Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS

SPARC Platform Edition

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Preface

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

Note – This Sun Cluster release supports systems that use the SPARC and x86 families of processor architectures: UltraSPARC, SPARC64, AMD64, and Intel 64. In this document, x86 refers to the larger family of 64-bit x86 compatible products. Information in this document pertains to all platforms unless otherwise specified.

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 conventions that are used in this book.

TABLE P–1 Typographic Conventions

Typeface	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	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*. A *cache* is a copy that is stored locally. Do *not* save the file. **Note:** Some emphasized items appear bold online.

Shell Prompts in Command Examples

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

TABLE P–2 Shell Prompts

Shell	Prompt
C shell	`machine_name%`
C shell for superuser	`machine_name#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell for superuser	`#`

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 3.1 - 3.2 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.

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The Sun web site provides information about the following additional resources:

- Documentation (`http://www.sun.com/documentation/`)
- Support (`http://www.sun.com/support/`)
- Training (`http://www.sun.com/training/`)

Sun Welcomes Your Comments

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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
`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
`prtdiag -v`	Displays system diagnostic information
`/usr/cluster/bin/clnode show-rev`	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 Alliance Gateway

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

Note – In the current version, SWIFTAlliance Gateway is renamed as Alliance Gateway. You can use the Sun Cluster HA for Alliance Access with both the product names.

This chapter contains the following sections.

- "Sun Cluster HA for Alliance Gateway Overview" on page 9
- "Overview of Installing and Configuring Sun Cluster HA for Alliance Gateway" on page 10
- "Planning the Sun Cluster HA for Alliance Gateway Installation and Configuration" on page 11
- "Installing and Configuring Alliance Gateway" on page 14
- "Installing the Sun Cluster HA for Alliance Gateway Packages" on page 19
- "Registering and Configuring the Sun Cluster HA for Alliance Gateway" on page 21
- "Verifying the Sun Cluster HA for Alliance Gateway Installation and Configuration" on page 23
- "Tuning the Sun Cluster HA for Alliance Gateway Fault Monitor" on page 23
- "Debugging Sun Cluster HA for Alliance Gateway" on page 24

Sun Cluster HA for Alliance Gateway Overview

The Sun Cluster HA for Alliance 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 Alliance 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 force a restart or failover to another node or zone in the cluster. By accepting a "partial" status, operators can temporarily disable portions of the service without informing the cluster. You do not need a 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 Alliance 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 Alliance Gateway Components

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

Overview of Installing and Configuring Sun Cluster HA for Alliance Gateway

The following table summarizes the tasks for installing and configuring Sun Cluster HA for Alliance 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 Alliance Gateway

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

Planning the Sun Cluster HA for Alliance Gateway Installation and Configuration

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

Note – Before you begin, consult your Alliance 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 Alliance 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 11/09 Release Notes for Solaris OS*.

- Sun Cluster HA for Alliance Gateway supports Alliance Gateway version 5.0, 6.0, 6.1 and 6.3.
- You can install the SWIFTNet Link and the Alliance Gateway software only on a failover file system. If WebSphere™ MQ client software is needed for the operation of Alliance Gateway, install WebSphere MQ client software on the local file system in the same path on each cluster node or zone that can master the resource group. The default path is `/opt/mqm`.
- You cannot configure Sun Cluster HA for Alliance Gateway as a scalable data service.

Note – The Sun Cluster HA for Alliance Gateway can be configured to run in a whole root or sparse root non-global zone for Sun Cluster HA for Alliance Gateway version 6.0, 6.1 or 6.3 if required.

Configuration Requirements

The configuration requirements in this section apply only to Sun Cluster HA for Alliance 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 Alliance Gateway as a failover data service.
- Create the following groups with the same group ID on all cluster nodes or zones that can master the resource group: `sagsnlg, swnetg`.

  ```
  # groupadd -g groupid1 swnetg
  ```

  ```
  # groupadd -g groupid2 sagsnlg
  ```
- Create the following user with the same user ID on all cluster nodes or zones that can master the resource group: `swnet`.

  ```
  # useradd -u userid -g swnetg -d /home/swnet -s /usr/bin/ksh swnet
  ```
- On Solaris 10 – Create a Solaris project called `swift` on all cluster nodes or zones that can master the resource group.

  ```
  # projadd -U swnet swift
  ```

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

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

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

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

  ```
  # projmod -s -K 'process.max-msg-qbytes=(privileged,10485760,deny)' swift
  ```

  ```
  # projmod -s -K 'process.max-msg-messages=(privileged,8192,deny)' swift
  ```

  The previous values are examples only. For more accurate values refer to the SWIFTNet Link and Alliance 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 on all cluster nodes or zones that can master the resource group:

  ```
  swnet::::project=swift
  ```
- On earlier versions of Solaris 10, refer to the SWIFTNet Link and Alliance Gateway latest documentation release notes for the required setup in the `/etc/system` directory on all cluster nodes.

Configuration Considerations

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

Resource Dependencies

Configure Sun Cluster HA for Alliance 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
Alliance Gateway This component includes the SWIFTNet Link instance.	■ `SUNW.LogicalHost` resource ■ `SUNW.HAStoragePlus` resource

Configuration Files and Registration Script

The Sun Cluster component has a configuration file and a registration script.

`/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.

Note – The `/opt/SUNWscsag/etc/settings` configuration file is obsolete and is no longer necessary for new data service registrations. All necessary variables are included in the `/opt/SUNWscsag/util/sag_config` configuration file. Resources that were registered prior to this change will still use the `/opt/SUNWscsag/etc/settings` configuration file.

Configuration Planning Questions

Use the questions in this section to plan the installation and configuration of Sun Cluster HA for Alliance 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 Alliance Gateway license key? If not, retrieve this information.
- Do you have your Alliance Gateway installation documentation? If not, refer the documentation available in the Alliance Gateway CD-ROM.
- Before you run Sun Cluster HA for Alliance Gateway as a failover data service, answer the following questions:
  - Which resource groups will you use for the Alliance Gateway application resource and the logical host name resource?
  - What is the logical hostname for the Alliance 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 Alliance Gateway

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

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

For information about the standard installation and standard configuration of Alliance Gateway, see the appropriate documentation available in the Alliance 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 Alliance Gateway

1 Create a resource group for Alliance Gateway.

```
# clresourcegroup create [-n node-zone-list] sag-rg
```

`-n node-zone-list`
Specifies a comma-separated, ordered list of zones that can master the resource group. The format of each entry in the list is node. In this format, node specifies the node name and zone specifies the name of a non-global Solaris zone. To specify the global zone, or to specify a node without non-global zones, specify only node. This list is optional. If you omit this list, the global zone of each cluster node can master the resource group.

2 Create a logical host.

A logical host is required before you install Alliance Gateway.

a. Add the hostname and the IP address in the `/etc/inet/hosts` file on all cluster nodes or zones that can master the resource group.

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 Alliance Gateway application and configuration data.

- To create a device group and a file system for Alliance 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` as the path that contains the Alliance Gateway application and configuration data.

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

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

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

5 Create the following directories and symbolic links before the installation.

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

Perform this procedure on the node where the resource group for Alliance 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 Install the WebSphere MQ client packages, if required.

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 Alliance Gateway installation and have the appropriate license, install the WebSphere MQ client packages. The WebSphere MQ client package must be installed locally by using the same installation directory on all cluster nodes or zones that can master the resource group.

7 Install SWIFTNet Link.

You must install SWIFTNet Link on the node or zone where the resource group for Alliance Gateway is online. You must also install SWIFTNet Link in the directory on the file system managed by the `HAStoragePlus` resource that you 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`.
- Install any patches for SWIFTNet Link, if required.
- The Hardware Security Module (HSM) Installation/Configuration wizard starts up automatically when you click Finish at the end of SWIFTNet Link installation. Click Cancel to exit the HSM Installation/Configuration wizard.
- Verify that connectivity with SWIFTNet Switch is established by running the SWIFTNet Link `selftest` command. For more information, see *SWIFTNet Admin Services: Operational Interface* on the Alliance Gateway CD-ROM.
- Stop the SWIFTNet Link instance by running the SWIFTNet Link `stop` command.

8 Configure and register HSM on the primary node as follows.

- Log on to the primary node or zone 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 zone.

- Switch the resource group for Alliance Gateway to the secondary node or zone.

  ```
  # clresourcegroup switch -n node2 sag-rg
  ```

- 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 zone. 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 or zone 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 must be aware that the only difference between Step 8 and this step is that you configure and register the HSM on the first node or zone in Step 8, whereas you only register the HSM on the secondary node or zone in this step.

---

10 Install Alliance Gateway software.

You must install Alliance Gateway on the node or zone where the resource group for Alliance Gateway is online. You must also install Alliance Gateway in a directory on the file system managed by the `HAStoragePlus` resource that you created in Step 3. In this procedure, `/swift/SWIFTAlliance/Gateway` is being used as the directory. You might install the Alliance Gateway patches, if necessary.

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

11 Synchronize all nodes or zones with installation-specific changes to user files and system files.

- The `~root/vpd.properties` directory has been replaced by the `~root/InstallShield` directory structure. This directory structure needs to be copied on all cluster nodes or zones that can master the resource group. It enables you to install patches in the future. Moreover, after every SWIFTNet Link or Alliance Gateway patches installation or uninstallation, the synchronization of the `~root/InstallShield` directory has to be redone.
- Add all entries in `/etc/system` and `/etc/services` added by the installation on the first node to the secondary node or zone that can master the resource group. The entries in `/etc/system` must be applied to the global zone.

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

▼ How to Verify the Alliance Gateway Installation and Configuration

Perform this procedure on each node or zone that can master the Alliance Gateway resource group.

1 Log in as superuser to a node or zone that can master the Alliance Gateway resource group.

2 Switch the Alliance Gateway resource group to the node or zone that you logged in to in Step 1.

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

sag-rg Specifies that the Alliance Gateway resource group is to be switched to another node or zone

`-h` *node* Specifies the node or node:zone to which the Alliance Gateway resource group is to be switched

3 Confirm that the Alliance 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 Alliance Gateway is operational.

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

5 **Confirm that the Alliance 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 Alliance Gateway Packages" on page 19.

Installing the Sun Cluster HA for Alliance Gateway Packages

If you did not install the Sun Cluster HA for Alliance 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.

Note – You need to install the Sun Cluster HA for Alliance Gateway packages in the global cluster and not in the zone cluster.

▼ How to Install the Sun Cluster HA for Alliance Gateway Packages

Perform this procedure on each cluster node where you are installing the Sun Cluster HA for Alliance 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 – Even if you plan to configure this data service to run in non-global zones, install the packages for this data service in the global zone. The packages are propagated to any existing non-global zones and to any non-global zones that are created after you install the packages.

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 Alliance 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 Alliance Gateway" on page 21.

Registering and Configuring the Sun Cluster HA for Alliance Gateway

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

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

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

▼ How to Register and Configure Sun Cluster HA for Alliance Gateway as a Failover Service

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

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

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

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

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

```
# clresourcetype register SUNW.HAStoragePlus
```

4 **Create the failover resource group.**

```
# clresourcegroup create [-n node-zone-list] sag-rg
```

`-n node-zone-list`
Specifies a comma-separated, ordered list of zones that can master the resource group. The format of each entry in the list is node. In this format, node specifies the node name and zone specifies the name of a non-global Solaris zone. To specify the global zone, or to specify a node without non-global zones, specify only node. This list is optional. If you omit this list, the global zone of each cluster node can master the resource group.

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

```
# clresource create -g sag-rg \
-t SUNW.HAStoragePlus \
-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 Alliance Gateway resource group.

`-x FileSystemMountPoints=`*mountpoint-list*
Specifies a list of valid mount points for the file system.

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 -eM sag-rg
```

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

a. **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.

b. **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 Alliance Gateway resource.**

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

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

Verifying the Sun Cluster HA for Alliance 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 Alliance Gateway Installation and Configuration

1 **Become superuser on one of the nodes or zones in the cluster that hosts Alliance 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 or zone, such as *node1*.**

```
# clresource group switch -h node1 sag-rg
```

4 **Ensure that Alliance Gateway stopped on *node1* and that the application started on another node or zone, 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 Alliance Gateway Fault Monitor" on page 23.

Tuning the Sun Cluster HA for Alliance Gateway Fault Monitor

Sun Cluster HA for Alliance 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 force a restart or failover to another node in the cluster. By accepting a "partial" status, operators can temporarily disable portions of the service without informing the cluster. You do not need a user ID and password for monitoring.

The Sun Cluster HA for Alliance Gateway fault monitor is contained in the resource that represents Alliance Gateway. You create this resource when you register and configure Sun Cluster HA for Alliance Gateway. For more information, see "Registering and Configuring the Sun Cluster HA for Alliance 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 Alliance Gateway fault monitor *only* if you need to modify this behavior.

Tuning the Sun Cluster HA for Alliance 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 Alliance Gateway. For more information, see the following sections:

- "Registering and Configuring the Sun Cluster HA for Alliance 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 Alliance Gateway

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

Sun Cluster HA for Alliance 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 the** `/etc/syslog.conf` **file.**

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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