Sun Cluster 3.1 9/04 Release Notes for Solaris OS

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Contents

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This document provides the following information for Sun™ Cluster 3.1 9/04 software.

What's New in Sun Cluster 3.1 9/04 Software

This section provides information related to new features, functionality, and supported products in Sun Cluster 3.1 9/04 software.

New Features and Functionality

Ability to Change Global Heartbeat Parameters

The Tunable Heartbeats feature enables you to change the global heartbeat parameters of a cluster, which effectively changes the heartbeat parameters across all the adapters of the cluster. Sun Cluster software relies on heartbeats over the private interconnect to detect communication failures among cluster nodes.

Reducing the heartbeat timeout enables Sun Cluster software to detect failures more quickly, as the time that is required to detect failures decreases when you decrease the values of heartbeat timeout. Thus, Sun Cluster software recovers more quickly from failures, consequently increasing the availability of your cluster.

The Tunable Heartbeats feature is described in more detail in the scconf(1M) man page.

SPARC: Support for VxVM 4.0 and VxFS 4.0

This release adds support for VERITAS Volume Manager (VxVM) 4.0 and VERITAS File System (VxFS) 4.0 software.

Sun Cluster Now Supports Common Agent Container

Sun Cluster now supports common agent container which provides a modular infrastructure that hosts management agent and service modules. The following common agent container services use default ports:

snmp.adaptor.port	10161
jmxmp.connector.port	10162
commandstream.adaptor.port	10163

If these defaults conflict with ports used by your applications, you can change these defaults. See "How to Use the Common Agent Container to Change the Port Numbers for Services or Management Agents" in *Sun Cluster System Administration Guide for Solaris OS* for information on how to change the default port numbers.

Changes to the JumpStart Installation Method

The JumpStart method to install both Solaris and Sun Cluster software in a single operation has changed. The JumpStart script now requires that you create a flash archive of the cluster configuration that you want to install and also modify the autoscinstall.class file that Sun Cluster software supplies. See "How to Install Solaris and Sun Cluster Software (JumpStart)" in *Sun Cluster Software Installation Guide for Solaris OS*.

scversions Command

A new scversions(1M) command is added for use in a rolling upgrade to new Sun Cluster software. The scversions command is used to commit the cluster to the new software's level of functionality after all nodes are upgraded.

16–Node Support

This release introduces support for 16 nodes clusters.

Note – Proxy file systems are not supported on a 16-node configuration.

IPv6 Support for Data Services

This release introduces support for IPv6 addresses on the public network for failover data services on Solaris 8, and for both failover and scalable data services on Solaris 9.

Enhanced Inter-Resource-Group Dependencies and Inter-Resource Dependencies

This release introduces the following features for configuring relationships between resources and resource groups:

- Restart dependency between resources
- Ability for inter-resource dependencies to span resource groups
- Resource group state PENDING_ONLINE_BLOCKED
- Resource group property RG_affinities for defining affinities between resource groups

To ease the management of configurations in which affinities between resource groups are defined, the scswitch (1M) command has been enhanced as follows:

- Options for bringing resource groups online enforce affinities between resource groups
- The option for evacuating a node switches all resource groups offline from the evacuating node in parallel.
- An option has been introduced to prevent any resource group from failing over back to any evacuated node for a specified period.

Ability to Modify Online HAStoragePlus Resources

The HAStoragePlus resource type has been enhanced to enable HAStoragePlus resources to be modified while the resources are online. For more information, see *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

SPARC: Support for Solaris Volume Manager for Sun Cluster With Sun Cluster Support for Oracle Real Application Clusters

Solaris Volume Manager for Sun Cluster can be used with Sun Cluster Support for Oracle Real Application Clusters. For more information, see *Sun Cluster Data Service for Oracle Real Application Clusters Guide for Solaris OS*

SPARC: Support for Sun StorEdge QFS With Sun Cluster Support for Oracle Real Application Clusters

The Sun StorEdge™ QFS file system can be used with Sun Cluster Support for Oracle Real Application Clusters. For more information, see *Sun Cluster Data Service for Oracle Real Application Clusters Guide for Solaris OS*

SPARC: Automated Startup and Shutdown of Oracle Real Application Clusters Instances

Sun Cluster Support for Oracle Real Application Clusters has been enhanced to enable you to automate the startup and shutdown of Oracle Real Application Clusters instances. For more information, see *Sun Cluster Data Service for Oracle Real Application Clusters Guide for Solaris OS*.

Note – Automating the startup and shutdown of Oracle Real Application Clusters instances requires enhanced inter-resource dependencies that were introduced in Sun Cluster 3.1 9/04. If you plan to automate the startup and shutdown of Oracle Real Application Clusters instances, ensure that your version of the Sun Cluster framework software supports enhanced inter-resource dependencies.

New Supported Data Services (x86 Platform Edition)

No new data services are introduced in Sun Cluster 3.1 9/04 (x86 Platform Edition).

New Supported Data Services (SPARC Platform Edition)

The following data services are introduced in Sun Cluster 3.1 9/04 (SPARC Platform Edition):

- Sun Cluster HA for Agfa IMPAX
- Sun Cluster Oracle Application Server

- Sun Cluster HA for SAP Web Application Server: This data service supports the SAP components in SAP Netweaver 04. It includes HA data services for SAP Enqueue Server, replica server, message server, SAP Web Application Server, and the SAP J2EE engine.
- Sun Cluster HA for Sun Grid Engine
- Sun Cluster HA for SWIFTAlliance Gateway

Restrictions

The following restrictions apply to the Sun Cluster 3.1 9/04 release:

- Proxy file systems are not supported on a 16-node configuration.

For other known problems or restrictions, see "Known Issues and Bugs" on page 16.

Supported Products

This section describes the supported software and memory requirements for Sun Cluster 3.1 9/04 software.

- **Solaris Operating System (OS) –** Sun Cluster 3.1 9/04 software requires the following minimum versions of the Solaris OS:
    - **Solaris 8 –** Solaris 8 2/02
    - **Solaris 9 –** Solaris 9 General Availability (GA)
- **Volume managers**
    - **On Solaris 8 –** Solstice DiskSuite™ 4.2.1 and VERITAS Volume Manager 3.5 and 4.0.
    - **On Solaris 9 –** Solaris Volume Manager and VERITAS Volume Manager 3.5 and 4.0.
- **File systems**
    - **On Solaris 8 –** Solaris UFS, Sun StorEdge QFS, and VERITAS File System 3.5, and 4.0.
    - **On Solaris 9 –** Solaris UFS, Sun StorEdge QFS, and VERITAS File System 3.5 and 4.0.
- **Data services (agents) –** Contact your Sun sales representative for the complete list of supported data services and application versions. Specify the resource type names when you install the data services by using the scinstall(1M) utility. You should also specify the resource type names when you register the resource types associated with the data service by using the scsetup(1M) utility.

Note – Procedures for the version of Sun Cluster HA for Sun Java™ System Directory Server that uses Sun Java System Directory Server 5.0 and 5.1 are located in the *Sun Cluster 3.1 Data Service for Sun ONE Directory Server*. For later versions of Sun Java System Directory Server, previously known as Sun™ Open Net Environment (Sun ONE) Directory Server, see the Sun Java System Directory Server product documentation.

Note – All occurrences of "Sun One" in the names and descriptions of the data services for the Sun Java Enterprise System applications should be read as "Sun Java System." Example: "Sun Cluster Data Service for Sun One Application Server" should read "Sun Cluster Data Service for Sun Java System Application Server."

Note – The Sun Cluster HA for Oracle 3.0 data service can run on Sun Cluster 3.1 9/04 software only when used with the following versions of the Solaris operating environment:

- Solaris 8, 32-bit version
- Solaris 8, 64-bit version
- Solaris 9, 32-bit version

  The Sun Cluster HA for Oracle 3.0 data service *cannot* run on Sun Cluster 3.1 9/04 software when used with the 64-bit version of Solaris 9.

Data Service	Sun Cluster Resource Type
Sun Cluster HA for Agfa IMPAX	`SUNW.gds`
Sun Cluster HA for Apache	`SUNW.apache`
Sun Cluster HA for Apache Tomcat	`SUNW.sctomcat`
Sun Cluster HA for BroadVision One-To-One Enterprise	`SUNW.bv`
Sun Cluster HA for DHCP	`SUNW.gds`
Sun Cluster HA for DNS	`SUNW.dns`
Sun Cluster HA for MySQL	`SUNW.gds`
Sun Cluster HA for NetBackup	`SUNW.netbackup_master`
Sun Cluster HA for NFS	`SUNW.nfs`

Data Service	Sun Cluster Resource Type
Sun Cluster Oracle Application Server	`SUNW.gds`
Sun Cluster HA for Oracle E-Business Suite	`SUNW.gds`
Sun Cluster HA for Oracle	`SUNW.oracle_server`
	`SUNW.oracle_listener`
Sun Cluster Support for Oracle Real Application Clusters	`SUNW.rac_framework`
	`SUNW.rac_udlm`
	`SUNW.rac_svm`
	`SUNW.rac_cvm`
	`SUNW.rac_hwraid`
	`SUNW.oracle_rac_server`
	`SUNW.oracle_listener`
Sun Cluster HA for Samba	`SUNW.gds`
Sun Cluster HA for SAP	`SUNW.sap_ci`
	`SUNW.sap_ci_v2`
	`SUNW.sap_as`
	`SUNW.sap_as_v2`
Sun Cluster HA for SAP liveCache	`SUNW.sap_livecache`
	`SUNW.sap_xserver`
Sun Cluster HA for SAP DB	`SUNW.sapdb`
	`SUNW.sap_xserver`
Sun Cluster HA for SAP Web Application Server	`SUNW.sapenq`
	`SUNW.saprepl`
	`SUNW.sapscs`
	`SUNW.sapwebas`
	`SUNW.gds`
Sun Cluster HA for Siebel	`SUNW.sblgtwy`
	`SUNW.sblsrvr`
Sun Cluster HA for N1 Grid Engine	`SUNW.gds`
Sun Cluster HA for Sun Java System Application Server	`SUNW.s1as`

Data Service	Sun Cluster Resource Type
Sun Cluster HA for Sun Java System Application Server EE (HADB)	`SUNW.hadb`
Sun Cluster HA for Sun Java System Message Queue	`SUNW.s1mq`
Sun Cluster HA for Sun Java System Web Server	`SUNW.iws`
Sun Cluster HA for SWIFTAlliance Access	`SUNW.gds`
Sun Cluster HA for SWIFTAlliance Gateway	`SUNW.gds`
Sun Cluster HA for Sybase ASE	`SUNW.sybase`
Sun Cluster HA for WebLogic Server	`SUNW.wls`
Sun Cluster HA for WebSphere MQ	`SUNW.gds`
Sun Cluster HA for WebSphere MQ Integrator	`SUNW.gds`

- **Memory Requirements –** Sun Cluster 3.1 9/04 software requires extra memory beyond what is configured for a node under a normal workload. The extra memory equals 128 Mbytes plus ten percent of the memory configured for a nonclustered system. For example, if a standalone node normally requires 1 Gbyte of memory, you need an extra 256 Mbytes to meet memory requirements.
- **RSMAPI –** Sun Cluster 3.1 9/04 software supports the Remote Shared Memory Application Programming Interface (RSMAPI) on RSM-capable interconnects, such as PCI-SCI.

Sun Cluster Security Hardening

Sun Cluster Security Hardening uses the Solaris Operating Environment hardening techniques recommended by the Sun BluePrints™ program to achieve basic security hardening for clusters. The Solaris Security Toolkit automates the implementation of Sun Cluster Security Hardening.

The Sun Cluster Security Hardening documentation is available at `http://www.sun.com/blueprints/0203/817-1079.pdf`. You can also access the article from `http://www.sun.com/software/security/blueprints`. From this URL, scroll down to the Architecture heading to locate the article "Securing the Sun Cluster 3.x Software." The documentation describes how to secure Sun Cluster 3.1 deployments in a Solaris 8 and Solaris 9 environment. The description includes the use of the Solaris Security Toolkit and other best-practice security techniques recommended by Sun security experts.

TABLE 1 Data Services Supported by Sun Cluster Security Hardening

Data Service Agent	Application Version: Failover	Application Version: Scalable	Solaris Version
Sun Cluster HA for Apache	1.3.9	1.3.9	Solaris 8, Solaris 9 (version 1.3.9)
Sun Cluster HA for Apache Tomcat	3.3, 4.0, 4.1	3.3, 4.0, 4.1	Solaris 8, Solaris 9
Sun Cluster HA for DHCP	S8U7+	N/A	Solaris 8, Solaris 9
Sun Cluster HA for DNS	with OS	N/A	Solaris 8, Solaris 9
Sun Cluster HA for Sun Java System Messaging Server	6.0	4.1	Solaris 8
Sun Cluster HA for MySQL	3.23.54a - 4.0.15	N/A	Solaris 8, Solaris 9
Sun Cluster HA for NetBackup	3.4	N/A	Solaris 8
Sun Cluster HA for NFS	with OS	N/A	Solaris 8, Solaris 9
Sun Cluster HA for Oracle E-Business Suite	11.5.8	N/A	Solaris 8, Solaris 9
Sun Cluster HA for Oracle	8.1.7 and 9i (32 and 64 bit)	N/A	Solaris 8, Solaris 9 (HA Oracle 9iR2)
Sun Cluster Support for Oracle Real Application Clusters	8.1.7 and 9i (32 and 64 bit)	N/A	Solaris 8, Solaris 9
Sun Cluster HA for SAP	4.6D (32 and 64 bit) and 6.20	4.6D (32 and 64 bit) and 6.20	Solaris 8, Solaris 9
Sun Cluster HA for SWIFTAlliance Access	4.1, 5.0	N/A	Solaris 8
Sun Cluster HA for Samba	2.2.2, 2.2.7, 2.2.7a, 2.2.8, 2.2.8a	N/A	Solaris 8, Solaris 9
Sun Cluster HA for Siebel	7.5	N/A	Solaris 8
Sun Cluster HA for Sun Java System Application Server	7.0, 7.0 update 1	N/A	Solaris 8,Solaris 9
Sun Cluster HA for Sun Java System Directory Server	4.12	N/A	Solaris 8, Solaris 9 (version 5.1)
Sun Cluster HA for Sun Java System Message Queue	3.0.1	N/A	Solaris 8, Solaris 9
Sun Cluster HA for Sun Java System Web Server	6.0	4.1	Solaris 8, Solaris 9 (version 4.1)
Sun Cluster HA for Sybase ASE	12.0 (32 bit)	N/A	Solaris 8

TABLE 1 Data Services Supported by Sun Cluster Security Hardening   *(Continued)*

Data Service Agent	Application Version: Failover	Application Version: Scalable	Solaris Version
Sun Cluster HA for BEA WebLogic Server	7.0	N/A	Solaris 8, Solaris 9
Sun Cluster HA for WebSphere MQ	5.2, 5.3	N/A	Solaris 8, Solaris 9
Sun Cluster HA for WebSphere MQ Integrator	2.0.2, 2.1	N/A	Solaris 8, Solaris 9

Known Issues and Bugs

The following known issues and bugs affect the operation of the Sun Cluster 3.1 9/04 release.

`scvxinstall` Creates Incorrect `vfstab` Entries When Boot Device is Multi-Pathed (4639243)

Problem Summary: `scvxinstall` creates incorrect `vfstab` entries when boot device is multipathed.

Workaround: Run `scvxinstall` and choose to encapsulate. When the following message appears, type Ctrl-C to abort the reboot:

```
This node will be re-booted in 20 seconds. Type Ctrl-C to abort.
```

Edit the `vfstab` entry so `/global/.devices` uses the `/dev/{r}dsk/cXtXdX` name instead of the `/dev/did/{r}dsk` name. This revised entry enables VxVM to recognize it as the rootdisk. Rerun `scvxinstall` and choose to encapsulate. The `vfstab` file has the necessary updates. Allow the reboot to occur. The encapsulation proceeds as normal.

HA Oracle Stop Method Times Out (4644289)

Problem Summary: The Sun Cluster for HA for Oracle data service uses the `su` command to start and stop the database. If you are running Solaris 8 or Solaris 9, the network service might become unavailable when a cluster node's public network fails.

Workaround: Include the following entries in the `/etc/nsswitch.conf` file on each node that can be the primary for `oracle_server` resource or `oracle_listener` resource:

```
passwd: files
groups: files
publickey: files
project:  files
```

These entries ensure that the `su` command does not refer to the NIS/NIS+ name services, so that the data service starts and stops correctly during a network failure.

`ce` Adapters on Private Interconnect Observe Timeouts and Cause Node Panics (4746175)

Problem Summary: Clusters that use `ce` adapters on the private interconnect observe path timeouts and subsequent node panics if one or more cluster nodes have more than 4 CPUs.

Workaround: Set the `ce_taskq_disable` parameter in the `ce` driver by adding the following line to `/etc/system` file on all cluster nodes.

```
set ce:ce_taskq_disable=1
```

Then, reboot the cluster nodes. Consider quorum when you reboot cluster nodes. Setting this parameter ensures that heartbeats (and other packets) are always delivered in the interrupt context thereby eliminating the path timeouts and the subsequent panics.

SAP liveCache Stop Method Times Out (4836272)

Problem Summary: The Sun Cluster HA for SAP liveCache data service uses the `dbmcli` command to start and stop liveCache. If you are running Solaris 9, the network service might become unavailable when a cluster node's public network fails.

Workaround: Include one of the following entries for the `publickey` database in the `/etc/nsswitch.conf` files on each node that can be the primary for liveCache resources:

```
publickey:
publickey:   files
publickey:   files [NOTFOUND=return] nis
publickey:   files [NOTFOUND=return] nisplus
```

Adding one of the above entries, in addition to updates documented in *Sun Cluster Data Service for SAP liveCache Guide for Solaris OS*, ensures that the `su` command and the `dbmcli` command do not refer to the NIS/NIS+ name services. Bypassing the NIS/NIS+ name services ensures that the data service starts and stops correctly during a network failure.

Some Agents Do Not Use Facility `LOG_DAEMON` (4897239)

Problem Summary: Due to an internal error, some Sun-supplied cluster agents write messages to the system log (see syslog(3C)) using the `LOG_USER` facility instead of using `LOG_DAEMON`. On a cluster that is configured with the default syslog settings (see syslog.conf(4)), messages with a severity of `LOG_WARNING` or `LOG_NOTICE`, which would normally be written to the system log, are not being output. This problem occurs only for agent code written as shell scripts.

Workaround:

■ The following workaround is for agent developers writing shell scripts:

In shell scripts, pass the facility explicitly to `scds_sylog`:

```
facility=`scha_cluster_get -O SYSLOG_FACILITY
`scds_syslog -p ${facility}.error -m "error message"
```

■ The following workaround is for cluster administrators:

Add the following entry near the front of the `/etc/syslog.conf` file on all cluster nodes:

```
user.warning          /var/adm/messages
```

This entry causes `user.warning` messages to be logged. You can add a similar entry for `user.notice` messages, but this is not necessary and might cause the logs to fill too quickly, depending on the mix of applications that are running.

`nsswitch.conf` Requirement Should Not Apply To `passwd` Database (4904975)

Problem Summary: The requirement for the `nsswitch.conf` file in "Preparing the Nodes and Disks" in *Sun Cluster Data Service for SAP liveCache Guide for Solaris OS* does not apply to the entry for the `passwd` database. If these requirements are met, the `su` command might hang on each node that can master the liveCache resource when the public network is down.

Workaround: On each node that can master the liveCache resource, ensure that the entry in the `/etc/nsswitch.conf` file for the `passwd` database is as follows:

```
passwd: files nis [TRYAGAIN=0]
```

`sccheck` Hangs (4944192)

Problem Summary: `sccheck` might hang if launched simultaneously from multiple nodes.

Workaround: Do not launch sccheck from any multi-console that passes commands to multiple nodes. sccheck runs can overlap, but should not be launched simultaneously.

Java Binaries Linked to Incorrect Java Version Cause HA-DB Agent to Malfunction (4968899)

Problem Summary: Currently, HA-DB data service does not use the JAVA_HOME environment variable. Therefore, HA-DB, when invoked from the HA-DB data service, takes Java binaries from /usr/bin/. The Java binaries in /usr/bin/ need to be linked to the appropriate version of Java 1.4 and above for HA-DB data service to work properly.

Workaround: If you do not object to changing the default version available, perform the following procedure. As an example, this workaround assumes that the /usr/j2se directory is where you have the latest version of Java (such as 1.4 and above).

1. Do you currently have a directory called java/ in the /usr/ directory? If so, move it to a temporary location.

2. From the /usr/ directory, link /usr/bin/java and all other Java-related binaries to the appropriate version of Java.

   ```
   # ln -s j2se java
   ```

If you do not want to change the default version available, assign the JAVA_HOME environment variable with the appropriate version of Java (J2SE 1.4 and above) in the /opt/SUNWappserver7/SUNWhadb/4/bin/hadbm script.

HA-DB Reinitializes Without Spares (4973982)

Problem Summary: Due to bug 4974875, whenever autorecovery is performed, the database reinitializes itself without any spares. The mentioned bug has been fixed and integrated into HA-DB release 4.3. For HA-DB 4.2 and below releases, follow one of the procedures below to change the roles of the HA-DB nodes.

Workaround:

1. Identify the HA-DB nodes that have their roles changed after autorecovery is successful.

2. On all the nodes that you identified in Step 1, and one node at a time, disable the fault monitor for the HA-DB resource in question.

   ```
   # cladm noderole -db dbname -node nodeno -setrole role-before-auto_recovery
   ```

3. Enable the fault monitor for the HA-DB resource in question.

or

1. Identify the HA-DB nodes that have their roles changed after autorecovery is successful.

2. On all nodes that host the database, disable the fault monitor for the HA-DB resource in question.

3. On any one of the nodes, execute the command for each HA-DB node that needs its role changed.

   # **cladm noderole** -db *dbname* -node *nodeno* -setrole *role-before-auto_recovery*

pnmd Not Accessible by Other Node During Rolling Upgrade (4997693)

Problem Summary: During a rolling upgrade, if scstat -i command is run on a cluster node that has not yet been upgraded, the scstat output will not show the status of the IPMP groups hosted on the nodes that have already been upgraded.

Workaround: Use the scstat -i ouput from the upgraded nodes.

LogicalHostname Resource Cannot be Added (5004611)

Problem Summary: A LogicalHostname resource cannot be added to the cluster if it needs to use an IPMP group with a failed adapter.

Workaround: Either remove the failed adapter from the IPMP group, or correct the failure before attempting to use the IPMP group in a LogicalHostname resource.

SunPlex Manager Improperly Stores Encoding Information for the Status (5012328)

Problem Summary: The two fields, Status and Type, in the resource group status page displays values in the first locale that was used to view the page.

Workaround: To see values in a different locale, restart the web server.

`uservol` is Used for `/global/.devices/node@2` After Re-encapsulating Root Disk (5028284)

Problem Summary: After encapsulating the root disk, if you unencapsulate and then reencapsulate the root disk, you might see that a volume called `uservol` is used for the `/global/devices/node@`*nodeID* filesystem. This might cause problems, since the volume name for each node's global devices file system should be unique.

Workaround: After following the documented steps for unencapsulation, kill the `vxconfigd` daemon before you run `scvxinstall` again to reencapsulate the root disk.

Multiple Submissions of Login Pages to Sun Web Console Cause Various Login Failures (5039143)

Problem Summary: When logging in to Sun Web Console, if the Login or Enter button is pressed repeatedly, the multiple login requests can result in various failures, thereby preventing access to SunPlex Manager.

Workaround: Become superuser on the cluster node and restart Sun Web Console.

```
# /usr/sbin/smcwebserver restart
```

`Resource_dependencies_restart` Not Working As Expected (5041013)

Problem Summary: The `Resource_dependencies_restart` resource property does not behave as expected when a resource declares an `any node` inter-resource–group restart dependency upon a scalable mode resource. Most data services are unaffected.

- Background on inter-resource–group dependencies and restart dependencies:

  With the inter-resource–group dependencies feature in Sun Cluster 3.1 9/04, Sun Cluster software supports resource dependencies that can cross resource group boundaries. Sun Cluster software also supports a new type of resource dependency, the `restart dependency`. If the dependent resource is online, the `restart dependency` causes the dependent resource to be restarted automatically when the depended-on resource starts.

- Background on `local node` vs. `any node` dependencies:

  If resource `r1` in group `RG1` has a dependency on `r2` in `RG2`, and if `RG1` has a positive affinity for `RG2`, and if both `RG1` and `RG2` are starting or stopping simultaneously on the same node, then the dependency of `r1` on `r2` is a `local node` dependency. For example, while starting `RG1` and `RG2` on the same node, `r1`

waits for `r2` to start on that node before `r1` starts on that same node. The state of `r2` on other nodes does not influence when `r1` starts.

However, if `RG1` does not declare a positive affinity for `RG2`, or if there is a weak positive affinity, but the resource groups start on different nodes, then the dependency of `r1` on `r2` is an `any node` dependency. This dependency means that `r1` starts as soon as `r2` has started on any node.

- Description of Problem:

  The problem arises when resource group `RG2` is a scalable mode (i.e. multi-mastered) resource group, and the dependency of `r1` on `r2` is an `any node` restart dependency. `r1` is restarted every time that any instance of `r2` starts. `r1` should be restarted only upon the first instance of `r2` that starts.

Workaround: The current behavior of restart dependencies will change as described above, when this bug is fixed. Do not develop code or administrative procedures that depend upon the current incorrect behavior.

`sccheck` Missing Support for Sun Enterprise 15000 (5056534)

Problem Summary: If you have a Sun Enterprise 15000 server and you run the `sccheck` command, the check fails and reports an error that indicates that the Sun Enterprise 15000 server is not supported. This statement is not correct.

Workaround: No workaround is necessary. Sun Cluster software supports your Sun Enterprise 15000 server. The error that the `sccheck` command reports states that the check might be out of date. In this case, `sccheck` is out of date.

French Unavailable for non-JES Data Service Agents (5059963)

Problem Summary: French (fr) is not available as a language selection for data-service agents that are not part of the Sun Java Enterprise System. However, the GUI installer for those packages suggests otherwise.

Workaround: Ignore the inaccuracy of the GUI installer. French (fr) is not available.

`scinstall -u update` Does Not Preserve `SUNWcacao` Security Keys (5068616)

Problem Summary: During upgrade to Sun Cluster 3.1 9/04 software, the `scinstall` command installs the new common agent container packages, `SUNWcacao` and `SUNWcacaocfg`, but does not distribute identical security keys to all cluster nodes.

Workaround: Perform the following steps to ensure that the common agent container security files are identical on all cluster nodes and that the copied files retain the correct file permissions. These files are required by Sun Cluster software.

1. On one cluster node, change to the `/etc/opt/SUNWcacao/` directory.

    ```
    phys-schost-1# cd /etc/opt/SUNWcacao/
    ```

2. Create a tar file of the `/etc/opt/SUNWcacao/security/` directory.

    ```
    phys-schost-1# tar cf /tmp/SECURITY.tar security
    ```

3. Copy the `/tmp/SECURITY.tar` file to each of the other cluster nodes.

4. On each node to which you copied the `/tmp/SECURITY.tar` file, extract the security files.

    Any security files that already exist in the `/etc/opt/SUNWcacao/` directory are overwritten.

    ```
    phys-schost-2# cd /etc/opt/SUNWcacao/
    phys-schost-2# tar xf /tmp/SECURITY.tar
    ```

5. Delete the `/tmp/SECURITY.tar` file from each node in the cluster.

    You must delete each copy of the tar file to avoid security risks.

    ```
    phys-schost-1# rm /tmp/SECURITY.tar
    phys-schost-2# rm /tmp/SECURITY.tar
    ```

6. On each node, restart the security file agent.

    ```
    # /opt/SUNWcacao/bin/cacaoadm start
    ```

Incorrect Date Format for Advanced Filter Panel of SunPlex Manager (5075018)

Problem Summary: The date field on the Advanced Filter panel of SunPlex Manager accepts only `mm/dd/yyyy` format. However, in non-English locale environments, the date format is different from `mm/dd/yyyy`, and the return date format from Calendar panel is other than `mm/dd/yyyy` format.

Workaround: Type the date range in the Advanced Filer panel in `mm/dd/yyyy` format. Do not use the Set button to display the calendar and choose the date.

Unreadable Error Messages in SunPlex Manager When Removing Resource Group (5083147)

Problem Summary: When you remove a resource group by using SunPlex Manager on Solaris 8, you might receive error messages that are not readable. This problem occurs in Japanese, Korean, Traditional Chinese, and Simplified Chinese.

Workaround: Run system locale in English to display the error messages in English.

Incorrect Extension Property Descriptions in `SUNW.sapscs` (5083259)

Problem Summary: In the resource type registration (RTR) file `SUNW.sapscs`, descriptions for two extension properties are incorrect.

Workaround: The description for `Scs_Startup_Script` should be `Startup script for the SCS. Defaults to /usr/sap/SAP_SID/SYS/exe/run/startsap`. The description for `Scs_Shutdown_Script` should be `Shutdown script for the SCS. Defaults to /usr/sap/SAP_SID/SYS/exe/run/stopsap`.

After JumpStart Completes for Sun Cluster 3.1 9/04, User Cannot Access SunPlex Manager (5095638)

Problem Summary: After installing Sun Cluster software by using the JumpStart method, Sun Web Console cannot launch SunPlex Manager. JumpStart postinstallation processing fails to successfully register SunPlex Manager. with Sun Web Console.

Workaround: Run the following script on each cluster node, after JumpStart installation of Sun Cluster software is finished on all nodes.

```
# /var/sadm/pkg/SUNWscspmu/install/postinstall
```

This script registers SunPlex Manager with Sun Web Console.

Installing Sun Cluster Data Service for HA Oracle From CD-ROM Fails (5098622)

Problem Summary: The installer program on the Sun Cluster 3.1 9/04data services CD-ROM for x86 cannot be used to install HA Oracle. The following message is issued by the installer:

```
Could not find child archive ....
```

Workaround: Use `scinstall` to install Sun Cluster Data Service for HA Oracle.

Some Data Services Cannot be Upgraded by Using the `scinstall` Utility

Problem Summary: The data services for the following applications cannot be upgraded by using the `scinstall` utility:

- Apache Tomcat
- DHCP
- mySQL
- Oracle E-Business Suite
- Samba
- SWIFTAlliance Access
- WebLogic Server
- WebSphere MQ
- WebSphere MQ Integrator

Workaround: If you plan to upgrade a data service for an application in the preceding list, replace the step for upgrading data services in "Upgrading to Sun Cluster 3.1 9/04 Software (Rolling)" in *Sun Cluster Software Installation Guide for Solaris OS* with the steps that follow. Perform these steps for each node where the data service is installed.

▼ How to Upgrade Data Services That Cannot be Upgraded by Using `scinstall`

Steps **1. Remove the software package for the data service that you are upgrading.**

    # **pkgrm** *pkg-inst*

pkg-inst specifies the software package name for the data service that you are upgrading as listed in the following table.

Application	Data Service Software Package
Apache Tomcat	SUNWsctomcat
DHCP	SUNWscdhc
mySQL	SUNWscmys
Oracle E-Business Suite	SUNWscebs
Samba	SUNWscsmb
SWIFTAlliance Access	SUNWscsaa
WebLogic Server (English locale)	SUNWscwls
WebLogic Server (French locale)	SUNWfscwls

Application	Data Service Software Package
WebLogic Server (Japanese locale)	`SUNWjscwls`
WebSphere MQ	`SUNWscmqs`
WebSphere MQ Integrator	`SUNWscmqi`

2. **Install the software package for the version of the data service to which you are upgrading.**

   To install the software package, follow the instructions in the Sun Cluster documentation for the data service that you are upgrading. This documentation is available at `http://docs.sun.com/`.

Patches and Required Firmware Levels

This section provides information about patches for Sun Cluster configurations.

Note – You must be a registered SunSolve™ user to view and download the required patches for the Sun Cluster product. If you do not have a SunSolve account, contact your Sun service representative or sales engineer, or register online at http://sunsolve.sun.com.

PatchPro

PatchPro is a patch-management tool designed to ease the selection and download of patches required for installation or maintenance of Sun Cluster software. PatchPro provides a Sun Cluster-specific Interactive Mode tool to make the installation of patches easier and an Expert Mode tool to maintain your configuration with the latest set of patches. Expert Mode is especially useful for those who want to get all of the latest patches, not just the high availability and security patches.

To access the PatchPro tool for Sun Cluster software, go to http://www.sun.com/PatchPro/, click on "Sun Cluster," then choose either Interactive Mode or Expert Mode. Follow the instructions in the PatchPro tool to describe your cluster configuration and download the patches.

SunSolve Online

The SunSolve™ Online Web site provides 24-hour access to the most up-to-date information regarding patches, software, and firmware for Sun products. Access the SunSolve Online site at http://sunsolve.sun.com for the most current matrixes of supported software, firmware, and patch revisions.

Sun Cluster 3.1 9/04 third-party patch information is provided through SunSolve Info Docs. This Info Doc page provides third-party patch information for specific hardware that you intend to use in a Sun Cluster 3.1 environment. To locate this Info Doc, log on to SunSolve and access the Simple Search selection from the top of the main page. From the Simple Search page, click on the Info Docs box and type **Sun Cluster 3.x Third-Party Patches** in the search criteria box.

Before you install Sun Cluster 3.1 9/04 software and apply patches to a cluster component (Solaris OS, Sun Cluster software, volume manager software, data services software, or disk hardware), review each `README` file that accompanies the patches that you retrieved. All cluster nodes must have the same patch level for proper cluster operation.

For specific patch procedures and tips on administering patches, see Chapter 8, "Patching Sun Cluster Software and Firmware," in *Sun Cluster System Administration Guide for Solaris OS*.

Sun Cluster 3.1 9/04 Documentation

The Sun Cluster 3.1 9/04 user documentation set consists of the following collections:

Sun Cluster 3.1 9/04 Release Notes Collection for Solaris OS

Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition)

Sun Cluster 3.1 9/04 Software Collection for Solaris OS (x86 Platform Edition)

Sun Cluster 3.1 9/04 Reference Collection for Solaris OS

Sun Cluster 3.x Hardware Collection for Solaris OS (SPARC Platform Edition)

Sun Cluster 3.x Hardware Collection for Solaris OS (x86 Platform Edition)

The Sun Cluster 3.1 9/04 user documentation is available in PDF and HTML format on the SPARC and x86 versions of the Sun Cluster 3.1 9/04 CD-ROM. For more information, see the `Solaris_`*arch*`/Product/sun_cluster/index.html` file on the SPARC or x86 versions of theSun Cluster 3.1 9/04 CD-ROM, where *arch* is `sparc` or `x86`. This `index.html` file enables you to read the PDF and HTML manuals directly from the CD-ROM and to access instructions to install the documentation packages.

Note – The `SUNWsdocs` package must be installed before you install any Sun Cluster documentation packages. You can use `pkgadd` to install the `SUNWsdocs` package. The `SUNWsdocs` package is located in the `Solaris_`*arch*`/Product/sun_cluster/Solaris_`*ver*`/Packages/` directory of the Sun Cluster 3.1 9/04 CD-ROM, where *arch* is `sparc` or `x86`, and *ver* is either `8` for Solaris 8 or `9` for Solaris 9. The `SUNWsdocs` package is also automatically installed when you run the `installer` program from the Solaris 9 Documentation CD-ROM.

In addition, the docs.sun.com[SM] web site enables you to access Sun Cluster documentation on the Web. You can browse the `docs.sun.com` archive or search for a specific book title or subject at the following Web site:

http://docs.sun.com

Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition)

- Software Manuals
- Individual Data Service Manuals

TABLE 2 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition): Software Manuals

Part Number	Book Title
817–6537	*Sun Cluster Concepts Guide for Solaris OS*
817–6536	*Sun Cluster Overview for Solaris OS*
817–6543	*Sun Cluster Software Installation Guide for Solaris OS*
817–6546	*Sun Cluster System Administration Guide for Solaris OS*
817–6555	*Sun Cluster Data Services Developer's Guide for Solaris OS*
817–6558	*Sun Cluster Error Messages Guide for Solaris OS*
817–6593	*Sun Cluster Reference Manual for Solaris OS*

TABLE 2 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition): Software Manuals   *(Continued)*

Part Number	Book Title
817–6564	*Sun Cluster Data Services Planning and Administration Guide for Solaris OS*
817–7900	*Sun Cluster 3.1 9/04 Independent Release Special Instructions for Solaris OS*

TABLE 3 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition): Individual Data Service Manuals

Part Number	Book Title
817–5723	*Sun Cluster Data Service for Agfa IMPAX Guide for Solaris OS*
817–4644	*Sun Cluster Data Service for Apache Guide for Solaris OS*
817–4575	*Sun Cluster Data Service for Apache Tomcat Guide for Solaris OS*
817–4653	*Sun Cluster Data Service for BroadVision One-To-One Enterprise Guide for Solaris OS*
817–4582	*Sun Cluster Data Service for DHCP Guide for Solaris OS*
817–4645	*Sun Cluster Data Service for Domain Name Service (DNS) Guide for Solaris OS*
817–4574	*Sun Cluster Data Service for MySQL Guide for Solaris OS*
817–5720	*Sun Cluster Data Service for N1 Grid Service Provisioning System for Solaris OS*
817–4651	*Sun Cluster Data Service for NetBackup Guide for Solaris OS*
817–4646	*Sun Cluster Data Service for Network File System (NFS) Guide for Solaris OS*
817–5721	*Sun Cluster Data Service for Oracle Application Server Guide for Solaris OS*
817–4577	*Sun Cluster Data Service for Oracle E-Business Suite Guide for Solaris OS*
817–4639	*Sun Cluster Data Service for Oracle Guide for Solaris OS*
817–6570	*Sun Cluster Data Service for Oracle Real Application Clusters Guide for Solaris OS*
817–4581	*Sun Cluster Data Service for Samba Guide for Solaris OS*
819–0049	*Sun Cluster Data Service for SAP DB Guide for Solaris OS*
817–4647	*Sun Cluster Data Service for SAP Guide for Solaris OS*
819–0048	*Sun Cluster Data Service for SAP liveCache Guide for Solaris OS*
817-6571	*Sun Cluster Data Service for SAP Web Application Server Guide for Solaris OS*
817–4652	*Sun Cluster Data Service for Siebel Guide for Solaris OS*
817–3920	*Sun Cluster Data Service for Sun Java System Application Server Guide for Solaris OS*

TABLE 3 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition): Individual Data Service Manuals   *(Continued)*

Part Number	Book Title
817–7001	*Sun Cluster Data Service for Sun Java System Application Server EE (HADB) Guide for Solaris OS*
817–4643	*Sun Cluster Data Service for Sun Java System Message Queue Guide for Solaris OS*
817–4641	*Sun Cluster Data Service for Sun Java System Web Server Guide for Solaris OS*
817–4576	*Sun Cluster Data Service for SWIFTAlliance Access Guide for Solaris OS*
817–5722	*Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS*
817–4650	*Sun Cluster Data Service for Sybase ASE Guide for Solaris OS*
817–4649	*Sun Cluster Data Service for WebLogic Server Guide for Solaris OS*
817–4580	*Sun Cluster Data Service for WebSphere MQ Integrator Guide for Solaris OS*
817–4579	*Sun Cluster Data Service for WebSphere MQ Guide for Solaris OS*

The following manuals are *not* supplied on the Sun Cluster 3.1 9/04 product CD-ROM. These manuals are available only in the Sun Cluster 3.1 9/04 Software Collection for Solaris OS (SPARC Platform Edition) on the docs.sun.com web site at http://docs.sun.com:

- *Sun Cluster Data Service for Agfa IMPAX Guide for Solaris OS*
- *Sun Cluster Data Service for SWIFTAlliance Gateway Guide for Solaris OS*
- *Sun Cluster Data Service for N1 Grid Engine Guide for Solaris OS*

Sun Cluster 3.1 9/04 Software Collection for Solaris OS (x86 Platform Edition)

- Software Manuals
- Individual Data Service Manuals

TABLE 4 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (x86 Platform Edition): Software Manuals

Part Number	Book Title
817–6537	*Sun Cluster Concepts Guide for Solaris OS*
817–6536	*Sun Cluster Overview for Solaris OS*
817–6543	*Sun Cluster Software Installation Guide for Solaris OS*
817–6546	*Sun Cluster System Administration Guide for Solaris OS*

TABLE 4 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (x86 Platform Edition): Software Manuals   *(Continued)*

Part Number	Book Title
817–6555	*Sun Cluster Data Services Developer's Guide for Solaris OS*
817–6558	*Sun Cluster Error Messages Guide for Solaris OS*
817–6593	*Sun Cluster Reference Manual for Solaris OS*
817–6564	*Sun Cluster Data Services Planning and Administration Guide for Solaris OS*
817–7900	*Sun Cluster 3.1 9/04 Independent Release Special Instructions for Solaris OS*

TABLE 5 Sun Cluster 3.1 9/04 Software Collection for Solaris OS (x86 Platform Edition): Individual Data Service Manuals

Part Number	Book Title
817–4575	*Sun Cluster Data Service for Apache Tomcat Guide for Solaris OS*
817–4582	*Sun Cluster Data Service for DHCP Guide for Solaris OS*
817–4645	*Sun Cluster Data Service for Domain Name Service (DNS) Guide for Solaris OS*
817–4574	*Sun Cluster Data Service for MySQL Guide for Solaris OS*
817–4646	*Sun Cluster Data Service for Network File System (NFS) Guide for Solaris OS*
817–4581	*Sun Cluster Data Service for Samba Guide for Solaris OS*
817–3920	*Sun Cluster Data Service for Sun Java System Application Server Guide for Solaris OS*
817–4643	*Sun Cluster Data Service for Sun Java System Message Queue Guide for Solaris OS*
817–4641	*Sun Cluster Data Service for Sun Java System Web Server Guide for Solaris OS*

Sun Cluster 3.x Hardware Collection for Solaris OS (SPARC Platform Edition)

TABLE 6 Sun Cluster 3.x Hardware Collection for Solaris OS (SPARC Platform Edition)

Part Number	Book Title
817–0168	*Sun Cluster 3.x Hardware Administration Manual for Solaris OS*
817–0180	*Sun Cluster 3.x With Sun StorEdge 3310 SCSI RAID Array Manual for Solaris OS*

TABLE 6 Sun Cluster 3.x Hardware Collection for Solaris OS (SPARC Platform Edition)
(Continued)

Part Number	Book Title
817–1673	*Sun Cluster 3.x With Sun StorEdge 3510 or 3511 FC RAID Array Manual for Solaris OS*
817–0179	*Sun Cluster 3.x With StorEdge 3900 Series, StorEdge 6910, or StorEdge 6960 System Manual*
817–1701	*Sun Cluster 3.x With Sun StorEdge 6120 Array Manual for Solaris OS*
817–1702	*Sun Cluster 3.x With Sun StorEdge 6320 System Manual for Solaris OS*
817–6747	*Sun Cluster 3.x With Sun StorEdge 6920 System Manual for Solaris OS*
817–0177	*Sun Cluster 3.x With Sun StorEdge 9900 Series Storage Device Manual for Solaris OS*
817–5682	*Sun Cluster 3.x With StorEdge A1000 Array, Netra st A1000 Array, or StorEdge A3500 System Manual*
817–0174	*Sun Cluster 3.x With Sun StorEdge A3500FC System Manual for Solaris OS*
817–5683	*Sun Cluster With Fibre Channel JBOD Storage Device Manual*
817–5681	*Sun Cluster 3.x With SCSI JBOD Storage Device Manual for Solaris OS*
817–0176	*Sun Cluster 3.x With Sun StorEdge T3 or T3+ Array Manual for Solaris OS*

Sun Cluster 3.x Hardware Collection for Solaris OS (x86 Platform Edition)

TABLE 7 Sun Cluster 3.x Hardware Collection for Solaris OS (x86 Platform Edition)

Part Number	Book Title
817–0168	*Sun Cluster 3.x Hardware Administration Manual for Solaris OS*
817–0180	*Sun Cluster 3.x With Sun StorEdge 3310 SCSI RAID Array Manual for Solaris OS*

Localization Issues

- French support for non-Java Enterprise System data services was removed.

- `cdrom.sc_agents_sparc/installer` provides seven languages selection for all data-service agents, although non-Java Enterprise System agents support Japanese and Simplified Chinese only.

`cdrom.sc_agents_sparc/components/`*data-service*`/installer` does provide the correct language selection.

- Restrictions for language selection in SunPlex Manager:

  - If you want to use Simplified Chinese as your language selection in SunPlex Manager, choose `zh-cn`, instead of `zh` in your browser. Otherwise, SunPlex Manager displays in English.

  - If you want to use Traditional Chinese as your language selection in SunPlex Manager, choose `zh-tw` in your browser. If you choose `zh-hk`, SunPlex Manager displays in English.

Documentation Issues

This section discusses known errors or omissions for documentation, online help, or man pages and steps to correct these problems.

Note – All occurrences of "Sun One" in the names and descriptions of the data services for the Sun Java Enterprise System applications should be read as "Sun Java System." Example: "Sun Cluster Data Service for Sun One Application Server" should read "Sun Cluster Data Service for Sun Java System Application Server."

Software Installation Guide

This section discusses errors and omissions from the *Sun Cluster Software Installation Guide for Solaris OS*.

Installing Sun Cluster Software Packages

In the *Sun Cluster Software Installation Guide for Solaris OS*, the procedure "How to Install Sun Cluster Software Packages" in *Sun Cluster Software Installation Guide for Solaris OS* incorrectly documents the location of the installer program on the base CD-ROM. The procedure documents the installer program as being at the CD-ROM mount point directory level. Instead, the installer program is located in the `Solaris_sparc/Product/sun_cluster/` directory of the SPARC CD-ROM and in the `Solaris_x86/Product/sun_cluster/` directory of the x86 CD-ROM.

Installing Software on the Administrative Console (5106436)

The procedure "How to Install Cluster Control Panel Software on an Administrative Console" in *Sun Cluster Software Installation Guide for Solaris OS* contains the following unnecessary steps and one inaccuracy:

- You do not need to use the `pkgadd` command to install the Cluster Control Panel package `SUNWccon` or to install the documentation packages. You can pick these packages from the list provided by the `installer` program. Ignore Step 12 and Step 14 of the procedure.

- You *do* need to use the `pkgadd` command to install the man page package, `SUNWscman`. The `installer` program does not include that package in the list of software packages that it can install. Ignore Step 9 of the procedure.

IPv6 Addresses Are Not Supported on Solaris 8 for Scalable Data Services

The section "Public Networks" in *Sun Cluster Software Installation Guide for Solaris OS* states, "Sun Cluster software supports IPv4 and IPv6 addresses on the public network, both for failover and scalable data services." This statement is not correct for Sun Cluster software for Solaris 8. Sun Cluster software for Solaris 8 supports a failover data service to run on an IPv6 address, but does not support a scalable data service to run on an IPv6 address. Sun Cluster software for Solaris 8 continues to support IPv4 addresses for both failover and scalable data services.

Instructions are Incorrect to Configure an Upgraded Sun Cluster HA for SAP liveCache Data Service (5099196)

The procedure "How to Finish a Nonrolling Upgrade to Sun Cluster 3.1 9/04 Software" in *Sun Cluster Software Installation Guide for Solaris OS* incorrectly instructs you to edit the `/opt/SUNWsclc/livecache/bin/lccluster` file if you upgraded the Sun Cluster HA for SAP liveCache data service from the Sun Cluster 3.0 version to the 3.1 version. Do not perform the instruction to edit the `/opt/SUNWsclc/livecache/bin/lccluster` file. This file is only a template that is installed with the data service and should not be edited in that location. Instead, perform the following steps:

1. After upgrade to the Sun Cluster 3.1 version of Sun Cluster HA for SAP liveCache, go to a node that will host the liveCache resource.

2. Copy the new `/opt/SUNWsclc/livecache/bin/lccluster` file to the `/sapdb/`*LC_NAME*`/db/sap/` directory, overwriting the `lccluster` file that already exists from the previous configuration of the data service.

3. Configure this `/sapdb/`*LC_NAME*`/db/sap/lccluster` file as documented in Step 3 of "How to Register and Configure Sun Cluster HA for SAP liveCache" in *Sun Cluster Data Service for SAP liveCache Guide for Solaris OS*.

SunPlex Manager Online Help

This section discusses errors and omissions in SunPlex Manager online help.

Sun Cluster HA for Oracle

In the online help file that is titled "Sun Cluster HA for Oracle," in the section titled "Before Starting," a note is incorrect.

Incorrect:

If no entries exist for shmsys and semsys in /etc/system, default values for these variables are automatically inserted in/etc/system. The system must then be rebooted. Check Oracle installation documentation to verify that these values are correct for your database.

Correct:

If no entries exist for the shmsys and semsys variables in the /etc/system file when you install the Oracle data service, you can open /etc/system and insert default values for these variables. You must then reboot the system. Check Oracle installation documentation to verify that the values that you insert are correct for your database.

Sun Cluster Concepts Guide

This section discusses errors and omissions from the *Sun Cluster Concepts Guide for Solaris OS*.

In Chapter 3, the section on "Using the Cluster Interconnect for Data Service Traffic" should read as follows:

A cluster must have multiple network connections between nodes, forming the cluster interconnect. The clustering software uses multiple interconnects both for high availability and to improve performance. For both internal and external traffic (for example, file system data or scalable services data), messages are striped across all available interconnects.

The cluster interconnect is also available to applications, for highly available communication between nodes. For example, a distributed application might have components running on different nodes that need to communicate. By using the cluster interconnect rather than the public transport, these connections can withstand the failure of an individual link.

To use the cluster interconnect for communication between nodes, an application must use the private hostnames configured when the cluster was installed. For example, if the private hostname for node 1 is clusternode1-priv, use that name to communicate over the cluster interconnect to node 1. TCP sockets opened using this

name are routed over the cluster interconnect and can be transparently rerouted in the event of network failure. Application communication between any two nodes is striped over all interconnects. The traffic for a given TCP connection flows on one interconnect at any point. Different TCP connections are striped across all interconnects. Additionally, UDP traffic is always striped across all interconnects.

Note that because the private hostnames can be configured during installation, the cluster interconnect can use any name chosen at that time. The actual name can be obtained from `scha_cluster_get(3HA)` with the `scha_privatelink_hostname_node` argument.

Sun Cluster Data Service for DHCP Guide for Solaris OS

Instructions for upgrading Sun Cluster HA for DHCP are omitted from *Sun Cluster Data Service for DHCP Guide for Solaris OS*.

▼ How to Upgrade Sun Cluster HA for DHCP

As a result of bug fixes, the configuration for IPMP based clusters has changed. If you are running Sun Cluster HA for DHCP on an IPMP-based cluster, you have to disable, delete and reregister the DHCP resource.

Steps **1. Save the Sun Cluster DHCP resource definitions.**

    # **scrgadm -pvv -j** *resource* **>** *file1*

2. Disable the Sun Cluster DHCP resource.

    # **scswitch -n -j** *resource*

3. Remove the Sun Cluster DHCP resource.

    # **scrgadm -r -j** *resource*

4. Configure and register the Sun Cluster DHCP resource.

   a. Go to the directory that contains the `dhcp_config` file and the `dhcp_register` file.

        # **cd /opt/SUNWscdhc/util**

   b. Edit the `dhcp_config` file.

        # **vi dhcp_config**

   c. Run the `dhcp_register` file.

        # **./dhcp_register**

5. **Save the Sun Cluster DHCP resource definitions.**

   # `scrgadm -pvv -j` *resource* `>` *file2*

6. **Compare the updated definitions to the definitions that you saved before you updated the resource.**

   Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

   # `diff` *file1 file2*

7. **Amend any resource properties that were reset.**

   # `scrgadm -c -j` *resource* `-x|y` *resource*

8. **Bring online the Sun Cluster DHCP resource.**

   # `scswitch -e -j` *resource*

Sun Cluster Data Service for Oracle E-Business Suite Guide for Solaris OS

Instructions for upgrading Sun Cluster HA for Oracle E-Business Suite are omitted from *Sun Cluster Data Service for Oracle E-Business Suite Guide for Solaris OS*.

Support for Oracle E-Business Suite v11.5.9 is introduced in Sun Cluster 3.1 9/04. Oracle E-Business Suite v11.5.9 introduces the hostname within some path names. If you are upgrading to Oracle E-Business Suite v11.5.9, you must upgrade Sun Cluster HA for Oracle E-Business Suite for use with Oracle E-Business Suite v11.5.9.

Upgrading Sun Cluster HA for Oracle E-Business Suite involves the following tasks:

1. Removing and reregistering resources for the following server components of Oracle E-Business Suite:

   - Concurrent Manager Server
   - Forms Server
   - Reports Server

2. Removing and reregistering resources for the following listener components of Oracle E-Business Suite:

   - Oracle Listener
   - Concurrent Manager Listener

3. Bringing online resources for Sun Cluster Oracle E-Business Suite

▼ How to Remove and Reregister a Resource for an Oracle E-Business Suite Server Component

Perform this task for each server resource that you must remove and reregister, namely:

- Concurrent Manager Server resource
- Forms Server resource
- Reports Server resource

Steps   **1. Save the definition of the Oracle E-Business Suite sever resource.**

```
# scrgadm -pvv -j resource > file1
```

2. Disable the Oracle E-Business Suite sever resource.

```
# scswitch -n -j resource
```

3. Remove the Oracle E-Business Suite sever resource.

```
# scrgadm -r -j resource
```

4. Configure and register the Oracle E-Business Suite server resource.

a. Go to the directory that contains the configuration file and the registration file for the resource.

```
# cd /opt/SUNWscebs/prefixutil
```

b. Edit the configuration file for the resource.

```
vi prefix_config
```

c. Run the registration file for the resource.

```
# ./prefix_register
```

prefix denotes the server to which the file applies, as follows:

- cmg denotes the Concurrent Manager Server.
- frm denotes the Forms Server.
- rep denotes the Reports Server .

5. Compare the updated definitions to the definitions that you saved before you updated the resource.

Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

```
# scrgadm -pvv -j resource > file2
# diff file1 file2
```

6. Amend any resource properties that were reset.

```
# scrgadm -c -j <resource>-x | y <resource>
```

▼ How to Remove and Reregister Resources for Oracle E-Business Suite Listener Components

This task removes and reregisters all the listener resources that you must remove and reregister, namely:

- Oracle Listener resource
- Concurrent Manager Listener resource

Note – These resources are instances of the SUNW.oracle_listener resource type. For information about this resource type, see *Sun Cluster Data Service for Oracle Guide for Solaris OS*.

Steps **1. Disable and remove the Sun Cluster Oracle E-Business Suite listener resources.**

```
# scswitch -n -j resource
# scrgadm -r -j resource
```

2. Create a resource for the Oracle E-Business Suite Oracle Listener.

In the following example, the copy_env script is used to copy the PROD.env file to PROD_ha.env and to format the PROD_ha.env file. The PROD_ha.env is specified for the User_env extension property of the Oracle Listener resource.

```
# grep PROD.DBS_ORA816= /var/tmp/config.txt
PROD.DBS_ORA816=/global/mnt10/d02/oracle/proddb/8.1.7
#
# cd /opt/SUNWscebs/cmg/util
#
# ./copy_env /global/mnt10/d02/oracle/proddb/8.1.7 PROD
#
# scrgadm -a -j Oracle-E-Business-Suite-ORALSR-resource \
-t SUNW.oracle_listener  \
-g  Oracle-E-Business-Suite-failover-resource-group\
-x Listener_name=PROD\
-x ORACLE_HOME=/global/mnt10/d02/oracle/proddb/8.1.7 \
-x User_env=/global/mnt10/d02/oracle/proddb/8.1.7/PROD_ha.env
#
# scswitch -e -j Oracle-E-Business-Suite-ORALSR-resource
```

3. Create a resource for the Oracle E-Business Suite Concurrent Manager Listener.

In the following example, the copy_env script is used to copy the PROD.env file to PROD_ha.env and to format the PROD_ha.env file. The PROD_ha.env is specified for the User_env extension property of the Concurrent Manager Listener resource.

```
# grep PROD.CON_ORA806= /var/tmp/config.txt
PROD.CON_ORA806=/global/mnt10/d01/oracle/prodora/8.0.6
#
# cd /opt/SUNWscebs/cmg/util
#
```

```
# ./copy_env /global/mnt10/d01/oracle/prodora/8.0.6 PROD
#
# scrgadm -a -j Oracle-E-Business-Suite-CMGLSR-resource \
-t SUNW.oracle_listener  \
-x Listener_name=APPS_PROD\
-x ORACLE_HOME=/global/mnt10/d01/oracle/prodora/8.0.6 \
-x User_env=/global/mnt10/d01/oracle/prodora/8.0.6/PROD_ha.env
#
# scswitch -e -j Oracle-E-Business-Suite-CMGLSR-resource
```

▼ How to Bring Online Resources for Sun Cluster Oracle E-Business Suite

Step ● **For each resource that you are bringing online, type the following command.**

```
# scswitch -e -j <resource>
```

Sun Cluster Data Service for Samba Guide for Solaris OS

Instructions for upgrading Sun Cluster HA for Samba are omitted from *Sun Cluster Data Service for Samba Guide for Solaris OS*.

▼ How to Upgrade Sun Cluster HA for Samba

As a result of bug fixes, the configuration of Sun Cluster HA for Samba has changed. If you are running Sun Cluster HA for Samba, you must remove and reregister the resources for the following components of Sun Cluster HA for Samba.

- Samba component
- Winbind component

Perform this task for each Samba resource that you must remove and reregister.

Steps 1. **Save the resource definitions.**

```
# scrgadm -pvv -j resource > file1
```

2. **Disable the resource.**

```
# scswitch -n -j resource
```

3. **Remove the resource.**

```
# scrgadm -r -j resource
```

4. **Configure and register the resource.**

   a. **Go to the directory that contains the configuration file and the registration file for the resource.**

      # **cd /opt/SUNWscsmb/***prefix***util**

   b. **Edit the configuration file for the resource.**

      vi *prefix*_**config**

   c. **Run the registration file for the resource.**

      # **./***prefix*_**register**

   prefix denotes the component to which the file applies, as follows:

   - `samba` denotes the Samba component.
   - `winbind` denotes the Winbind component.

5. **Save the resource definitions.**

   # **scrgadm -pvv -j** *resource* **>** *file2*

6. **Compare the updated definitions to the definitions that you saved before you updated the resource.**

   Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

   # **diff** *file1 file2*

7. **Amend any resource properties that were reset.**

   # **scrgadm -c -j** *resource* **-x|y** *resource*

8. **Bring online the resource.**

   # **scswitch -e -j** *resource*

Sun Cluster Data Service for WebSphere MQ Guide for Solaris OS

Instructions for upgrading Sun Cluster HA for WebSphere MQ are omitted from *Sun Cluster Data Service for WebSphere MQ Guide for Solaris OS*.

Additional configuration parameters for Sun Cluster HA for WebSphere MQ are introduced in Sun Cluster 3.1 9/04, as explained in the subsections that follow. If you need to modify the default value of a parameter, or set a value for a parameter without a default, you must upgrade Sun Cluster HA for WebSphere MQ.

Parameters for Configuring the MQ User

The following parameters for configuring the MQ user are introduced in Sun Cluster 3.1 9/04. Default values are defined for theses parameters.

CLEANUP=YES   Specifies that unused shared memory segments that `mqm` creates are to be deleted.

USERID=mqm   Specifies that user ID `mqm` is to be used to issue `mq` commands.

Parameters for Configuring `XAResourceManager` Processing

`XAResourceManager` processing enables WebSphere MQ to manage global units of work with any combination of the following databases:

- DB2
- Oracle
- Sybase

The following parameters for configuring `XAResourceManager` processing are introduced in Sun Cluster 3.1 9/04. Null values are defined for these parameters.

DB2INSTANCE=*name*   Specifies the DB2 instance name for `XAResourceManager`.

ORACLE_HOME=*directory*   Specifies the Oracle home directory for `XAResourceManager`.

ORACLE_SID=*identifier*   Specifies the Oracle SID for `XaResourceManager`.

Parameters for Enabling Sun Cluster to Manage the Startup of WebSphere MQ Queue Manager

You might deploy a WebSphere MQ queue manager's `qmgr` files and log files on a global file system. In this situation, rename the `strmqm` program and the `endmqm` program to prevent the queue manager from being manually started on another node. If you rename these programs, the Sun Cluster framework manage the startup of WebSphere MQ queue manager. For more information, see *Sun Cluster Data Service for WebSphere MQ Guide for Solaris OS*.

The following parameters for enabling Sun Cluster to manage the startup of WebSphere MQ queue manager are introduced in Sun Cluster 3.1 9/04. Null values are defined for these parameters.

START_CMD=*start-program*   Specifies the full path name and filename of the renamed `strmqm` program.

STOP_CMD=*stop-program*   Specifies the full path name and filename of the
                                 renamed `endmqm` program.

▼ How to Upgrade Sun Cluster HA for WebSphere MQ

If you need to modify the default value of a parameter, or set a value for a parameter
without a default, you must remove and reregister the Sun Cluster HA for WebSphere
MQ resource for which you are changing the parameter.

Only the USERID=mqm applies to the resources for all components, namely:

- Queue Manager component
- Channel Initiator component
- Command Server component
- Listener component
- Trigger Monitor component

The remaining parameters that are introduced in Sun Cluster 3.1 9/04 apply only to
the resource for the Queue Manager component.

Perform this task for each WebSphere MQ resource that you are modifying.

Note – Perform this task *only* if you are setting or modifying parameters that are
introduced in Sun Cluster 3.1 9/04.

Steps   1. Save the resource definitions.

   # **scrgadm -pvv -j** *resource* **>** *file1*

2. Disable the resource.

   # **scswitch -n -j** *resource*

3. Remove the resource.

   # **scrgadm -r -j** *resource*

4. Configure and register the resource.

   **a. Go to the directory that contains the configuration file and the registration file
      for the resource.**

      # **cd /opt/SUNWscmqs/***prefix***util**

   b. Edit the configuration file for the resource.

      vi *prefix*_**config**

c. **Run the registration file for the resource.**

   # *./prefix*_**register**

prefix denotes the component to which the file applies, as follows:

- `mgr` denotes the Queue Manager component.
- `chi` denotes the Channel Initiator component.
- `csv` denotes the Command Server component.
- `lsr` denotes the Listener component.
- `trm` denotes the Trigger Monitor component.

Note – Only the `mgr_config` file contains all the parameters that are introduced in Sun Cluster 3.1 9/04. The remaining files contain only the `USERID=mqm` parameter.

---

5. **Save the resource definitions.**

   # **scrgadm -pvv -j** *resource* **>** *file2*

6. **Compare the updated definitions to the definitions that you saved before you updated the resource.**

   Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

   # **diff** *file1 file2*

7. **Amend any resource properties that were reset.**

   # **scrgadm -c -j** *resource* **-x|y** *resource*

8. **Bring online the resource.**

   # **scswitch -e -j** *resource*

Sun Cluster Data Service for WebSphere MQ Integrator Guide for Solaris OS

Instructions for upgrading Sun Cluster HA for WebSphere MQ Integrator are omitted from *Sun Cluster Data Service for WebSphere MQ Integrator Guide for Solaris OS*.

Additional configuration parameters for Sun Cluster HA for WebSphere MQ Integrator are introduced in Sun Cluster 3.1 9/04. If you need to set a value for a parameter, you must upgrade Sun Cluster HA for WebSphere MQ Integrator.

You might deploy a WebSphere MQ queue manager's `qmgr` files and log files on a global file system. In this situation, rename the `strmqm` program and the `endmqm` program to prevent the queue manager from being manually started on another node. If you rename these programs, the Sun Cluster framework manage the startup of WebSphere MQ queue manager. For more information, see *Sun Cluster Data Service for WebSphere MQ Guide for Solaris OS*.

The following parameters for enabling Sun Cluster to manage the startup of WebSphere MQ queue manager are introduced in Sun Cluster 3.1 9/04. Null values are defined for these parameters.

`START_CMD=`*start-program*	Specifies the full path name and filename of the renamed `strmqm` program.
`STOP_CMD=`*stop-program*	Specifies the full path name and filename of the renamed `endmqm` program.

▼ How to Upgrade Sun Cluster HA for WebSphere MQ Integrator

If you need to set a value for a parameter , you must remove and reregister the Sun Cluster HA for WebSphere MQ Integrator resource for which you are changing the parameter.

The parameters that are introduced in Sun Cluster 3.1 9/04 apply to the resources for all components, namely:

- Broker component
- User Name Server component

Perform this task for each WebSphere MQ Integrator resource that you are modifying.

Note – Perform this task *only* if you are setting or modifying parameters that are introduced in Sun Cluster 3.1 9/04.

Steps   **1. Save the resource definitions.**

    # **scrgadm -pvv -j** *resource* **>** *file1*

2. Disable the resource.

    # **scswitch -n -j** *resource*

3. Remove the resource.

    # **scrgadm -r -j** *resource*

4. **Configure and register the resource.**

   a. **Go to the directory that contains the configuration file and the registration file for the resource.**

      ```
      # cd /opt/SUNWscmqi/prefixutil
      ```

   b. **Edit the configuration file for the resource.**

      ```
      vi prefix_config
      ```

   c. **Run the registration file for the resource.**

      ```
      # ./prefix_register
      ```

   prefix denotes the component to which the file applies, as follows:

   - `sib` denotes the Broker component.
   - `siu` denotes the User Name Server component.

5. **Save the resource definitions.**

   ```
   # scrgadm -pvv -j resource > file2
   ```

6. **Compare the updated definitions to the definitions that you saved before you updated the resource.**

   Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

   ```
   # diff file1 file2
   ```

7. **Amend any resource properties that were reset.**

   ```
   # scrgadm -c -j resource -x|y resource
   ```

8. **Bring online the resource.**

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

Man Pages

This section discusses errors and omissions from the Sun Cluster man pages.

Sun Cluster 3.0 Data Service Man Pages

To display Sun Cluster 3.0 data service man pages, install the latest patches for the Sun Cluster 3.0 data services that you installed on Sun Cluster 3.1 9/04 software. See for more information.

After you have applied the patch, access the Sun Cluster 3.0 data service man pages by issuing the `man -M` command with the full man page path as the argument. The following example opens the Apache man page.

```
% man -M /opt/SUNWscapc/man SUNW.apache
```

Consider modifying your `MANPATH` to enable access to Sun Cluster 3.0 data service man pages without specifying the full path. The following example describes command input for adding the Apache man page path to your `MANPATH` and displaying the Apache man page.

```
% MANPATH=/opt/SUNWscapc/man:$MANPATH; export MANPATH
% man SUNW.apache
```

SUNW.wls(5)

There is an error in the See Also section of this man page. Instead of referencing the Sun Cluster 3.1 Data Services Installation and Configuration Guide, you should reference the *Sun Cluster Data Service for WebLogic Server Guide for Solaris OS*.