuration, the wizard also sets up the other components required for Symantec ApplicationHA to successfully monitor the applications.
- You can use the wizard to configure monitoring for only one application per virtual machine.
To configure another application using the wizard, you must first unconfigure the existing application monitoring configuration.
- 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 the required shares.

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. This also does not require any additional steps on the vCenter Server.

- If a configured application fails, Symantec ApplicationHA attempts to start the application on the computer. If the application does not start, Symantec ApplicationHA communicates with VMware HA to take corrective action. Symantec ApplicationHA then stops the other configured applications in a predefined order. This avoids the other applications from getting corrupted due to a computer restart.
A single failed application can bring down other healthy applications running on the virtual machine. You must take this behavior into consideration while configuring application monitoring on a virtual machine.

Before configuring application monitoring

Note the following prerequisites before configuring application monitoring for PrintShare on a virtual machine:

- Verify that you have installed Symantec ApplicationHA (console and guest components) in your VMware environment.
For information about installing Symantec ApplicationHA, refer to the *Symantec™ ApplicationHA Installation and Upgrade Guide*.

- Verify that VMware Tools is installed on the virtual machine. Install the version that is similar to or later than that available with VMware ESX 4.1.
- Verify that you have installed VMware vSphere Client. The vSphere Client is used to configure and control application monitoring. You can also perform the application monitoring operations directly from a browser window using the following URL:

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

- Verify that the logged-on user has administrative privileges on the virtual machine where you want to configure application monitoring.
- If you want to monitor storage managed using Storage Foundation for Windows (SFW), ensure that the volumes and mount points are created on dynamic disk groups. Symantec ApplicationHA does not support monitoring for volumes and mount points created on cluster disk groups.
- 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 that are used, refer to the *Symantec™ ApplicationHA Installation and Upgrade Guide*.
- If you are configuring application monitoring in a disaster recovery environment, ensure that you are using the disaster recovery solution VMware vCenter Site Recovery Manager (SRM). For more information, refer to the *Symantec™ ApplicationHA User's Guide*.

Configuring application monitoring for PrintShare

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

To configure application monitoring for PrintShare

- 1 Launch the vSphere Client and connect to the vCenter Server that manages the virtual machine.
- 2 From the vSphere Server's Inventory view in the left pane, select the virtual machine where you want to configure application monitoring, and then in the right pane select the **ApplicationHA** tab.

- 3 Skip this step if you have already configured the single sign-on during the guest installation.

On the ApplicationHA tab, specify the credentials of a user account that has administrative privileges on the virtual machine and then click **Configure**. The ApplicationHA Console sets up a permanent authentication for the user account.

For more information about single sign-on, refer to the *Symantec™ ApplicationHA User's Guide*.

After the authentication is successful, the ApplicationHA tab refreshes and displays the application health view.

- 4 Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard.
- 5 Review the information on the Welcome panel and then click **Next**.
- 6 On the Application Selection panel, click **PrintShare** in the Supported Applications list.

You can use the Search box to find the application and then click **Next**.

If you want to download any of the Symantec ApplicationHA agents, click the **Download Application Agents (SORT)** link to download the agents from the Symantec Operations Readiness Tools (SORT) site.

- 7 On the PrintShare Monitoring Configuration panel, select the printers whose shares you want to configure for monitoring, and then click **Configure**.

PrintShare Monitoring Configuration
 Select the printers whose shares you want to configure for monitoring.

Welcome > Application Selection > **Application Inputs** > Implementation > Finish

<input type="checkbox"/>	Printers	Print Shares	
<input type="checkbox"/>	Apollo P-1200 Printer 1	Apollo P-1200 Printer 1	
<input type="checkbox"/>	Epsilon AIX Printer 3	<input type="text"/>	Edit

ApplicationHA (Version 6.0.00000.407) | [View Logs](#)

< Back Configure Cancel

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.

- 8 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 VMware HA.

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.

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

This completes the application monitoring configuration. You can view the application status in the ApplicationHA tab.

The view displays the application as configured and running on the virtual machine. The Description box displays the details of the configured components.

If the application status shows as not running, click **Start Application** to start the configured components on the computer.

Administering application monitoring using the ApplicationHA tab

Note: You can administer application monitoring in two ways. One, using the ApplicationHA tab as described below and two, using the Symantec ApplicationHA Dashboard. Using the ApplicationHA dashboard, you can administer application monitoring in a graphical user interface (GUI). For information about the latter, refer to the *Symantec™ ApplicationHA User's Guide*.

Symantec ApplicationHA provides an interface, the ApplicationHA tab, to configure and control application monitoring. The ApplicationHA tab is integrated with the VMware vSphere Client.

Use the ApplicationHA tab to perform the following tasks:

- configure and unconfigure application monitoring
- start and stop configured applications
- enable and disable application heartbeat
- enter and exit maintenance mode

Using the ApplicationHA tab, you can also manage the Symantec ApplicationHA licenses by clicking the **Licenses** link. For more information, refer to the *Symantec™ ApplicationHA Installation and Upgrade Guide*.

To view the ApplicationHA tab, launch the VMware vSphere Client, select a virtual machine from the Inventory pane, and in the Management pane on the right, click the **ApplicationHA** tab.

If you have not configured single sign-on for the virtual machine, specify the user credentials of a user that has administrative privileges on the virtual machine.

Note: You can also perform the application monitoring operations directly from a browser window using the following URL:

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

To configure or unconfigure application monitoring

Use the ApplicationHA tab to configure or delete an application monitoring configuration from the virtual machine. This may be required in case you want to re-create the configuration or configure another application using the wizard.

You can use the following buttons:

- Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard. Use the wizard to configure application monitoring.
- Click **Unconfigure Application Monitoring** to delete the application monitoring configuration from the virtual machine.

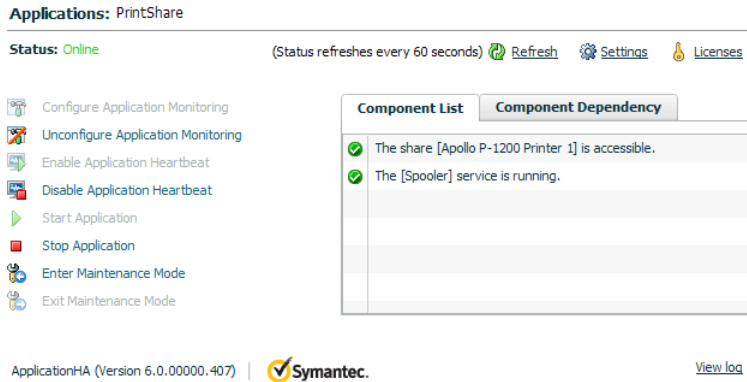
Symantec ApplicationHA removes all the configured resources for the application and its services.

Note that this does not uninstall Symantec ApplicationHA from the virtual machine. This only removes the configuration. The unconfigure option removes all the application monitoring configuration resources from the virtual machine. To monitor the application, you have to configure them again.

To view the status of configured applications

Note: To view applications at a component level and their dependencies, see the Component Dependency tab under the ApplicationHA tab. For more information, refer to the *Symantec™ ApplicationHA User's Guide*.

Under the ApplicationHA tab, the Component List tab displays the status of the configured print shares.



For example, if you have configured monitoring for PrintShare agent, the Component List tab displays the following information:

The share [print share] is accessible.

The [Spooler] service is running.

Where, *Spooler* and *print share* are, respectively, the names of the Print Spooler service and print share configured on the virtual machine.

The Component List tab also displays the state of the configured application and its components. The following states are displayed:

- | | |
|---------|---|
| online | Indicates that the print share is accessible on the virtual machine. |
| offline | Indicates that the print share is not accessible on the virtual machine. |
| partial | Indicates that either the components are being started on the virtual machine or Symantec ApplicationHA was unable to start one or more of the configured print shares. |
| faulted | Indicates that the configured components have unexpectedly stopped running. |

Click **Refresh** to see the most current status of the configured components. The status is refreshed every 60 seconds by default.

Click **Settings** to change ApplicationHA settings for the configured application and the virtual machine. For more information, refer to the *Symantec™ ApplicationHA User's Guide*.

To start or stop applications

Use the following options on the ApplicationHA tab to control the status of the configured application and the associated components:

- Click **Start Application** to start the configured print shares. Symantec ApplicationHA attempts to start the configured shares and its associated services in the required order. The configured resources are also brought online in the appropriate hierarchy.
- Click **Stop Application** to stop the configured print shares. Symantec ApplicationHA begins to stop the configured shares and its associated services gracefully. The configured resources are also taken offline in the appropriate hierarchy.

To enable or disable application heartbeat

The VMware virtual machine monitoring feature uses the heartbeat information that VMware Tools captures as a proxy for guest operating system availability. This allows VMware HA to automatically reset or restart individual virtual machines that have lost their ability to send a heartbeat. You can select VM and Application Monitoring if you also want to enable application monitoring.

ApplicationHA tab lets you control the application heartbeat on the virtual machines.

Use the following options on the ApplicationHA tab to control the status of the configured application heartbeat:

- Click **Enable Application Heartbeat** to enable the heartbeat communication between the configured applications running on the virtual machine and VMware HA. The application heartbeat is enabled by default when an application is configured for monitoring.
- Click **Disable Application Heartbeat** to disable the heartbeat communication between the configured applications running on the virtual machine and VMware HA. Disabling the application heartbeat does not instruct VMware HA to restart the virtual machine. This option disables the application monitoring feature in the VMware virtual machine monitoring settings.

To suspend or resume application monitoring

After configuring application monitoring you may want to perform routine maintenance tasks on those applications. These tasks may or may not involve stopping the application but may temporarily affect the state of the applications

and its dependent components. If there is any change to the application status, Symantec ApplicationHA may try to restore the application state. This may potentially affect the maintenance tasks that you intend to perform on those applications.

If stopping the application is not an option, you can suspend application monitoring and create a window for performing such maintenance tasks. When application monitoring is suspended, ApplicationHA freezes the application configuration, disables the application heartbeat, and stops sending the heartbeat to VMware HA.

The ApplicationHA tab provides the following options:

- Click **Enter Maintenance Mode** to suspend the application monitoring for the applications that are configured on the virtual machine. During the time the monitoring is suspended, Symantec ApplicationHA does not monitor the state of the application and its dependent components. The ApplicationHA tab does not display the current status of the application. If there is any failure in the application or its components, ApplicationHA takes no action.
- Click **Exit Maintenance Mode** to resume the application monitoring for the applications configured on the virtual machine. You may have to click the **Refresh** link in the ApplicationHA tab to see the current status of the application.

When application monitoring is restarted from a suspended state, ApplicationHA does not enable the application heartbeat. Click **Enable Application Heartbeat** to enable it.

If you have made changes that include database addition or change in the underlying storage mount point that was being monitored, then those changes may not reflect in the application monitoring configuration. In such cases, you may have to unconfigure and reconfigure the application monitoring.