



# System Management Services (SMS) 1.3 Release Notes

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# Preface

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This guide contains release notes for the System Management Services (SMS) 1.3 software.

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## Before You Read This Book

This guide is intended for the Sun Fire system administrator, who has a working knowledge of UNIX® systems, particularly those based on the Solaris™ operating environment. If you do not have such knowledge, read the Solaris User and System Administrator documentation provided with this system, and consider UNIX system administration training.

All members of the next-generation Sun Fire server family can be configured as loosely-coupled clusters. However, it is currently outside of the scope of this document to address system management for Sun Fire cluster configurations.

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## How This Book Is Organized

This guide contains the following information:

Chapter 1 contains the SMS 1.3 Release Notes.

Chapter 2 contains SMS 1.3 bugs, RFEs and other bugs.

Chapter 3 contains the Dynamic Reconfiguration release notes and bugs.

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# Using UNIX Commands

This document may not contain information on basic UNIX commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- Online documentation for the Solaris software environment
- Other software documentation that you received with your system

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# Typographic Conventions

| Typeface or Symbol | Meaning  | Examples   |
|--------------------|--|--|
| AaBbCc123          | The names of commands, files, and directories; on-screen computer output   | Edit your <code>.login</code> file.<br>Use <code>ls -a</code> to list all files.<br>% You have mail.                                       |
| <b>AaBbCc123</b>   | What you type, when contrasted with on-screen computer output  | % <b>su</b><br>Password:   |
| <i>AaBbCc123</i>   | Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values. | Read Chapter 6 in the <i>User's Guide</i> .<br>These are called <i>class</i> options.<br>To delete a file, type <code>rm filename</code> . |



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# Shell Prompts

| Shell                                 | Prompt  |
|---------------------------------------|---|
| C shell                               | <i>sc_name</i> : sms-user: > or<br><i>domain_id</i> : sms-user: > |
| C shell superuser                     | <i>sc_name</i> :# or <i>domain_id</i> : #                         |
| Bourne shell and Korn shell           | >   |
| Bourne shell and Korn shell superuser | #   |

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# Related Documentation

| Application         | Title  | Part Number |
|---------------------|--|-------------|
| Administrator Guide | <i>System Management Services (SMS) 1.3 Administrator Guide</i>                | 816-5318-10 |
| Reference (man1M)   | <i>System Management Services (SMS) 13 Reference Manual</i>                    | 816-5319-10 |
| Overview Guide      | <i>Sun Fire 15K/12K Software Overview Guide</i>                                | 816-5322-10 |
| Options             | <i>System Management Services (SMS) 1.3 Dynamic Reconfiguration User Guide</i> | 816-7723-10 |
|                     | <i>Sun Fire 15K/12K Dynamic Reconfiguration User Guide</i>                     | 816-5075-12 |
|                     | <i>Sun Fire 15K/12K System Site Planning Guide</i>                             | 816-4278-10 |
|                     | <i>OpenBoot™ 4.x Command Reference Manual</i>                                  | 816-1177-10 |

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# System Management Services (SMS)

## 1.3 Release Notes

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This chapter contains the release notes for System Management Services (SMS) 1.3 on Sun Fire 15K/12K system servers and covers the following topics:

- SMS 1.3 Known Limitations
- General Notes and Issues
- SMS Documentation Notes

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### SMS 1.3 Known Limitations

This section contains known limitations that involve SMS on the Sun Fire 15K/12K system.

- At the time of this release, `setbus -c csb` is the only form of `setbus` that should be used. Using the `-b` option or the `location` operand could result in system instability and should *not* be used.
- Due to the possibility of `dstop` for both domains, do not share expanders between a production domain and a domain containing new or untested privileged mode software such as device drivers. See BugId 4761277.
- Running multiple, concurrent `setkeyswitch standby` or `setkeyswitch off` commands can cause `dstops` for domains sharing expanders. See BugId 4799169.
- hsPCI boards contain one 66 Mhz slot. Do not use a 33Mhz card in that slot unless you are willing to reboot the domain. Refer to BugId 4785070.
- If you return to SMS 1.2 from SMS 1.3 on the Sun Fire 15K/12K system, `smsversion` does not automatically restore domain configuration settings. This must be done manually. Refer to the “Unconfigured Domains” on page 83 of the *System Management Services (SMS) 1.3 Installation Guide*.

Also, features present in SMS 1.3 but not in SMS 1.2, for example, COD, are no longer supported if you return to SMS 1.2.

- hsPCI+ functionality requires the presence of hsPCI + boards.
- Sun Fire Link clustering functionality, including the Sun Fire Link fabric manager server, requires the presence of wPCI boards.

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## General Notes and Issues

This section contains general notes and issues that involve SMS on Sun Fire 15K/12K system systems.

### Capacity On Demand (COD)

The new Capacity on Demand (COD) option provides additional processing resources that you pay for when you use them. Through the COD option, you receive and install unlicensed CPU/Memory boards. These boards, which are identified as COD CPU/Memory boards, contain four CPUs. However, you do not have the right to use the CPUs on COD CPU/Memory boards until you also purchase the COD right-to-use (RTU) licenses for them. The purchase of a COD RTU license entitles you to receive a license key, which enables the appropriate number of COD processors.

Your Sun Fire 15K/12K system can have any combination of active CPU/Memory boards and COD CPU/Memory boards, up to the maximum capacity allowed for the system. You must have at least one active CPU for each domain in your system.

To get started with COD, review the Capacity on Demand chapter in the *System Management Services (SMS) 1.3 Administrator Guide*. Contact your Sun sales representative or authorized Sun reseller to purchase COD CPU/Memory boards and the appropriate number of COD RTU licenses. After the COD CPU/Memory boards are installed, refer to the Capacity on Demand chapter and also the *System Management Services (SMS) 1.3 Reference Manual* for details on using SMS software to allocate COD RTU licenses, activate COD CPUs, and monitor the COD CPUs used.

### COD-Related SMS Commands

The following commands for COD are new in SMS 1.3:

- `addcodlicense` - Adds a Capacity on Demand (COD) right-to-use (RTU) license key to the COD license database.

- `deletecodlicense` - Removes a COD RTU license key from the COD license database.
- `showcodlicense` - Displays the current COD RTU licenses stored in the COD license database.
- `showcodusage` - Displays the current usage statistics for COD resources.

## Upgrading from COD 1.1

If you are using COD 1.1 and want to use the new COD option with SMS 1.3, contact your Sun sales representative or authorized Sun reseller to arrange the upgrade. Your salesperson will work with your service provider to upgrade your COD 1.1 CPU/Memory boards for use with the COD option in SMS 1.3.

If you want to use the new COD option, you must upgrade your SMS software from SMS 1.2 to SMS 1.3. For details on upgrading the software, refer to the *System Management Services (SMS) 1.3 Installation Guide*.

## System Controller External Network Configuration

Each system controller (SC) must be configured for the TCP/IP network to which it is attached. Refer to the *System Administration Guide: Resource Management and Network Services* of the Solaris 9 System Administrator Collection for details on planning and configuring a TCP/IP-based network. SMS supports both IPv4 and IPv6 configurations.

In this release, the SC supports network connections through the RJ45 jacks on the faceplate of each SC. This corresponds to the network interface `hme0` and `eril` under Solaris software for each SC. You will be required to configure `hme0` or `eril` on each SC with appropriate information for your TCP/IP network. Using this configuration, each SC is known to external network applications by a separate IP hostname and address.



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**Caution** – The IP addresses shown in the `smsconfig` examples in the Sun Fire 15K/12K system documentation are examples only. Always refer to your *Sun Fire 15K/12K System Site Planning Guide* for valid IP addresses for your network. Using invalid network IP addresses could under certain circumstances render your system unbootable!

---

Each SC operates in one of two mutually exclusive modes: main or spare. The SC that is in main mode is the SC that controls the machine. The SC that is in spare mode acts as a spare that automatically takes over if the main SC fails. It is important to know which system controller is the main SC and which is the spare SC. To determine the SC role log in to the SC and use the following command:

```
sc0:sms-user:> showfailover -r
MAIN
```

If you do not configure the external community network, applications such as Sun Management Center, `telnet`, and others will need to be given the appropriate IP `hostname` of the main system controller. In the case of an SC failover, these applications need to be restarted with the IP address of the new main SC.

---

**Note** – Any changes made to the network configuration on one SC using `smsconfig -m` must be made to the other SC as well. Network configuration is not automatically propagated.

---

## System BREAK Sequence

The BREAK sequence to stop the system has been changed from STOP-A to the alternate [RETURN] [TILDE] [CONTROL B] in SMS 1.3 to facilitate failover.

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**Note** – There must be an interval of more than 0.5 seconds between characters, and the entire string must be entered in less than 5 seconds.

---

Solaris 8 introduced this new feature which gives the system the ability to force a hanging system to halt when required, without allowing random or spurious breaks to cause an unintentional stop. This is true only with serial devices acting as consoles and not for systems with keyboards of their own.

The following line is uncommented by default in SMS 1.3 in the `/etc/default/kbd` file:

```
KEYBOARD_ABORT=alternate
```

---

**Note** – Do not return the use of STOP-A to the system. Your system will lose failover functionality.

---

# IPSec Configuration

Disks intended to be used on a Sun Fire 15K/12K system must be installed using a Sun Fire 15K or Sun Fire 12K machine. Policy placed in `/etc/inet/inetd.conf` must be added manually to `/etc/inet/ipsecinit.conf` as well.

Whenever policy is taken out of `/etc/inet/inetd.conf` it must be removed manually from `/etc/inet/ipsecinit.conf` also.

Refer to Bug Id 4449848.

## `smsconnectsc` Command

`smsconnectsc` is intended to be used in the event a remote SC hangs and cannot be accessed normally through `login`. Using `smsconnectsc` to create a remote console session from the local SC can result in the local SC losing monitoring capability and functionality. Do *not* use `smsconnectsc` except for the express purpose of system recovery.

## Reinstallation and Upgrade

Previous versions of SMS documented the use of the Java™ WebStart GUI and the `pkgadd` command to install the SMS packages on to the Sun Fire 15K/12K system. SMS 1.3 introduces the `smsinstall` and `smsupgrade` scripts which simplify and streamline the installation and upgrade process to the extent that WebStart and `pkgadd` are no longer recommended or documented. Because of the complexity of configuration for SMS, do *not* use any method other than the ones documented in the *System Management Services (SMS) 1.3 Installation Guide* to install or upgrade SMS 1.3. Doing so could result in misconfiguration and loss of functionality.

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## SMS Documentation Notes

This section contains documentation notes that involve SMS on the Sun Fire 15K/12K system.

## Part Numbers

Software documentation for this release is provided at:

[http://www.sun.com/products-n-solutions/hardware/docs/Servers/High-End\\_Servers/Sun\\_Fire\\_15K](http://www.sun.com/products-n-solutions/hardware/docs/Servers/High-End_Servers/Sun_Fire_15K)

These files are named by part number. For your convenience, here are the associated document titles:

816-5318-10.pdf - *System Management Services (SMS) 1.3 Administrator Guide* (replaces 816-5259-10)

816-5319-10.pdf - *System Management Services (SMS) 1.3 Reference Manual* (replaces 816-5260-10)

816-5320-10.pdf - *System Management Services (SMS) 1.3 Installation Guide* (replaces 816-5261-10)

816-5321-10.pdf - *System Management Services (SMS) 1.3 Release Notes* (replaces 816-5261-10)

816-5322-10.pdf - *Sun Fire 15K/12K Software Overview Guide* (replaces 816-4858-11)



## SMS 1.3 Bugs

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This section contains known SMS 1.3 bug and request for enhancement (RFE) information as well as information on other bugs known to affect SMS 1.3.

This chapter includes:

- SMS 1.3 Software Bugs/RFEs
  - Other Bugs
- 

### SMS 1.3 Software Bugs/RFEs

This section contains the synopses and Sun BugId number of the more important bugs or RFEs that have been discovered regarding SMS 1.3. This list does not include all bugs and RFEs.

#### dsmd Logs Spurious Timeout Message While Domain is Running POST (BugId 4709190)

When recovering from a panic followed by a `dstop`, or from an emergency `esmd` shutdown, `dsmd` might log messages like the following:

```
Aug 29 18:29:40 2001 xc46-scl dsmd[16345]-A(): [2502
202120580239855 ERR STCDirector.cc 494] OBP initialization timed
out in state OBP/PRERUN/NULL
Aug 29 18:32:35 2001 xc46-scl dsmd[16345]-A(): [0 202295223111371
NOTICE STCDirector.cc 87] Domain state changed to 20290/17/0 right
after timeout.
```

However, no timeout has actually occurred.

*Workaround:* Ignore messages.

## scman Can't Detect the Change of Active Path (BugId 4737187)

After MAIN SC starts, the active path can change due to a timeout in the Solaris software. If active path is set to other than the interface associated with G-IOSRAM, the domain fails 'boot man-net'.

*Workaround:* Set the active path of scman0 to the interface associated with G-IOSRAM and boot man-net -s again.

## IOSRAM Console Slow Speed Leads to Console Data Being Lost (BugId 4750509)

A timeout problem can occur when using the domain console program to communicate with the domain in IOSRAM mode, that is, before Solaris has started up. As a result, short sections of output can be omitted from the console command output and domain console log.

*Workaround:* The console switches into "Network" mode shortly after Solaris boots, and the problem goes away.

## Steering Control Confused When smsconnectsc Executed on the Spare SC (BugId 4776482)

smsconnectsc is intended for use in recovering hung SCs and not for daily operation. Use of this command when an external console connection is connected to the SC can possibly result in a disruption of the internal network. When the smsconnectsc command is executed it grabs control of the I<sup>2</sup>C bus. If the command is run on the spare it takes control of the I<sup>2</sup>C from the main SC. Control is never returned to the main SC.

*Workaround:* Do not run smsconnectsc on the spare SC.

## Intermittent Incoming Mailbox Failures Cause DR Operations to Fail (BugId 4778572)

This error can occur in the small window right after OS reboot before the DR daemons have started. The DR command fails and error message 1141 is printed to the platform log.

*Workaround:* Restart the script or re-execute the command. In an automated script, look for the console login prompt before executing DR commands.

## Empty IO Slots are Shown as hsPCI after hpost Finishes (BugId 4783670)

The `hpost` report is slightly misleading. To see this bug you have to remove a board, have that board listing in a domain, boot the domain, and look at the `hpost` report. The domain boots and work correctly if there are enough working boards.

*Workaround:* None.

## SC Clocks are Out of Phase Lock If the Spare SC is at the OBP Prompt (BugId 4783775)

After upgrade, if the spare SC is at the OBP prompt, you will see `esmd` messages indicating the SC clocks are out of phase in the platform logs.

*Workaround:* To stop the messages, boot the spare SC.

## Intermittent I<sup>2</sup>C Timeouts (1124) for Hpc3130 Cassette Status (BugId 4785961)

Intermittent I<sup>2</sup>C timeouts are reported by `dxs` and `frad` while getting the status for an Hpc3130 hsPCI cassette. The impact is benign and limited to generating error messages in the platform, domain and domain console message logs.

*Workaround:* None.

## HASRAM test/communication Fails During POST of First Domain (BugId 4789435)

When the first domain is posted, it resets the console bus on the expander. HASRAM communication requires that path to work, so the HASRAM test fails. If the I2 net is down then failover fails until the next iteration of the test. This is not likely to happen very often and will only result in a few error messages, or failover being failed for about one minute.

*Workaround:* None.

## When an SC is Removed `esmd` Keeps Trying to Access Data From SCPER (BugId 4789560)

When the new spare SC is removed after a forced failover read time out error messages are posted to the message logs until they reach the limit and then a new message declaring the limit is posted and the condition is no longer monitored.

*Workaround:* Ignore the messages.

## When an SC is Removed `frad` Keeps Trying to Access Data From SCPER (BugId 4789565)

When the new spare SC is removed after a forced failover read time out error messages are posted to the message logs until they reach the limit and then a new message declaring the limit is posted and the condition is no longer monitored.

*Workaround:* Ignore the messages.

## If Platform Name Begins with a Digit, `mand` Fails to Start (BugId 4790002)

The platform name configured using the `smsconfig -m` command must begin with an alpha character. If you use a numeric or special character, `mand` will not start and errors are posted to the platform message log.

*Workaround:* Begin your platform name with an alpha character.

## Removing sun-dr Entries in /etc/inet/inetd.conf May Cause Network or Domain to Hang (BugId 4791943)

dcslisten on the network service labeled sun-dr. Its underlying protocol is TCP, and it is invoked as an inetd server using the TCP transport. The entries for the DCS in the /etc/inet/inetd.conf file are as follows:

```
sun-dr stream tcp wait root /usr/lib/dcs dcs
sun-dr stream tcp6 wait root /usr/lib/dcs dcs
```

These entries enable remote DR operations. Removing them does not negatively impact the server; however, all DR operations initiated from a remote host would fail.

*Workaround:* Removing these entries requires you also to remove the corresponding entries in the /etc/inet/ipsecinit.conf file:

```
{ dport sun-dr ulp tcp } permit { auth_algs md5 }
{ sport sun-dr ulp tcp } apply { auth_algs md5 sa unique }
```

## Sometimes the Failover Mechanism is Not Automatically Disabled After a Failover (BugId 4792450)

After a failover or takeover occurs, failover should be DISABLED until you manually enable it. In about 1 out of 15 failovers (i.e., about 8% of the time), failover will remain enabled after the failover.

*Workaround:* No workaround is necessary. However, failover can be disabled by running `setfailover off` on the new main SC.

## showenvironment Tries to Run on the Spare SC (BugId 4793237)

showenvironment should only run on the main SC. It tries to run on the spare SC before exiting with the correct error message.

*Workaround:* None.

## setbus Attach-ready Message is Truncated If the Message is Too Long (BugId 4793542)

The `setbus` command output includes a warning about attach-ready information being lost if there are boards that are powered on but not active in a domain. That message is truncated if the display output is too long.

*Workaround:* None. The display should read as shown in the example below:

```
sc0:sms-user:> setbus -c CS0
The following boards are powered on but are not active in a domain:
SB13
IO9 assigned to domain J
IO16 assigned to domain Q
SB17
These boards will be reset, and any attach-ready state will be
lost.
Are you sure you want to continue the reconfiguration? [y|n]:y
```

## hwad Proxy Call Error Messages in the Platform Log (BugId 4793662)

From time to time when a domain is brought up, the platform logs contain errors from `frad` and `hwad` regarding the HWAD proxy calls. For example:

```
Dec 13 11:38:09 2002 dr3-sc0 hwad[399]: [1124 8306910789055 ERR
I2cComm.cc 557] I2c write time out - bus: 50, address: 54
Dec 13 11:38:09 2002 dr3-sc0 frad[431]: [9916 8306913978761 ERR
SeepromInfoPro.cc 2043] Seeprom Info HWAD proxy call failed on C5V
at IO2/C5V0, ecode: 1124 for client 1006
Dec 13 11:38:09 2002 dr3-sc0 frad[431]: [9942 8306915016941 ERR
FRUData.cc 754] Failed to read packet SD/ManR on C5V at IO2/C5V0
```

*Workaround:* As long as the domain comes up without other errors, these messages can be ignored.

## Unable to Activate Secure Shell on SC0 (BugID 4796675)

The command `smsconfig -s ssh` may fail the first time it is run on SC0 and display the following error message.

```
# /opt/SUNWSMS/bin/smsconfig -s ssh
Enabling ssh...
Password/passphrase authentication can be ignored
/usr/bin/ssh: Permission denied.
/usr/bin/ssh is not enabled.
```

This problem only affects SC0.

*Workaround:* First, run `smsconfig -s ssh` on SC1 and make sure there are no errors. Then, log in to SC0 as root, and run the following command:

```
# awk '/SC1-I2/{print $3,"root"}' /etc/opt/SUNWSMS/config/MAN.cf
> /var/opt/SUNWSMS/data/.remotesc
```

## setkeyswitch standby/off Causes Exp-Global dstops; POST Fails When Using Split Config (BugId 4799169)

Concurrent `setkeyswitch standby` or `setkeyswitch off` commands can cause `dstops` on domains sharing an expander. POST can subsequently fail and require a manual reboot of the affected domain.

*Workaround:* Do not run concurrent `setkeyswitch standby` or `off` commands for domains in a split slot expander configuration.

## Testboard Failed -- dxs Can tmd Enqueue the Wrong EXB for IO Board Test Memory (BugId 4801180)

Concurrent DR commands that create split slot configurations can fail due to locking problems.

*Workaround:* Repeat the DR command until successful.

## Management Network (MAN) Bugs

This section contains the synopses and Sun BugId number of the more important bugs that have been discovered regarding MAN. This list does not include all bugs

### MAN Driver Error Message During Net Install (BugId 4368815)

While net booting a domain using the SC as the install server, and going over the MAN, the following error is displayed while the Solaris software is coming up:

```
ifconfig: setifflags: SIOCSLIFFLAGS: er1: Cannot assign requested address
```

*Workaround:* Ignore it.

### MAN Driver Configuration Function Should Live in sysidtool Framework (BugId 4469050)

If sys-unconfig is run on a domain preconfigured with Solaris software, the /etc/hostname.dman0 files are lost. They are not be recreated on a reconfiguration boot and the MAN network between the SC and the domain does not come up.

*Workaround:* Refer to “Unconfigured Domains” on page 83 of the *System Management Services (SMS) 1.3 Installation Guide*.

### Domain MAN Configuration Problem When Booted with Another Domain’s Boot Disk (BugId 4482112)

If a boot disk which was installed on another domain is used to boot a domain, then dman0 interface on the domain will be configured with wrong IP address.

*Workaround:* Refer to “Unconfigured Domains” on page 83of the *System Management Services (SMS) 1.3 Installation Guide*.



## MAN I1 Network IP Address of an Installed Domain Using `smsconfig -m` Does Not Reflect Changes on the Domain (BugId 4484851)

If there are already installed domains and you have changed the MAN I1 network configuration using `smsconfig -m` then you will need to configure the MAN network information on the already installed domains by hand.

*Workaround:* Refer to “Unconfigured Domains” on page 83 of the *System Management Services (SMS) 1.3 Installation Guide*.

---

## Other Bugs

This section contains the synopses and Sun BugId number of the more important bugs that have been discovered affecting the Sun Fire 15K/12K system. This list does not include all bugs.

### ohci Driver Does Not Receive SOF Interrupts (BugId 4485012)

A message similar to the following may appear while the SC or a Sun Fire 15K domain is being booted:

```
WARNING: <device_tree_path> (ohci0): No SOF interrupts (refer to ohci(7D))
```

This warning comes from a driver in Solaris that is not used by the Sun Fire 15K server. However, it does indicate that the OpenHCI driver has disabled this interface because of the missing interrupts and, as a result, no USB devices will work on either the SC or the domains. This bug also significantly increases boot time for the SC and domains.

Currently, no workaround to this bug has been found. However, adding the following line to the `/etc/system` file on the SC and on each domain suppresses the error message and slightly reduces the boot duration:

```
exclude: drv/ohci
```

### Unable to Modify I2 Active Pathway Configuration With Latest eri Patches Installed (BugId 4742858)

Running the following command on SC0 has no effect .

```
sc0:# ndd -set /dev/scman man_set_active_path 'path_id'
```

where:

*path\_id* is the adapter 0(hme0) or 1(eri1)

*Workaround:* To modify the I2 network active path way run the `ndd` command on SC1.

## Unmapped Response to Non-cacheable Request Corrupts State in AXQ Lock Module (BugId 4761277)

If two domains share an expander and a device driver (or OS extension) on one domain issues a bad address to programmed IO space, both domains could `dstop`. This only occurs with defective OS extensions which run in privileged mode such as device drivers.

*Workaround:* Do not share an expander between a production domain and a domain containing untested or problematic privileged mode software such as device drivers.

## Hotplug Failed When 33 Mhz Capable Cards Inserted Into 66 Mhz Empty Slots (BugId 4785070)

Hotplugging a 33 mhz card into the 66 mhz slot does not work without rebooting the domain.

*Workaround:* Use the 33 mhz slot instead or reboot the domain.

## SF15K Platform Specific Begin/Finish Scripts Can Hang on HPCI+ Only Domains (BugId 4797577)

The Solaris 8 Update 7 operating environment does not include support for hsPCI+ boards. In domains consisting of only hsPCI+ boards, the installation can hang after the start of the Begin/Finish scripts.

*Workaround:*

Press `Ctrl-C` to interrupt the Begin/Finish scripts. This will let the rest of the installation continue, resulting in successful installation.

---

**Note** – The MAN interface (dman0) may not be configured. In order to configure the MAN interface (dman0), please follow the steps documented in the "Unconfigured Domains" section of *System Management Services (SMS) 1.3 Installation Guide*.

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# Dynamic Reconfiguration Release Notes

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This section describes known limitations and known bugs of the Dynamic Reconfiguration feature on Sun Fire 15K and Sun Fire 12K servers as of the SMS 1.3 software release. It includes information about domains running the Solaris 8 and Solaris 9 operating environments.

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**Note** – This information is correct as of the printing date of this document. For the latest information please also check the [http://www.sun.com/servers/highend/dr\\_sunfire/software.html](http://www.sun.com/servers/highend/dr_sunfire/software.html) webpage, which contains a list of the latest DR patches.

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This chapter contains the following sections:

- Known Limitations
  - SMS-side Limitations
  - Domain-side Limitations
- General Information
- DR Documentation Notes
- Known Bugs
  - SMS-side Bugs
  - Domain-side Bugs
- Hardware Bugs

---

## Known Limitations

This section contains known limitations that involve DR on the Sun Fire 15K/12K system.

### SMS-side Limitations

None at this time.

### Domain-side Limitations

None at this time.

---

## General Information

This section contains general information that involves DR for SMS 1.3 and the Sun Fire 15K/12K system.

- Sun Fire 15K and Sun Fire 12K servers support up to 18 expander boards, each of which includes two slots. Slot 0 is the upper assembly, which contains a CPU/Memory board, and Slot 1 is the lower assembly. At the time of this publication, Slot 1 could contain either a MaxCPU board or a hsPCI assembly.
- In previous releases, Sun Fire 15K and Sun Fire 12K servers did not support DR operations on a board in Slot 1. This restriction has been lifted for domains running Solaris 8 with certain patches on systems running SMS 1.3 software. DR operations on a board in Slot 1 are not supported on systems running SMS 1.2. For more information and the necessary Solaris 8 patch numbers, see [http://www.sun.com/servers/highend/dr\\_sunfire](http://www.sun.com/servers/highend/dr_sunfire).

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## DR Documentation Notes

The document titled *Sun Fire 15K/12K Dynamic Reconfiguration Release Notes* is now retired. The information it contained is included in this chapter of the *System Management Services (SMS) 1.3 Release Notes*. As noted above, be sure to also see the latest edition of the *Solaris 9 x/xx Release Notes Supplement*, which accompanies each Solaris release and update; and the [http://www.sun.com/servers/highend/dr\\_sunfire](http://www.sun.com/servers/highend/dr_sunfire) webpage.

## Part Numbers

DR documentation for this release is provided at:

[http://www.sun.com/products-n-solutions/hardware/docs/Servers/High-End\\_Servers/Sun\\_Fire\\_15K](http://www.sun.com/products-n-solutions/hardware/docs/Servers/High-End_Servers/Sun_Fire_15K)

These files are named by part number. For your convenience, here are the associated document titles:

816-7723-10.pdf - *System Management Services (SMS) 1.3 Dynamic Reconfiguration User Guide* (replaces 816-5076-10).

816-5075-12.pdf - *Sun Fire 15K/12K Dynamic Reconfiguration User Guide* (replaces 816-5075-11).

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## Known Bugs

This section contains known bugs that involve DR on the Sun Fire 15K/12K system.

### SMS-side Bugs

#### **dca Doesn't Detect Failed Network Connection (BugId 4628314)**

DCA doesn't detect a failed network connection, which can cause a DR command to hang.

*Workaround:* Kill any of the following remote DR commands that appear to be hung: `addboard(1M)`, `moveboard(1M)`, `deleteboard(1M)`, `rcfgadm(1M)`, or `showdevices(1M)`.

## Domain-side Bugs

### Solaris 8 `xntpd` Runs in RT Class, Which Prevents Copy/Rename DR Operations (BugId 4396562)

In Solaris 8 (this bug does not affect domains running Solaris 9), `xntpd` puts itself into the RT (realtime) scheduling class. This can be advantageous because, while `xntpd` uses very little of the CPU, it is highly time critical and needs to run immediately when it's ready to run. However, DR operations do not suspend the system if a RT process -- such as `xntpd` -- is running.

*Workaround:* Choose the first workaround to avoid the problem, or the second or third (which are DR-specific) to correct it.

- Use the following command to put the `xntpd` into the TS (timeshare) class:

```
prctl -s -c TS -i pid `pgrep xntpd`
```

- Put the following line in the `/etc/system` file:

```
set dr:dr_skip_user_threads = 1
```

- Use the `-f` option to `cfgadm(1M)` to Force the DR operation. This choice works if the operation failed because of the RT thread check.

### The `memscrubber` Process Never Sleeps in a Domain that is Configured With Large Memory (BugId 4647808)

When a domain is configured with a large amount of memory (340GB or more) either at boot time or due to subsequent DR operations, the memory scrubbing thread monopolizes a particular system lock for 60 to 90 minutes once every 12 hours. Any DR operation that attempts to configure or unconfigure memory in the domain during one of these windows hangs until the system lock is released. As long as a DR operation remains hung for this reason, any additional DR operations also hang.



*Workaround:* This problem resolves on its own within 90 minutes. To avoid it, add the following line to the `/etc/system` file prior to booting:

```
set memscrub_span_pages = 0x3000
```

## Certain Gigabit Ethernet Option Cards Are Not Autoconfigured After First DR Add of IO Board (BugId 4698684)

When a DR or hotplug operation is done on a system with one of the following NIC adapters, the network device is not plumbed by default during the first DR/hotplug operation, but is plumbed in subsequent DR/hotplug operations:

- Sun GigaSwift Ethernet UTP, Option X1150A, part number 595-5812
- Gigabit Ethernet 2.0 (GBE/P), Option X1141A, part number 605-1601

This bug affects domains running Solaris 8.

*Workaround:* When these adapters are used, manually plumb the network device during the first DR or hotplug operation.

## Configuring Certain I/O Option Cards May Result in `pci:map-out failed` Message (BugId 4722493)

When a DR or hotplug operation is done on a system with one or more of the following adapters, messages similar to those below may display. The messages are benign and the DR or hotplug operation should complete normally. This bug affects domains running both Solaris 8 and Solaris 9 operating environments.

Adapters:

- Dual FastEthernet + Dual SCSI PCI Adapter, Option X2222A, part number 595-5624
- PCI Dual Fibre Channel Network Adapter+, Option X6727A, part number 595-5853
- PCI Dual Ultra3 SCSI Host Adapter, Option X6758A, part number 595-5945

## Messages:

```
Jul 29 15:39:43 xc15p13-b9 interpreter[435]: pci:map-out: dafc000
not mcookie!
Jul 29 15:39:43 xc15p13-b9 interpreter[435]:
/usr/lib/efcode/sparcv9/interpreter: FC_RUN_PRIV: Priv violation:
map-out ( 4000 3000dafc000 )
Jul 29 15:39:43 xc15p13-b9 interpreter[435]: pci:map-out: failed
```

*Workaround:* Ignore the messages.

## Deleteboard Shows Leakage Error (BugId 4730142)

When a DR command is executing on a system configured with the Freshchoice card (also called SunSwift PCI, Option 1032), the system may display messages similar to the following:

```
Aug 12 12:27:41 machine genunix: WARNING:
vmem_destroy('pcisch2_dvma'): leaked
```

These messages are benign; the DVMA space is properly refreshed during the DR operation. No true kernel memory leak occurs. This bug affects domains running both Solaris 8 and Solaris 9 operating environments.

*Workaround:* No workaround is necessary, but to prevent the message from displaying, add the following line `/etc/system`:

```
set pcisch:pci_preserve_iommu_tsb=0
```

## glm: Hang in `scsi_transport` During DR (BugId 4737786)

A `cfgadm(1M)` unconfigure operation on permanent memory executed on a system with a `glm` driver that is active may hang. The problem is specific to DR operations involving permanent memory, which require that the system be quiesced via `suspend/resume`. The problem lies with the `glm` driver. This bug affects domains running both Solaris 8 and Solaris 9 operating environments.

*Workaround:* Do not unconfigure permanent memory in the system.

# Hardware Bugs

## GigaSwift Ethernet MMF Link Goes Down With CISCO 4003 Switch After DR Attach (BugId 4709629)

Attempting to execute a DR operation on a system with Sun GigaSwift Ethernet MMF Option X1151A, part number 595-5773, attached to certain CISCO switches causes the link to fail. The problem is caused by a known bug in the following CISCO hardware/firmware:

- CISCO WS-c4003 switch (f/w: WS-C4003 Software, Version NmpSW: 4.4(1))
- CISCO WS-c4003 switch (f/w: WS-C4003 Software, Version NmpSW: 7.1(2))
- CISCO WS-c5500 switch (f/w: WS-C5500 Software, Version McpSW: 4.2(1) and NmpSW: 4.2(1))

This problem is not seen on CISCO 6509 switch.

*Workaround:* Use another switch or consult Cisco for a patch.

