System Management Services (SMS) 1.5 Release Notes

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Contents

Preface

This guide contains release notes for the System Management Services (SMS) 1.5 software.

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 your 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.

Using UNIX Commands

This document might not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:

  `http://docs.sun.com`

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	#

Typographic Conventions

Typeface[1]	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. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type rm *filename*.

1 The settings on your browser might differ from these settings.

Related Documentation

The documents listed as online are available at:

```
http://www.sun.com/products-n-solutions/
hardware/docs/Servers/High-End_Servers/
Sun_Fire_15K/SW_FW_Documentation/SMS/index.html
```

Application	Title	Part Number	Format	Location
Software Overview	*Sun Fire High-End Systems Software Overview Guide*	819-1338	PDF HTML	Online
Administrator Guide	*System Management Services (SMS) 1.5 Administrator Guide*	817-7295	PDF HTML	Online
Reference (man pages)	*System Management Services (SMS) 1.5 Reference Manual*	817-7296	PDF HTML	Online
Options	*Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*	819-1501	PDF HTML	Online
	OpenBoot™ 4.x Command Reference Manual	816-1177	PDF HTML	Online
	Sun Fire 15K/12K System Site Planning Guide	806-3510	PDF HTML	Online
	Sun Fire E25K/E20K System Site Planning Guide	817-4137	PDF HTML	Online
	Sun Fire Link Fabric Administrator's Guide	806-1405	PDF HTML	Online
	Securing the Sun Fire 12K and 15K Domains	817-1357	PDF HTML	Online
	Securing the Sun Fire 12K and 15K System Controllers	817-1358	PDF HTML	Online

Documentation, Support, and Training

Sun Function	URL	Description
Documentation	http://www.sun.com/documentation/	Download PDF and HTML documents, and order printed documents
Support and Training	http://www.sun.com/supportraining/	Obtain technical support, download patches, and learn about Sun courses

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System Management Services (SMS) 1.5 Release Notes, part number 817-7297-10

CHAPTER 1

System Management Services (SMS) 1.5 Release Notes

This chapter contains the release notes for System Management Services (SMS) 1.5 on Sun Fire high-end systems and covers the following topics:

What's New in SMS 1.5

SMS 1.5 includes the following new features:.

- Support for Solaris 10 3/05 OS on domains
- Support for UltraSPARC™ IV 1.5-GHz processor
- NSA domain security
- Improved memory refresh rate
- Secure by default for system controllers
- Support for Solaris Security Toolkit™ 4.1.1
- Enhanced AVL capabilities
- Voltage core monitoring (VCMON)
- A196 power supply support

VCMON

A voltage core monitoring parameter (VCMON) was added to the SMS software. When VCMON is enabled, it monitors any voltage changes or drifts on the processors. If VCMON detects an upward change in voltage (which usually indicates a socket attach issue), it notifies the user with an FMA event and marks the component health status (CHS) of that processor as faulty.

A196 Power Supply Support

SMS software now supports the new A196 power supply in Sun Fire high-end systems. The `showenvironment` command identifies the presence of the A196 power supply.

The A196 power supply is capable of operating in single-grid or dual-grid mode, meaning that it can run from two separate AC inputs, or from one input. The single-grid (single-input) option provides power up to 4 KW.

If the second AC input is removed, it is recommended that it be restored as soon as possible to provide power above 4 KW.

Software Requirements

These are the *minimum* software requirements for SMS 1.5. They vary by operating system.

Solaris 8 Requirements

As a minimum, the Solaris 8 OS version of SMS 1.5 requires:

- Solaris 8 2/02 OS release on the system controllers (SCs). This is the first release that SMS 1.5 supports.
- Solaris 8 2/04 OS release on the domains. This is the first release that SMS 1.5 supports.
- Same version of SMS software must be installed on both system controllers (SCs)
- Installation of the `Entire Distribution` software group of the Solaris OS, including update version and installed patches on both SCs. All patches are available at : `http://sunsolve.sun.com`

- Patches:
  - 117002-01 patch. This is the first release that SMS 1.5 supports.
  - 108434-17 patch (required for the SCs). This is the first release that SMS 1.5 supports.
  - 110826-09 patch for Solaris 8 on each domain (not required for SC). This is the first release that SMS 1.5 supports.
  - 111335-18 patch for Solaris 8 on each domain (not required for SC). This is the first release that SMS 1.5 supports.
- The Solaris 8 version of SMS 1.5 has binary dependencies on these Solaris libraries:
  - `/usr/lib/libnvpair.so.1`
  - `/usr/lib/libuuid.so.1`
  - `/usr/lib/fm/libdiagcode.so.1`

  The fixes for these libraries are available respectively through patches 108528-24, 115831-01, and 115829-01. These are the first releases that SMS 1.5 supports.

  Apply the patches to both the SCs and domains.
- On the SCs, Java™ 1.2.2 must be installed in the default directory (`/usr/java1.2/bin/java`). Java 1.2.2 is normally installed in this directory during Solaris `Entire Distribution` installation. This is the first release that SMS 1.5 supports.

Caution – If you are using Sun Fire Interconnect and Java 1.2.2 is not installed on the SCs or is not installed in its default directory, SMS will fail to load.

- Install a commercially available third-party or freely available version of `ssh` that supports the SSH 2.0 protocol. For more information about using `ssh` with the Solaris 8 OS, see "Using `ssh` on the Solaris 8 OS With SMS" on page 6.

Note – If possible, consider upgrading your operating system to the Solaris 9 OS. The Solaris 9 OS includes `ssh`.

Solaris 9 OS Requirements

As a minimum, the Solaris 9 OS version of SMS 1.5 requires:

- Solaris 9 4/04 OS release. This is the first release that SMS 1.5 supports.
- Same version of SMS software on both system controllers (SCs)
- Installation of the `Entire Distribution` software group of the Solaris OS, including update version and installed patches, on both SCs. All patches are available at: `http://sunsolve.sun.com`

- Patches:
  - The 113027-03 patch. This is the first release that SMS 1.5 supports.
  - The 111712-12 patch (required for the SCs). This is the first release that SMS 1.5 supports.
- On the SCs, Java 1.2.2 installed in the default directory (`/usr/java1.2/bin/java`). Java 1.2.2 is normally installed in this directory during Solaris `Entire Distribution` installation. This is the first release that SMS 1.5 supports.

Caution – If you are using Sun Fire Interconnect, and Java 1.2.2 is not installed on the SCs or is not installed in its default directory, SMS will fail to load.

Solaris 10 OS Requirements

SMS 1.5 currently supports Solaris 10 3/05 OS only on the domains, not on the system controllers (SCs). The SCs require either Solaris 8 OS or Solaris 9 OS.

SMS 1.5 Known Limitations

This section contains known limitations for SMS 1.5 on a Sun Fire high-end system.

CR ID 6265544

SMS 1.5 supports Sun Fire Link wPCI hardware. However, SMS will not support subsequent versions of the software. If you install and use SMS 1.5 with Sun Fire Link hardware, SMS will return an error message when you power on a wPCI board:

```
Detected Sun Fire Link hardware. Sun Fire Link hardware has been
EOL'd and may not be supported by future versions of SMS.
```

General Notes and Issues

This section contains general notes and issues that involve SMS on Sun Fire high-end systems.

`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 the Sun Fire high-end system. SMS vesions starting with SMS 1.3 introduced 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) 1.5 Installation Guide* to install or upgrade to SMS 1.5. Doing so could result in misconfiguration and loss of functionality.

Valid Paths for Version Switching

You can use the `smsversion` command to switch to any version of SMS that is still installed on your system, with these exceptions:

- The upgrade from SMS 1.4 to SMS 1.4.1 is permanent. Once you upgrade to SMS 1.4.1, you cannot return to SMS 1.4. This means that:
  - If you upgrade from SMS 1.4 to SMS 1.5, you can switch back to SMS 1.4.
  - If you upgrade from SMS 1.4 to SMS 1.4.1 and then to SMS 1.5, you cannot switch back to SMS 1.4, only to SMS 1.4.1.
- If you upgrade both SMS and the operating system, you cannot switch to the previous version of SMS unless you first reinstall the previous version of the operating system.
- If you switch from SMS 1.5 to any previous version of SMS, you must manually undo the hardening on the SCs using the Solaris Security Toolkit, then reharden and reboot.

Using `ssh` on the Solaris 8 OS With SMS

Before installing the SMS 1.5 packages, make sure that you have serial or console access to the SC or have `ssh` available on the SC. After you install SMS 1.5 and reboot the SC, the hardening performed by the `smsinstall` script disables remote access. This hardening takes place due to the new secure by default feature in SMS 1.5. If you do not have `ssh` installed on a system running the Solaris 8 OS, you will not have access to the SC except by using the console cable.

Since Sun does not provide `ssh` software for Solaris 8 OS, you should consider upgrading to the Solaris 9 OS, which insludes `ssh`. As an alternative, you must install a commercially available third-party or freely available version of `ssh` that supports the SSH 2.0 protocol.

Note – Sun does not provide support for third-party `ssh` client software.

Note – If you are using `ssh` on the SC, you must change the `ssh` escape character to avoid conflict with the SMS console. Refer to the *System Management Services (SMS) 1.5 Installation Guide* for more information.

SMS Documentation 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/SW_FW_Documentation/SMS/index.html`

Files are named by part numbers. The part numbers correspond to these document titles:

- 817-7297-10.pdf — *System Management Services (SMS) 1.5 Release Notes*
- 817-7294-10.pdf — *System Management Services (SMS) 1.5 Installation Guide*
- 817-7295-10.pdf — *System Management Services (SMS) 1.5 Administrator Guide*
- 817-7296-10.pdf — *System Management Services (SMS) 1.5 Reference Manual*
- 819-1338-10.pdf — *Sun Fire High-End Systems Software Overview Guide*
- 819-1635-10.pdf — *Solaris Security Toolkit 4.1.1 Release Notes*
- 819-1501-10.pdf — *Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*

Note – There is no longer a separate Dynamic Configuration User Guide for SMS software. The DR information for SMS now resides in the *Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*.

CHAPTER 2

SMS 1.5 Bugs

This chapter provides information about known SMS 1.5 bugs. It includes:

Bugs in SMS 1.5 Software

This section summarizes the most important bugs that affect SMS 1.5.

More Than 4095 Files in Backup `cpio` Breaks `smsrestore` (CR ID 6295142)

The `smsrestore` command will fail if there are more than 4095 files in the `cpio` archive.

The workaround is to remove unneeded files and recreate the `cpio` archive with smsbackup. The most likely candidates for unneeded files are post logs and dump files. There may be up to 1000 post logs per domain and up to 1000 dump files per domain.

FMA Event Reporting to NetConnect Doesn't Pick Up Modified Chassis Serial Number (CR ID 5052078)

If a Sun Fire high-end server runs without having its chassis serial number (CSN) set on the SCs using the `setcsn` command, any Fault Management Architecture (FMA) reports sent to NetConnect after a domain stop (Dstop) will show the serial number as blank in its event reports.

Workaround: Use the `setcsn` command to set the chassis serial number and then restart SMS. You must restart SMS in order for the CSN to appear in the event reports.

For more information about how to set the chassis serial number on the SC, refer to the *System Management Services (SMS) 1.5 Installation Guide*.

`ndd/dev/scman man_pathgroups_report` Output Needs Clarification (CR ID 6252771)

The `ndd`(1M) command can be executed as root in order to read and write certain device driver parameters. `scman`(7D) (`ndd/dev/scman`) manages the Starcat SC side of the Management (MAN) Network, and it supports the `ndd`(1M) command.

If the `man_pathgroups_report` parameter of `scman`(7D) is not interpreted correctly, it may appear as though a serious hardware error has occurred, when the error is actually caused by software. As a result, it might incorrectly be concluded that swapping of hardware is required in order to root-cause the problem.

When the `man_pathgroups_report` parameter is specified, one can obtain output such as the following:

```
# ndd /dev/scman man_pathgroups_report
MAN Pathgroup report: (* == error)
Interface     Destination          Active Path    Alternate Paths
-------------------------------------------------------------------
scman1         Other SSC             eri0 eri0 exp 0, hme1 exp 0 *
```

The asterisk (`*`) in the last line denotes that "the last time the `hme1` physical interface was used, an error was found". Historically, the majority of occurrences are due to software, not hardware.

Software causes an error when either the MAN network peer no longer responds to "heartbeat" messages, or when there is an incorrect `dlpi`(7P) state transition. One can repeatedly create the former case by running the following command as root (assuming the exact output appears as shown above):

```
# ndd -set /dev/scman man_set_active_path '1 0 1'
```

For the SC that executes the command (eg, SC0), its Active Path is switched from `eri0` to `hme1`. For a while, SC1 will continue to send packets on the `eri0` physical interface, and SC0 will send packets on `hme1`. After a short while, the two will synchronize and communicate using the same interface. However, an asterisk will be shown (on each SC) to show the last interface on which there was an error. In this case, the error is indeed caused by software (that is, the error is really a non-response to a “heartbeat” message sequence). It is not a fatal hardware error.

An asterisk will indeed be shown in the output if there is a persistent, fatal hardware error. However, one should not assume that hardware is the only possible cause of the asterisk.

`showenvironment` Reports Domain A Does Not Have Any Boards Assigned, Then Outputs the Report (CR ID 6299795)

If you remove, install, and assign boards in Domain A on your Sun Fire system and then use the `showenvironment` command with the `-d A` option, the command returns an error message stating :

```
No board assigned to Domain A.
```

The error message is incorrect and can be ignored. This issue occurs only on Domain A.

SMS 1.5 Documentation Errata

This section summarizes errors in the SMS 1.5 man pages and documentation.

rcfgadm(1M)

CR ID 4945049

The Note in the rcfgadm(1M) man page should read as follows:

If the rcfgadm command fails, a board does not return to its original state. A dxs or dcs error message is logged to the domain. If the error is recoverable, you can retry the command.

Before you retry the command, ensure that the following dcs entries exist in /etc/inetd.conf on the domain, and that they have not been disabled:

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

If the error is unrecoverable, you must reboot the domain in order to use that board.

testemail(1M)

CR ID 5047803

The description of the -c option in the testemail(1M) man page should read as follows:

The fault class or comma-separated list of fault classes that testemail uses to generate an event.

-c *fault_class, fault_class, fault_class*

Examples of valid fault classes are in the file /etc/opt/SUNWSMS/config/SF15000.dict .

CR ID 6221370

The note in the Description section should read as follows:

When invoking testemail using an ecache resource, make sure that the system board containing the ecache is powered on. Otherwise, the testemail invocation will fail and no email will be generated.

System Management Services (SMS) 1.5 Administrator Guide

Chapter 1, Page 5:

The description of VCMON is incorrect for the Sun Fire high-end systems. The correct description appears in "VCMON" on page 2 of this document.

Chapter 10, page 190:

In the description of the `showboards` command, the `-a` option should read `-v`.

In the description of the `showenvironment` command, the category "Device" should be removed.

Chapter 11, page 201:

The first example should read as follows:

`showlogs -d` *domain_indicator* `-p s`

The second example should read:

`showlogs -d` *domain_indicator* `-p c`

Appendix A, page 247:

The following commands should be added:

`smsinstall`: Installs the SMS software.

`smsupgrade`: Upgrades the existing SMS software installed on a system.

Appendix B (CRs 6227544, 4943474):

The following categories of error messages should be added between error codes 11300 and 50000:

11500-11699: Reserved for EFHD messages

11700-11899: Reserved for ELAD messages

11900-12099: Reserved for ERD messages

12100-12299: Reserved for Event Utilities messages

12300-12499: Reserved for Wcapp messages

12500-12699: Reserved for FRUID-related messages

12700-12799: Reserved for EBD messages

System Management Services (SMS) 1.5 Installation Guide

page 17:

Step 3 should read:

Run the `smsupgrade` command to reinstall SMS.

page 44:

Step 3 should read:

Upgrade the Solaris OS. See "To Install or Upgrade the Solaris OS on the SC" on page 17.

After Step 4, there should be a Step 5, which reads as follows:

Run `smsupgrade` to reinstall SMS after a major OS upgrade (see page 34). Otherwise, proceed to the next step and restore the SMS configuration.

The heading "To Reinstall SMS Software" should read "To Restore the SMS Configuration."