Symantec™ ApplicationHA Agent for PrintShare Configuration Guide

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

5.1 Service Pack 2

September 2011

Symantec

Symantec™ ApplicationHA Agent for PrintShare Configuration Guide

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.

5.1 SP2

5.1.SP2.0

Legal Notice

Copyright © 2011 Symantec Corporation. All rights reserved.

Symantec, the Symantec 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. 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 Web site 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	supportsolutions@symantec.com

Documentation

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

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

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 18
To view the status of configured applications 19
To start or stop applications 20
To enable or disable application heartbeat 20
To suspend or resume application monitoring 21

Chapter 1

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 processes that manage applications and resources of predefined resource types 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 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.

Chapter 2

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 theApplicationHA 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.

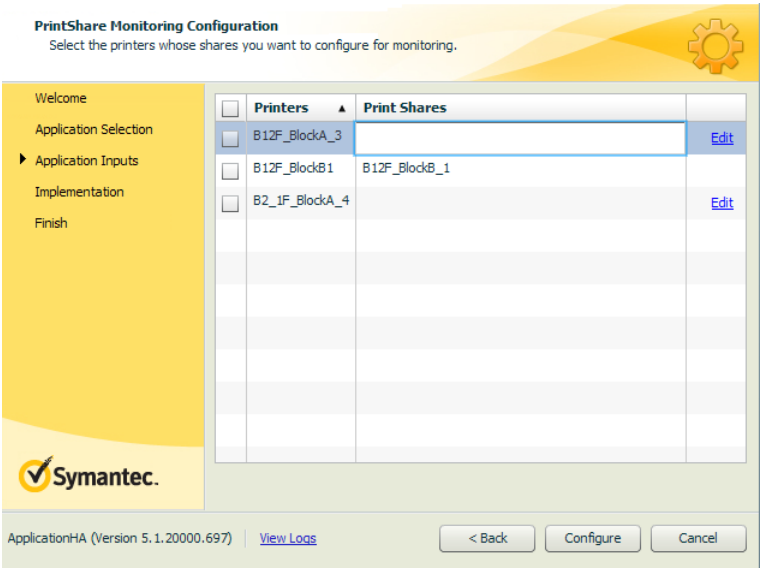
4 Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard.

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**.

7 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.

8 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

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://<virtualmachineNameorIPaddress>: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:

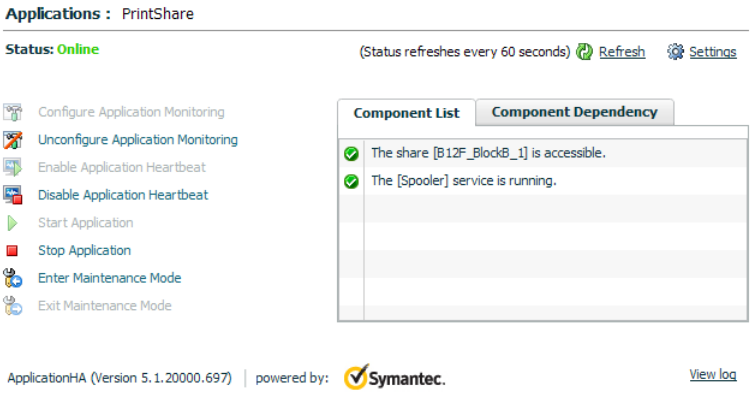
- Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard. Use the wizard to configure application monitoring.

- 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.

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 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.