Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS

SPARC Platform Edition

Contents

Preface

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 document assume knowledge of the Solaris™ Operating System and expertise with the volume manager software that is used with Sun Cluster.

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 .login file. Use ls -a to list all files. machine_name% you have mail.
AaBbCc123	What you type, contrasted with onscreen computer output	machine_name% **su** Password:
AaBbCc123	Command-line placeholder: replace with a real name or value	The command to remove a file is rm *filename*.
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*. These are called *class* options. Do *not* 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	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	$
Bourne shell and Korn shell superuser prompt	#

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.

Topic	Documentation
Data service administration	*Sun Cluster Data Services Planning and Administration Guide for Solaris OS*
	Individual data service guides
Concepts	*Sun Cluster Concepts Guide for Solaris OS*
Overview	*Sun Cluster Overview for Solaris OS*
Software installation	*Sun Cluster Software Installation Guide for Solaris OS*
System administration	*Sun Cluster System Administration Guide for Solaris OS*
Hardware administration	*Sun Cluster 3.0-3.1 Hardware Administration Manual for Solaris OS*
	Individual hardware administration guides
Data service development	*Sun Cluster Data Services Developer's Guide for Solaris OS*
Error messages	*Sun Cluster Error Messages Guide for Solaris OS*
Command and function reference	*Sun Cluster Reference Manual for Solaris OS*

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.

Note – Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Accessing Sun Documentation Online

The docs.sun.com℠ Web site enables you to access Sun technical documentation online. You can browse the docs.sun.com archive or search for a specific book title or subject. The URL is http://docs.sun.com.

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.

Product Training

Sun Microsystems offers training in many Sun technologies through a variety of instructor-led courses and self-paced courses. For information about the training courses that Sun offers and to enroll in a class, visit Sun Microsystems Training at http://training.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 and serial numbers of your systems
- The release number of the Solaris Operating System (for example, Solaris 8)
- The release number of Sun Cluster (for example, Sun Cluster 3.0)

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

Command	Function
prtconf -v	Displays the size of the system memory and reports information about peripheral devices
psrinfo -v	Displays information about processors
showrev –p	Reports which patches are installed
SPARC: prtdiag -v	Displays system diagnostic information
scinstall -pv	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

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

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

Sun Cluster HA for SWIFTAlliance Gateway provides software for fault monitoring by checking the status of the Alliance Gateway service. The values 'running' and 'partial' are considered healthy; values other than these will force a restart or failover to another node in the cluster. By accepting a partial status, operators may temporarily disable portions of the service without informing the cluster. You do not need an user id and password for monitoring.

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 that they are listed in the table.

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

Task	Instructions
Plan the SWIFTAlliance Gateway installation	"Planning the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration" on page 11
Install and configure SWIFTAlliance Gateway	"Installing and Configuring SWIFTAlliance Gateway" on page 14
Install the Sun Cluster HA for SWIFTAlliance Gateway packages	"Installing and Configuring SWIFTAlliance Gateway" on page 14
Register the Sun Cluster HA for SWIFTAlliance Gateway data service and configure the cluster for the data service	"Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway" on page 21
Verify Sun Cluster HA for SWIFTAlliance Gateway	"Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration" on page 23
Tune the Sun Cluster HA for SWIFTAlliance Gateway fault monitor	"Tuning the Sun Cluster HA for SWIFTAlliance Gateway Fault Monitor" on page 24
(Optional) Debug Sun Cluster HA for SWIFTAlliance Gateway	"Debugging Sun Cluster HA for SWIFTAlliance Gateway" on page 25

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.

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.

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 3.1 8/05 Release Notes for Solaris OS*.

- Sun Cluster HA for SWIFTAlliance Gateway supports SWIFTAlliance Gateway version 5.0 and 6.0.
- 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.

- Create the following groups with the same group id on all nodes in the cluster: `sagsnlg`, `swnetg`

  # **groupadd -g** *groupid1* **swnetg**

  # **groupadd -g** *groupid2* **sagsnlg**

- Create the following user with the same user id on all nodes in the cluster: `swnet`

  # **useradd -u** *userid* **-g swnetg -d /home/swnet -s /usr/bin/ksh swnet**

- On Solaris 10 – Create a Solaris project called `swift` as follows:

  # **projadd -U swnet swift**

  # **projadd -s -K 'project.max-sem-ids=(privileged,1080,deny)' swift**

  # **projadd -s -K 'project.max-sem-nsems=(privileged,512,deny)' swift**

  # **projadd -s -K 'project.max-shm-memory=(privileged,4294967295,deny)' swift**

  # **projadd -s -K 'project.max-shm-ids=(privileged,1200,deny)' swift**

  # **projadd -s -K 'project.max-msg-qbytes=(privileged,10485760,deny)' swift**

  # **projadd -s -K 'project.max-msg-messages=(privileged,8192,deny)' swift**

  The above values are examples only. For more accurate values refer to the SWIFTNet Link and SWIFTAlliance Gateway latest documentation release notes.

- On Solaris 10 — Assign project `swift` as default project for `swnet` user by editing the `/etc/user_attr` file and adding the following line at the end of the file:

  ```
  swnet::::project=swift
  ```

- On earlier versions of Solaris 10, refer to the SWIFTNet Link and SWIFTAlliance Gateway latest documentation release notes for the required setup in `/etc/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.	■ `SUNW.LogicalHost` resource ■ `SUNW.HAStoragePlus` resource

Configuration Files and Registration Script

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

`/opt/SUNWscsag/etc/settings`	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.

■   Do you have your SWIFTAlliance Gateway license key? If not, contact your SWIFT support representative and retrieve this information.

- Do you have your SWIFTAlliance Gateway installation documentation? If not, refer the documentation available in the SWIFTAlliance Gateway CD-ROM.

- 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 the appropriate documentation available in the SWIFTAlliance Gateway CD-ROM.

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.**

```
# scrgadm -a -g 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/inet/hosts **file on both cluster nodes.**

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

```
# scrgadm -a -L -g sag-rg -j sag-lh-rs -l swiftgatewayhost
```

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 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.

```
# scrgadm -a -g sag-rg -j sag-ds -t SUNW.HAStoragePlus -x FilesystemMountPoints=/swift
```

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

```
# scswitch -Z -g sag-rg
```

5   Create the following directories and 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.

Perform this procedure on the node where the resource group for SWIFTAlliance Gateway is online.

```
# mkdir -p /swift/etc/opt/swnet
# chown root:swnetg /swift/etc/opt/swnet
# chmod -R 0555 /swift/etc
# chmod 0775 /swift/etc/opt/swnet
# mkdir -p /swift/var/opt/swnet
# chown root:swnetg /swift/var/opt/swnet
# chmod -R 0555 /swift/var
# chmod 0775 /swift/var/opt/swnet
# mkdir -p /swift/home/swnet
# chown swnet:swnetg /swift/home/swnet
```

Perform this procedure on all cluster nodes.

```
# 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
```

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. The Websphere MQ client package must be installed locally on all nodes using the same installation directory.

7   **Install SWIFTNet Link.**

Note – You must install SWIFTNet Link on the node where the resource group for SWIFTAlliance Gateway is online. You must also install SWIFTNet Link in the directory on the file system managed by the HAStoragePlus resource created in Step 3.

- Follow the instructions in your SWIFTNet Link documentation. To refer the SWIFTNet Link documentation, obtain the SWIFTNet Link CD-ROM.

- Specify the directory on which to install the failover data service: /swift/snl.

- If necessary, install any patches for SWIFTNet Link.

8   **Configure and register HSM on the primary node as follows:**

- Log on to the primary node as the SWIFTNet Link instance owner with the swnet account.

- Run the following command:

    ```
    # perl SwHSMDiskClone.pl -a SETUP
    ```

- Log off.

- Log on as the SWIFTNet Link instance owner with the swnet account.

- Use the HSM administration tool SwHSM to configure and register the HSM boxes connected to the primary node. See the *SWIFTNet Link Installation and Administration Guide for UNIX* for details.

Note – During the configuration and registration of the HSM, you must enter the boot IP address of the primary node in the SWIFTNet Link host IP address field of the Register screen. This source IP address is used to establish the connection. Do not use the logical host address that is used by the service.

---

9   **Register HSM on the secondary node or nodes.**

- Switch the resource group for SWIFTAlliance Gateway to the secondary node.

  # **scswitch -z -g** *sag-rg* **-h** *node2*

- Log on to the secondary node as the SWIFTNet Link instance owner with the swnet account.
- Run the following command:

  # **perl SwHSMDiskClone.pl -a SETUP**

- Log off.
- Log on as the SWIFTNet Link instance owner with the swnet account.
- Use the HSM administration tool SwHSM to register the HSM boxes connected to the secondary node or nodes. See the *SWIFTNet Link Installation and Administration Guide for UNIX* for details.

Note – During the registration of the HSM, you must enter the boot IP address of the secondary node in the SWIFTNet Link host IP address field of the Register screen. This source IP address is used to establish the connection. Do not use the logical host address that is used by the service.

Note – You need to be aware that the only difference here is that you configure and register the HSM on the first node, whereas you only register the HSM on the secondary node or nodes.

---

10   Install SWIFTAlliance Gateway software.

Note – You must install SWIFTAlliance Gateway on the node where the resource group for SWIFTAlliance Gateway is online. You must also install SWIFTAlliance Gateway in a directory on the file system managed by the HAStoragePlus resource created in Step 3. You may install the SWIFTAlliance Gateway patches, if necessary.

- Follow the instructions in your SWIFTAlliance Gateway documentation. To refer the SWIFTAlliance Gateway documentation, obtain the SWIFTAlliance Gateway CD-ROM.
- Use the logical IP address as the IP with which the SWIFTAlliance Gateway software communicates with remote hosts.

11   Synchronize all nodes with installation specific changes to user files and system files.
- The ~root/vpd.properties has been replaced by the ~root/InstallShield directory structure. This directory structure needs to be copied on all nodes that are part of the cluster. This will enable you to install patches in the future.

- Add all entries in /etc/system and /etc/services added by the installation on the first node to the secondary node or nodes.

Next Steps Go to "How to Verify the SWIFTAlliance Gateway Installation and Configuration" on page 18.

▼ 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.

```
# scswitch -z -g sag-rg -h node
```

-z   Specifies that the node that masters a resource group is to be switched

-g *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 -startsag start
# ./sag_system -- status system
```

Note – The application starts successfully if the preceding command returns a started status. This status indicates that the SWIFTAlliance Gateway is operational.

---

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 19.

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. Perform this procedure on each cluster node where you are installing the Sun Cluster HA for SWIFTAlliance Gateway packages. To complete this procedure, you need the Sun Cluster Agents CD-ROM.

Note – The SUNWscsag package is available on the CD-ROM for Solaris 8 and 9. On Solaris 10, install either of them (the packages are identical for all Solaris versions) using the pkgadd -G command.

Note – Patch 118984–04 or a later patch must be installed. On Solaris 8 and 9, the patch must be installed using the patchadd command and on Solaris 10, the patch must be installed using the patchadd -G command.

If you are installing more than one data service simultaneously, perform the procedure in "Installing the Software" in *Sun Cluster Software Installation Guide for Solaris OS*.

Install the Sun Cluster HA for SWIFTAlliance Gateway packages by using one of the following installation tools:

- The Web Start program
- The scinstall utility

Note – The Web Start program is *not* available in releases earlier than Sun Cluster 3.1 Data Services 10/03.

▼ How to Install Sun Cluster HA for SWIFTAlliance Gateway Packages by Using the Web Start Program

You can run the Web Start program 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. For more information about the Web Start program, see the installer(1M) man page.

1 **On the cluster node where you are installing the Sun Cluster HA for SWIFTAlliance Gateway packages, become superuser.**

2 (Optional) If you intend to run the Web Start program with a GUI, ensure that your DISPLAY **environment variable is set.**

3 Insert the Sun Cluster Agents CD-ROM into the CD-ROM drive.

If the Volume Management daemon vold(1M) is running and configured to manage CD-ROM devices, it automatically mounts the CD-ROM on the /cdrom/cdrom0 directory.

4 Change to the Sun Cluster HA for SWIFTAlliance Gateway component directory of the CD-ROM.

The Web Start program for the Sun Cluster HA for SWIFTAlliance Gateway data service resides in this directory.

```
# cd /cdrom/cdrom0/components/SunCluster_HA_SAG_3.1
```

5 Start the Web Start program.

```
# ./installer
```

6 When you are prompted, select the type of installation.

- To install only the C locale, select Typical.
- To install other locales, select Custom.

7 Follow the instructions on the screen to install the Sun Cluster HA for SWIFTAlliance Gateway packages on the node.

After the installation is finished, the Web Start program provides an installation summary. This summary enables you to view logs that the Web Start program created during the installation. These logs are located in the /var/sadm/install/logs directory.

8 Exit the Web Start program.

9 Remove the Sun Cluster Agents CD-ROM from the CD-ROM drive.

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

b. Eject the CD-ROM.

```
# eject cdrom
```

Next Steps Go to "Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway" on page 21.

▼ How to Install Sun Cluster HA for SWIFTAlliance Gateway Packages by Using `scinstall` Utility

Perform this procedure on all of the cluster members that can master Sun Cluster HA for SWIFTAlliance Gateway.

Before You Begin   Ensure that you have the Sun Cluster Agents CD-ROM.

1   Load the Sun Cluster Agents CD-ROM into the CD-ROM drive.

2   Run the `scinstall` utility with no options.
This step starts the `scinstall` utility in interactive mode.

3   Select the menu option, Add Support for New Data Service to This Cluster Node.
The `scinstall` utility prompts you for additional information.

4   Provide the path to the Sun Cluster Agents CD-ROM.
The utility refers to the CD as the "data services cd."

5   Specify the data service to install.
The `scinstall` utility lists the data service that you selected and asks you to confirm your choice.

6   Exit the `scinstall` utility.

7   Unload the CD from the drive.

Next Steps   Go to "Registering and Configuring the Sun Cluster HA for SWIFTAlliance Gateway" on page 21.

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.**

```
# scrgadm -a -t SUNW.gds
```

-a
   Specifies that a new configuration is to be added.

-t SUNW.HAStoragePlus
   Specifies that the resource is an instance of the SUNW.HAStoragePlus resource type.

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

```
# scrgadm -a -t SUNW.HAStoragePlus
```

4 Create the failover resource group.

```
# scrgadm -a -g sag-rg
```

5 Create a resource for the Sun Cluster Disk Storage.

```
# scrgadm -a -j sag-ds-rs \
-g sag-rg \
-t SUNW.HAStoragePlus \
-x FilesystemMountPoints=/swift
```

-a
   Specifies that a new configuration is to be added.

-j *hsp-resource*
   Specifies that the resource that you are creating is named *hsp-resource*.

-g *sag-rg*
   Specifies that the resource is to be added to the SWIFTAlliance Gateway resource group.

-t SUNW.HAStoragePlus
   Specifies that the resource is an instance of the SUNW.HAStoragePlus resource type.

-x filesystemmountpoints=*mountpoint-list*

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

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

```
# scrgadm -a -L -j sag-lh-rs \
-g sag-rg \
-l gatewayhostname
```

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

```
# scswitch -Z -g sag-rg
```

8   **Create a resource for SWIFTAlliance Gateway.**

a.   **Change the user name, password, and path variable in the** /opt/SUNWscsag/etc/settings **file on all nodes.**

For information about this file, see "Configuration Files and Registration Script" on page 13.

b.   **Change the variables in the** /opt/SUNWscsag/util/sag_config **file.**

For information about this file, see "Configuration Files and Registration Script" on page 13.

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 13.

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

9   **Enable the SWIFTAlliance Gateway resource.**

```
# scswitch -e -j sag-resource-rs
```

Next Steps   Go to "Verifying the Sun Cluster HA for SWIFTAlliance Gateway Installation and Configuration" on page 23.

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.**

```
# scstat
# scswitch -e -j resource
```

3 **Move the Sun Cluster resource group to another cluster node, such as** *node1*.

```
# scswitch -z -g sag-rg -h node1
```

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

Sun Cluster HA for SWIFTAlliance Gateway provides software for fault monitoring by checking the status of the Alliance Gateway service. The values 'running' and 'partial' are considered healthy; values other than these will force a restart or failover to another node in the cluster. By accepting a partial status, operators may temporarily disable portions of the service without informing the cluster. You do not need an user id and password for monitoring.

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 21.

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 21
- "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 Gatewayhas 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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