Sun™ Fire 15K/12K Dynamic Reconfiguration Installation Guide and Release Notes

Solaris 8 2/02

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Preface

This guide contains instructions for installing the dynamic reconfiguration (DR) software on Sun Fire 15K and Sun Fire 12K systems that are running the Solaris 8 2/02 operating environment; and release notes for DR.

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.

How This Book Is Organized

This guide contains the following chapters:

Chapter 1 describes the initial installation of the dynamic reconfiguration (DR) software on the Sun Fire 15K/12K.

Chapter 2 contains the DR release notes.

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

Typographic Conventions

Typeface or Symbol	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`% su` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type `rm` *filename*.

Shell Prompts

Shell	Prompt
C shell	*sc_name*:*sms-user*`:>` or *domain_id*:*sms-user*`:>`
C shell superuser	*sc_name*:`#` or *domain_id*:`#`
Bourne shell and Korn shell	`>`
Bourne shell and Korn shell superuser	`#`

Related Documentation

Application	Title	Part Number
System Management Services (SMS) 1.2 software for the Sun Fire 15K system	*System Management Services (SMS) 1.2 Dynamic Reconfiguration User Guide*	816-4279-10
Sun Fire 15K DR user information	*Sun Fire 15K Dynamic Reconfiguration User Guide*	816-4278-10
Planning the installation of a Sun Fire 15K	*Sun Fire 15K System Site Planning Guide*	806-3510-10
Installing the Solaris operating environment	*Solaris 8 2/02 Installation Roadmap*	816-2582-10
Sun Fire 15K/12K DR user information	*Sun Fire 15K/12K Dynamic Reconfiguration User Guide*	816-5075-10
System Management Services (SMS) 1.2 software for the Sun Fire 15K/12K systems	*System Management Services (SMS) 1.2 Dynamic Reconfiguration User Guide*	816-5076-10

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CHAPTER 1

Installing Dynamic Reconfiguration (DR) Software on the Sun Fire 15K/12K

This document, which describes installation of the DR software on Sun Fire 15K/12K systems whose domains and system controllers (SCs) are running the Solaris 8 2/02 operating environment, is intended for system administrators who are familiar with the Solaris operating environment.

All patches are available at `http://www.sunsolve.sun.com`.

Note – The patch numbers listed are the most recent versions available when this document was written. Revised versions, which have a higher revision number, should always be used. The revision number is the portion that follows the hyphen. For example, for a patch 1234567-10, the revision number is 10. If a patch 1234567-11 becomes available, use the later (11) version. Additional patches may be required, and additional patches may already be installed on your system.

On Each System Controller

Perform *all* the steps in this section on each SC in the Sun Fire 15K/12K system, one SC at a time.

Note – If you stop both SCs at the same time, all domains will be shut down.

1. Make sure that the the Solaris 8 2/02 operating environment and the System Management Services (SMS) software version 1.2 are both installed on the SC.

For additional information about installing Solaris software, refer to the *Solaris 8 2/02 Installation Roadmap* (part number 816-2582-10). The *System Management Services (SMS) 1.2 Installation Guide and Release Notes for the Sun Fire 15K/12K Systems* (part number 816-4957-10) provides complete instructions for installing SMS software.

2. Stop SMS 1.2 software on the SC.
3. Use the `patchadd`(1M) command to install the following SMS software patches: 112481-01, 112482-01, 112483-03, 112484-01, 112485-01, 112486-01, 112487-01, 112488-03, 112547-01, 112552-01, and 112641-01.
4. Restart SMS software on the SC after the patches are installed.
5. To verify that all the patches have been installed, enter the following command and check its output on the SC: `showrev -p`
6. Repeat the preceding instructions on the other SC.

Note – If you want to run DR from the Sun Management Center (Sun MC) GUI, make sure Sun MC 3.0 Platform Update 4 is installed. The `showrev` command displays the installed version of SunMC

On Each Solaris Domain

1. Make sure the Solaris 8 2/02 software is properly installed on the domain. For additional information about installing Solaris software, refer to the *Solaris 8 2/02 Installation Roadmap* (part number 816-2582-10).
2. First install Solaris patch number 111111-03; then install Solaris software patch 112396-02; finally install patch 108987-09.
3. Next, install the following Solaris software patches in the order shown: 108528-14, 110820-08; 111332-05; 110838-05, and then 111097-08.
4. Install the Sun Fire 15K/12K DR 1.0 patch 111335-12.
5. Reboot the domain after all the patches are installed.

CHAPTER 2

Sun Fire 15K/12K Dynamic Reconfiguration Release Notes

This chapter contains the release notes for Dynamic Reconfiguration (DR) on Sun Fire 15K/12K servers and covers the following topics:

- New Sun Fire System Available
- Known DR Limitations
- Dynamic Reconfiguration (DR) Bugs

New Sun Fire System Available

In addition to the Sun Fire 15K system, dynamic reconfiguration runs on the new Sun Fire 12K system. The Sun Fire 12K system can accommodate up to nine system boards (which are numbered SB0 through SB8, and IO0 through IO8). The following documents provide information about the Sun Fire 12K systems:

System Management Services (SMS) 1.2 Dynamic Reconfiguration User Guide (part number 816-5076-10)

Sun Fire 15K/12K Dynamic Reconfiguration User Guide (part number 816-5075-10)

Known DR Limitations

This version of the Dynamic Reconfiguration (DR) software on Sun Fire 15K/12K systems has the following functional limitations:

DR Limitations

- DR is not supported on I/O boards. However, you can hot-plug hPCI cards on I/O boards to reconfigure I/O capacity dynamically. Do not use the `psradm`(1M) command concurrently with a hot-plug operation on the same domain.
- Do not attempt to perform DR operations on a Max CPU system board that resides in a domain.

Devices That Do Not Support DR

The following devices are not currently DR-compatible. Do not run DR commands on a domain in which any of these devices is configured. Check with your Sun Service representative for the most recent list of devices that are DR-compatible on the Sun Fire 15K/12K.

- Sun SAI (Serial Asynchronous Interface) devices
- Sun HSI (High-Speed Serial Interface) devices
- High Performance Parallel Interface (HIPPI) devices
- ESCON devices

Dynamic Reconfiguration (DR) Bugs

The following are known Dynamic Reconfiguration (DR) software bugs.

Mailbox framework failure (BugId 4525439)

The following messages sometimes appear when you run a DR command:

“WARNING: reply timed out.”

-and-

“Mailbox framework failure.”

Workaround: Retry the operation.

Stack overflow panic during DR operations when using STMS (BugId 4618861)

Any attempt to perform DR operations that detach permanent memory while STMS multipathing software is enabled causes a stack overflow panic.

Workaround: Do not run DR commands that affect permanent memory while STMS is enabled.

qlc: disable hw interrupts after suspend (BugId 4627468)

Memory transactions are not allowed from slot 1 (I/O) boards during operating system quiescence in order to prevent memory corruption during copy-rename operations. QLC devices may continue to issue interrupts while the OS is quiesced during copy-rename operations, which results in a domain panic.

Workaround: Do not perform DR operations that require copy-rename operations if QLC devices are present in the domain.

DCA doesn't detect a 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).

Command Reissue Timeout During SC Failover (BugIds 4643724 and 4645703)

If a failover on the system controller (SC) is performed while the affected domains are in the address or response bus degraded mode, a reissue timeout dstop command is sent when an attempt is made to set the domains to non-degraded mode.

Workaround: None.

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 will monopolize a particular system lock for 60 to 90 minutes once every 12 hours. Any DR operation which attempts to configure or unconfigure memory in the domain during one of these windows will hang until the system lock is released. As long as a DR operation remains hung for this reason, any additional DR operations will also hang.

Workaround: If this problem is encountered, it will go away on its own within 90 minutes. However, the problem can be avoided entirely by adding the following line to the `/etc/system` file prior to booting: `set memscrub_span_pages = 0x3000`.

DR fails during suspend and resume operations (BugId 4648453)

DR operations fail when you try to remove a system board that has kernel cage memory. This BugId refers to domains that are configured with HIPPI adapters. The HIPPI driver software does not support DR.

Workaround: None