![Sun Microsystems logo]

System Management Services (SMS) 1.2 Installation Guide and Release Notes

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Contents

Preface

This guide contains initial installation instructions as well as release notes for the
System Management Services (SMS) 1.2 software. With the introduction of SMS, both
the initial install instructions and the upgrade instructions apply to the Sun Fire™
15K server system.

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.

How This Book Is Organized

This guide contains the following chapters:

Chapter 1 describes reinstallation and upgrade of System Management Services
(SMS) software.

Chapter 2 contains the SMS 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
Administrator Guide	*System Management Services (SMS) 1.2 Administrator Guide*	816-2527-10
Reference (man1M)	*System Management Services (SMS) 1.2 Reference Manual*	816-2528-10
Options	*System Management Services (SMS) 1.2 Dynamic Reconfiguration User Guide*	816-3282-10
	Sun Fire 15K Dynamic Reconfiguration User Guide	816-3283-10
	Sun Fire 15K System Site Planning Guide	806-3510-10
	IP Network Multipathing Administration Guide	816-0850-10
	OpenBoot™ 4.x Command Reference Manual	816-1177-10
	Solaris Naming Administration Guide	806-1387-10
	System Administration Guide, Volume 3	806-0916-10

Accessing Sun Documentation Online

A broad selection of Sun system documentation is located at:

`http://www.sun.com/products-n-solutions/hardware/docs`

A complete set of Solaris documentation and many other titles are located at:

`http://docs.sun.com`

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`docfeedback@sun.com`

Please include the part number (816-2529-10) of your document in the subject line of your email.

SMS 1.2 on the Sun Fire 15K Server Systems

This chapter contains reinstallation and upgrade instructions for System Management Services (SMS) 1.2 software. With the introduction of SMS 1.2, these instructions apply to the Sun Fire 15K server systems.

The SMS reinstall and upgrade setup focuses on setting up group IDs used for credential checking, and setting up and running control scripts that start SMS when the Solaris operating environment boots.

This chapter includes:

- To Download Software From a CD-ROM
- To Reinstall or Upgrade SMS Packages Using Web Start
- To Manually Reinstall the SMS Software Packages
- To Restore or Upgrade SMS Software
- To Configure the Management Network (MAN) Using `smsconfig`(1M)
- To Add Users to SMS Groups and Configure Directory Access
- To Update the Flash PROMs
- To Build a New Domain on the System Controller
- To Activate the Domain
- To Bring Up a Console for the Domain
- To Set up the Network Install Server on the System Controller
- To Set Up the Domain as an Install Client
- To Install the Solaris Operating Environment on the Domain
- To Set Up OpenBoot PROM Environment Variables for the Domain
- To Configure Domain Networks
- To Disable Failover
- To Install Additional Software Packages
- To Configure the NTP Packages
- To Manually Stop and Restart SMS

Preparing to Reinstall or Upgrade

The reinstallation or upgrade instructions in this section assume that your system is running the Solaris 8 02/02 operating environment. SMS does not run under software releases earlier than Solaris 8 10/01.

Note – Any patches to the Solaris operating system should be applied before re-installing or upgrading SMS software.

To reinstall or upgrade SMS software you will need to perform the following procedures:

- Turn off failover on the main SC (SC0).
- Stop SMS on the spare SC (SC1).
- Reinstall or upgrade SMS software packages on the spare SC (SC1).
- Restore or upgrade SMS on the spare SC.
- Stop SMS on the main SC (SC0).
- Start SMS on the spare SC. SC1 will become the main.
- Reinstall or upgrade SMS software packages on the former main SC (SC0).
- Restore or upgrade SMS on the former main SC (SC0).
- Start SMS on the former main (SC0) it will become the spare.
- Turn on failover on the new main (SC1).

Note – You must run the same version of SMS on both SCs.

For the examples in this guide:

Prompt	Definition
sc0:#	Superuser on SC, initially the main SC
sc1:#	Superuser on SC1, initially the spare SC
domain_id:#	Superuser on the domain
sc_name:sms-user:>	User prompt on the SC. *sms-user* is the `user-name` of an administrator, operator, configurator or service personnel logged in to the SC.
domain_id:sms-user:>	User prompts on the domain *sms-user* is the `user-name` of the administrator, operator, configurator or service personnel logged in to the domain.

If this SC has a working SMS environment, you should do the following before attempting to reinstall or upgrade the SMS software:

On the main SC:

1. **Make certain your configuration is stable.**

   Being stable means no commands are running and no hardware is changed during the reinstallation or upgrade process.

2. **Log in to the main as a user with** `platadmn` **privileges.**

3. **Deactivate failover:**

   ```
   sc0:# /opt/SUNWSMS/bin/setfailover off
   ```

On the spare SC:

1. **Log in to the spare as superuser.**

2. **Stop SMS:**

   ```
   sc1:# /etc/init.d/sms stop
   ```

3. **Backup the system.**

   For reinstallation:

   > Run `smsbackup` before proceeding or have the latest copy of the `smsbackup` file (`sms_backup.X.X.cpio`) accessible to the disk.

   ```
   sc0:# /opt/SUNWSMS/bin/smsbackup directory_name
   ```

   where:

   directory_name is the name of the directory in which the backup file is created. This file can reside in any directory on the system, connected network or tape device to which you have read/write privileges. If no *directory_name* is specified, a backup file is created in `/var/tmp`. The *directory_name* does not require the absolute path name for the file.

   The *directory_name* specified must be mounted on as a UFS file system. Specifying a TMPFS file system, such as `/tmp`, will cause `smsbackup` to fail. If you are not certain that your *directory_name* is mounted as a UFS file system, type:

```
sc0:# /usr/bin/df -F ufs directory_name
```

A UFS file system will return directory information. Any other type of file system will return a warning.

For upgrade:

> SMS files will be automatically backed up by smsversion later in this procedure. Proceed to "To Download Software From the Web" on page 4 or "To Download Software From a CD-ROM" on page 5.

The SMS packages use approximately 18GBytes each of disk space on two disks on the server. The following table lists the total size of the SMS software by partition.

TABLE 1-1   SMS Software Approximate Partition Sizes

Partition	Size
0 /(root)	8 Gbytes
1 /swap	2 Gbyte
4 OLDS/LVM database (metadb)	10 Mbytes
5 OLDS/LVM database (metadb)	10 Mbytes
7 /export/install	8 Gbytes

SMS requires two drive partitions with at least 10 Mbytes be dedicated to each metadevice state database copy.

▼ To Download Software From the Web

1. **Using your web browser, go to** http://www.sun.com/servers/sw/

2. **Click the System Management Services (SMS) link.**

3. **Click the** Click here to download **link.**

   The file that is then downloaded is named sms_1_2_sparc.zip.

4. **Log in to the spare SC as superuser.**

5. **Change directory to the location where you downloaded the software:**

```
sc1:# cd /download_directory
```

6. **Extract the downloaded file by typing:**

```
sc1:# unzip -v sms_1_2_sparc.zip
```

The SMS 1.2 packages are located in
/download_directory/sms_1_2_sparc/System_Management_Services_1.2/Pro
duct.

7. **Proceed to "Reinstalling or Upgrading SMS" on page 6.**

▼ To Download Software From a CD-ROM

1. **Insert the Software Supplement for the Solaris 8 02/02 Operating Environment CD-ROM into the CD-ROM drive.**

   Allow time for the Volume Manager to mount the CD-ROM.

   The SMS 1.2 packages are located in
   /cdrom/cdrom0/System_Management_Services_1.2/Product.

2. **Log in to the spare system controller as superuser.**

3. **Change to the** Product **installation directory:**

```
sc1:# cd /cdrom/cdrom0/System_Management_Services_1.2/Product
```

4. **Proceed to "Reinstalling or Upgrading SMS" on page 6.**

Reinstalling or Upgrading SMS

Your Sun Fire 15K is preinstalled with SMS software when you receive it. To reinstall or upgrade SMS software, follow the steps in the procedure "To Reinstall or Upgrade SMS Packages Using Web Start". You need to perform the steps in the following procedures:

- To Reinstall or Upgrade SMS Packages Using Web Start or To Manually Reinstall the SMS Software Packages
- To Restore or Upgrade SMS Software
- To Configure the Management Network (MAN) Using `smsconfig`(1M)
- To Add Users to SMS Groups and Configure Directory Access

Note – The instructions in this section assume that your system is running the `Entire Distribution` software group (or higher) of the Solaris 8 02/02 operating environment. SMS does not run under software releases *earlier* than Solaris 8 10/01 or software groups *less* than `Entire Distribution`. Any relevant patches should be applied according to each patch's instructions.

▼ To Reinstall or Upgrade SMS Packages Using Web Start

You can use Web Start to perform a reinstall from the web or CD-ROM.

1. Log in to the spare SC as superuser.

2. **Set the** DISPLAY **environment variable to your current host.**

   For sh(1) or ksh(1), type:

   ```
   sc1:#  DISPLAY=hostname:0
   sc1:#  export DISPLAY
   ```

   where:

   hostname is the host name of the machine used to graphically display Web Start.

   For csh(1) type:

   ```
   sc1:#  setenv DISPLAY hostname:0.0
   ```

   where:

   hostname is the host name of the machine used to graphically display Web Start.

3. **Change directory to the location of the SMS 1.2 package:**

   ■ If you downloaded software from the Web:

   ```
   sc1:#  cd /download_directory/sms_1_2_sparc/
   ```

   ■ If you are installing the software from the CD-ROM:

   ```
   sc1: # cd /cdrom/cdrom0
   ```

4. Begin Web Start by typing:

```
sc1:# ./installer
```

The Welcome screen appears:
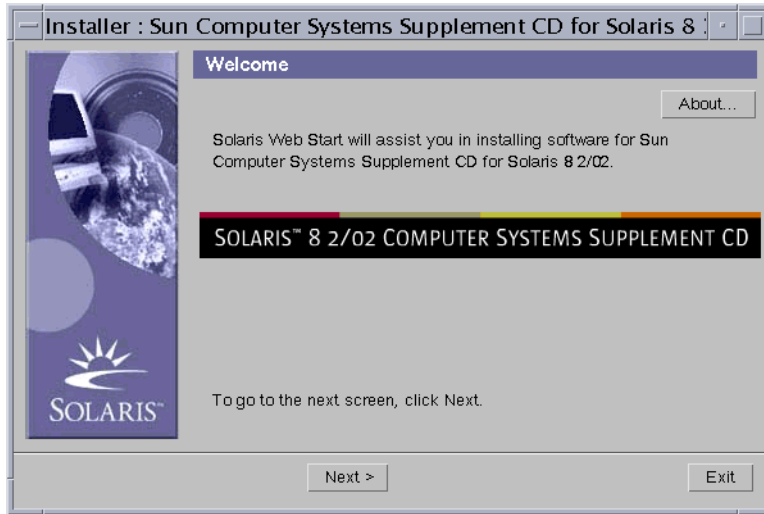
5. Click on Next.

The Select Type of Install dialog box appears:

6. **Select Custom Install.**

   With custom installation, only the products that you select are installed.

7. **Click on Next.**

   The Product Selection dialog box appears:
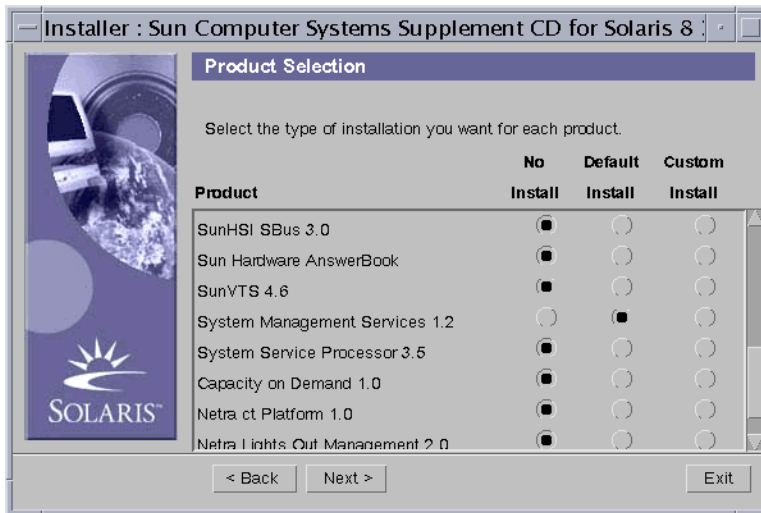
Make sure all products but SMS are set to No Install. Choose Default Install for SMS.

8. **Click on Next.**

   The Ready to Install dialog box appears:
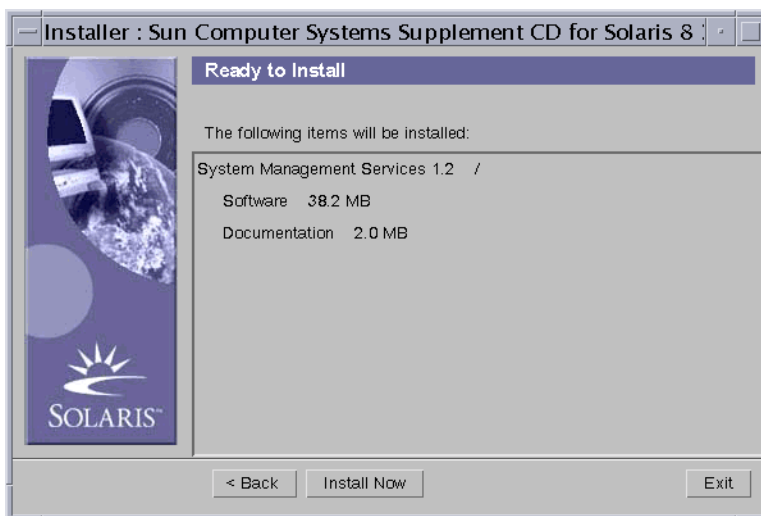
9. **Verify that you have sufficient disk space to cover the requirements displayed on the Ready to Install dialog box.**

Note – Web Start automatically installs the online System Management Services (SMS) Reference Manual (man) pages in `/opt/SUNWSMS/man/sman1m`. To avoid conflicts, do *not* change this location.

---

10. **Click the Install Now button.**

The Installing screen appears:
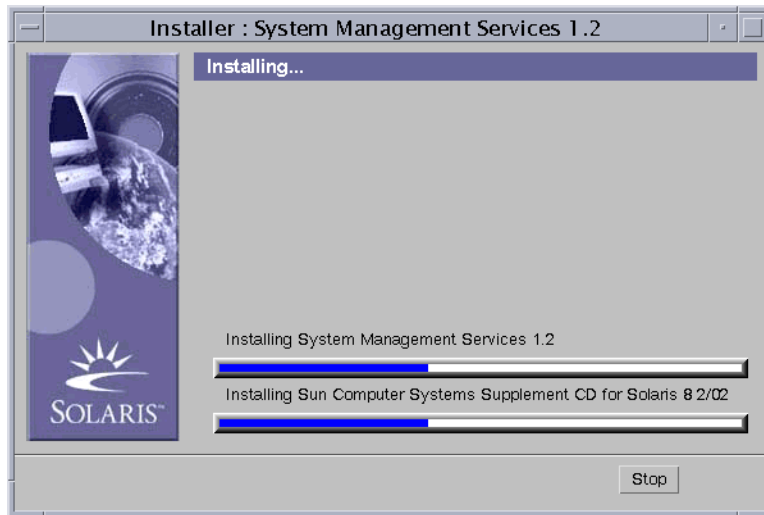
Wait until the installation is complete and the Installation Summary dialog box is displayed.
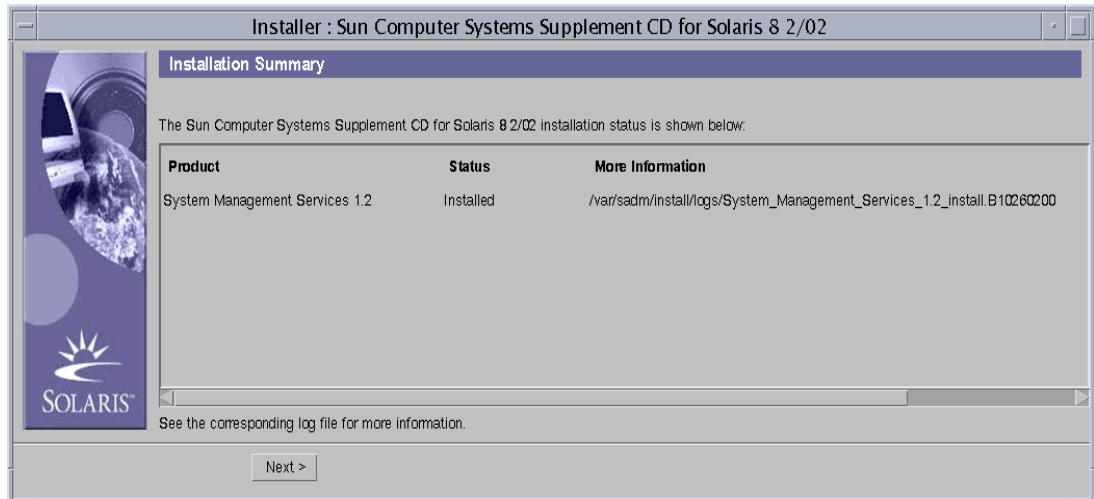
11. Click on Next.

The Additional Information dialog box appears:
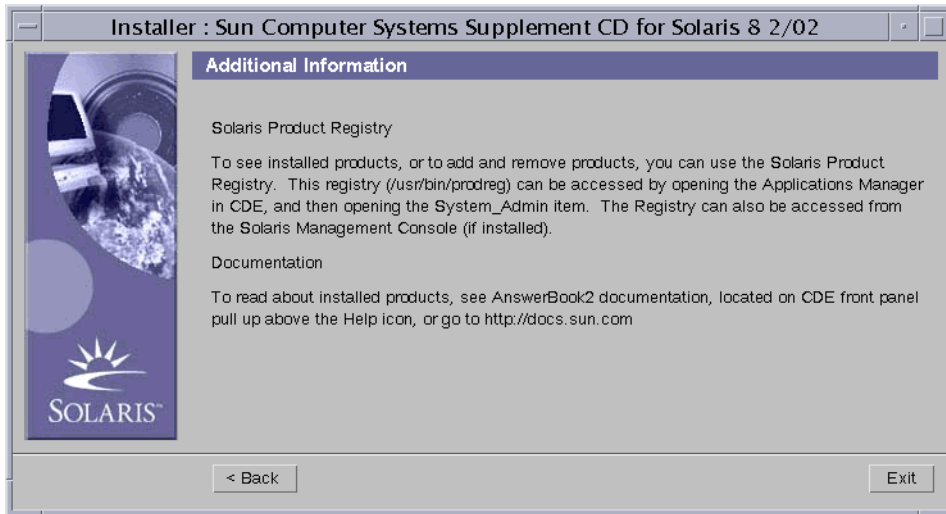
12. Click on Exit.

13. Proceed to "To Restore or Upgrade SMS Software" on page 17.

▼ To Manually Reinstall the SMS Software Packages

1. Log in to the spare SC as superuser.

2. Change directory to the location of the SMS 1.2 package:

- If you downloaded software from the Web, type:

```
sc1: # cd
/download_directory/sms_1_2_sparc/System_Management_Services_1.2/Prod
uct
```

- If you are installing software from the CD-ROM; place the Solaris 8 02/02 Supplemental CD into the SC0 CD-ROM drive and type:

```
sc1: # cd /cdrom/cdrom0/System_Management_Services_1.2/Product
```

Note – The pkgadd(1M) command automatically installs the online System Management Services (SMS) Reference Manual (man) pages in /opt/SUNWSMS/man/sman1m. To avoid conflicts, do *not* change this location.

Caution – It is extremely important that you install the SUNSMSr package *first* and then the SUNWSMSop package *second*. All other packages can be installed in any convenient order after the first two.

Package Number	Package Name	Package Description
11	SUNWSMSr	System Management Services (Root)
7	SUNWSMSop	System Management Services Core Utilities
1	SUNWSMSdf	System Management Services Data Files
2	SUNWSMSjh	System Management Services On-Line Javahelp
3	SUNWSMSlp	System Management Services LPOST object files
4	SUNWSMSmn	System Management Services On-Line Manual Pages
5	SUNWSMSob	System Management Services OpenBoot PROM
6	SUNWSMSod	System Controller OpenBoot PROM

Package Number	Package Name	Package Description
8	SUNWSMSpd	System Controller Power On Self Test
9	SUNWSMSpo	System Management Services POST Utilities
10	SUNWSMSpp	System Management Services `picld`(1M) Plug-in Module
12	SUNWSMSsu	System Management Services Service User Environment
13	SUNWscdvr.u	Sun Fire 15K System Controller drivers
14	SUNWufrx.u	User Flash PROM Device Driver (Root) (64-bit)
15	SUNWufu	User Flash PROM Device Driver Header Files

3. Add packages using the `pkgadd`**(1M) command.**

```
sc1:# pkgadd -d .
```

The system displays the list of available packages.

```
The following packages are available:
 1 SUNWSMSdf  System Management Services Data Files
        (sparc) 1.2.0,REV=2001
 2 SUNWSMSjh  System Management Services On-Line Javahelp
        (sparc) 1.2.0,REV=2001
 3 SUNWSMSlp  System Management Services LPOST object files
        (sparc) 25.0.0,REV=2.0.0
 4 SUNWSMSmn  System Management Services On-Line Manual Pages
        (sparc) 1.2.0,REV=2001
 5 SUNWSMSob  System Management Services OpenBoot PROM
        (sparc) 1.2.0,REV=2001
 6 SUNWSMSod   System Controller OpenBoot PROM
        (sparc) 1.2.0,REV=2001
 7 SUNWSMSop  System Management Services Core Utilities
        (sparc) 1.2.0,REV=2001
 8 SUNWSMSpd  System Controller Power On Self Test
        (sparc) 1.2.0,REV=2001
 9 SUNWSMSpo  System Management Services POST Utilities
        (sparc) 1.2.0,REV=2001
10 SUNWSMSpp  System Management Services picld(1M) Plug-in Module
        (sparc) 1.2.0,REV=2001
11 SUNWSMSr   System Management Services, (Root)
        (sparc) 1.2.0,REV=2001
12 SUNWSMSsu  System Management Services Service User Environment
        (sparc) 1.2.0,REV=2001
13 SUNWscdvr.u  Sun Fire 15K System Controller drivers
        (sparc) 1.2.0,REV=2001
14 SUNWufrx.u  User Flash PROM Device Driver (64-bit), (Root)
        (sparc) 2.0,REV=2001
15 SUNWufu  User Flash PROM Device Driver Header Files
        (sparc) 2.0,REV=2001
```

4. Enter the list of package numbers that you want to install, separated by commas.

In this example, `11` and `7` are `SUNSMSr` and `SUNWSMSop` respectively and must be listed first and second.

```
Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]: 11,7,1-6,8-10,12-15
```

5. **Answer y (yes) to all package installation queries.**

6. **Verify that all the packages were completely installed.**

```
sc1: # pkginfo -c SMS
```

```
sc1: # pkginfo -i SUNWufrx SUNWufu
```

7. **(Optional) List the names of any packages that are partially installed.**

```
sc1: # pkginfo -p
```

If any packages are listed, remove and reinstall them. If this does not correct the problem, contact your Sun service representative.

8. **You have completed the manual installation of software packages.**

9. **Proceed to "To Restore or Upgrade SMS Software" on page 17.**

▼ To Restore or Upgrade SMS Software

1. **Restore or Upgrade SMS.**

   For Reinstallation:

   > Run `smsrestore` to restore the `smsbackup` file, then proceed to "To Configure the Management Network (MAN) Using `smsconfig`(1M)" on page 19.

   ```
   sc1:# /opt/SUNWSMS/bin/smsrestore filename
   ```

   > where:

   > *filename* is the name of the backup file that was created by `smsbackup`(1M). If the specified file is not in the current directory, the *filename* must contain the full path name for the file. This file can reside anywhere on the system, connected network or tape device. If no *filename* is specified, you will receive an error.

   For upgrade:

Run `smsversion` then `smsrestore`.

```
sc1:#/opt/SUNWSMS/bin/smsversion
smsversion: Active SMS version <1.1>
smsversion: SMS version 1.1 installed smsversion:
SMS version 1.2 installed

Please select from one of the following installed SMS versions.
1) 1.1
2) 1.2
3) Exit
Select version: 2
You have selected SMS Version 1.2

Is this correct? [y,n] y
smsversion: Upgrading SMS from <1.1> to <1.2>.
To move to a different version of SMS an archive of
critical files will be created. What is the name of
the directory or tape device where the archive will be stored?
[/var/tmp][return]

smsversion: Backup configuration file created:
/var/tmp/sms_backup.1.1.cpio
smsversion: Switching to target version <1.2>.
smsversion: New Version <1.2> Active
smsversion: Active SMS version <1.2>
To use the previous SMS configuration settings type:
smsrestore /var/tmp/sms_backup.1.1.cpio

NOTE: When switching to another SMS version, the user must choose (via use
of smsrestore) to restore the configuration settings from the previously
active version.
```

```
sc1:# /opt/SUNWSMS/bin/smsrestore filename
```

where:

filename is the name of the backup file that was created by `smsbackup`(1M). If the specified file is not in the current directory, the *filename* must contain the full path name for the file. This file can reside anywhere on the system, connected network or tape device. If no *filename* is specified, you will receive an error.

2. **Proceed to "To Configure the Management Network (MAN) Using `smsconfig`(1M)" on page 19.**

▼ To Configure the Management Network (MAN) Using `smsconfig`(1M)

To correctly configure the management network, you need to do the following:

- Run **`smsconfig -m`**
- Edit the `/etc/nsswitch.conf`
- Edit your Solaris Naming software.
- Reboot the SC.

1. **Be sure you have read and filled out the information in the** *Sun Fire 15K System Site Planning Guide.*

Note – A domain can be excluded from the I1 network configuration by using the word NONE as the *net_id.* This applies only to the I1 network.

---

2. **Read the** `smsconfig`**(1M) man page.**

3. **Log into the spare SC as superuser.**

4. **To display, review, or change the Management Network settings, type:**

```
sc1:# /opt/SUNWSMS/bin/smsconfig -m
```

5. **Answer the questions based on the information gathered for your site in the** *Sun Fire 15K System Site Planning Guide.*

The following example shows IPv4 and accepts the default settings provided with the Solaris 8 02/02 Supplemental CD. An IPv6 network example differs slightly. There will be no prompts for `netmasks` and `/etc/ipnodes` will be modified in addition to `/etc/hosts`.

Note – The IP addresses shown in the following example are examples only. Refer to your *Sun Fire 15K System Site Planning Guide* for valid IP addresses for your network. IP addresses on the external network for failover, hme0 and eri1 on each SC must be unique. The floating IP address is the same on both SCs.

For more information on `smsconfig -m` refer to "MAN Configuration" on page 169 of the *System Management Services (SMS) 1.2 Administrator Guide* and the `smsconfig` man page.

```
sc1: # smsconfig -m

The platform name identifies the entire host machine to the SMS software.
The platform name occupies a different name space than domain names
(hostnames of bootable systems).

What is the name of the platform this SMS will service [sun15]? sun15
Configuring the External Network for Community C1

Do you want to define this Community? [y,n] y
Enter NICs associated with community C1 [hme0 eri1]: [Return]

Enter Logical/Floating IP hostname for community C1 [sun15-sc-C1]:[Return]
Enter IPMP IP address for sun15-sc-C1:10.1.1.50
Enter Netmask for community C1: 255.255.255.0

Enter IPMP hostname for community C1 failover address [sun15-sc0-C1-
failover]:[Return]
Enter IPMP IP address for sun15-sc0-C1-failover:10.1.1.51

Enter IPMP hostname for hme0 [sun15-sc0-hme0]:[Return]
Enter IPMP IP address for hme0: 10.1.1.52

Enter IPMP hostname for eri1 [sun15-sc0-eri1]:[Return]
Enter IPMP IP address for sun15-sc0-eri1: 10.1.1.53

Hostname                IP Address (platform=sun15)
--------                ----------
sun15-sc-C1             10.1.1.50
sun15-sc0-C1-failover   10.1.1.51
sun15-sc0-hme0          10.1.1.52
sun15-sc0-eri1          10.1.1.53

Do you want to:
     1) Accept these network settings.
     2) Edit these network settings.
     3) Delete these network settings and go onto the next
        community.s? [y,n] y

Configuring the External Network for Community C2

Do you want to define this Community? [y,n] n
```

```
Configuring I1 Management Network - 'I1' is the Domain to SC MAN.
MAN I1 Network Identification

Enter the IP network number (base address) for the I1 network: 10.2.1.0
Enter the netmask for the I1 MAN network [ 255.255.255.224 ]:[Return]

Hostname        IP Address (platform=sun15)
--------        ----------
netmask-i1      255.255.255.224
sun15-sc-i1   10.2.1.1
sun15-a       10.2.1.2
sun15-b       10.2.1.3
sun15-c       10.2.1.4
sun15-d       10.2.1.5
sun15-e       10.2.1.6
sun15-f       10.2.1.7
sun15-g       10.2.1.8
sun15-h       10.2.1.9
sun15-i       10.2.1.10
sun15-j       10.2.1.11
sun15-k       10.2.1.12
sun15-l       10.2.1.13
sun15-m       10.2.1.14
sun15-n       10.2.1.15
sun15-o       10.2.1.16
sun15-p       10.2.1.17
sun15-q       10.2.1.18
sun15-r       10.2.1.19

Do you want to accept these network settings? [y,n] y

Configuring I2 Management Network - 'I2' is for SC to SC MAN.
MAN I2 Network Identification

Enter the IP network number (base address) for the I2 network: 10.3.1.0
Enter the netmask for the I2 MAN network [ 255.255.255.252 ]:[Return]

Hostname         IP Address   (platform=sun15)
--------         ----------
netmask-i2       255.255.255.252
sun15-sc0-i2     10.3.1.1
sun15-sc1-i2     10.3.1.2

Do you want to accept these settings? [y,n] y
Creating /.rhosts to facilitate file propagation...done

MAN Network configuration modified!
Changes will take effect on next reboot.
```

```
The following changes are about to be applied to the "/etc/hosts" hosts file.
---------------------
ADD: 10.2.1.2    sun15-a #smsconfig-entry#
ADD: 10.2.1.3    sun15-b #smsconfig-entry#
ADD: 10.2.1.4    sun15-c #smsconfig-entry#
ADD: 10.2.1.5    sun15-d #smsconfig-entry#
ADD: 10.2.1.6    sun15-e #smsconfig-entry#
ADD: 10.2.1.7    sun15-f #smsconfig-entry#
ADD: 10.2.1.8    sun15-g #smsconfig-entry#
ADD: 10.2.1.9    sun15-h #smsconfig-entry#
ADD: 10.2.1.10   sun15-i #smsconfig-entry#
ADD: 10.2.1.11   sun15-j #smsconfig-entry#
ADD: 10.2.1.12   sun15-k #smsconfig-entry#
ADD: 10.2.1.13   sun15-l #smsconfig-entry#
ADD: 10.2.1.14   sun15-m #smsconfig-entry#
ADD: 10.2.1.15   sun15-n #smsconfig-entry#
ADD: 10.2.1.16   sun15-o #smsconfig-entry#
ADD: 10.2.1.17   sun15-p #smsconfig-entry#
ADD: 10.2.1.18   sun15-q #smsconfig-entry#
ADD: 10.2.1.19   sun15-r #smsconfig-entry#
ADD: 10.2.1.1    sun15-sc-i1 #smsconfig-entry#
ADD: 10.1.1.50   sun15-sc-C1 #smsconfig-entry#
ADD: 10.1.1.51   sun15-sc0-C1-failover #smsconfig-entry#
ADD: 10.1.1.52   sun15-sc0-hme0 #smsconfig-entry#
ADD: 10.1.1.53   sun15-sc0-eri1 #smsconfig-entry#
ADD: 10.3.1.1    sun15-sc0-i2 #smsconfig-entry#
ADD: 10.3.1.2    sun15-sc1-i2 #smsconfig-entry#
---------------------
Update the hosts file, "/etc/hosts", with these changes? [y,n] y
Hosts file "/etc/hosts" has been updated.

The following information is about to be applied to the "/etc/netmasks" file.
---------------------
ADD network: 10.1.1.50, mask: 255.255.255.0
ADD network: 10.2.1.0, mask: 255.255.255.224
ADD network: 10.3.1.0, mask: 255.255.255.224
---------------------
Update the netmasks file, "/etc/netmasks", with these changes? [y,n] y
Netmasks files "etc/netmasks" has been updated.

sc1:#
```

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.

6. **Configure the Name Services for SMS**

7. **Log in to the SC as superuser.**

8. **Edit the** /etc/nsswitch.conf **file.**

a. **The first entry for** `password`, `group`, `hosts`, `netmasks` **and** `ethers` **should be** `files`. **List other naming services in use, such as** `nis` **or** DNS, **next.**

The following example shows the correct partial contents of an `/etc/nsswitch.conf` file on the spare SC. The look-up order for the database entries is first `files` then naming services.

```
sc1:# vi /etc/nsswitch.conf
...
passwd:        files nis
group:         files nis
...
hosts:         files nis
...
netmasks:      files nis
...
ethers:        files nis
...
```

Note – `smsconfig` automatically updates the `/etc/netmasks` and the `/etc/inet/hosts` file with all the private host names and logical addresses for the SC.

---

9. **Update your Solaris Naming software (NIS, NIS+, DNS, etc), as appropriate.**

10. **Apply any relevant patches, unless otherwise noted in the patch instructions.**

   See "Patches" on page 50. If no patches are needed you can proceed to Step 11.

11. **Log in to the main SC as superuser and stop SMS.**

```
sc0:# /etc/init.d/sms stop
```

12. **Reboot the spare SC.**

```
sc1:# reboot
```

You must reboot the SC in order for the changes to take effect. Once you have rebooted the system, network configuration is complete and SMS will start and SC1 will become the main SC.

13. **Proceed to "Reinstalling or Upgrading the Former Main SC" on page 25.**

▼ Reinstalling or Upgrading the Former Main SC

1. Log in to the main as superuser.

2. Stop SMS:

```
sc0:# /etc/init.d/sms stop
```

3. Backup up system software.

For reinstallation

Run smsbackup before proceeding or have the latest copy of the smsbackup file (sms_backup.X.X.cpio) accessible to the disk.

```
sc0:# /opt/SUNWSMS/bin/smsbackup directory_name
```

where:

directory_name is the name of the directory in which the backup file is created. This file can reside in any directory on the system, connected network or tape device to which you have read/write privileges. If no *directory_name* is specified, a backup file is created in /var/tmp. The *directory_name* does not require the absolute path name for the file.

The *directory_name* specified must be mounted on as a UFS filesystem. Specifying a TMPFS file system, such as /tmp, will cause smsbackup to fail. If you are not certain that your *directory_name* is mounted as a UFS filesystem, type:

```
sc0:# /usr/bin/df -F ufs directory_name
```

A UFS file system will return directory information. Any other type of file system will return a warning.

For upgrade:

SMS files will be automatically backed up by smsversion later in this procedure. Proceed to Step 4.

4. **Install or upgrade the SMS software packages on the former main SC (SC0) using Web Start or CD-ROM.**

   To install the SMS software packages on the former main SC, see "To Reinstall or Upgrade SMS Packages Using Web Start" on page 6 or "To Manually Reinstall the SMS Software Packages" on page 13 and substitute the main SC wherever you see the spare.

   To mount the CD-ROM on the spare SC on the main SC, see "To Share SMS Packages on the Spare SC to the Main SC" on page 56.

   When you have successfully exited Web Start or completed the manual installation of all the packages proceed to Step 5.

5. **Restore or Upgrade SMS on the former main.**

For Reinstallation:

Run `smsrestore`.

```
sc0:#/opt/SUNWSMS/bin/smsrestore filename
```

where:

filename is the name of the backup file that was created by `smsbackup`(1M). If the specified file is not in the current directory, the *filename* must contain the full path name for the file. This file can reside anywhere on the system, connected network or tape device. If no *filename* is specified, you will receive an error.

For upgrade:

Run `smsversion` then `smsrestore`.

```
sc0:#/opt/SUNWSMS/bin/smsversion
smsversion: Active SMS version <1.1>
smsversion: SMS version 1.1 installed smsversion:
SMS version 1.2 installed

Please select from one of the following installed SMS versions.
1) 1.1
2) 1.2
3) Exit
Select version: 2
You have selected SMS Version 1.2

Is this correct? [y,n] y
smsversion: Upgrading SMS from <1.1> to <1.2>.
To move to a different version of SMS an archive of
critical files will be created. What is the name of
the directory or tape device where the archive will be stored?
[/var/tmp][return]

smsversion: Backup configuration file created:
/var/tmp/sms_backup.1.1.cpio
smsversion: Switching to target version <1.2>.
smsversion: New Version <1.2> Active
smsversion: Active SMS version <1.2>
To use the previous SMS configuration settings type:
smsrestore /var/tmp/sms_backup.1.1.cpio

NOTE: When switching to another SMS version, the user must choose (via use
of smsrestore) to restore the configuration settings from the previously
active version.
```

```
sc0:#/opt/SUNWSMS/bin/smsrestore filename
```

where:

filename is the name of the backup file that was created by smsbackup(1M). If the specified file is not in the current directory, the *filename* must contain the full path name for the file. This file can reside anywhere on the system, connected network or tape device. If no *filename* is specified, you will receive an error.

6. **Proceed to "To Configure the Management Network (MAN) Using smsconfig(1M)" on page 28.**

▼ To Configure the Management Network (MAN) Using smsconfig(1M)

To correctly configure the management network, you need to do the following:

- Run **smsconfig -m**
- Edit the /etc/nsswitch.conf
- Edit your Solaris Naming software.
- Reboot the SC.

1. **Be sure you have read and filled out the information in the** *Sun Fire 15K System Site Planning Guide.*

Note – A domain can be excluded from the I1 network configuration by using the word NONE as the *net_id.* This applies only to the I1 network.

---

2. **Read the** smsconfig**(1M) man page.**

3. **Log into the former main SC as superuser.**

4. **To display, review, or change the Management Network settings, type:**

```
sc0: # /opt/SUNWSMS/bin/smsconfig -m
```

5. **Answer the questions based on the information gathered for your site in the** *Sun Fire 15K System Site Planning Guide.*

The following example shows IPv4 and accepts the default settings provided with the Solaris 8 02/02 Supplemental CD. An IPv6 network example differs slightly. There will be no prompts for netmasks and /etc/ipnodes will be modified in addition to /etc/hosts.

Note – The IP addresses shown in the following example are examples only. Refer to your *Sun Fire 15K System Site Planning Guide* for valid IP addresses for your network. IP addresses on the external network for failover, hme0 and eri1 on each SC must be unique. The floating IP address is the same on both SCs.

For more information on smsconfig -m refer to "MAN Configuration" on page 169 of the *System Management Services (SMS) 1.2 Administrator Guide* and the smsconfig man page.

```
sc1: # smsconfig -m

The platform name identifies the entire host machine to the SMS software.
The platform name occupies a different name space than domain names
(hostnames of bootable systems).

What is the name of the platform this SMS will service [sun15]? sun15
Configuring the External Network for Community C1

Do you want to define this Community? [y,n] y
Enter NICs associated with community C1 [hme0 eri1]: [Return]

Enter Logical/Floating IP hostname for community C1 [sun15-sc-C1]:[Return]
Enter IPMP IP address for sun15-sc-C1:10.1.1.50
Enter Netmask for community C1: 255.255.255.0

Enter IPMP hostname for community C1 failover address [sun15-sc0-C1-
failover]:[Return]
Enter IPMP IP address for sun15-sc0-C1-failover:10.1.1.51

Enter IPMP hostname for hme0 [sun15-sc0-hme0]:[Return]
Enter IPMP IP address for hme0: 10.1.1.52

Enter IPMP hostname for eri1 [sun15-sc0-eri1]:[Return]
Enter IPMP IP address for sun15-sc0-eri1: 10.1.1.53

Hostname                 IP Address (platform=sun15)
--------                 ----------
sun15-sc-C1              10.1.1.50
sun15-sc0-C1-failover    10.1.1.51
sun15-sc0-hme0           10.1.1.52
sun15-sc0-eri1           10.1.1.53

Do you want to accept these network settings? [y,n]y

Configuring the External Network for Community C2

Do you want to define this Community? [y,n] n
```

```
Configuring I1 Management Network - 'I1' is the Domain to SC MAN.
MAN I1 Network Identification

Enter the IP network number (base address) for the I1 network: 10.2.1.0
Enter the netmask for the I1 MAN network [ 255.255.255.224 ]:[Return]

Hostname        IP Address (platform=sun15)
--------        ----------
netmask-i1      255.255.255.224
sun15-sc-i1     10.2.1.1
sun15-a         10.2.1.2
sun15-b         10.2.1.3
sun15-c         10.2.1.4
sun15-d         10.2.1.5
sun15-e         10.2.1.6
sun15-f         10.2.1.7
sun15-g         10.2.1.8
sun15-h         10.2.1.9
sun15-i         10.2.1.10
sun15-j         10.2.1.11
sun15-k         10.2.1.12
sun15-l         10.2.1.13
sun15-m         10.2.1.14
sun15-n         10.2.1.15
sun15-o         10.2.1.16
sun15-p         10.2.1.17
sun15-q         10.2.1.18
sun15-r         10.2.1.19

Do you want to accept these network settings? [y,n] y

Configuring I2 Management Network - 'I2' is for SC to SC MAN.
MAN I2 Network Identification

Enter the IP network number (base address) for the I2 network: 10.3.1.0
Enter the netmask for the I2 MAN network [ 255.255.255.252 ]:[Return]

Hostname          IP Address  (platform=sun15)
--------          ----------
netmask-i2        255.255.255.252
sun15-sc0-i2      10.3.1.1
sun15-sc1-i2      10.3.1.2

Do you want to accept these settings? [y,n] y
Creating /.rhosts to facilitate file propagation...done

MAN Network configuration modified!
Changes will take effect on next reboot.
```

```
The following changes are about to be applied to the "/etc/hosts" hosts file.
----------------------
ADD: 10.2.1.2   sun15-a #smsconfig-entry#
ADD: 10.2.1.3   sun15-b #smsconfig-entry#
ADD: 10.2.1.4   sun15-c #smsconfig-entry#
ADD: 10.2.1.5   sun15-d #smsconfig-entry#
ADD: 10.2.1.6   sun15-e #smsconfig-entry#
ADD: 10.2.1.7   sun15-f #smsconfig-entry#
ADD: 10.2.1.8   sun15-g #smsconfig-entry#
ADD: 10.2.1.9   sun15-h #smsconfig-entry#
ADD: 10.2.1.10  sun15-i #smsconfig-entry#
ADD: 10.2.1.11  sun15-j #smsconfig-entry#
ADD: 10.2.1.12  sun15-k #smsconfig-entry#
ADD: 10.2.1.13  sun15-l #smsconfig-entry#
ADD: 10.2.1.14  sun15-m #smsconfig-entry#
ADD: 10.2.1.15  sun15-n #smsconfig-entry#
ADD: 10.2.1.16  sun15-o #smsconfig-entry#
ADD: 10.2.1.17  sun15-p #smsconfig-entry#
ADD: 10.2.1.18  sun15-q #smsconfig-entry#
ADD: 10.2.1.19  sun15-r #smsconfig-entry#
ADD: 10.2.1.1   sun15-sc-i1 #smsconfig-entry#
ADD: 10.1.1.50  sun15-sc-C1 #smsconfig-entry#
ADD: 10.1.1.51  sun15-sc0-C1-failover #smsconfig-entry#
ADD: 10.1.1.52  sun15-sc0-hme0 #smsconfig-entry#
ADD: 10.1.1.53  sun15-sc0-eri1 #smsconfig-entry#
ADD: 10.3.1.1   sun15-sc0-i2 #smsconfig-entry#
ADD: 10.3.1.2   sun15-sc1-i2 #smsconfig-entry#
----------------------
Update the hosts file, "/etc/hosts", with these changes? [y,n] y
Hosts file "/etc/hosts" has been updated.

The following information is about to be applied to the "/etc/netmasks" file.
----------------------
ADD network: 10.1.1.50, mask: 255.255.255.0
ADD network: 10.2.1.0, mask: 255.255.255.224
ADD network: 10.3.1.0, mask: 255.255.255.224
----------------------
Update the netmasks file, "/etc/netmasks", with these changes? [y,n] y
Netmasks files "etc/netmasks" has been updated.

sc1:#
```

6. **Configure the Name Services for SMS**

7. **Log in to the SC as superuser.**

8. **Edit the** /etc/nsswitch.conf **file.**

a. **The first entry for** `password`, `group`, `hosts`, `netmasks` **and** `ethers` **should be** `files`. **List other naming services in use, such as** `nis` **or** DNS, **next.**

The following example shows the correct partial contents of an `/etc/nsswitch.conf` file on the spare SC. The look-up order for the database entries is first `files` then naming services.

```
sc0: # vi /etc/nsswitch.conf
...
passwd:        files nis
group:         files nis
...
hosts:         files nis
...
netmasks:      files nis
...
ethers:        files nis
...
```

Note – `smsconfig` automatically updates the `/etc/netmasks` and the `/etc/inet/hosts` file with all the private host names and logical addresses for the SC.

9. **Update your Solaris Naming software (NIS, NIS+, DNS, etc), as appropriate.**

10. **Apply any relevant patches, unless otherwise noted in the patch instructions.**

See "Patches" on page 50. If no patches are needed you can proceed to Step 11.

11. **Reboot the former main SC.**

```
sc0: # reboot
```

You must reboot the SC in order for the changes to take effect. Once you have rebooted the system, network configuration is complete and SMS will start and SC0 will become the spare SC.

12. **Login in the new main SC (SC1) as a user with** `platadmn` **privileges and turn on failover.**

```
sc1: # /opt/SUNWSMS/bin/setfailover on
```

13. **Proceed to "To Add Users to SMS Groups and Configure Directory Access" on page 34.**

Adding Users to SMS

The SMS security model uses group membership to provide users with the authority to perform various system management tasks. The level and type of system management available depends on a user's group membership. For more information, refer to Chapter 2, "SMS Security" in the *System Management Services (SMS) 1.2 Administrator Guide.*

Note – Adding users using `smsconfig` must be performed on both the main and spare SCs once software installation and network configuration are completed.

The SMS user group IDs are created during initial installation. The following table lists the user groups that are set up for you:

User Group ID	User Group Description
`platadmn`	Platform Administrator Group
`platsvc`	Platform Service Group
platoper	Platform Operator Group
dmnaadmn	Domain A Administrator Group
dmnbadmn	Domain B Administrator Group
dmncadmn	Domain C Administrator Group
dmndadmn	Domain D Administrator Group
dmneadmn	Domain E Administrator Group
dmnfadmn	Domain F Administrator Group
dmngadmn	Domain G Administrator Group
dmnhadmn	Domain H Administrator Group
dmniadmn	Domain I Administrator Group
dmnjadmn	Domain J Administrator Group
dmnkadmn	Domain K Administrator Group
dmnladmn	Domain L Administrator Group
dmnmadmn	Domain M Administrator Group
dmnnadmn	Domain N Administrator Group
dmnoadmn	Domain O Administrator Group

User Group ID	User Group Description *(Continued)*
dmnpadmn	Domain P Administrator Group
dmnqadmn	Domain Q Administrator Group
dmnradmn	Domain R Administrator Group
dmnarcfg	Domain A Configuration Group
dmnbrcfg	Domain B Configuration Group
dmncrcfg	Domain C Configuration Group
dmndrcfg	Domain D Configuration Group
dmnercfg	Domain E Configuration Group
dmnfrcfg	Domain F Configuration Group
dmngrcfg	Domain G Configuration Group
dmnhrcfg	Domain H Configuration Group
dmnircfg	Domain I Configuration Group
dmnjrcfg	Domain J Configuration Group
dmnkrcfg	Domain K Configuration Group
dmnlrcfg	Domain L Configuration Group
dmnmrcfg	Domain M Configuration Group
dmnnrcfg	Domain N Configuration Group
dmnorcfg	Domain O Configuration Group
dmnprcfg	Domain P Configuration Group
dmnqrcfg	Domain Q Configuration Group
dmnrrcfg	Domain R Configuration Group

▼ To Add Users to SMS Groups and Configure Directory Access

SMS provides the ability to add users to SMS groups and refine user access to directories on the Sun Fire 15K. This functionality protects domain integrity and system security.

1. Login as superuser.

2. **To correctly configure SMS groups and administrative privileges, you must use the following command for each user you wish to add.**

```
sc0: # /opt/SUNWSMS/bin/smsconfig -a -u username -G groupname
domain_id|platform
```

where:

username is the name of a user account on the system.

groupname is one of the following valid group designations: admn, rcfg, oper or svc.

domain_id is the ID for a domain. Valid *domain_id* s are A through R and are case insensitive.

For example, to add a user to the dmnaadmn group with access to domain a directories, type:

```
sc0: # /opt/SUNWSMS/bin/smsconfig -a -u fdjones -G admn a
fdjones has been added to the dmnaadmn group
All privileges to domain a have been applied.
```

Note – Do *not* manually add or remove users from SMS groups in the /etc/group file. This can limit or deny access to users.

3. **To list SMS groups and administrative privileges, use the following command.**

```
sc0: # /opt/SUNWSMS/bin/smsconfig -l domain_id|platform
```

For example, to display all users with platform privileges, type:

```
sc0: # /opt/SUNWSMS/bin/smsconfig -l platform
fdjones
jtd
```

4. **To correctly configure SMS groups and administrative privileges, you must use the following command for each user you wish to remove.**

```
sc0: # /opt/SUNWSMS/bin/smsconfig -r -u username -G groupname
domain_id|platform
```

For example, to remove fdjones from the dmnbadmn group, type:

```
sc0: # /opt/SUNWSMS/bin/smsconfig -r -u fdjones -G admn B
fdjones has been removed from the dmnbadmn group.
All access to domain B is now denied.
```

where:

username is the name of a valid user account on the system.

groupname is one of the following group designations: admn, rcfg, oper or svc.

domain_id is the ID for a domain. Valid *domain_id* s are A through R and are case insensitive.

Note – Do *not* manually add or remove users from SMS groups in the /etc/group file. This can limit or deny access to users.

▼ To Update the Flash PROMs

When you upgrade the SMS software you must update the SC and CPU flash PROMs on both SCs. This is not necessary for software reinstallation. Updating the flash PROMs should be done as soon as you have created system privileges. You must have platform privileges to run the flashupdate(1M) command.

Note – In order to update your SC PROMs you must have access to the following drivers:

```
sc0:# ls -l /dev/uflash
lrwxrwxrwx  1  root  other   62 Oct 16 20:30 /dev/uflash0 ->
../devices/pci@1f,0/pci@1,1/ebus@1/flashprom@10,400000:uflash0
lrwxrwxrwx  1  root  other   62 Oct 16 20:30 /dev/uflash0 ->
../devices/pci@1f,0/pci@1,1/ebus@1/flashprom@10,400000:uflash0
```

Note – If the drivers are not available you must run the following command as superuser on each SC:

```
sc0:# /usr/sbin/devfsadm -i uflash
```

1. **Log in to the main SC as a user with** platadmn **privileges.**

2. **Upgrade the SC Flash PROMs.**

   Update the SC PROMs using flashupdate.

```
sc0:sms-user:> flashupdate -f /opt/SUNWSMS/firmware/SCOBPimg.di location
sc0:sms-user:> flashupdate -f /opt/SUNWSMS/firmware/SSCPOST.di location
```

   For more information on flashupdate(1M) refer to the *System Management Services (SMS) 1.2 Reference Manual* or the flashupdate man page.

3. **Drop to the OpenBoot PROM prompt.**

```
sc0:sms-user:> su -
password: [superuser passwd]
sc0:# shutdown -y -g0 -i0
...[system message]
ok
```

4. **Reset the SC. Type:**

```
ok reset-all
```

5. **Log in to the main SC as a user with** platadmn **privileges.**

6. **Upgrade the CPU Flash PROMs.**

   Update the CPU Flash PROMs using flashupdate.

```
sc0:sms-user:> flashupdate -f /opt/SUNWSMS/hostobjs/sgcpu.flash location
```

   For more information on flashupdate(1M) refer to the *System Management Services (SMS) 1.2 Reference Manual* or the flashupdate man page.

7. **Log in to the spare SC as a user with** platadmn **privileges.**

8. **Repeat Steps 2-6 for the spare SC.**

Creating a Domain

This section describes the following procedures for creating a new domain:

Note – You must have a valid `idprom.image` file for the domain in the `/var/opt/SUNWSMS/data/`*domain_id* directory in order to create a domain. Contact your Sun service representative if this file is missing.

- To Build a New Domain on the System Controller
- To Activate the Domain
- To Bring Up a Console for the Domain

▼ To Build a New Domain on the System Controller

For the examples in this guide:

Prompt	Definition
sc0:#	Superuser on the main SC
domain_id: #	Superuser on the domain
sc_name:sms-user:>	User prompt on the SC. *sms-user* is the `user-name` of an administrator, operator, configurator or service personnel logged in to the SC.
domain_id:sms-user:>	User prompts on the domain *sms-user* is the `user-name` of the administrator, operator, configurator or service personnel logged in to the domain.

The privileges allotted to the user are determined by the platform or domain groups to which the user belongs. In these examples, the *sms-user* is assumed to have both platform and domain administrator privileges, unless otherwise noted.

1. **Log in as a user with** `platadmn` **privileges, and create a domain by adding boards.**

```
sc0:sms-user:> addboard -d domain_id -c assign board_id [board_id]
```

where:

domain_id is the ID of the domain (`A` through `R`) that you are creating

board_id corresponds to board location. The following *board_id* forms are accepted:

SB(0...17)

IO(0...17)

For example, the following command adds CPU boards in slots 4, 12, and 15 to domain A.

```
sc0:sms-user:> addboard -d A -c assign SB4 SB12 SB15
```

The next example adds I/O boards in slots 3, 12, and 17 to domain A.

```
sc0:sms-user:> addboard -d A -c assign IO3 IO12 IO17
```

2. **Use the** `deleteboard`**(1M) command if you need to remove boards from an inactive domain**

```
sc0:sms-user:> deleteboard -c unassign location [location]
```

where:

location is the board location. The following *location* forms are accepted:

SB(0...17)

IO(0...17)

For example, the following command removes the CPU board in slot 12 of slot 0 from domain A.

```
sc0:sms-user:> deleteboard -c unassign SB12
```

The next example removes an I/O board in slot 3 of slot 1 from domain A.

```
sc0:sms-user:> deleteboard -c unassign IO3
```

3. **Add a tag for the domain.**

```
sc0:sms-user:> addtag -d domain_id domain_tag
```

where:

domain_id is the ID of the domain (A through R) you are creating.

domain_tag is the name of the new tag you are adding for the domain, such as domainA.

For example, the following command adds the tag for domain A to the platform configuration database (PCD).

```
sc0:sms-user:> addtag -d A domainA
```

4. **Use the** deletetag**(1M) command if you want to remove a tag.**

```
sc0:sms-user:> deletetag -d domain_id
```

where:

domain_id is the ID of the domain from which you want to remove a tag (A through R).

For example, the following command deletes the tag for domain A from the platform configuration database (PCD).

```
sc0:sms-user:> deletetag -d A
```

▼ To Activate the Domain

Note – To install the Solaris operating environment and SMS on a new system controller, you must have a valid idprom.image file in /var/opt/SUNWSMS/data/*domain_id*/idprom.image, where *domain_id* is A through R. If you do *not* have this file already, contact your Sun service representative.

SMS contains a virtual key switch for each domain, which controls the states of the domain. The showkeyswitch(1M) command displays the position of the virtual key switch, and the setkeyswitch(1M) command changes the position of the virtual

key switch. The valid positions of the virtual key switch are on, standby, off, diag, and secure. For more information refer to the *System Management Services (SMS) 1.2 Reference Manual.*

1. **Display the domain status.**

```
sc0:sms-user:> showkeyswitch -d domain_id
```

where:

domain_id is the ID of the domain (A through R) for which you want to check status.

For example, the following command shows the status of domain A.

```
sc0:sms-user:> showkeyswitch -d A
```

2. **Activate the domain as a user with Domain Administrator (**dmnaadmn**) privileges.**

```
sc0:sms-user:> setkeyswitch -d domain_id position
```

where:

domain_id is the ID of the domain (A through R) you want to activate

position is whether you want the virtual keyswitch in the on (activate), off (deactivate), standby, diag, or secure position.

For example, the following command activates domain A.

```
sc0:sms-user:> setkeyswitch -d A on
```

3. **If you need to deactivate a domain, set the *position* of the virtual keyswitch to** off.

For example, the following command deactivates domain A.

```
sc0:sms-user:> setkeyswitch -d A off
```

▼ To Bring Up a Console for the Domain

The conditions required for network console are as follows:

- The network was properly installed and configured on both the SC and the domain in question using the *Sun Fire 15K System Site Planning Guide* and smsconfig.

- A network connection exists between the SC and the domain in question.
- IPSec configuration on both SC and the domain in question were properly installed and configured using smsconfig. For more information on IPSec, see the kmd(1M) man page and Chapter 3 in the *System Management Services (SMS) 1.2 Administrator Guide.*

1. **Bring up an active console window for the domain**

```
sc0:sms-user:> console -d domain_id
```

where:

domain_id is the ID of the domain (A through R) for which you want to bring up a console.

For example, the following command brings up a console for domain A.

```
sc0:sms-user:> console -d A
```

In the domain console window, vi(1) runs properly and the escape sequences (tilde commands) work as intended only if the environment variable TERM has the same setting as that of the console window.

For example:

```
domain_id:sms-user:> setenv TERM xterm
```

For more information on domain console refer to the *System Management Services (SMS) 1.2 Administrator Guide* and the console man page.

Setting Up and Installing the Solaris Operating Environment for the Domain

This section describes the following procedures for setting up and installing the Solaris operating environment for the domain:

- To Set up the Network Install Server on the System Controller
- To Set Up the Domain as an Install Client
- To Install the Solaris Operating Environment on the Domain

Note – If you had the Solaris operating environment pre-installed on your system or you have run the `sys-unconfig` command on the domain please see "Unconfigured Domains" on page 48 before proceeding.

▼ To Set up the Network Install Server on the System Controller

You must create an install server to install the Solaris operating environment software for a domain over the network. You should be familiar with setting up network install servers before beginning this procedure. For information on configuring network install servers, refer to the *Solaris 8 Advanced Installation Guide*.

Refer to the *Solaris 8 Advanced Installation Guide* for information on setting up the spare SC as an install client.

For partition and Solaris operating system distribution information see Section "Preparing to Reinstall or Upgrade" on page 1-2.

▼ To Set Up the Domain as an Install Client

After you have created an install server on sc0, you are ready to install the Solaris operating environment software for the domain over the network. The system needs to identify the name of the domain, and you add this information by using the `add_install_client`(1M) command. Refer to the *Solaris 8 02/02 Reference Manual* for more information about the `add_install_client`(1M) command.

1. **Obtain the MAN network Ethernet address at the OpenBoot PROM prompt by typing:**

```
ok  banner
```

2. **As superuser on SC0, set up the host domain as an install client.**

```
sc0: # /install_dir_path/Solaris_8/Tools/add_install_client -e
domain_man_etheraddr -s scI1_hostname:/install_dir_path  -c
scI1_hostname:/install_dir_path domain_hostname sun4u
```

where:

install_dir_path specifies the directory where the CD images were copied.

domain_man_etheraddr is the Ethernet address for the domain.

scI1_hostname is the hostname given to the SC I1 network during the `smsconfig -m` procedure.

domain_hostname is the name given to the domain I1 network interface assigned during the `smsconfig -m` procedure.

See "To Configure the Management Network (MAN) Using `smsconfig`(1M)." The domain host name was originally defined on the worksheet in the *Sun Fire 15K System Site Planning Guide.*

▼ To Install the Solaris Operating Environment on the Domain

1. **Display the functioning network interfaces.**

```
ok watch-net-all
```

If `watch-net-all` reports a failure on the device associated with `man-net`, you will need to contact your Sun representative.

2. **Network boot the domain from the SC using the Management Network. Type:**

```
ok  boot man-net
```

3. **Install the Solaris operating environment for the domain.**

Refer to your *Sun Fire 15K System Site Planning Guide* for site specific and system dependent information when prompted during installation.

Note – To use dynamic reconfiguration (DR) you must install at least the `Entire Distribution` software group (or higher) of the Solaris 8 02/02 operating environment on the domain.

---

4. **Change the domain nodename.**

When using the SC as an install server for a domain, change the domain's nodename after the installation is complete. This reduces the amount of network traffic generated between the domain and SC over the MAN network. Change the nodename of the domain to the hostname of one of its external network interfaces (for example, qfe0).

To change the domain's nodename do the following:

1. Log in to the domain as superuser.

2. Type:

```
domain_id:# uname -S new_nodename
domain_id:# echo new_nodename > /etc/nodename
```

3. Log out.

5. **Remove the domain from the network install server list.**

After installing the domain software, to remove the domain from the install server list:

1. Log in to the SC as superuser.

2. Type:

```
sc0:#/install_dir_path/Solaris_8/Tools/rm_install_client
domain_hostname
```

3. In preparation for Step 4 of the next procedure, note the physical disk location. For example, type:

```
sc0:#ls -la /dev/dsk/c0t17d0s0
lrwxrwxrwx   1 root      root            77 Nov 20 17:38
/dev/dsk/c0t17d0s0 ->
../../devices/pci@3c,600000/pci@1/SUNW,qlc@4/fp@0,0/ssd@w21000020
370dac0c,0:a
```

4. Log out.

▼ To Set Up OpenBoot PROM Environment Variables for the Domain

1. **At the domain console's** ok **prompt, remove any duplicate entries in the** devalias **list.**

```
ok nvunalias duplicate_alias
```

where:

duplicate_alias is the alias of the duplicate entry.

Note – This sequence must be repeated once per duplication. nvunalias removes only one device alias at a time; the last one in the list of device aliases.

---

2. **Display the OpenBoot PROM device tree to use in creating the device aliases.**

```
ok show-devs
```

3. **Display the functioning network interfaces.**

```
ok watch-net-all
```

4. **Set the** *bootdisk_alias* **so that it refers to the device on which you are installing the Solaris operating environment.**

```
ok nvalias bootdisk_alias device_string
```

where:

bootdisk_alias is the alias for the device on which you are installing the Solaris operating environment

device_string is the string for the device on which you are installing the Solaris operating environment as displayed in Step 3.

For example:

```
nvalias disk /pci@3c,600000/pci@1/SUNW,qlc@4/fp@0,0/disk@w21000020370dac0c,0:a
```

> **Note –** Enter the nvalias command on a single line. In the above example, the *ssd* in the physical disk location changed to *disk* in the boot string.

5. **Use the** setenv **command to set the default boot device to the correct alias.**

```
ok setenv boot-device bootdisk_alias
```

where:

bootdisk_alias is the user-defined alias you established in Step 5. The boot device must correspond to the a bootable disk on which you are installing the operating environment. This variable will be used in case of a panic and auto-boot. It is very important to set this variable correctly.

6. **Now that you have set up an alias for your boot device, boot the disk by typing:**

```
ok boot
```

Unconfigured Domains

If you had the Solaris operating environment pre-installed on a domain or have run the sys-unconfig(1M) command on a domain, you must configure the MAN network information on that domain manually.

> **Note –** Do not add the domain as an install client on the SC prior to booting the domain, as described in "To Set Up the Domain as an Install Client" on page 44.

▼ To Configure Domain Networks

1. **Log in to the domain as superuser.**

2. **Type:**

```
domain_id:#ndd -get /dev/dman man_get_hostinfo
```

The following is an example of the output displayed.

```
manc_magic = 0x4d414e43
manc_version = 01
manc_csum = 0x0
manc_ip_type = AF_INET
manc_dom_ipaddr = 10.1.1.3
manc_dom_ip_netmask = 255.255.255.224
manc_dom_ip_netnum = 10.1.1.0
manc_sc_ipaddr = 10.1.1.1
manc_dom_eaddr = 0:0:be:a8:48:26
manc_sc_eaddr = 8:0:20:f9:e4:54
manc_iob_bitmap = 0x400 io boards = 10.1,
manc_golden_iob = 10
```

3. **Add or edit a network-i1 entry to** /etc/netmasks, **using the following format:**

```
manc_dom_ip_netnum  manc_dom_ip_netmask
```

For example:

```
10.1.1.0 255.255.255.224
```

4. **Create an** `/etc/hostname.dman0` **file with the following content:**

```
manc_dom_ipaddr netmask + broadcast + private up
```

For example:

```
10.1.1.3 netmask + broadcast + private up
```

5. **Ensure that the 'manc_sc_ipaddr' IP address matches what's in /etc/syslog.conf:**

```
domain_id:# cat /etc/syslog.conf
```

```
...
*.notice                    @10.1.1.1
```

If not, edit the `/etc/syslog.conf` file. Save and exit.

6. **Type:**

```
domain_id:# ifconfig dman0 plumb
domain_id:# ifconfig dman0 manc_dom_ipaddr netmask + broadcast +
private up
```

where

manc_dom_ipaddr is the domain IP address listed in `/etc/netmasks`.

7. **The domain is now configured.**

Patches

If you need to apply a patch to SMS 1.2, disable failover before installing the patch.

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

Follow these guidelines and notify the affected administrators:

- The system should be stable.
- No DR operations should be in progress.
- No domain bringup or shutdown should be in progress.
- No user initiated `datasync` or `cmdsync` operations should be in progress.

Complete any domain, board, or configuration changes *before* you begin patch installation.

Please read all patch instructions carefully before attempting this procedure. Instructions in the patch procedure could preempt these instructions.

This example assumes the main SC is `sc0` and the spare SC is `sc1`.

▼ To Disable Failover

1. **Log in to the main SC as superuser.**

2. **Backup your system configuration on the main:**

```
sc0:# /opt/SUNWSMS/bin/smsbackup directory
```

3. **Log in to the main SC with platform administrator privileges.**

4. **Synchronize the main SC to the spare and backup to the spare. Type:**

```
sc0:sms-user:> /opt/SUNWSMS/bin/setdatasync backup
```

Wait until all files have been propagated.

5. **Verify that all files have been propagated. Type:**

```
sc0:sms-user:> /opt/SUNWSMS/bin/showdatasync -Q
FILE
sc0:sms-user:>
```

When no files are listed in the queue, propagation is complete.

6. **Failover to the spare:**

```
sc0:sms-user:> /opt/SUNWSMS/bin/setfailover force
```

7. **Patch sc0 (main) according to patch instructions.**

8. **Log in to the spare SC with platform administrator privileges.**

9. **Reactivate failover:**

```
sc1:sms-user:> /opt/SUNWSMS/bin/setfailover on
```

10. **Fail back to sc0:**

```
sc1:sms-user:> /opt/SUNWSMS/bin/setfailover force
```

11. **Patch sc1 (spare) according to patch instructions.**

12. **Reactivate failover:**

```
sc0:sms-user:> /opt/SUNWSMS/bin/setfailover on
```

13. **You have finished the patch process for main and spare.**

Installing Additional Software Packages

The additional software packages are in separate media. Install the software packages one at a time, from the appropriate media. There is no particular order in which the packages need to be installed. Following are additional packages that you may want to install:

- Sun Remote Services (SRS)
- Veritas Volume Manager (VM)
- Load Sharing Facility (LSF) 3.2.3
- Workshop 7
- ClusterTools 3.1
- C programming language and compiler
- Fortran 77 programming language and compiler
- Oracle database software

▼ To Install Additional Software Packages

1. **Log in to the SC as superuser.**

2. **Insert the appropriate installation CD into the CD-ROM drive on the SC.**

3. **Use the** share**(1M) command to share the CD across the network.**

1. Verify that the `nfsd` server is running. Type:

```
sc0:#ps -ef | grep nfsd
```

Add a CDROM entry to the `/etc/dfs/dfstab` file:

```
share -F nfs -o ro,anon=0 /cdrom/cdrom0
```

To propagate the CDROM image to NFS, type:

```
sc0:#/etc/init.d/nfs.server start
```

4. **Log in to the domain as superuser.**

5. **Create and mount the** `/cdrom` **directory for the domain.**

```
domain_id: # mkdir /cdrom
domain_id: # mount SC-I1:/cdrom/cdrom0 /cdrom
```

where:

SC-I1: is the hostname specified for the SC I1 network in Step 5 of "To Configure the Management Network (MAN) Using `smsconfig`(1M)" on page 19.

6. **Add the additional software package.**

```
domain_id: # cd /cdrom/install_disk_name
domain_id: # pkgadd -d . software_package_name
```

where:

install_disk_name is the name of the installation disk from which you are installing.

software_package_name is the name of the software package you are adding.

The `pkgadd`(1M) command might display several messages and ask several installation questions for each package, some relating to space, others asking whether it is OK to continue. After answering these questions, and when asked whether to proceed, answer yes.

7. **Unmount the CD.**

```
domain_id: # cd /
domain_id: # umount /cdrom
```

8. **Log out of the domain and log in to the SC as superuser.**

9. **Eject the installation CD from the CD-ROM drive on the SC.**

```
sc0: # cd /
sc0: # eject cdrom
```

Network Time Protocol (NTP)

▼ To Configure the NTP Packages

1. **After you install any additional software packages, configure the** `ntp.conf` **file for each domain, to synchronize clocks between the SC and its domain.**

   For details on configuring the domain `ntp.conf` file, which resides at `/etc/inet/ntp.conf`, refer to "Configuring NTP" on page 71 of the *System Management Services (SMS) 1.2 Administrator Guide*.

   For more information about NTP commands, refer to the `xntp`(1M) man page in the man Pages(1M): System Administration Commands section of the Solaris 8 02/02 Reference Manual Collection.

Stopping and Starting SMS

For diagnostic or service reasons you may be asked to stop and restart SMS. The following procedure describes how to do that manually.

▼ To Manually Stop and Restart SMS

1. **Log in to the SC as a user with platform administrator privileges.**

   You must have platform administrator privileges to run setfailover.

2. **Turn off failover.**

   ```
   sc0: # /opt/SUNWSMS/bin/setfailover off
   ```

3. **Log out as a platform administrator.**

4. **Log in to the SC as a user with** superuser **privileges.**

   You must have superuser privileges to perform the following tasks.

5. **Use the** /etc/init.d/sms **script to stop SMS.**

   ```
   sc0: # /etc/init.d/sms stop
   ```

6. **Use the** /etc/init.d/sms **script to restart SMS.**

   ```
   sc0: # /etc/init.d/sms start
   ```

   Note – This procedure assumes that smsconfig -m has already been run. If smsconfig -m has not been run, you will receive the following error and SMS will exit.

   ```
   sc0: # /etc/init.d/sms start
   sms: smsconfig(1M) has not been run. Unable to start sms services.
   ```

7. **Log out as superuser.**

8. **Log in to the SC as a user with platform administrator privileges.**

9. **Turn on failover.**

   ```
   sc0: # /opt/SUNWSMS/bin/setfailover on
   ```

10. **Type:**

```
sc0:sms-user:> /opt/SUNWSMS/bin/showenvironment
```

11. **Wait until** showenvironment **finishes displaying all board status.**

   At this point you can log out and begin using SMS programs.

Mounting the CD-ROM over NFS

▼ To Share SMS Packages on the Spare SC to the Main SC

1. **Log in to the main SC as superuser.**

2. **Insert the Software Supplement for the Solaris 8 02/02 Operating Environment CD-ROM into the CD-ROM drive.**

3. **Use the** share**(1M) command to share the CD across the network.**

   1. Verify that the nfsd server is running. Type:

   ```
   sc0:#ps -ef | grep nfsd
   ```

   Add a CDROM entry to the /etc/dfs/dfstab file:

   ```
   share -F nfs -o ro,anon=0 /cdrom/cdrom0
   ```

   To propagate the CDROM image to NFS, type:

   ```
   sc0:#/etc/init.d/nfs.server start
   ```

4. **Log in to the spare SC as superuser.**

5. Create and mount the /cdrom **directory for the spare SC.**

```
sc1:# mkdir /cdrom
sc1:# mount SC-I1:/cdrom/cdrom0 /cdrom
```

where:

SC-I1: is the hostname specified for the SC I1 network in Step 5 of "To Configure the Management Network (MAN) Using smsconfig(1M)" on page 19.

6. Change to the Product **installation directory:**

```
sc1: # cd /cdrom/cdrom0/System_Management_Services_1.2/Product
```

System Management Services 1.2 Release Notes

This chapter contains the release notes for System Management Services (SMS) 1.2 on Sun Fire 15K servers and covers the following topics:

- Known Limitations
- General Issues
- SMS Documentation Notes
- Fixed SMS 1.2 Bugs
- SMS 1.2 Software Bugs/RFEs
- Fixed Other Bugs
- Other Bugs

Known Limitations

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

- At the initial release of the Solaris 8 02/02 operating environment, not all dynamic reconfiguration capabilities are available for all Sun Fire 15K server configurations. Refer to `http://www.sun.com/datacenter/resourcemgt/` for up-to-date information. `Addboard`, `deleteboard` and `moveboard` can only assign boards, they cannot connect nor configure boards, nor change the domain active state.
- `smsversion` does not automatically implement SMS 1.2 features, such as IPv6, on domains. This must be done manually. If you return to SMS 1.1 from SMS 1.2, `smsversion` does not automatically restore domain configuration settings. This must be done manually. Refer to BugId 4484851.

General Issues

This section contains general issues that involve SMS on Sun Fire 15K systems.

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, Volume 3* of the Solaris 8 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 `eri1` under Solaris software for each SC. You will be required to configure `hme0` or `eri1` 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.

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
```

External network-based 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.

IPSec Configuration

Disks intended to be used on a Sun Fire 15K system must be installed using a Sun Fire 15K 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.

Hardware

When a board breaker is turned off and ready to be taken out of the system, I2C timeout errors will be seen. These messages are a notification and does not indicate that an error has occurred. They can be ignored.

DVD-10

The DVD-10 will not be correctly mounted at the operating system level; `vold` does not recognize it (BugID 4355643). There is a workaround:

1. **Log in as superuser.**

2. **Type:**

```
sc0:# drvconfig; devlinks; disks
```

3. **Ensure /dev/dsk/ has a c0t6 device.**

```
sc0:#ls /dev/dsk/c0t6*
/dev/dsk/c0t6d0s0@   /dev/dsk/c0t6d0s3@   /dev/dsk/c0t6d0s6@
/dev/dsk/c0t6d0s1@   /dev/dsk/c0t6d0s4@   /dev/dsk/c0t6d0s7@
/dev/dsk/c0t6d0s2@   /dev/dsk/c0t6d0s5@
```

4. **Stop the volume manager:**

```
sc0:#/etc/init.d/volmgt stop
```

5. **Mount the CD:**

```
sc0:#mount -F hsfs -r /dev/dsk/c0t6d0s0 /cdrom
```

The DVD is now ready to use.

SMS Documentation Notes

Location

Software documentation for this release is provided, in PDF form, at the following location:

```
/cdrom/cdrom0/System_Management_Services_1.2/Docs
```

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

816-2527-10.pdf - System Management Services (SMS) 1.2 Administration Guide

816-2528-10.pdf - System Management Services (SMS) 1.2 Reference Manual

816-2529-10.pdf - System Management Services (SMS) 1.2 Installation Guide and Release Notes

816-3285-10.pdf - Sun Fire 15K Software Overview Guide

Documentation Errata

Man Page Omission

The `enablecomponent` and `disablecomponent` manpages do not contain support for Paroli modules on wPCI boards.

The following operand is supported:

board_loc/paroli_link

The following *paroli_link* forms are valid:

PAR(0|1)

For example:

```
sc0:sms-user:> disablecomponent IO7/PAR0
sc0:sms-user:> showcomponent
Component PARS at 1O7/PAR0 is disabled <no reason given>
```

See BugID 4546763.

Dynamic Reconfiguration Documentation

References to dynamic reconfiguration documentation should be disregarded.

Fixed SMS 1.2 Bugs

This section contains bugs fixed since SMS 1.1.

`setkeyswitch` Returns Success on Failure (BugId 4430866)

If `setkeyswitch` is already running for a domain, and you try to run it again, an error message is printed, but the return code is 0. A non-zero result would indicate failure.

Board Test Status Gets Lost After Failover (BugId 4431636)

When failover occurs, `pcd` receives poweron events from `esmd`. `pcd` clears the test status field of those boards being reported as powered on by `esmd` (even though in reality they are not being powered on).

Console Session Would Not Open (BugId 4447218)

A console session does not connect if dxs/dca are not running.

`dsmd` May Leave Domain Off (BugId 4448476)

If a domain does not perform an environmental shutdown quickly enough, `dsmd` may leave it off. `esmd` is not sending a recover event to `dsmd`.

Strange Character in `frad` Messages (BugId 4466020)

`frad` messages in the message log files sometimes contain a bad string in place of the FRUID. This does not crash the daemon and nothing needs to be done.

SMS CLIs Must Revoke Privileges for Platsvc (BugId 4477169)

The following commands should not be executable by platsvc:

`disablecomponent, enablecomponent, flashupdate, poweron, poweroff, resetsc, setbus, setfailover.`

`showdate` Does Not Conform to the Privileges Table and man pages (BugId 4477357)

`showdate` privileges are incorrect and allow all users access to both the platform and the domains. `showdate` should be executable as follows:

Platform administrator, operator and service can only run `showdate` for the platform. Domain administrator and configurator can only run `showdate` on the domain for which they have privileges.

Usage Message for `showcomponent` Needs to Be Updated (BugId 4477464)

The usage message for the `showcomponent` command does not match the man page. Needs to be updated to follow the accepted nomenclature.

`showkeyswitch` Failed When Run with Platform Permissions (BugId 4477473)

Only the platform admin can run showkeyswitch for a domain.

Workaround: The platoper or platsvc will need to run `showplatform -d` *domain_id* to see the keyswitch state of domains.

`esmd` Gives Incorrect Power Information at Startup Time (BugId 4479317)

`esmd` calculates available power based on how many power supplies it has probed. At startup time, `esmd` registers a power supply failure because it has not yet probed all the power supplies. It then logs an incorrect message about available power.

SMS Needs to Handle Lock Timeouts More Cleanly (BugId 4484180)

When running SMS operations (like setkeyswitch, for example) on machines with many domains (greater than 10) you see failures due to "lock acquisition failures".

`smsconnectsc` Should Not Support "-q" Option.(BugId 4484857)

Currently, `smsconnectsc` supports the "-q" command line option which suppress all messages to `stdout` including prompts and you will not get the `tip` console.

`setkeyswitch on` Should Provide Notification When Waiting to Start POST (BugId 4485413)

If POST is already running on several domains, `setkeyswitch` may appear to hang before starting POST. It can take up to 50+ minutes to finish.

`esmd` Does Not Do a Graceful Domain Shutdown (BugId 4487091)

When both CSBs overheat simultaneously `esmd` does not gracefully shutdown the domain.

Duplicate Container Nodes in PICL FRU Tree After `esmd` Dies (BugId 4488053)

Occurs when `esmd` restarts.

Domain Log Fills Up with Mailbox Messages (BugId 4488179)

The internal network fails when Sun Management Center starts up. The domain can be reached by the external network but not by the internal network.

`xir` Outputs Lock Error Messages (BugId 4488549)

A library routine is trying to get status. This does not affect the operation, only the return code.

Error Messages Before SC Has Become Main (BugId 4489856)

After starting SMS but before the SC has become main, the `hwad` and `fomd` error messages are printed in the platform log. These error messages vanish once the SC has becomes main.

Sometimes the SC Cannot Become Main (BugId 4489958)

After running `setfailover force`, the desired new main sometimes has problems becoming main. `pcd` repeatedly fails to startup. The SC eventually gives up and remains in an UNKNOWN state until it is either reset or SMS is cycled. The old main comes back up, does not detect interrupts, and then assumes the main role.

Relevant `/etc` Files Should Be Backed up with `smsbackup` (BugId 4490943)

Files under the `/etc` directory are not backed up by the smsbackup command. These include but are not limited to: `/etc/hosts`, `/etc/nsswitch.conf`, `/etc/group` and `/etc/hostname.*` Consequently, an `smsrestore` does not restore a system to its previous working state completely.

`dsmd` Loops Trying to Clear Recordstop (BugId 4492052)

`dsmd` attempts clear recordstops, after the hardware state dump is taken. The recordstop may not be cleared if the lowest numbered expander board is unconfigured. This causes `dsmd` to continue taking recordstop dumps indefinitely.

Periodic File Propagation Not Working (BugId 4496790)

After starting SMS on main and spare, the platform message file does not get copied to spare. Other files in `/var/opt/SUNWSMS/adm/A...R` get copied once when starting failover, but never again. `pcd` files get propagated but other files don't.

Failover Bugs

Addboard Hangs After Interrupted by Failover (BugId 4459812)

Domain Dstop During SMS Start on Previous Spare SC (BugId 4469482)

Both SC's clocks are phase locked when SMS is running. This creates a failover without the benefit of having SMS phase locking the system clocks. This, naturally, lead to a DStop.

Management Network Bugs

`smsconfig` Does Not Work Properly with IPv6 Addresses (BugID 4411113)

`smsconfig` Allows Mixed IPv4 and IPv6 (BugID 4411819)

`smsconfig` Should Set Appropriate OS Variables (BugId 4434696)

smsconfig should set the following IP `ndd` variables:

    ip_forwarding

    ip6_forwarding

    ip_respond_to_echo_broadcast

    ip6_respond_to_echo_multicast

to false using `ndd`. These settings should be configured to persist across reboots (add them to the appropriate `rc` script).

MAND Does Not Work With IPv6 Addresses (BugId 4486879)

SMS 1.2 Software Bugs/RFEs

The following are known SMS 1.2 software bugs.

`setkeyswitch` Hangs After Control-c (BugId 4349640)

`setkeyswitch` may hang after you send a `control-c` (SIGINIT) signal.

Workaround: In the event `control-c` doesn't work you can regain the prompt by killing the process using **`kill -9`**.

`esmd` Warnings and Errors Do Not Appear in Associated Domain Logs (BugId 4382784)

`esmd` logs all environmental events that affect one or more domains to the platform log but not the domain log.

Workaround: None. Refer to the platform log where the messages are logged.

`kmd` Does Not Delete Security Associations on the Domain (BugId 4403149)

After a failover, `kmd` does not delete security associations on the domain. The security associations (SAs) are associated with socket connections between DCA to and from DCS or DXS to and from CVCD. The SAs for the SC which failed over are the ones which should have been deleted.

The SAs would be useful only for a client on the failed over SC with sockets bound to the ports in the SAs.

Workaround: Use the Solaris `ipseckey`(1M) command on the domain to delete SAs which have the IP address of the failed over SC.

Socket Error When Using the I2 Net (BugId 4472333)

After a failover/takeover, the following errors are sometimes seen when failover is activated and file propagation begins:

`"/var/opt/SUNWSMS/data/.failover/chkpt/chkpt.list"` failed - "rcmd: socket: Cannot assign requested address."

This prevents file propagation from working.

Workaround: None. File propagation will take place eventually.

`dsmd` Should Checkpoint ASR Steps (BugId 4477381)

If a failover occurs while `dsmd` is performing a domain recovery, `dsmd` may not complete the domain recovery.

Workaround: Complete the recovery manually using `setkeyswitch off`, `setkeyswitch on` and, if necessary, booting the domain.

`rcfgadm` Fails After a Failover That Occurred During DR (BugId 4478467)

If a failover occurs in the middle of a rcfgadm operation, the operation fails when restarted after the failover.

Workaround: None.

`esmd` Shouldn't Log hPCI Cassette Removal and Insertion Messages During Power On and Off (BugId 4483155)

Whenever you turn an hPCI board on and off, `esmd` logs messages indicating that its cassettes were inserted/removed.

Workaround: Ignore messages.

`mld` Leaks 8K When 8 Domains Brought Up in Parallel to OS (BugId 4497251)

Booting 8 domains in parallel to the OS level could result in a failover when the SC runs of of memory.

Workaround: Do not boot 8 domains in parallel.

`dsmd` Should Increase POST Level for Next Run If ASR Boot Fails in OBP (BugId 4513721)

`dsmd` distinguishes two types of domain reboot. A domain reboot to recover from software failures such as domain panic or heartbeat stop is performed by the minimal POST. The reboot to recover from hardware failures such as domain stop or from repeated software failure is performed by the regular POST. Currently the `dsmd`-invoked POSTs always use the hpost level specified in the `.postrc` file and this hpost level does not change between ASR retries. `dsmd` should handle such boot failures by retry the ASR reboot but the POST invoked should be done with higher hpost level.

Workaround: None.

`dsmd` Is Slow to Pick Up Domain Nodename on SMS Startup (BugId 4514742)

When the system brings up a large number of domains, commands like `showplatform` will not display all domain nodenames at once. It can take several iterations to complete the display.

Workaround: Wait til `dsmd` finishes.

The SC Rack ID is Not Displayed (BugId 4515072)

The SC should set the frame name which is displayed on the LCD of the Frame Manager.

Workaround: None.

Frame Manager LEDs are Not Being Used to Signal Problems (BugId 4515074)

The SC should signal faults with itself, the other SC or the system it is monitoring on the Frame Managers amber LEDs.

Workaround: None.

`ssd` Should Log When SMS is Ready (BugId 4529989)

It is not clear when SMS is loaded and ready for use.

Workaround: Use the showfailover command. When it completes, SMS is ready.

`rcfgadm` Exits With an Error When `-o unassign` is Used and the SB is Not in the Available Component List (BugId 4530028)

If `-o unassign -c disconnect` is used, the `unassign` is passed as an option to a domain function. In this case, the `unassign` is performed with the domain administrator privileges even if the user on the SC has platform administrator privileges.

Workaround: For the following example there are two possible workarounds.

```
sc0:sms-svc:>rcfgadm -da -v -c disconnect -o unassign SB0
This fails because SB0 is not in Domain A's available component
list.
```

Add SB0 to the available component list of domain a.

```
sc0:sms-svc:>setupplatform -da -a SB0
```

You must have both domain and platform administrator privileges then run rcfgadm twice. First to disconnect SB0 (using domain privileges) and then unassign it (using platform privileges).

```
sc0:sms-svc:> rcfgadm -da -v -c disconnect SB0
sc0:sms-svc:> rcfgadm -da -x unassign SB0
```

Power Gives the Wrong Status for SC0 (spare) (BugId 4533114)

Whenever any of the power converters on the SC are powered off SMS the `poweron` command will show that board as off, even though it is up and running.

Workaround: Make sure all power converters are on.

Comment in `kmd_policy.cf` is Misleading (BugId 4545879)

The comment in the `kmd_policy.cf` file is inaccurate. It states that specific domains should be identified using an integer in 0 - 17. The file should state a letter in A - R should be used to identify a domain.

Workaround: Use domain letters in the `kmd_policy.cf` file rather than numbers to identify specific domains.

`Disablecomponent` and `Enablecomponent` Man Pages Do Not Contain wPCI Support for Paroli Modules (BugId 4546763)

SMS 1.2 software supports disabling and enabling Paroli modules on wPCI boards. The man pages do not list *paroli_link* as a valid form.

Workaround: See "Man Page Omission" on page 62 for examples on blacklisting Paroli modules.

Rebooting a Domain Can Result in a Panic (BugId 4587418)

Issuing the `reboot` command on a domain, issuing the `boot` command after shutdown on a domain, and dsmd ASR reboots will cause a domain to panic.

Workaround: Install the patch associated with this BugId. The patch is available at: http://sunsolve.sun.com. Until the patch can be installed, you can use `setkeyswitch standby`, `setkeyswitch on`, to reboot the domain.

`console`(1m) Man Page List of -e Escape Characters is Wrong (BugID 4592909)

The list of valid escape characters is invalid. The only characters you cannot use are:
`# @ ^ & ? * = . |`

Workaround: Use any character other than those listed.

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: eri1: 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 48.

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 48.

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 48.

Fixed Other Bugs

This section contains bugs fixed since SMS 1.1.

Memory Bug (BugId 4457384)

Holding proc_t->p_lock while allocating memory leads to hung clock() & heartbeat.

Workaround: None.

NTP On the Domain Does Not Sync with the SC (BugId 4467470)

xntpd on the domain should gradually adjust the clock to sync with the sc clock. Instead, a message appears about a half hour after starting xntpd:

```
sun15-b xntpd[1324]: IID 774427] time reset (slew) -54.206802 s
```

The amount printed is the amount of difference between the sc and domain clocks, but the clocks are never in sync.

Workaround: Use setdate to manually set the date and time.

IPMP Fail eri1 Path Group (BugId 4469112)

When the external network is configured so that there are two communities, with hme0 in one community and eri1 in the other, IPMP fails the path group with eri1 in it.

Workaround: None.

Other Bugs

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

Volume Manager (BugId 4355643)

Volume Manager can not cope with some formats of CDROM

Workaround: See "DVD-10" on page 61.

IP_RPUT_DLPI Error (BugId 4419505)

ip_rput_dlpi(fcip0): DL_ERROR_ACK error message on boot from cd image

The following error messages are seen when doing an installation to set the SC as the install server.

```
Configuring /dev and /devices
ip_rput_dlpi(fcip0): DL_ERROR_ACK for DL_ATTACH_REQ(11), errno 8,
unix 0
ip_rput_dlpi(fcip0): DL_ERROR_ACK for DL_BIND_REQ(1), errno 3,
unix 0
ip_rput_dlpi(fcip0): DL_ERROR_ACK for DL_PHYS_ADDR_REQ(49), errno
3, unix 0
ip_rput_dlpi(fcip0): DL_ERROR_ACK for DL_UNBIND_REQ(2), errno 3,
unix 0
ip_rput_dlpi(fcip0): DL_ERROR_ACK for DL_DETACH_REQ(12), errno 3,
unix 0
Using RPC Bootparams for network configuration information.
```

This indicates that the IP over Fibre Channel device instance 0 does not exist.

Workaround: Ignore it.

`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
```

Index