Sun Cluster 2.2 Release Notes Addendum

901 San Antonio Road
Palo Alto, , CA 94303-4900
USA 650 960-1300 Fax 650 969-9131

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Contents

CHAPTER 1

Sun Cluster 2.2 Release Notes Addendum

This document provides information to supplement the *Sun Cluster 2.2 Release Notes* (part number 805-4243) and the *Sun Cluster 2.2 Locale Installation Notes* (part number 806-4172). For more information about Sun Cluster, see the web site `http://www.sun.com/clusters`.

Support for SAP 4.5B

SAP 4.5B is now supported with Sun Cluster 2.2, in the Solaris 2.6 operating environment only. At this time, HA-SAP with SAP 4.5B is qualified with the Oracle database only.

All administrative procedures for SAP 4.5B are identical to those documented for SAP 4.0*x* in the *Sun Cluster 2.2 Software Installation Guide*.

Upgrading to Sun Cluster 2.2

Several errors exist in the upgrade procedures documented in Chapter 4 of the *Sun Cluster 2.2 Software Installation Guide*. To upgrade to Sun Cluster 2.2 from HA 1.3, Sun Cluster 2.0, or Sun Cluster 2.1, use the following procedures instead.

▼ How to Upgrade to Sun Cluster 2.2 From HA 1.3

These are the high-level steps to upgrade from Solstice™ HA 1.3 to Sun Cluster 2.2. You can perform the upgrade either from an administrative workstation or from the console of any physical host in the cluster. Using an administrative workstation allows the most flexibility during the upgrade process.

Note - This procedure assumes you are using an administrative workstation.

Caution - Back up all local and multihost disks before starting the upgrade. Also, all systems must be operable and robust. Do not attempt to upgrade if systems are experiencing any difficulties.

Caution - On each node, if you customized `hasap_start_all_instances` or `hasap_stop_all_instances` scripts in Solstice HA 1.3 or Sun Cluster 2.1, save them to a safe location before beginning the upgrade to Sun Cluster 2.2. Restore the scripts after completing the upgrade. Do this to prevent loss of your customizations when Sun Cluster 2.2 removes the old scripts.

The configuration parameters implemented in Sun Cluster 2.2 are different from those implemented in Solstice HA 1.3 and Sun Cluster 2.1. Therefore, after upgrading to Sun Cluster 2.2, you will have to re-configure Sun Cluster HA for SAP by running the `hadsconfig(1M)` command. Before starting the upgrade, view the existing configuration and note the current configuration variables. For Solstice HA 1.3, use the `hainetconfig(1M)` command to view the configuration. For Sun Cluster 2.1, use the `hadsconfig(1M)` command to view the configuration. After upgrading to Sun Cluster 2.2, use the `hadsconfig(1M)` command to re-create the instance.

Caution - If you created your own data services using the Sun Cluster API, make sure those data services have a base directory associated with them before you begin the upgrade. This base directory defines the location of the methods associated with the data service. If the data service was registered with the `–b` option to `hareg(1M)`, the base directory is defined in the data services configuration file. Data services supplied by Sun are registered by default with the `–b` option to `hareg(1M)`.

To check whether a base directory is defined, view the file `/etc/opt/SUNWhadf/hadf/.hadfconfig_services` and look for the `SERVICE_BASEDIR=` entry for

your data service. If no entry exists, you must unregister the data service using the command `hareg -u` *dataservice*, then re-register the data service by specifying the –`b` option to `hareg(1M)`.

If you attempt to upgrade while any data services do not have an associated base directory for methods, the upgrade will fail.

1. **(Solstice HA 1.3 for SAP only) Run `hainetconfig(1M)` to obtain the current SAP configuration parameters.**

   The SAP instance configuration data is lost during the upgrade. Therefore, run the `hainetconfig(1M)` command and make note of the current SAP parameters so you can restore them manually later. See Section 10.6.1, "Configuration Parameters for Sun Cluster HA for SAP," in the *Sun Cluster 2.2 Software Installation Guide* for a description of the new Sun Cluster HA for SAP configuration parameters.

   ```
   phys-hahost1# hainetconfig
   ```

2. **Load the Sun Cluster 2.2 client packages onto the administrative workstation.**

   Refer to Chapter 3 in the *Sun Cluster 2.2 Software Installation Guide* to set up the administrative workstation, if you have not done so already.

3. **Stop Solstice HA on the first server to be upgraded.**

   ```
   phys-hahost1# hastop
   ```

   If your cluster is already running Solaris™ 2.6 and you do not want to upgrade to Solaris 7, skip to Step 6 on page 9.

4. **Upgrade the operating environment to Solaris 2.6 or Solaris 7.**

   To upgrade Solaris, you must use the `suninstall(1M)` upgrade procedure (rather than reinstalling the operating environment). You might need to increase the size of your root (`/`) and `/usr` partitions on the root disks of all Sun Cluster servers in the configuration to accommodate the Solaris 2.6 or Solaris 7 environment. You must install the Entire Distribution software group. See the *Solaris Advanced Installation Guide* for details.

Note - For some hardware platforms, Solaris 2.6 and Solaris 7 attempt to configure power management settings to shut down the server automatically if it has been idle for 30 minutes. The cluster heartbeat is not enough to prevent the Sun Cluster servers from appearing idle and shutting down. Therefore, you must disable this feature when you install Solaris 2.6 or Solaris 7. The dialog used to configure power management settings is shown below. If you do not see this dialog, then your hardware platform does not support this feature. If the dialog appears, you must answer `n` to the first question and `y` to the second to configure the server to work correctly in the Sun Cluster environment.

```
****************************************************************
This system is configured to conserve energy.
After 30 minutes without activity, the system state will be
saved to disk and the system will be powered off automatically.

A system that has been suspended in this way can be restored
back to exactly where it was by pressing the power key.
The definition of inactivity and the timeout are user
configurable. The dtpower(1M) man page has more information.
****************************************************************

Do you wish to accept this default configuration, allowing
your system to save its state then power off automatically
when it has been idle for 30 minutes?  (If this system is used
as a server, answer n. By default autoshutdown is
enabled.) [y,n,?] n

Autoshutdown disabled.

Should the system save your answer so it won"t need to ask
the question again when you next reboot? (By default the
question will not be asked again.) [y,n,?] y
```

5. **Update the Solaris 2.6 or Solaris 7 kernel files.**

   As part of the Solaris upgrade, the files `/kernel/drv/sd.conf` and `/kernel/drv/ssd.conf` will be renamed to `/kernel/drv/sd.conf:2.`*x* and `/kernel/drv/ssd.conf:2.`*x* respectively. New `/kernel/drv/sd.conf` and `/kernel/drv/ssd.conf` files will be created. Run the `diff(1)` command to identify the differences between the old files and the new ones. Copy the additional information that was inserted by Sun Cluster from the old files into the new files. The information will look similar to the following:

```
# Start of lines added by Solstice HA
sd_retry_on_reservation_conflict=0;
# End of lines added by Solstice HA
```

6. **Upgrade to Solstice DiskSuite 4.2.**

   a. **Upgrade Solstice DiskSuite using the detailed procedure in the *Solstice DiskSuite 4.2 Installation and Product Notes*.**

   b. **On the local host, upgrade the Solstice DiskSuite mediator package,** SUNWmdm**.**

```
phys-hahost1# pkgadd -d \
/cdrom/suncluster_sc_2_2/Sun_Cluster_2_2/Sol2_x/Product/ SUNWmdm

Processing package instance <SUNWmdm>...

Solstice DiskSuite (Mediator)
(sparc) 4.2,REV=1998.23.10.09.59.06
Copyright 1998 Sun Microsystems, Inc. All rights reserved.

## Executing checkinstall script.
   This is an upgrade. Conflict approval questions may be
   displayed. The listed files are the ones that will be
   upgraded. Please answer "y" to these questions if they are
   presented.
Using </> as the package base directory.
## Processing package information.
## Processing system information.
 10 package pathnames are already properly installed.
## Verifying package dependencies.
## Verifying disk space requirements.
## Checking for conflicts with packages already installed.

The following files are already installed on the system and are being used by another package:

/etc/opt/SUNWmd/meddb
 /usr/opt <attribute change only>
 /usr/opt/SUNWmd/man/man1m/medstat.1m
 /usr/opt/SUNWmd/man/man1m/rpc.metamedd.1m
 /usr/opt/SUNWmd/man/man4/meddb.4
 /usr/opt/SUNWmd/man/man7/mediator.7
 /usr/opt/SUNWmd/sbin/medstat
 /usr/opt/SUNWmd/sbin/rpc.metamedd

## Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-
user permission during the process of installing this package.

Do you want to continue with the installation of <SUNWmdm.2> [y,n,?] y
```

(continued)

(Continuation)

```
Installing Solstice DiskSuite (Mediator) as <SUNWmdm.2>
...
```

7. **Before updating the cluster package, remove patch 104996, the Solstice HA 1.3** `SUNWhaor` **patch, if it is installed.**

   When `scinstall(1M)` updates cluster packages in Step 9 on page 10, the command attempts to remove a patch on which patch 104996 is dependent. To prevent `scinstall(1M)` from failing, remove patch 104996 manually now:

   ```
   phys-hahost1# patchrm 104996-xx
   ```

8. **(Solstice HA for SAP only) Save to a safe location any customized** `hasap_start_all_instances` **or** `hasap_stop_all_instances` **scripts, before beginning the upgrade to Sun Cluster 2.2.**

   Do this to prevent loss of your customizations when Sun Cluster 2.2 removes the old scripts during the upgrade. Copy the scripts to a safe location. You will restore the scripts in Step 10 on page 11. Use the following commands:

   ```
   # cp /opt/SUNWhasap/clust_progs/hasap_start_all_instances /safe_place
   # cp /opt/SUNWhasap/clust_progs/hasap_stop_all_instances /safe_place
   ```

9. **Use the** `scinstall(1M)` **command to update the cluster packages.**

   Select `Upgrade` from the `scinstall(1M)` menu. Respond to the prompts that ask for the location of the Framework packages and the cluster name. The `scinstall(1M)` command replaces Solstice HA 1.3 packages with Sun Cluster 2.2 packages.

```
phys-hahost1# cd /cdrom/suncluster_sc_2_2/Sun_Cluster_2_2/Sol_2.x/Tools
phys-hahost1# ./scinstall
Installing: SUNWscins

Installation of <SUNWscins> was successful.

 Checking on installed package state
.............

None of the Sun Cluster software has been installed
 <<Press return to continue>>

==== Install/Upgrade Software Selection Menu ======================
Upgrade to the latest Sun Cluster Server packages or select package
Do you want to install these conflicting files [y,n,?,q] y
sets for installation. The list of package sets depends on the Sun
Cluster packages that are currently installed.

Choose one:
1) Upgrade            Upgrade to Sun Cluster 2.2 Server packages
2) Server             Install the Sun Cluster packages needed on a server
3) Client             Install the admin tools needed on an admin workstation
4) Server and Client  Install both Client and Server packages
5) Close              Exit this Menu
6) Quit               Quit the Program

Enter the number of the package set [6]: 1

What is the directory where the Framework packages can be found

[/cdrom/cdrom0]: .

** Upgrading from Solstice HA 1.3 **

What is the name of the cluster? sc-cluster
...
```

10. (Solstice HA 1.3 for SAP only) Restore the customized scripts saved in Step 8 on page 10.

Copy the scripts to the `/opt/SUNWcluster/ha/sap` directory. The *safe_place* directory is the directory into which you saved the scripts in Step 8 on page 10. After restoring the scripts, use the `ls -l` command to verify that the scripts are executable.

```
phys-hahost1# cd /opt/SUNWcluster/ha/sap
phys-hahost1# cp /safe_place/hasap_start_all_instances .
phys-hahost1# cp /safe_place/hasap_stop_all_instances .
phys-hahost1# ls -l /opt/SUNWcluster/ha/sap/hasap_st*
-r-xr--r--   1 root     sys        18400 Feb  9 19:04 hasap_start_all_instances
```

(continued)

(Continuation)

```
-r-xr--r--   1 root     sys        25963 Feb  9 19:04 hasap_stop_all_instances
```

11. Add required entries to the `/.rhosts` file.

The `/.rhosts` file contains one or more sets of three IP addresses (depending on the number of nodes in the cluster). These are private network IP addresses used internally by Sun Cluster. During the upgrade, only some of the IP addresses are added to the `/.rhosts` files; the first IP address in each set is lost. You must manually insert the missing addresses in the `/.rhosts` file on each node.

The number of sets you need depends on the number of nodes in the cluster. For a two-node cluster, include only the addresses specified for nodes 0 and 1 below. For a three-node cluster, include the addresses specified for nodes 0, 1, and 2 below. For a four-node cluster, include all addresses noted below.

```
# node 0
204.152.65.33         # Manually insert this address on all nodes
204.152.65.1         other than node0
204.152.65.17

# node 1
204.152.65.34         # Manually insert this address on all nodes
204.152.65.2         other than node1
204.152.65.18

# node 2
204.152.65.35         # Manually insert this address on all nodes
204.152.65.3         other than node2
204.152.65.19

# node 3
204.152.65.36         # Manually insert this address on all nodes
204.152.65.4         other than node3
204.152.65.20
```

12. Install the required patches for Sun Cluster 2.2.

Install all applicable Solstice DiskSuite™ and Sun Cluster patches, including the Sun Cluster internationalization patches listed in the *Sun Cluster 2.2 Locale Installation Notes* (part number 806-4172). If you are using SPARCstorage Arrays, the latest SPARCstorage Array patch should have been installed when you installed the operating environment. Obtain the necessary patches from your

serivce provider or from the Sun patch website `http://sunsolve.sun.com`. Use the instructions in the patch `README` files to install the patches.

13. Set the `PATH` environment variable for user `root` to include the command directories `/opt/SUNWcluster/bin` and `/opt/SUNWpnm/bin`. Set the `MANPATH` environment variable for user `root` to include `/opt/SUNWcluster/man`.

14. Reboot the machine.

```
phys-hahost1# reboot
```

Note - During the reboot process, you might see error messages pertaining to loss of private network. At this time, it is safe to ignore these error messages.

---

15. Switch ownership of disks and data services from the remote host to the upgraded local host.

a. Stop Solstice HA 1.3 services on the remote host.

The remote host in this example is `phys-hahost2`.

```
phys-hahost2# hastop
```

b. After Solstice HA 1.3 is stopped on the remote host, start Sun Cluster 2.2 on the upgraded local host.

After the `hastop(1M)` operation has completed, use the `scadmin(1M)` command to start Sun Cluster 2.2. This causes the upgraded local host to take over all data services. In this example, `phys-hahost1` is the local physical host name and `sc-cluster` is the cluster name.

```
phys-hahost1# scadmin startcluster phys-hahost1 sc-cluster
```

16. Recreate instance configuration data for the highly available databases.

During the upgrade, the instance configuration data is not upgraded for the highly available databases. You must use the appropriate `ha`*dbms* `insert` command to manually recreate each database instance, where *dbms* is the name of the database; for example, `haoracle insert`, `hainformix insert`, or `hasybase insert`.

Find the pre-upgrade instance configuration information in the `/etc/opt/SUNWhadf.obsolete/hadf/ha`*dbms*`_databases` file. For information on the parameters to each `ha`*dbms* `insert` command, see the man page for that

command and the appropriate chapter in the *Sun Cluster 2.2 Software Installation Guide*. For example, for information on `haoracle(1M)`, see the `haoracle(1M)` man page and the chapter, "Setting Up and Administering Sun Cluster HA for Oracle."

17. Turn on the database instances.

Use the appropriate `ha`*dbms* command to turn on each database instance. For example, for Oracle:

```
phys-hahost1# haoracle start instance
```

18. (Sun Cluster HA for SAP only) Unregister and re-register the Sun Cluster HA for SAP data service.

After the upgrade, the method names for the Sun Cluster HA for SAP data service are incorrect in the CCD. To correct them, first turn off and unregister the Sun Cluster HA for SAP data service and then register it again in order to log the correct method names in the CCD file. In addition, recreate the SAP instance that you noted in Step 1 on page 7.

a. Use the `hareg(1M)` command to turn off the Sun Cluster HA for SAP data service.

```
phys-hahost1# hareg -n sap
```

b. Unregister the Sun Cluster HA for SAP data service:

```
phys-hahost1# hareg -u sap
```

c. Register the Sun Cluster HA for SAP data service:

In this example, *CI_logicalhost* is the logical host name.

```
phys-hahost1# hareg -s -r sap -h CI_logicalhost
```

d. Run `hadsconfig(1M)` to restore the Sun Cluster HA for SAP configuration parameters.

Refer to Section 10.6.1, "Configuration Parameters for Sun Cluster HA for SAP," in the *Sun Cluster 2.2 Software Installation Guide* for descriptions of the new configuration parameters, and refer to the configuration information you saved in Step 1 on page 16.

```
phys-hahost1# hadsconfig
```

Note - It is safe to ignore any errors generated by `hadsconfig(1M)` at this time.

e. After setting the configuration parameters, use the `hareg(1M)` command to activate the data service.

```
phys-hahost1# hareg -y sap
```

f. Manually copy the configuration file, `/etc/opt/SUNWscsap/hadsconf`, to all other cluster nodes.

First create the `/etc/opt/SUNWscsap/hadsconf` directory if it does not exist. Then copy the configuration file to all nodes.

```
phys-hahost1# ftp phys-host2
ftp> put /etc/opt/SUNWscsap/hadsconf
```

19. Verify operations on the local host.

a. Verify that the configuration on the local host is stable.

```
phys-hahost1# hastat
```

b. Verify that clients are receiving services from the local host.

20. Repeat Step 3 on page 7 through Step 19 on page 15 on the remote host.

21. Return the remote host to the cluster.

```
phys-hahost2# scadmin startnode
```

22. After cluster reconfiguration on the remote host is complete, switch over the data services to the remote host from the local host.

```
phys-hahost1# haswitch phys-hahost2 hahost2
```

23. **Verify that the Sun Cluster 2.2 configuration on the remote host is in a stable state, and that clients are receiving services.**

```
phys-hahost2# hastat
```

This completes the procedure to upgrade to Sun Cluster 2.2 from Solstice HA 1.3.

▼ How to Upgrade to Sun Cluster 2.2 From Sun Cluster 2.0 or 2.1

This procedure describes the steps required to upgrade the server software on a Sun Cluster 2.0 or Sun Cluster 2.1 system to Sun Cluster 2.2, with a minimum of downtime. You should become familiar with the entire procedure before starting the upgrade.

Note - During the `scinstall(1M)` upgrade procedure, all non-local private link IP addresses will be added, with root access only, to the `/.rhosts` file on every cluster node.

This example assumes an N+1 configuration using SSVM.

1. **(Sun Cluster HA for SAP only) Run the `hadsconfig(1M)` command to obtain the current configuration parameters.**

   The SAP instance configuration data is lost during the upgrade. Therefore, run the `hadsconfig(1M)` and make note of the current SAP parameters so you can restore them manually later. See Section 10.6.1, “Configuration Parameters for Sun Cluster HA for SAP” in the *Sun Cluster 2.2 Software Installation Guide*, for a description of the new Sun Cluster HA for SAP configuration parameters.

   ```
   phys-hahost1# hadsconfig
   ```

2. **Stop the first node.**

   ```
   phys-hahost1# scadmin stopnode
   ```

3. **If you are upgrading the operating environment and/or SSVM or CVM, run the command `upgrade_start` from the SSVM or CVM media.**

   In this example, *CDROM_path* is the path to the tools on the SSVM CD.

```
phys-hahost1# CDROM_path/Tools/scripts/upgrade_start
```

To upgrade the operating environment, follow the detailed instructions in the appropriate Solaris installation manual and see also Chapter 2 in the *Sun Cluster 2.2 Software Installation Guide*.

To upgrade CVM, refer to the *Sun Cluster 2.2 Cluster Volume Manager Guide*.

4. If you are upgrading the operating environment but not the volume manager, perform the following steps.

a. Remove the volume manager package.

Normally, the package name is `SUNWvxvm` for both SSVM and CVM. For example:

```
phys-hahost1# pkgrm SUNWvxvm
```

b. Upgrade the operating system.

Refer to the Solaris installation documentation for instructions.

c. If you are using NIS+, modify the `/etc/nsswitch.conf` file.

Ensure that “service,” “group,” and “hosts” lookups are directed to files first. For example:

```
hosts: files nisplus
services: files nisplus
group: files nisplus
```

d. Restore the volume manager removed in Step 4a.

Obtain the volume manager packages from the Sun Cluster 2.2 CD-ROM.

```
phys-hahost1# pkgadd -d CDROM_path/SUNWvxvm
```

5. If you upgraded SSVM or CVM, run the command `upgrade_finish` from the SSVM or CVM media.

In this example, *CDROM_path* is the path to the tools on the SSVM CD

```
phys-hahost1# CDROM_path/Tools/scripts/upgrade_finish
```

.

6. **Reboot the system.**

Caution - You must reboot at this time.

7. **(Sun Cluster HA for SAP only) Perform the following steps.**

   a. **Save to a safe location any customized** `hasap_start_all_instances` **or** `hasap_stop_all_instances` **scripts in Sun Cluster 2.1, before beginning the upgrade to Sun Cluster 2.2.**

   Do this to prevent loss of your customizations when Sun Cluster 2.2 removes the old scripts during the upgrade. Restore the scripts after completing the upgrade. Copy the scripts to a safe location. You will restore the scripts later in Step 8 on page 18b.

```
phys-hahost1# cp /opt/SUNWcluster/ha/sap/hasap_start_all_instances /safe_place
phys-hahost1# cp /opt/SUNWcluster/ha/sap/hasap_stop_all_instances /safe_place
```

   b. **Remove the** `SUNWscsap` **package before using** `scinstall(1M)` **to update the cluster software.**

   The `SUNWscsap` package is not updated automatically by `scinstall(1M)`. You must first remove this package and then add an updated version in Step 9 on page 19b.

```
phys-hahost1# pkgrm SUNWscsap
```

8. **Update the cluster software by using the** `scinstall(1M)` **command from the Sun Cluster 2.2 CD-ROM.**

   Invoke the `scinstall(1M)` command and select the `Upgrade` option from the menu presented.

```
phys-hahost1# cd /cdrom/suncluster_sc_2_2/Sun_Cluster_2_2/Sol_2.x/Tools
phys-hahost1# ./scinstall

Removal of <SUNWscins> was successful.
Installing: SUNWscins

Installation of <SUNWscins> was successful.
```

(continued)

(Continuation)

```
Assuming a default cluster name of sc-cluster

Checking on installed package state.....

============ Main Menu =================
1) Install/Upgrade -
 Install or Upgrade Server Packages or Install Client                    Packages.
2) Remove  - Remove Server or Client Packages.
3) Change  - Modify cluster or data service configuration
4) Verify  - Verify installed package sets.
5) List    - List installed package sets.
6) Quit    - Quit this program.
7) Help    - The help screen for this menu.

Please choose one of the menu items: [7]:  1
...

==== Install/Upgrade Software Selection Menu ======================
Upgrade to the latest Sun Cluster Server packages or select package
sets for installation. The list of package sets depends on the Sun
Cluster packages that are currently installed.

Choose one:
1) Upgrade            Upgrade to Sun Cluster 2.2 Server packages
2) Server             Install the Sun Cluster packages needed on a server
3) Client             Install the admin tools needed on an admin workstation
4) Server and Client  Install both Client and Server packages
5) Close              Exit this Menu
6) Quit               Quit the Program

Enter the number of the package set [6]:  1

What is the path to the CD-ROM image? [/cdrom/cdrom0]:  .

** Upgrading from Sun Cluster 2.1 **
 Removing "SUNWccm" ... done
...
```

9. **(Sun Cluster HA for SAP only) Perform the following steps.**

   a. **Add the** SUNWscsap **package from the Sun Cluster 2.2 CD-ROM.**

   Use pkgadd(1M) to add an updated SUNWscsap package to replace the package removed in Step 7 on page 18b. Answer **y** to all screen prompts that appear during the pkgadd process.

```
phys-hahost1# pkgadd -d \ /cdrom/suncluster_sc_2_2/Sun_Cluster_2_2/Sol_2.x/Product/ SUNWscsap
```

   b. **Restore the customized scripts saved in Step 7 on page 18a.**

Copy the scripts to the `/opt/SUNWcluster/ha/sap` directory. The *safe_place* directory is the directory into which you saved the scripts in Step 7 on page 18a. After restoring the scripts, use the `ls -l` command to verify that the scripts are executable.

```
phys-hahost1# cd /opt/SUNWcluster/ha/sap
phys-hahost1# cp /safe_place/hasap_start_all_instances .
phys-hahost1# cp /safe_place/hasap_stop_all_instances .
phys-hahost1# ls -l /opt/SUNWcluster/ha/sap/hasap_st*
-r-xr--r--   1 root     sys        18400 Feb  9 19:04 hasap_start_all_instances
-r-xr--r--   1 root     sys        25963 Feb  9 19:04 hasap_stop_all_instances
```

10. If the cluster has more than two nodes and you are upgrading from Sun Cluster 2.0, supply the TC/SSP information.

The first time the `scinstall(1M)` command is invoked, the TC/SSP information is automatically saved to the `/var/tmp/tc_ssp_info` file. Copy this file to the `/var/tmp` directory on all other cluster nodes so the information can be reused when you upgrade those nodes. You can either supply the TC/SSP information now, or do so later by using the `scconf(1M)` command. See the `scconf(1M)` man page for details.

```
SC2.2 uses the terminal concentrator (or system service processor in the case of an E10000) for failure fencing. During

After the upgrade has completed you need to run scconf to specify terminal concentrator information for each server. Th

The specific commands that need to be run are:

scconf clustername -t <nts name> -i <nts name|IP address>
scconf clustername -H <node 0> -p <serial port for node 0> \
        -d <other|E10000> -t <nts name>

Repeat the second command for each node in the cluster. Repeat the first command if you have more than one terminal cor

Or you can choose to set this up now. The information you will need is:
        +terminal concentrator/system service processor names
   +the architecture type (E10000 for SSP or other for tc)
        +the ip address for the terminal concentrator/system service
         processor (these will be looked up based on the name, you
         will need to confirm)
        +for terminal concentrators, you will need the physical
         ports the systems are connected to (physical ports
         (2,3,4... not the telnet ports (5002,...)
```

(continued)

(Continuation)

```
Do you want to set the TC/SSP info now (yes/no) [no]?  y
```

When the `scinstall(1M)` command prompts for the TC/SSP information, you can either force the program to query the `tc_ssp_info` file, or invoke an interactive session that will prompt you for the required information.

The example cluster assumes the following configuration information:

- Cluster name: `sc-cluster`
- Number of nodes in the cluster: 2
- Node names: `phys-hahost1` and `phys-hahost2`
- Logical host names: `hahost1` and `hahost2`
- Terminal concentrator name: `cluster-tc`
- Terminal concentrator IP address: 123.4.5.678
- Physical TC port connected to `phys-hahost1`: 2
- Physical TC port connected to `phys-hahost2`: 3

See the section on terminal concentrators and SSPs in Chapter 1 of the *Sun Cluster 2.2 Software Installation Guide* for more information on server architectures and TC/SSPs. In this example, the configuration is not an E10000 cluster, so the architecture specified is `other`, and a terminal concentrator is used:

```
What type of architecture does phys-
hahost1 have? (E10000|other) [other] [?] other
What is the name of the Terminal Concentrator connected to the serial port of phys-
hahost1 [NO_NAME] [?] cluster-tc
Is 123.4.5.678 the correct IP address for this Terminal Concentrator (yes|no) [yes] [?] yes
Which physical port on the Terminal Concentrator is phys-
hahost2 connected to [?] 2
What type of architecture does phys-
hahost2 have? (E10000|other) [other] [?] other
Which Terminal Concentrator is phys-hahost2 connected to:

0) cluster-tc       123.4.5.678
1) Create A New Terminal Concentrator Entry

Select a device [?] 0
Which physical port on the Terminal Concentrator is phys-
hahost2 connected to [?] 3
```

(continued)

(Continuation)

```
The terminal concentrator/system service processor (TC/SSP) information has been stored in file
tc_ssp_data. Please put a copy of this file into /var/tmp on the rest of the nodes in the cluste
SSP values, but you will, however, still be prompted for the TC/
SSP passwords.
```

11. If you will be using Sun Cluster SNMP, change the port number used by the Sun Cluster SNMP daemon and Solaris SNMP (`smond`).

The default port used by Sun Cluster SNMP is the same as the default port number used by Solaris SNMP; both use port 161. Change the Sun Cluster SNMP port number using the procedure described in Appendix D of the *Sun Cluster 2.2 System Administration Guide*.

12. Reboot the system.

Caution - You must reboot at this time.

13. If you are using a shared CCD, put all logical hosts into maintenance mode.

```
phys-hahost2# haswitch -m hahost1 hahost2
```

Note - Clusters with more than two nodes do not use a shared CCD. Therefore, for these clusters, you do not need to put the data services into maintenance mode before beginning the upgrade.

14. If your configuration includes Oracle Parallel Server (OPS), make sure OPS is halted.

Refer to your OPS documentation for instructions on halting OPS.

15. Stop the cluster software on the remaining nodes running the old version of Sun Cluster.

```
phys-hahost2# scadmin stopnode
```

16. Start the upgraded node.

```
phys-hahost1# scadmin startcluster phys-hahost1 sc-cluster
```

Note - As the upgraded node joins the cluster, the system might report several warning messages stating that communication with the terminal concentrator is invalid. These messages are expected at this point and can be ignored safely. You can also ignore any errors generated by Sun Cluster HA for SAP at this time.

---

17. (Sun Cluster HA for SAP only) Reconfigure the SAP instance by performing the following steps.

a. Use the `hareg(1M)` command to turn off the Sun Cluster HA for SAP data service.

```
phys-hahost1# hareg -n sap
```

Note - It is safe to ignore any errors generated while turning off Sun Cluster HA for SAP by running `hareg(1M)`.

---

b. Run the `hadsconfig(1M)` command to restore the Sun Cluster HA for SAP configuration parameters.

Refer to Section 10.6.1, "Configuration Parameters for Sun Cluster HA for SAP" in the *Sun Cluster 2.2 Software Installation Guide*, for descriptions of the new configuration parameters and look at the configuration information you saved in Step 1 on page 16.

```
phys-hahost1# hadsconfig
```

Note - It is safe to ignore any errors generated by `hadsconfig(1M)` at this time.

---

c. After you set the configuration parameters, use `hareg(1M)` to activate the data service:

```
phys-hahost1# hareg -y sap
```

d. Manually copy the configuration file to other nodes in the cluster by using `ftp`.

Overwrite the Sun Cluster 2.1 configuration files with the new Sun Cluster 2.2 files.

```
phys-hahost1# ftp phys-hahost2
ftp> put /etc/opt/SUNWscsap/hadsconf
```

18. If you are using a shared CCD and if you upgraded from Sun Cluster 2.0, update the shared CCD now.

Run the `ccdadm(1M)` command only once, on the host that joined the cluster first.

```
phys-hahost1# cd /etc/opt/SUNWcluster/conf
phys-hahost1# ccdadm sc-cluster -r ccd.database_post_sc2.0_upgrade
```

19. If you stopped the data services previously, restart them on the upgraded node.

```
phys-hahost1# haswitch phys-hahost1 hahost1 hahost2
```

20. Upgrade the remaining nodes.

Repeat Step 3 on page 16 through Step 12 on page 22 on the remaining Sun Cluster 2.0 or Sun Cluster 2.1 nodes.

21. After each node is upgraded, add it to the cluster.

```
phys-hahost2# scadmin startnode sc-cluster
```

22. Set up and start Sun Cluster Manager.

Sun Cluster Manager is used to monitor the cluster. For instructions, see the section on Sun Cluster Manager in Chapter 2 of the *Sun Cluster 2.2 System Administration Guide.*

This completes the upgrade to Sun Cluster 2.2.

Adding a Data Service to a Two-Node Cluster With Shared CCD

Use the following procedure to add a data service to an existing 2-node cluster with a shared Cluster Configuration Database (CCD). See also “Data Service Bugs” on page 30.

▼ How to Add a Data Service to a Two-Node Cluster With Shared CCD

1. **Unshare the shared CCD.**

   You must reconfigure the cluster to unshare the CCD before you add any new data services. Run the following command on both nodes, as root, while both nodes are in the cluster:

   ```
   phys-hahost1# /opt/SUNWcluster/bin/scconf clustername -S none
   phys-hahost2# /opt/SUNWcluster/bin/scconf clustername -S none
   ```

   You must unshare the CCD. If you attempt to add a data service while the CCD is in shared state, only the local ccd.database file will be updated, and not the shared CCD file. This will cause registration of the new data service to fail.

2. **Add the new data services, using the following commands.**

   Run all commands as root. In these examples, the node names are `phys-hahost1` and `phys-hahost2`.

   a. **Stop the cluster on the first node.**

   ```
   phys-hahost1# scadmin stopnode
   ```

   b. **Use `scinstall(1M)` to add the new data service package to the first node.**

   See Chapter 3 of the *Sun Cluster 2.2 Software Installation Guide* for details. This step automatically updates the local CCD file.

   ```
   phys-hahost1# scinstall
   ```

c. Stop the cluster on the second node.

Note - The existing data services will be unavailable to clients while you perform Steps b and c .

```
phys-hahost2# scadmin stopnode
```

d. Restart the cluster on the first node.

```
phys-hahost2# scadmin startcluster phys-hahost1 clustername
```

e. Use `scinstall(1M)` to add the new data service package to the second node. See Chapter 3 of the *Sun Cluster 2.2 Software Installation Guide* for details. This step automatically updates the local CCD file.

```
phys-hahost2# scinstall
```

f. Add the second node to the cluster.

```
phys-hahost2# scadmin startnode
```

3. Reinstate the shared CCD.

Run the following command on both nodes, as root.

```
phys-hahost1# /opt/SUNWcluster/bin/scconf clustername -S ccdvol
phys-hahost2# /opt/SUNWcluster/bin/scconf clustername -S ccdvol
```

Configuring Sun Cluster Manager

You can run Sun Cluster Manager (SCM) as a stand-alone application or through Netscape™ or HotJava™ browsers. To configure SCM to run with Netscape 4.5, use the procedures documented here. To run SCM with HotJava, use the procedures documented in the *Sun Cluster 2.2 Release Notes*. To run SCM as a stand-alone application on a cluster node or client workstation, use the instructions documented in the `README` file associated with the SCM patch (107388). Patches are available through your service provider or through the SunSolve web site at `http://sunsolve.sun.com/`

▼ How to Run the SCM Applet in a Netscape Browser From a Cluster Node

1. **Install Netscape 4.5 on the cluster nodes.**

2. **Install SCM and the required SCM patch on the cluster nodes.**

   To install SCM, use `scinstall(1M)`. The `scinstall(1M)` command installs the SCM package, `SUNWscmgr`, as part of the server package set. To get the SCM patch, see your service representative or the SunSolve web site:

   `http://sunsolve.sun.com/`

3. **Add the following lines to the `preferences.js` file, if necessary.**

   The file is located in the `$HOME/.netscape` directory. If the preferences are not included in the file already, add the following lines:

```
user_pref(‘‘security.lower_java_network_security_by_trusting_proxies’’, true);
user_pref(‘‘signed.applets.codebase_principal_support’’, true);
```

4. **On a cluster node, set your `DISPLAY` environment variable so that the Netscape browser is displayed remotely on your X Windows workstation, and then run the Netscape browser on that cluster node.**

5. **When you are ready to begin monitoring the cluster with SCM, enter the appropriate URL.**

```
file:/opt/SUNWcluster/scmgr/index.html
```

6. **Click Grant on Java Security dialog boxes that ask for permission to access certain files, ports, and so forth from the remote display workstation.**

   As Sun Cluster Manager comes up, you might see error messages similar to the following, at the `tty` that started the HotJava browser:

```
File not found when
looking for:
netscape.security.PrivilegeManager
```

   These messages are prompted by the HotJava browser but do not affect Sun Cluster Manager running in the HotJava browser, because the files noted are available only through the Netscape browser.

   Refer to the online help for complete information on menu navigation, tasks, and reference.

▼ How to Set Up Netscape to Run With SCM Using a Web Server

1. **Install a web server on all nodes in the cluster.**

   Note - If you are running the Sun Cluster HA for Netscape HTTP service and an HTTP server on SCM, configure the HTTP servers to listen on different ports. Otherwise there will be a port conflict between the two.

2. **Follow the web server's configuration procedure to make sure that SCM's `index.html` file is accessible to the clients.**

   The client applet for SCM is in the `index.html` file in the `/opt/SUNWcluster/scmgr` directory. For example, go to your HTTP server's document root and create a link to the `/opt/SUNWcluster/scmgr` directory.

3. **Set security preferences by adding the following lines to the `preferences.js` file, if necessary.**

   The file is located in the `$HOME/.netscape` directory. If the preferences are not included in the file already, add the following lines:

```
user_pref(''security.lower_java_network_security_by_trusting_proxies'', true);
user_pref(''signed.applets.codebase_principal_support'', true);
```

4. **Run the Netscape browser from your workstation.**

5. **When you are ready to begin monitoring the cluster with SCM, enter the appropriate URL.**

   For example, if you had created a link from the web server's `document_root` directory to the `/opt/SUNWcluster/scmgr` directory, you would enter the following URL, where *clusternode* is the name of the physical host:

   ```
   http://clusternode/scmgr/index.html
   ```

6. **Click Grant on Java Security dialog boxes that ask for permission to access certain files, ports, and so forth from the remote display workstation.**

   As Sun Cluster Manager comes up, you might see error messages similar to the following, at the `tty` that started the HotJava browser:

   ```
   File not found when
   looking for:
   netscape.security.PrivilegeManager
   ```

   These messages are prompted by the HotJava browser but do not affect Sun Cluster Manager running in a HotJava browser, because the files noted are available only through the Netscape browser.

   Refer to the online help for complete information on menu navigation, tasks, and reference.

Known Problems

The following known problems affect the operation of Sun Cluster 2.2. These are in addition to the known problems described in the *Sun Cluster 2.2 Release Notes.*

Framework Bugs

4218052 – Sun Cluster should support modification of TCP ports used by CVM cluster daemons. TCP ports used by CVM cluster daemons might conflict with ports used by other applications running in the cluster. You cannot modify which TCP ports are used by CVM cluster daemons. Instead, you must modify any applications that use conflicting ports.

CVM uses the following port numbers:

`cvm.port.vxkmsgd`	5559
`cvm.port.vxconfigd`	5560
`cvm.port.vxclust`	5568
`vxclust`	5568-5600

4233113 – Documentation omission regarding logical host timeout values and how they are used. When you configure the cluster, you set a timeout value for the logical host. This timeout value is used by the CCD when you bring a data service up or down using the `hareg(1M)` command. The CCD operation occurs in two steps; half of the timeout value is used for each step. Therefore, when configuring `START` and `STOP` methods for data services, make sure each method uses no more than half of the timeout value set for the logical host.

4291427 – Locales only: uninstall fails to remove the `SUNWccon` and `SUNWscch` packages. In all locale versions of Sun Cluster 2.2 running on Solaris 7, removal of the client packages using the `scinstall(1M)` command can fail with the following error message:

```
Patch 108400-02 is required to be installed by patch 108446-02
it cannot be backed out until patch 108446-02 is backed out.
```

This occurs because of patch dependencies between patch 108446-02 and patch 108400-02. Work around the problem by manually removing patches 108446-02 and 108400-02, and then re-starting the package removal process using `scinstall(1M)`.

Data Service Bugs

4213692 – If the data service or cluster is configured incorrectly, problems with the startup of a data service might cause the cluster framework to switch the data service to the backup node. If the data service fails to start on the backup node, it is

switched back to the original node. This switching behavior continues until stopped by manual intervention.

4304532 – Adding a data service to an existing two-node cluster with shared CCD fails with registration errors. After adding a new data service to a two-node cluster with shared CCD, registration of the data service will fail because the shared CCD was not updated correctly. To correct this situation, stop the cluster, uninstall the new data service packages using the scinstall(1M) command, restart the cluster on both nodes, and then use the procedure “Adding a Data Service to a Two-Node Cluster With Shared CCD” on page 25 to add the data services correctly.

4247239 – Cannot add data service if shared CCD is used and both nodes are not in cluster. In a two-node cluster with shared CCD, adding a data service fails with error messages indicating a corrupted ccd.database file. To correct this situation, stop the cluster, uninstall the new data service packages using the scinstall(1M) command, restart the cluster on both nodes, and then use the procedure “Adding a Data Service to a Two-Node Cluster With Shared CCD” on page 25 to add the data services correctly.

SCM Bugs

4221612 – SCM sometimes incorrectly reports that the Sun Cluster HA for Netscape HTTP data service is down when it is up.

`http://suncluster.eng.sun.com/support-matrix/SC2.2/index.html`

Upgrade-Related Bugs

4215070 – The `scinstall(1M)` command does not upgrade the Sun Cluster HA for SAP package, `SUNWscsap`, during upgrade to Sun Cluster 2.2 from Sun Cluster 2.1. Work around the problem by replacing the `SUNWscsap` package manually during the upgrade, as described in the procedure “How to Upgrade to Sun Cluster 2.2 From Sun Cluster 2.0 or 2.1” on page 16.

4218558 – The Sun Cluster HA for SAP data service is not registered correctly during upgrade to Sun Cluster 2.2 from HA 1.3. This prevents the data service from starting up correctly after the upgrade has been completed. Work around the problem by explicitly unregistering and then registering the data service by using the `hareg(1M)` command:

```
# hareg -n sap
# hareg -u sap
# hareg -s -r sap -h CI_logicalhost
# hareg -y sap
```

(continued)

For the complete upgrade procedure, see “How to Upgrade to Sun Cluster 2.2 From HA 1.3” on page 6.

4218574 – Upgrade to Sun Cluster 2.2 from HA 1.3 fails if patch 104996 (required for Solstice HA-DBMS for Oracle7) is installed on the pre-upgrade system. This occurs because patch 104996 depends upon patch 105008, which the `scinstall(1M)` command attempts to remove during the upgrade. Work around the problem by removing patch 104996 manually before using `scinstall(1M)` to upgrade from HA 1.3. See “How to Upgrade to Sun Cluster 2.2 From HA 1.3” on page 6 for the complete upgrade procedure.

4218613 – During upgrade to Sun Cluster 2.2 from HA 1.3, instance configuration information for the HA-DBMS data services is not propagated to the new cluster. This prevents the database instances from starting when the new cluster is started. This bug affects the Sun Cluster HA for Oracle, Sun Cluster HA for Sybase, and Sun Cluster HA for Informix data services.

Work around the problem by manually recreating the database instance after completing the upgrade. Use the appropriate `ha`*dbms* `insert` command (`haoracle insert`, `hasybase insert`, or `hainformix insert`) as described in the associated man pages, and in the appropriate data service chapters in the *Sun Cluster 2.2 Software Installation Guide*. For the complete upgrade procedures, see “How to Upgrade to Sun Cluster 2.2 From HA 1.3” on page 6.

After you recreate the database instances, start the instances by using the appropriate `ha`*dbms* `start` command.

4218620 – During upgrade to Sun Cluster 2.2, existing instance configuration data for Sun Cluster HA for SAP is not propagated to 2.2. Therefore, the SAP instance fails to start when the cluster is started. Work around the problem by manually re-creating the Sun Cluster HA for SAP instance after completing the upgrade, by using the `hadsconfig(1M)` command to specify all instance parameters. See the revised upgrade procedures in “Upgrading to Sun Cluster 2.2” on page 5. See also Section 10.6.1, “Configuration Parameters for Sun Cluster HA for SAP” in the *Sun Cluster 2.2 Software Installation Guide*, for a full description of the Sun Cluster HA for SAP parameters. New parameters exist that significantly impact the behavior of the data service.

4218823 – During the upgrade from HA 1.3 to Sun Cluster 2.2, only two of three required IP addresses are added to the `/.rhosts` file on each node. The address lost is the highly available IP address for the private interconnects. Utilities such as `hadsconfig(1M)` will not work without this entry. The user must manually add the required entries to the `/.rhosts` file. The procedure is documented on page 3-26 of

the *Sun Cluster 2.2 Software Installation Guide*, and in the revised upgrade procedures in “Upgrading to Sun Cluster 2.2” on page 5.

4219689 – Adding a data service immediately after upgrading to Sun Cluster 2.2 removes a required entry from the `cdb` file. Restore the correct entry to the `cdb` file by selecting “Remove Volume Manager” from the `scinstall(1M)` Change menu. Then select “Choose Volume Manager” from the same menu, and select the volume manager that you are using.

Documentation Errata

4220504 – Page 4-3 in the *Sun Cluster 2.2 System Administration Guide* includes instructions to run the `scadmin startnode` command simultaneously on all nodes. Instead, the `scadmin startnode` command should be run on only one node at a time.

4222817 – Page 8-20 in the *Sun Cluster 2.2 Software Installation Guide* includes instructions to install Sun Cluster HA for Netscape LDAP by adding the `SUNWhadns` package. The correct package name is `SUNWscnsl`.

4224989 – Page 1-25 in the *Sun Cluster 2.2 Software Installation Guide* includes the statement:

> ““When Solstice DiskSuite is specified as the volume manager, you cannot configure direct-attach devices, that is, devices that directly attach to more than 2 nodes. Disks can only be connected to pairs of nodes.”

This statement is incorrect. Direct-attach devices are supported with Solstice DiskSuite and Sun Cluster 2.2.

4258156 – Page 1-10 in the *Sun Cluster 2.2 Software Installation Guide* includes the statement that in parallel database configurations, any server failure is recognized by the cluster software, and subsequent user queries are re-routed through one of the remaining servers. This statement is untrue. In the case of a server failure, a cluster reconfiguration occurs automatically and the user queries are dropped. The user must initiate a new query through an active server, or through the original server after it has been restored to service.

You can configure Oracle Parellel Server such that a restart of the application will reconnect the clients to an active server. Configure this by modifying the `tnsnames.ora` file on all clients, using the procedure described in Section 14.1.4.2, “Configuring Oracle SQL*Net,” in the *Sun Cluster 2.2 Software Installation Guide*.

Impact of quorum device failure – page 1-18 in the *Sun Cluster 2.2 Software Installation Guide* includes this note:

> ““The failure of a quorum device is similar to the failure of a node in a two-node cluster.”

This note is misleading. Although the failure of a quorum device does not cause a failover of services, it does reduce the high availability of a two node cluster in that no further node failures can be tolerated. A failed quorum device can be reconfigured or replaced while the cluster is running. The cluster can remain running as long as no other component failure occurs while the quorum repair or replacement is in progress.

Using `scconf(1M)` to remove a cluster node – In Chapter 3 of the *Sun Cluster 2.2 System Administration Guide*, the procedure "How to Remove a Cluster Node" includes a step to use `scconf -A` *clustername n* to remove a cluster node. Note that in this command, the number *n* does not represent a node number, but instead represents the total number of cluster nodes that will be active after the scconf operation. The scconf operation always removes from the cluster the node with the highest node number. For example, assume a 4-node cluster. The following command would remove nodes 3 and 4 from a four-node cluster, resulting in a two-node cluster:

```
# scconf sc-cluster -A 2
```

Undocumented Error Messages

The following error messages for Sun Cluster HA for SAP were omitted from the *Sun Cluster 2.2 Error Messages Manual*.

```
SUNWcluster.ha.sap.stop_net.2076: proha:SUNWscsap_PRO: Found 2 leftover IPC objects for SAP inst
```

This message indicates that during shutdown of the SAP central instance by the `stop_net` method, two IPC segments from the central instance were found. The `stop_net` code uses the SAP-supplied utility `cleanipc` to remove all IPC segments of the central instance during shutdown (and also before startup). This is to ensure a thorough shutdown as well as a clean startup. The error message is an informational message only, and is expected. No user action is required.

```
Graceful shutdown failed for oracle instance PRO, starting abort
```

This message indicates that the HA-Oracle `oracle_db_shutdown` script did not complete a graceful shutdown of the database within the timeout limit (30 seconds, by default). If the normal shutdown does not complete during the allowed time, then a shutdown abort is issued. This is an informational message and no user action is required.

```
SUNWcluster.ccd.ccdctl.4403: (error) checkpoint, ccdd, ticlts: RPC: Program not registered
```

‘

This message indicates that the `ccdadm` command could not contact the `ccdd` demon for the requested operation—the `RPC` call `clnt_create()` failed. Verify that the cluster has been started on the current node, and the `ccdd` daemon is running.

```
SUNWcluster.clustd.transition.4010: cluster aborted on this node nodename
```

This message indicates that the current node is being aborted. Other error messages should indicate why this is occurring; check the `scadmin.log` log file in `/var/opt/SUNWcluster`.

```
reconf.pnm.3009: pnminit faced problems
```

This message is generated by the script `/opt/SUNWcluster/bin/pnm`. This script is called during step 1 of cluster reconfiguration, when PNM is initialized with `pnminit`. The error message appears if the execution of `pnminit` resulted in a non-zero exit. Reasons for a non-zero exit of `pnminit` include:

- Invalid command line arguments
- Enviroment variables not set (`localnodeid`, `clustname`, `currnodes`, `numnodes`)
- `pnminit` could not communicate with the `ccdd` daemon correctly

Check for any error messages logged to `/var/opt/SUNWcluster/ccd/ccd.log`, then restart the cluster reconfiguration.

```
SUNWcluster.reconfig.4018: Aborting--received abort request from nodename
```

This message indicates a request from a remote node to abort the current node. Use `checksum` to verify that the `/etc/opt/SUNWcluster/conf/clustername.cdb` files are identical on all nodes. If necessaryt, manually copy the most recent `clustername.cdb` file to all nodes, and then restart the cluster.