



# **Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS**

SPARC Platform Edition



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Part No: 819-3066  
December 2006, Revision A

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# Preface

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*Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS* explains how to install and configure Sun™ Cluster HA for SWIFTAlliance Gateway.

This document is intended for system administrators with extensive knowledge of Sun software and hardware. Do not use this document as a planning or presales guide. Before reading this document, you should have already determined your system requirements and purchased the appropriate equipment and software.

The instructions in this book assume knowledge of the Solaris™ Operating System (Solaris OS) and expertise with the volume-manager software that is used with Sun Cluster software.

## Using UNIX Commands

This document contains information about commands that are specific to installing and configuring Sun Cluster data services. The document does *not* contain comprehensive information about basic UNIX® commands and procedures, such as shutting down the system, booting the system, and configuring devices. Information about basic UNIX commands and procedures is available from the following sources:

- Online documentation for the Solaris Operating System
- Solaris Operating System man pages
- Other software documentation that you received with your system

## Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	<code>machine_name%</code> <b>su</b> Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	The command to remove a file is <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. Do <i>not</i> save the file. (Emphasis sometimes appears in bold online.)

## Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	<code>machine_name%</code>
C shell superuser prompt	<code>machine_name#</code>
Bourne shell and Korn shell prompt	<code>\$</code>
Bourne shell and Korn shell superuser prompt	<code>#</code>

## Related Documentation

Information about related Sun Cluster topics is available in the documentation that is listed in the following table. All Sun Cluster documentation is available at <http://docs.sun.com>.

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Topic	Documentation
Data service administration	<i>Sun Cluster Data Services Planning and Administration Guide for Solaris OS</i> Individual data service guides
Concepts	<i>Sun Cluster Concepts Guide for Solaris OS</i>
Overview	<i>Sun Cluster Overview for Solaris OS</i>
Software installation	<i>Sun Cluster Software Installation Guide for Solaris OS</i>
System administration	<i>Sun Cluster System Administration Guide for Solaris OS</i>
Hardware administration	<i>Sun Cluster 3.1 - 3.2 Hardware Administration Manual for Solaris OS</i> Individual hardware administration guides
Data service development	<i>Sun Cluster Data Services Developer's Guide for Solaris OS</i>
Error messages	<i>Sun Cluster Error Messages Guide for Solaris OS</i>
Command and function reference	<i>Sun Cluster Reference Manual for Solaris OS</i>

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For a complete list of Sun Cluster documentation, see the release notes for your release of Sun Cluster at <http://docs.sun.com>.

## Related Third-Party Web Site References

Third-party URLs that are referenced in this document provide additional related information.

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## Ordering Sun Documentation

Sun Microsystems offers select product documentation in print. For a list of documents and how to order them, see “Buy printed documentation” at <http://docs.sun.com>.

## Getting Help

If you have problems installing or using Sun Cluster, contact your service provider and provide the following information:

- Your name and email address (if available)
- Your company name, address, and phone number
- The model number and serial number of your systems
- The release number of the Solaris Operating System (for example, Solaris 10)
- The release number of Sun Cluster (for example, Sun Cluster 3.2)

Use the following commands to gather information about each node on your system for your service provider.

Command	Function
<code>prtconf -v</code>	Displays the size of the system memory and reports information about peripheral devices
<code>psrinfo -v</code>	Displays information about processors
<code>showrev -p</code>	Reports which patches are installed
SPARC: <code>prtdiag -v</code>	Displays system diagnostic information
<code>/usr/cluster/bin/clnode show-rev</code>	Displays Sun Cluster release and package version information

Also have available the contents of the `/var/adm/messages` file.



# Installing and Configuring Sun Cluster HA for SWIFTAlliance Gateway

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This chapter explains how to install and configure Sun Cluster HA for SWIFTAlliance Gateway.

This chapter contains the following sections.

- “Sun Cluster HA for SWIFTAlliance Gateway Overview” on page 9
- “Overview of Installation and Configuration Process for Sun Cluster HA for SWIFTAlliance Gateway” on page 10
- “Planning the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration” on page 10
- “Installing and Configuring SWIFTAlliance Gateway” on page 13
- “Installing the Sun Cluster HA for SWIFTAlliance Gateway Packages” on page 16
- “Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway” on page 18
- “Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration” on page 20
- “Tuning the Sun Cluster HA for SWIFTAlliance Gateway Fault Monitor” on page 20
- “Debugging Sun Cluster HA for SWIFTAlliance Gateway” on page 21

## Sun Cluster HA for SWIFTAlliance Gateway Overview

The Sun Cluster HA for SWIFTAlliance Gateway data service provides a mechanism for orderly startup, shutdown, switchover, and failover of the Sun Cluster data service.

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**Note** – Sun Cluster HA for SWIFTAlliance Gateway does not provide software fault monitoring. The purpose of the HA active standby installation of Sun Cluster HA for SWIFTAlliance Gateway is to detect and react to hardware failures.

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For conceptual information about failover data services and scalable data services, see *Sun Cluster Concepts Guide for Solaris OS*.

Each component of SWIFTAlliance Gateway has a data service that protects the component when the component is configured in a Sun Cluster environment. See the following table.

**TABLE 1** Protection of SWIFTAlliance Gateway Components

Component	Protected by
SWIFTNet Link	Sun Cluster HA for SWIFTAlliance Gateway
SWIFTAlliance Gateway	Sun Cluster HA for SWIFTAlliance Gateway

## Overview of Installation and Configuration Process for Sun Cluster HA for SWIFTAlliance Gateway

The following table summarizes the tasks for installing and configuring Sun Cluster HA for SWIFTAlliance Gateway and provides cross-references to detailed instructions for performing these tasks. Perform the tasks in the order listed in the table.

**TABLE 2** Tasks for Installing and Configuring Sun Cluster HA for SWIFTAlliance Gateway

Task	Instructions
Plan the SWIFTAlliance Gateway installation	<a href="#">“Planning the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration” on page 10</a>
Install and configure SWIFTAlliance Gateway	<a href="#">“Installing and Configuring SWIFTAlliance Gateway” on page 13</a>
Install the Sun Cluster HA for SWIFTAlliance Gateway packages	<a href="#">“Installing and Configuring SWIFTAlliance Gateway” on page 13</a>
Register the Sun Cluster HA for SWIFTAlliance Gateway data service and configure the cluster for the data service	<a href="#">“Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway” on page 18</a>
Verify Sun Cluster HA for SWIFTAlliance Gateway	<a href="#">“Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration” on page 20</a>
(Optional) Debug Sun Cluster HA for SWIFTAlliance Gateway	<a href="#">“Debugging Sun Cluster HA for SWIFTAlliance Gateway” on page 21</a>

## Planning the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration

This section contains the information that you need to plan your Sun Cluster HA for SWIFTAlliance Gateway installation and configuration.

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**Note** – Before you begin, consult your SWIFTAlliance Gateway documentation for configuration restrictions and requirements that are not imposed by Sun Cluster software. For information about restrictions that the Sun Cluster software imposes, see the Sun Cluster documentation.

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## Configuration Restrictions

The configuration restrictions in this section apply only to Sun Cluster HA for SWIFTAlliance Gateway.



---

**Caution** – If your data service configuration does not conform to these restrictions, the data service configuration might not be supported.

---

For restrictions that apply to all data services, see *Sun Cluster 3.2 Release Notes for Solaris OS*.

- Sun Cluster HA for SWIFTAlliance Gateway supports SWIFTAlliance Gateway version 5.5 or higher.
- You can only install the SWIFTNet Link and the SWIFTAlliance Gateway software on a failover file system. If Websphere MQ client software is needed for the operation of SWIFTAlliance Gateway, install Websphere MQ client software on the local file system on each node and in the same path. The default path is `/opt/mqm`.
- You cannot configure Sun Cluster HA for SWIFTAlliance Gateway as a scalable data service.

## Configuration Requirements

The configuration requirements in this section apply only to Sun Cluster HA for SWIFTAlliance Gateway.



---

**Caution** – If your data service configuration does not satisfy these requirements, the data service configuration might not be supported.

---

For requirements that apply to all data services, see “Configuration Guidelines for Sun Cluster Data Services” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

- You must configure Sun Cluster HA for SWIFTAlliance Gateway as a failover data service.
- If you are running *SWIFTAlliance Gateway 4.0*, create a SWIFTAlliance Gateway operator with an operator profile that contains only the functions to start and stop SWIFTAlliance Gateway. This operator is used to send start, stop, and status commands to SWIFTAlliance Gateway. For security reasons, do not use the administrator profile to start and stop the application.  
If you are running *SWIFTAlliance Gateway 5.0*, an operator name and password are not necessary to send the `sag_system` commands directly from the SWIFTAlliance Gateway system.

## Configuration Considerations

The configuration considerations in the subsections that follow affect the installation and configuration of Sun Cluster HA for SWIFTAlliance Gateway.

### Resource Dependencies

Configure Sun Cluster HA for SWIFTAlliance Gateway to protect a Sun Cluster instance and its respective components. The following table outlines these components and their dependencies.

TABLE 3 Sun Cluster Components

Component	Dependencies
SWIFTAlliance Gateway This component includes the SWIFTNet Link instance.	<ul style="list-style-type: none"> <li>■ SUNW.LogicalHost resource</li> <li>■ SUNW.HASStoragePlus resource</li> <li>■ SUNW.scsag resource</li> </ul>

### Configuration Files and Registration Script

The Sun Cluster component has two configuration files and a registration script.

`/opt/SUNWscsag/etc/settings.sh`

This configuration file contains settings to enable the data service to find the correct instance of SWIFTAlliance Gateway and the necessary user and password combination.

`/opt/SUNWscsag/util/sag_config`

This configuration file contains settings to register the data service and the application in the Sun Cluster framework.

`/opt/SUNWscsag/util/sag_register`

This registration script enables you to register the data service.

## Configuration Planning Questions

Use the questions in this section to plan the installation and configuration of Sun Cluster HA for SWIFTAlliance Gateway. Write the answers to these questions in the space that is provided on the data service worksheets in “Configuration Worksheets” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

- Do you have a SWIFTNet connection and an Internet connection? The installation requires a secure server from SWIFT nv.
- Do you have your SWIFTAlliance Gateway license key? If not, retrieve this information.

- Do you have your SWIFTAlliance Gateway installation documentation? If not, download this documentation from <http://www.swift.com>.
- Before you run Sun Cluster HA for SWIFTAlliance Gateway as a failover data service, answer the following questions:
  - Which resource groups will you use for the SWIFTAlliance Gateway application resource and the logical host name resource?
  - What is the logical hostname for the SWIFTAlliance Gateway resource? Clients access the data service through this logical hostname.
- Where will the system configuration files reside?  
See “Configuration Guidelines for Sun Cluster Data Services” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS* for the advantages and disadvantages of using the local file system instead of the cluster file system.

## Installing and Configuring SWIFTAlliance Gateway

To enable Sun Cluster HA for SWIFTAlliance Gateway to make SWIFTAlliance Gateway highly available, additional installation and configuration operations are required. These operations supplement the standard installation and standard configuration of SWIFTAlliance Gateway.

During a standard installation, SWIFTAlliance Gateway is installed with a physical hostname. To enable SWIFTAlliance Gateway to run in a cluster, you must modify SWIFTAlliance Gateway to use a logical hostname.

For information about the standard installation and standard configuration of SWIFTAlliance Gateway, see <http://www.swift.com>.

To perform this procedure, you need the server root directory (the path to the application binaries). You can install the binaries on the local disks or on the cluster file system. For a discussion of the advantages and disadvantages of each location, see Chapter 1, “Planning for Sun Cluster Data Services,” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

### ▼ How to Install and Configure SWIFTAlliance Gateway

#### 1 Create a resource group for SWIFTAlliance Gateway.

```
# clresourcegroup create sag-rg
```

#### 2 Create a logical host.

A logical host is required before you install SWIFTAlliance Gateway.

##### a. Add the hostname and the IP address in the `/etc/hosts` file on both cluster nodes.

**b. Register the logical host, and then add the logical host resource to the resource group.**

```
# clreslogicalhostname -g sag-rg -h swiftgatewayhost sag-lh-rs
```

**3 Create the device group and file systems.**

Although you can use a global file system, create an HAStoragePlus failover resource to contain the SWIFTAlliance Gateway application and configuration data.

- To create a device group and a file system for SWIFTAlliance Gateway, see “Planning the Global Devices, Device Groups, and Cluster File Systems” in *Sun Cluster Software Installation Guide for Solaris OS*.
- To create an HAStoragePlus failover resource, see “Enabling Highly Available Local File Systems” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

This procedure uses `/swift/SWIFTAlliance/Gateway` as the path.

```
# clresource create -g sag-rg -t SUNW.HAStoragePlus -x filesystemMountPoints=/swift/SWIFTAlliance/Gateway sag-ds
```

**4 Bring the resource group online to enable the IP address and access to the storage.**

```
# clresourcegroup online sag-rg
```

**5 Create the following symbolic links before the installation.**

Without these symbolic links, the SWIFTAlliance Gateway application will not be installed in the correct location. You must install the SWIFTAlliance Gateway application in the correct location to ensure failover capabilities.

```
# cd /swift
# mkdir -p /swift/etc/opt/swnet
# chown -R root:system /swift/etc
# chown -R root:swnetg /swift/etc/opt/swnet
# chmod -R 0555 /swift/etc
# chmod -R 0775 /swift/etc/opt
# cd /etc/opt
# ln -s /swift/etc/opt/swnet swnet
# mkdir -p /swift/var/opt/swnet
# chown -R root:system /swift/var/
# chown -R root:swnetg /swift/var/opt/swnet
# chmod -R 0775 /swift/var
# cd /var/opt
# ln -s /swift/var/opt/swnet swnet
```

**6 If necessary, install the Websphere MQ client packages.**

Websphere MQ client software is software that guarantees and load-balances connections between the gateway and remote SWIFTNet Link systems. If you chose this type of SWIFTAlliance Gateway installation and have the appropriate license, install the Websphere MQ client packages.

**7 Install SWIFTNet Link.**

- Follow the instructions in your SWIFTNet Link documentation. To download the SWIFTNet Link documentation, see <http://www.swift.com>.
- Specify the directory on which to install the failover data service: `/swift/sn1`.
- If necessary, install any patches for SWIFTNet Link before you proceed with the installation of SWIFTAlliance Gateway.

## 8 Install SWIFTAlliance Gateway software.

- Follow the instructions in your SWIFTAlliance Gateway documentation. To download the SWIFTAlliance Gateway documentation, see <http://www.swift.com>.
- Use the logical IP address as the IP with which the SWIFTAlliance Gateway software communicates with remote hosts.

## 9 If necessary, install Websphere MQ client software.

Websphere MQ client software is software that guarantees and load-balances connections between the gateway and remote SWIFTNet Link systems. If you chose this type of SWIFTAlliance Gateway installation and have the appropriate license, install the Websphere MQ client packages.

## 10 Create the following symbolic links.

```
# ln -s /swift/home/swnet /home/swnet
# ln -s /swift/etc/opt/swnet /etc/opt/swnet
# ln -s /swift/var/opt/swnet /var/opt/swnet
```

## 11 Copy the `~root/vpd.properties` file from *node2* to the `~root/` directory on *node1*.

This information enables you to install patches in the future.

**Next Steps** Go to “[How to Verify the SWIFTAlliance Gateway Installation and Configuration](#)” on page 15.

# ▼ How to Verify the SWIFTAlliance Gateway Installation and Configuration

Perform this procedure on each node that can master the SWIFTAlliance Gateway resource group.

## 1 Log in as superuser to a node that can master the SWIFTAlliance Gateway resource group.

## 2 Switch the SWIFTAlliance Gateway resource group to the node that you logged in to in [Step 1](#).

```
# clresourcegroup switch -h node sag-rg
```

`sag-rg` Specifies that the SWIFTAlliance Gateway resource group is to be switched to another node

`-h node` Specifies the node to which the SWIFTAlliance Gateway resource group is to be switched

**3 Confirm that the SWIFTAlliance Gateway instance can be started.**

```
# su - swnet
# cd /swift/SWIFTAlliance/Gateway/bin
# ./sag_bootstrap start
# ./sag_system -SagUser Administrator -SagPwd pwd-for-admin -- start
```

The application started successfully if the following command returns a started status. This status indicates that the SWIFTAlliance Gateway is operational.

```
# ./sag_system -SagUser Administrator -SagPwd pwd-for-admin -- status system
```

**4 Create another SWIFTAlliance Gateway operator with an operating profile that contains only the functions to start and stop the application.**

**5 Confirm that the SWIFTAlliance Gateway instance can be stopped.**

```
# su - swnet
# cd /swift/SWIFTAlliance/Gateway/bin
# ./sag_bootstrap stop
```

**Next Steps** Go to [“Installing the Sun Cluster HA for SWIFTAlliance Gateway Packages”](#) on page 16.

## Installing the Sun Cluster HA for SWIFTAlliance Gateway Packages

If you did not install the Sun Cluster HA for SWIFTAlliance Gateway packages during your initial Sun Cluster installation, perform this procedure to install the packages. To install the packages, use the Sun Java™ Enterprise System Installation Wizard.

### ▼ How to Install the Sun Cluster HA for SWIFTAlliance Gateway Packages

Perform this procedure on each cluster node where you are installing the Sun Cluster HA for SWIFTAlliance Gateway packages.

You can run the Sun Java Enterprise System Installation Wizard with a command-line interface (CLI) or with a graphical user interface (GUI). The content and sequence of instructions in the CLI and the GUI are similar.

---

**Note** – Install the packages for this data service in the global zone.

---



**Before You Begin** Ensure that you have the Sun Java Availability Suite DVD-ROM.

If you intend to run the Sun Java Enterprise System Installation Wizard with a GUI, ensure that your DISPLAY environment variable is set.

**1 On the cluster node where you are installing the data service packages, become superuser.**

**2 Load the Sun Java Availability Suite DVD-ROM into the DVD-ROM drive.**

If the Volume Management daemon vold(1M) is running and configured to manage DVD-ROM devices, the daemon automatically mounts the DVD-ROM on the /cdrom directory.

**3 Change to the Sun Java Enterprise System Installation Wizard directory of the DVD-ROM.**

■ **If you are installing the data service packages on the SPARC® platform, type the following command:**

```
# cd /cdrom/cdrom0/Solaris_sparc
```

■ **If you are installing the data service packages on the x86 platform, type the following command:**

```
# cd /cdrom/cdrom0/Solaris_x86
```

**4 Start the Sun Java Enterprise System Installation Wizard.**

```
# ./installer
```

**5 When you are prompted, accept the license agreement.**

If any Sun Java Enterprise System components are installed, you are prompted to select whether to upgrade the components or install new software.

**6 From the list of Sun Cluster agents under Availability Services, select the data service for SWIFTAlliance Gateway.**

**7 If you require support for languages other than English, select the option to install multilingual packages.**

English language support is always installed.

**8 When prompted whether to configure the data service now or later, choose Configure Later.**

Choose Configure Later to perform the configuration after the installation.

**9 Follow the instructions on the screen to install the data service packages on the node.**

The Sun Java Enterprise System Installation Wizard displays the status of the installation. When the installation is complete, the wizard displays an installation summary and the installation logs.

- 10 **(GUI only) If you do not want to register the product and receive product updates, deselect the Product Registration option.**

The Product Registration option is not available with the CLI. If you are running the Sun Java Enterprise System Installation Wizard with the CLI, omit this step

- 11 **Exit the Sun Java Enterprise System Installation Wizard.**

- 12 **Unload the Sun Java Availability Suite DVD-ROM from the DVD-ROM drive.**

- a. **To ensure that the DVD-ROM is not being used, change to a directory that does *not* reside on the DVD-ROM.**

- b. **Eject the DVD-ROM.**

```
# eject cdrom
```

**Next Steps** Go to “[Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway](#)” on page 18.

## Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway

This section contains the procedures that you need to configure Sun Cluster HA for SWIFTAlliance Gateway.

To enable Sun Cluster HA for SWIFTAlliance Gateway to make SWIFTAlliance Gateway highly available, configure the Sun Cluster HA for SWIFTAlliance Gateway data service as a failover data service.

Before you perform this procedure, ensure that the Sun Cluster HA for SWIFTAlliance Gateway data service packages are installed.

### ▼ **How to Register and Configure Sun Cluster HA for SWIFTAlliance Gateway as a Failover Service**

Use this procedure to configure the Sun Cluster HA for SWIFTAlliance Gateway data service as a failover service.

- 1 **Become superuser on one of the nodes in the cluster that is the host for SWIFTAlliance Gateway.**

- 2 **Register the SUNW.gds resource type.**

```
# clresourcetype register SUNW.gds
```

**3 Register the SUNW.HASStoragePlus resource type.**

```
# clresourcetype register SUNW.HASStoragePlus
```

**4 Create the failover resource group.**

```
# clresourcegroup create sag-rg
```

**5 Create a resource for the Sun Cluster Disk Storage.**

```
# clresource create -gsag-rg \  
-t SUNW.HASStoragePlus \  
-x FileSystemMountPoints=/swift sag-ds-rs
```

*sag-ds-rs*

Specifies that the resource that you are creating is named *sag-ds-rs*.

```
-g sag-rg
```

Specifies that the resource is to be added to the SWIFTAlliance Gateway resource group.

```
-x FileSystemMountPoints=mountpoint-list
```

Specifies a list of valid mount points for the file system. For more information, see the SUNW.HASStoragePlus(5) man page.

**6 Create a resource for the Sun Cluster logical hostname.**

```
# clreslogicalhost create -g sag-rg \  
-h gatewayhostname sag-lh-rs
```

**7 Enable the failover resource that contains the Sun Cluster Disk Storage and the Logical hostname resources.**

```
# clresourcegroup online sag-rg
```

**8 Create a resource for SWIFTAlliance Gateway.****a. Change the user name, password, and path variable in the /opt/SUNWscsag/etc/settings.sh file.**

For information about this file, see [“Configuration Files and Registration Script”](#) on page 12.

**b. Change the group name, resource name and, if necessary, the port number in the /opt/SUNWscsag/util/sag\_config file.**

For information about this file, see [“Configuration Files and Registration Script”](#) on page 12.

**c. Run the registration script to register the data service and application.**

For information about this script, see [“Configuration Files and Registration Script”](#) on page 12.

```
# /opt/SUNWscsag/util/sag_register
```

**9 Enable the SWIFTAlliance Gateway resource.**

```
# clresource enable sag-resource-rs
```

**Next Steps** Go to “[Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration](#)” on page 20.

## Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration

This section contains the procedure to verify that you installed and configured your data service properly.

### ▼ How to Verify the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration

- 1 Become superuser on one of the nodes in the cluster that hosts SWIFTAlliance Gateway.
- 2 Ensure that all the Sun Cluster resources are online.  

```
# cluster status  
# clresource enable resource
```
- 3 Move the Sun Cluster resource group to another cluster node, such as *node1*.  

```
# clresource group switch -h node1 sag-rg
```
- 4 Ensure that SWIFTAlliance Gateway stopped on *node1* and that the application started on another node, such as *node2*.

When using a failover file system, the file system disappears on *node1* and mounts on *node2*.

**Next Steps** Go to “[Tuning the Sun Cluster HA for SWIFTAlliance Gateway Fault Monitor](#)” on page 20.

## Tuning the Sun Cluster HA for SWIFTAlliance Gateway Fault Monitor

The Sun Cluster HA for SWIFTAlliance Gateway fault monitor detects the following faults:

- Failure of a node
- Failure of a network connection
- Failure of a disk connection

---

**Note** – The Sun Cluster HA for SWIFTAlliance Gateway fault monitor does *not* detect software failures.

---

The Sun Cluster HA for SWIFTAlliance Gateway fault monitor is contained in the resource that represents SWIFTAlliance Gateway. You create this resource when you register and configure Sun Cluster HA for SWIFTAlliance Gateway. For more information, see “[Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway](#)” on page 18.

System properties and extension properties of this resource control the behavior of the fault monitor. The default values of these properties determine the preset behavior of the fault monitor. The preset behavior should be suitable for most Sun Cluster installations. Therefore, tune the Sun Cluster HA for SWIFTAlliance Gateway fault monitor *only* if you need to modify this behavior.

Tuning the Sun Cluster HA for SWIFTAlliance Gateway fault monitor involves the following tasks:

- Setting the interval between fault monitor probes
- Setting the timeout for fault monitor probes
- Defining the criteria for persistent faults
- Specifying the failover behavior of a resource

Perform these tasks when you register and configure Sun Cluster HA for SWIFTAlliance Gateway. For more information, see the following sections:

- “[Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway](#)” on page 18
- “[Tuning Fault Monitors for Sun Cluster Data Services](#)” in *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*

## Debugging Sun Cluster HA for SWIFTAlliance Gateway

### ▼ How to Set the Debug Flag for Sun Cluster HA for SWIFTAlliance Gateway

Sun Cluster HA for SWIFTAlliance Gateway has an option file in `/opt/SUNWscsag/etc` directory that enables you to set a debug flag.

Normally, the debug information for Sun Cluster software does not reside in the log files. You must edit the `syslog.conf` file to enable logging of messages of level debug. You can edit the `syslog.conf` to log those messages in another file.

**1 Edit /etc/syslog.conf.****a. Change daemon.notice to daemon.debug.**

The following output from the `grep daemon /etc/syslog.conf` command shows that `daemon.debug` has not been set.

```
grep daemon /etc/syslog.conf
*.err;kern.debug;daemon.notice;mail.crit
/var/adm/messages
*.alert;kern.err;daemon.err
operator
```

**b. Restart syslogd.**

```
# pkill -1 syslogd
```

The `syslogd` command forces `syslog` to reread its configuration file and account for changes.

The following output from the `grep daemon /etc/syslog.conf` command shows that `daemon.debug` has been set.

```
grep daemon /etc/syslog.conf
*.err;kern.debug;daemon.debug;mail.crit
/var/adm/messages
*.alert;kern.err;daemon.err
operator
```

**2 Edit the /opt/SUNWscsag/etc/config file.**

Change the line `DEBUG=` to `DEBUG=ALL` or `DEBUG=resource`.

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