



System Management Services (SMS) 1.1 Installation Guide and Release Notes

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Part No. 816-0901-10
October 2001, Revision A

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Preface

This guide contains initial installation instructions as well as release notes for the System Management Services (SMS) 1.1 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 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 <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type <code>rm filename</code> .

Shell Prompts

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

Related Documentation

Application	Title	Part Number
Administrator Guide	<i>System Management Services (SMS) 1.1 Administrator Guide</i>	806-0899-10
Reference (man1M)	<i>System Management Services (SMS) 1.1 Reference Manual</i>	806-0900-10
Options	<i>System Management Services (SMS) 1.1 Dynamic Reconfiguration User Guide</i>	816-1674-10
	<i>Sun Fire 15K Dynamic Reconfiguration User Guide</i>	806-6808-10
	<i>Sun Fire 15K System Site Planning Guide</i>	806-3510-10
	<i>IP Network Multipathing Administration Guide</i>	816-0850-10
	<i>OpenBoot™ 4.x Command Reference Manual</i>	806-1177-10
	<i>Solaris Naming Administration Guide</i>	806-1387-10
	<i>System Administration Guide, Volume 3</i>	806-0916-10

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Reinstalling SMS 1.1 on Sun Fire 15K Server Systems

This chapter contains reinstallation instructions for System Management Services (SMS) 1.1 software. With the introduction of SMS 1.1, these instructions apply to the Sun Fire 15K server systems.

The SMS reinstall and 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 Reinstall From a CD-ROM
- To Reinstall SMS Software on the Spare SC
- To Reinstall SMS 1.1 Using Web Start
- To Manually Reinstall the System Management Services Software
- To Configure the Management Network (MAN) Using smsconfig(1M)
- To Configure the Name Services for SMS
- To Complete the SMS Reinstallation Process
- To Add Users to SMS Groups and Configure Directory Access
- 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

The reinstallation instructions in this section assume that your system is running the Solaris 8 10/01 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 SMS software.

If this is the main SC with a working SMS environment, you should run `smsbackup` before proceeding or have the latest copy of the `smsbackup` file (`sms_backup.X.X.cpio`) accessible to the disk.

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 <code>/(root)</code>	8 Gbytes
1 <code>/swap</code>	1 Gbyte
4 OLDS/LVM database (<code>metadb</code>)	10 Mbytes
5 OLDS/LVM	10 Mbytes
7 <code>/export/install</code>	9 Gbytes

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

▼ To Reinstall From a CD-ROM

1. **Insert the Software Supplement for the Solaris 8 10/01 Operating Environment CD-ROM into the CD-ROM drive.**

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

The SMS 1.1 packages are located in

`/cdrom/cdrom0/System_Management_Services_1.1/Product.`

2. Log in to the system controller as superuser.

For the examples in this guide:

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

3. Change to the Product installation directory:

```
sc0: # cd /cdrom/cdrom0/System_Management_Services_1.1/Product
```

4. Proceed to “Reinstalling SMS” on page 5.

▼ To Reinstall SMS Software on the Spare SC

1. Log in to the main SC as superuser.
2. Insert the Software Supplement for the Solaris 8 10/01 Operating Environment CD-ROM into the CD-ROM drive.
3. Use the `share(1M)` command to share the CD across the network.
 - a. Verify that the `nfsd` server is running. Type:

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

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

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

c. To propagate the CDROM image to NFS, type:

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

4. Log in to the spare SC as superuser.

For the examples in this guide:

Prompt	Definition
sc0: #	Superuser on the main SC
sc1: #	Superuser on the spare SC

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

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

where:

SC-II: is the hostname specified for the SC II network in Step 5 of “To Configure the Management Network (MAN) Using smsconfig(1M)” on page 13.

6. Change to the Product installation directory:

```
sc1: # cd /cdrom/cdrom0/System_Management_Services_1.1/Product
```

7. Proceed to “Reinstalling SMS” on page 5.

Reinstalling SMS

Your Sun Fire 15K is preinstalled with SMS software when you receive it. To reinstall SMS software, follow the steps in the procedure “To Reinstall SMS 1.1 Using Web Start”. You need to perform the steps in the following procedures:

- To Reinstall SMS 1.1 Using Web Start or To Manually Reinstall the System Management Services Software
- To Configure the Management Network (MAN) Using `smsconfig(1M)`
- To Add Users to SMS Groups and Configure Directory Access

Note – The reinstallation instructions in this section assume that your system is running the `Entire Distribution` software group (or higher) of the Solaris 8 10/01 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 SMS 1.1 Using Web Start

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

1. **Log in as superuser.**
2. **Set the `DISPLAY` environment variable to your current host.**

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

```
sc0: # DISPLAY=hostname:0
sc0: # export DISPLAY
```

where:

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

For `csh(1)` type:

```
sc0: # 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 1.1 package:

```
sc0: # cd /cdrom/cdrom0
```

4. Begin Web Start by typing:

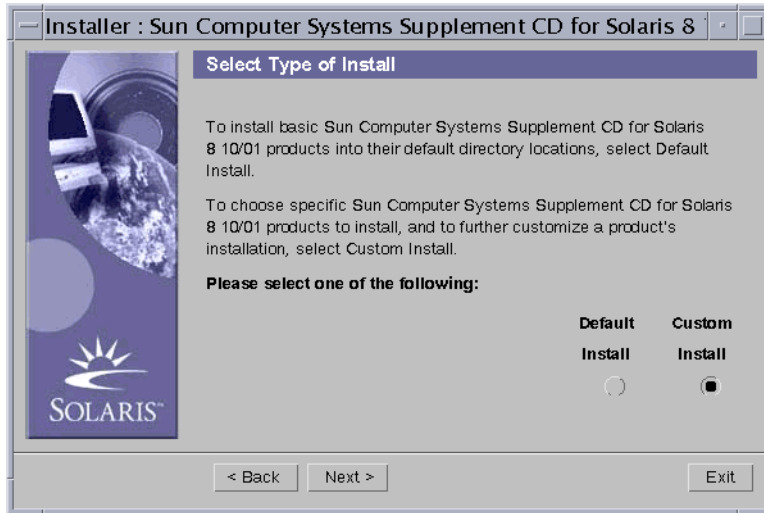
```
sc0: # ./installer
```

The Welcome screen appears:



5. Click on Next.

The Select Type of Install dialog box appears:

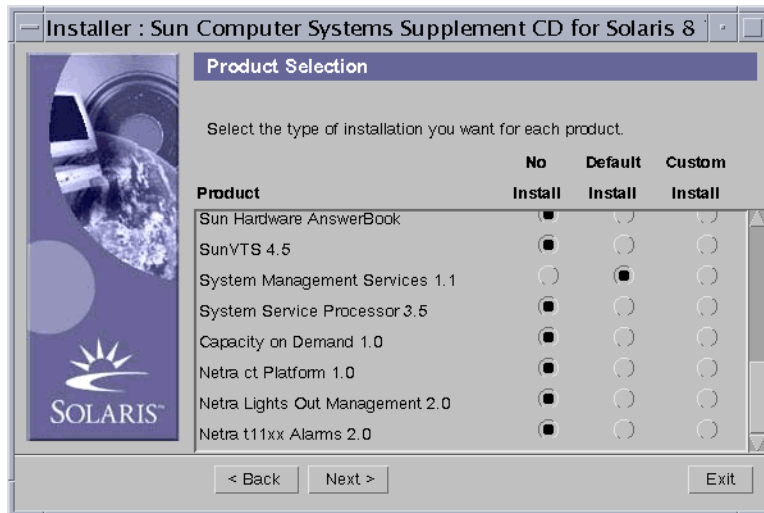


6. Select Custom Install.

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

7. Click on Next.

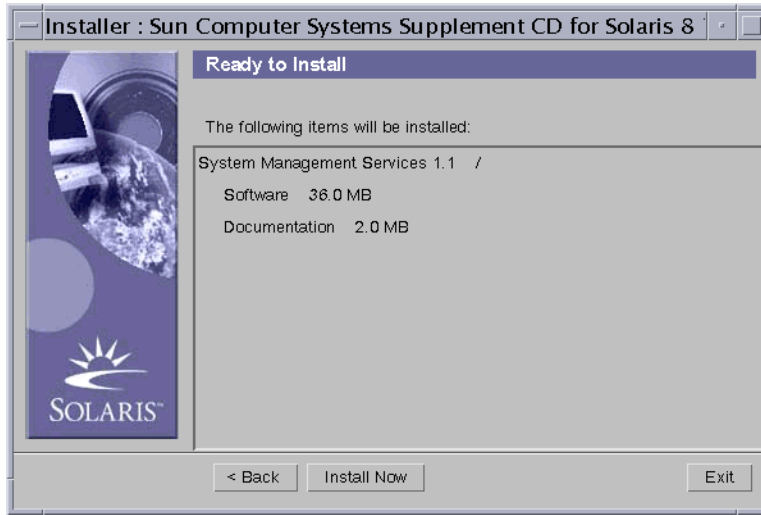
The Product Selection dialog box appears:



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:

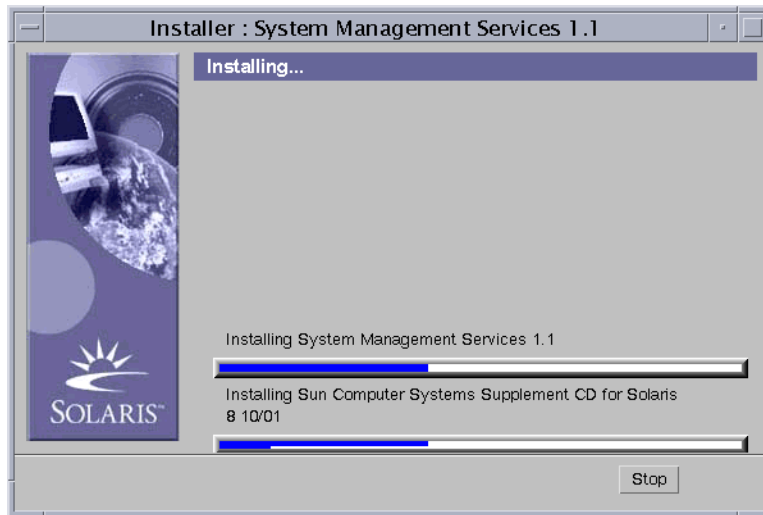


9. Verify that you have sufficient disk space to cover the requirements displayed on the Ready to Install dialog box.

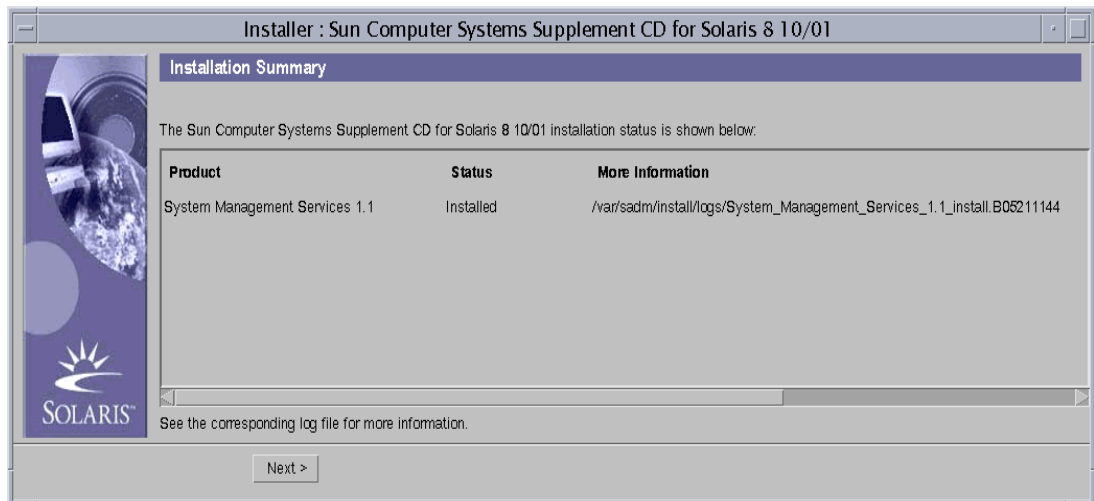
Note – Web Start automatically installs the online System Management Services (SMS) Reference Manual (man) pages in `/opt/SUNWSMS/man/sman1m`. To avoid conflicts, do *not* change this location.

10. Click the Install Now button.

The Installing screen appears:

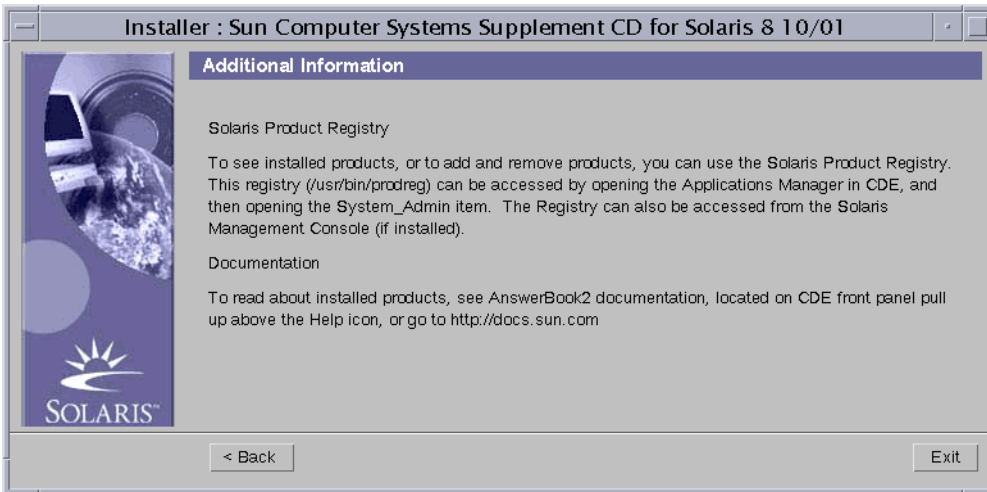


Wait until the installation is complete and the Installation Summary dialog box is displayed.



11. Click on Next.

The Additional Information dialog box appears:



12. Click on Exit.

You have successfully completed the SMS software reinstallation.

13. Proceed to “To Configure the Management Network (MAN) Using smsconfig(1M)” on page 13.

▼ To Manually Reinstall the System Management Services Software

1. Log in to the SC as superuser, and place the Solaris 8 10/01 Supplemental CD into the SC0 CD-ROM drive.
2. Change to the CD-ROM drive directory.

```
sc0: # cd /cdrom/cdrom0/System_Management_Services_1.1/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 `SUNWSMSr` 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	<code>SUNWSMSr</code>	System Management Services (Root)
7	<code>SUNWSMSop</code>	System Management Services Core Utilities
1	<code>SUNWSMSdf</code>	System Management Services Data Files
2	<code>SUNWSMSjh</code>	System Management Services On-Line Javahelp
3	<code>SUNWSMSlp</code>	System Management Services LPOST object files
4	<code>SUNWSMSmn</code>	System Management Services On-Line Manual Pages
5	<code>SUNWSMSob</code>	System Management Services OpenBoot PROM
6	<code>SUNWSMSod</code>	System Controller OpenBoot PROM
8	<code>SUNWSMSpd</code>	System Controller Power On Self Test
9	<code>SUNWSMSpo</code>	System Management Services POST Utilities
10	<code>SUNWSMSpp</code>	System Management Services <code>picld(1M)</code> Plug-in Module
12	<code>SUNWSMSsu</code>	System Management Services Service User Environment

Package Number	Package Name	Package Description
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.

```
sc0: # pkgadd -d .
```

The system displays the list of available packages.

```
The following packages are available:
 1 SUNWSMSdf  System Management Services Data Files
   (sparc) 1.1.0,REV=2001
 2 SUNWSMSjh  System Management Services On-Line Javahelp
   (sparc) 1.1.0,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) 1.1.0,REV=2001
 5 SUNWSMSob  System Management Services OpenBoot PROM
   (sparc) 1.1.0,REV=2001
 6 SUNWSMSod  System Controller OpenBoot PROM
   (sparc) 1.1.0,REV=2001
 7 SUNWSMSop  System Management Services Core Utilities
   (sparc) 1.1.0,REV=2001
 8 SUNWSMSpd  System Controller Power On Self Test
   (sparc) 1.1.0,REV=2001
 9 SUNWSMSpo  System Management Services POST Utilities
   (sparc) 1.1.0,REV=2001
10 SUNWSMSpp  System Management Services picld(1M) Plug-in Module
   (sparc) 1.1.0,REV=2001
11 SUNWSMSr   System Management Services, (Root)
   (sparc) 1.1.0,REV=2001
12 SUNWSMSsu  System Management Services Service User Environment
   (sparc) 1.1.0,REV=2001
13 SUNWscdvr.u Sun Fire 15K System Controller drivers
   (sparc) 1.1.0,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.

```
sc0: # pkginfo -c SMS
```

```
sc0: # pkginfo -i SUNWufrx SUNWufu
```

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

```
sc0: # pkginfo -p
```

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

▼ 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*.
 2. Read the `smsconfig(1M)` man page.
 3. Log into the 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 accepts the default settings provided with the Solaris 8 10/01 Supplemental CD. For more information on `smsconfig -m` refer to “MAN Configuration” on page 157 of the *System Management Services (SMS) 1.1 Administrator Guide*.

```
sc0: # 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
```

Which System Controller are you configuring [choose 0 or 1]:0.

Configuring the External Network for Community C1

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

Enter NICs associated with community C1 [hme0 eril]: [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 eril [sun15-sc0-eril]:[Return]

Enter IPMP IP address for sun15-sc0-eril: 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-eril	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: 10.1.1.0
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	10.1.1.1
sun15-a	10.1.1.2
sun15-b	10.1.1.3
sun15-c	10.1.1.4
sun15-d	10.1.1.5
sun15-e	10.1.1.6
sun15-f	10.1.1.7
sun15-g	10.1.1.8
sun15-h	10.1.1.9
sun15-i	10.1.1.10
sun15-j	10.1.1.11
sun15-k	10.1.1.12
sun15-l	10.1.1.13
sun15-m	10.1.1.14
sun15-n	10.1.1.15
sun15-o	10.1.1.16
sun15-p	10.1.1.17
sun15-q	10.1.1.18
sun15-r	10.1.1.19

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: 10.2.1.0
Enter the netmask for the I2 MAN network [255.255.255.224]:[Return]

Hostname	IP Address (platform=sun15)
-----	-----
netmask-i2	255.255.255.224
sun15-sc0-i2	10.2.1.1
sun15-sc1-i2	10.2.1.2

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: 10.1.1.2    sun15-a  
ADD: 10.1.1.3    sun15-b  
ADD: 10.1.1.4    sun15-c  
ADD: 10.1.1.5    sun15-d  
ADD: 10.1.1.6    sun15-e  
ADD: 10.1.1.7    sun15-f  
ADD: 10.1.1.8    sun15-g  
ADD: 10.1.1.9    sun15-h  
ADD: 10.1.1.10   sun15-i  
ADD: 10.1.1.11   sun15-j  
ADD: 10.1.1.12   sun15-k  
ADD: 10.1.1.13   sun15-l  
ADD: 10.1.1.14   sun15-m  
ADD: 10.1.1.15   sun15-n  
ADD: 10.1.1.16   sun15-o  
ADD: 10.1.1.17   sun15-p  
ADD: 10.1.1.18   sun15-q  
ADD: 10.1.1.19   sun15-r  
ADD: 10.1.1.1    sun15-sc-i1  
ADD: 10.1.1.50   sun15-sc-C1  
ADD: 10.1.1.51   sun15-sc0-C1-failover  
ADD: 10.1.1.52   sun15-sc0-hme0  
ADD: 10.1.1.53   sun15-sc0-eril  
ADD: 10.2.1.1    sun15-sc0-i2  
ADD: 10.2.1.2    sun15-sc1-i2  
-----
```

```
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: 10.1.1.0, mask: 255.255.255.224  
ADD network: 10.2.1.0, mask: 255.255.255.224  
-----
```

```
Update the netmasks file, "/etc/netmasks", with these changes? [y,n] y  
Netmasks files "etc/netmasks" has been updated.
```

```
sc#
```

▼ To Configure the Name Services for SMS

Perform this procedure on each system controller (SC).

- 1. Log in to the SC as a user with superuser privileges.**
- 2. 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. The look-up order for the database entries is first files then naming services.

```
sc0: # vi /etc/nsswitch.conf
...
password:    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.

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

▼ To Complete the SMS Reinstallation Process

1. **You have completed the reinstallation of SMS software. If this is the main SC and you had a working SMS environment, at this point, run `smsrestore` then proceed to Step 2.**

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

If this was the spare SC, proceed to Step 2 since the main SC will propagate the SMS files automatically, if failover is enabled and the internal networks are up and running.

You can verify this by typing:

```
sc0: # /opt/SUNWSMS/bin/showfailover -v filename
sc0: # /opt/SUNWSMS/bin/showdatasync -l filename
```

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.

2. **Unless otherwise noted in the patch instructions, any relevant patches should be applied at this point. See “Patches” on page 35. If no patches are needed you can proceed to Step 3.**
3. **Reboot the 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.

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) 1.1 Administrator Guide*.

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
platadm	Platform Administrator Group
platsvc	Platform Service Group
platoper	Platform Operator Group
dmnaadm	Domain A Administrator Group
dmnbadm	Domain B Administrator Group
dmncadm	Domain C Administrator Group
dmndadm	Domain D Administrator Group
dmneadm	Domain E Administrator Group
dmnfadm	Domain F Administrator Group
dmngadm	Domain G Administrator Group
dmnhadm	Domain H Administrator Group
dmniadm	Domain I Administrator Group
dmnjadm	Domain J Administrator Group
dmnkadm	Domain K Administrator Group
dmnladm	Domain L Administrator Group
dmnmadm	Domain M Administrator Group
dmnnadm	Domain N Administrator Group
dmnoadm	Domain O Administrator Group
dmnpadm	Domain P Administrator Group
dmnqadm	Domain Q Administrator Group
dmnradm	Domain R Administrator Group

User Group ID	User Group Description (<i>Continued</i>)
dmnarcfg	Domain A Configuration Group
dmnbrcfg	Domain B Configuration Group
dmnrcfg	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. 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 dmnaadm 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 dmnaadm 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.

2. 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
```

3. 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.

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
<code>sc0:#</code>	Superuser on the SC
<code>domain_id: #</code>	Superuser on the domain
<code>sc_name:sms-user:></code>	User prompt on the SC. <i>sms-user</i> is the user-name of an administrator, operator, configurator or service personnel logged in to the SC.
<code>domain_id:sms-user:></code>	User prompts on the domain <i>sms-user</i> 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) 1.1 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 (dmnaadmin) 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) 1.1 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) 1.1 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 33 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” 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 10/01 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 10/01 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,q1c@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 29.

▼ To Configure Domain Networks

1. **Log in to the domain as superuser.**
2. **Type:**

```
domain_id: #nndd -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 1.1, disable failover before installing the patch. 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 `cmdsnc` 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:> setdatasync backup
```

5. Failover to the spare:

```
sc0:sms-user:> setfailover force
```

6. Patch `sc0` (main) according to patch instructions.
7. Log in to the spare SC with platform administrator privileges.
8. Reactivate failover:

```
sc1:sms-user:> setfailover on
```

9. Fail back to `sc0`:

```
sc1:sms-user:> setfailover force
```

10. Patch `sc1` (spare) according to patch instructions.
11. Reactivate failover:

```
sc0:sms-user:> setfailover on
```

12. 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-11: /cdrom/cdrom0 /cdrom
```

where:

SC-11: is the hostname specified for the SC 11 network in Step 5 of “To Configure the Management Network (MAN) Using smsconfig(1M)” on page 13.

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 67 of the *System Management Services (SMS) 1.1 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 10/01 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 `superuser` privileges.**

You must have superuser privileges to perform the following tasks.

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

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

3. **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.
```

4. **Log out as superuser.**
5. **Log in to the SC as a user with platform administrator, platform operator, platform service, domain administrator or domain configurator privileges.**
6. **Type:**

```
sc0:sms-user:> showenvironment
```

7. **Wait until `showenvironment` finishes displaying all board status.**

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

System Management Services 1.1 Release Notes

This chapter contains the release notes for System Management Services 1.1 on Sun Fire 15K servers and covers the following topics:

- Known Limitations
- General Issues
- SMS Documentation Notes
- Fixed SMS 1.1 Bugs
- SMS 1.1 Software Bugs/RFEs
- Fixed Other Bugs
- Other Bugs

Known Limitations

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

- This release of SMS supports IPv4 only on the Management Network and for External network monitoring.
- At the initial release of the Solaris 8 10/01 operating environment, not all dynamic reconfiguration capabilities are available for all Sun Fire 15K server configurations. Refer to <http://www.sun.com/datacenter/resourcegmt/> 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.

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.

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

Note – External network monitoring only supports IPv4 configurations.

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.

IPv6 Issue

IPv6 is not supported in this release for MAN or external network monitoring

The following bugs have been filed concerning IPv6 and MAN:

- `smsconfig` Does Not Work Properly with IPv6 Addresses (BugID 4411113)
- `smsconfig` Allows Mixed IPv4 and IPv6 (BugID 4411819)
- MAND Doesn't Work With IPv6 Addresses (BugId 4486879)

In all cases the workaround is the same. Do not use IPv6.

Management Network

Whenever any changes are made to the network configuration on either SC using `smsconfig -m` that SC must be rebooted.

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.

`smsconnectsc`

`smsconnectsc` works in the absence of an external connection to the remote SC. If the remote SC has an active external connection to port A then `smsconnectsc` will fail and the session will most likely hang. To exit, type: `~`.

flashupdate

After you have updated the FEPROM/s in the SC, you must shutdown the SC.

```
sc0:sms-user:> shutdown -y -g0 -i0
...[system messages...
ok
```

In order for the new firmware to be enabled on your SC you must then perform a hard reset of the SC. Physically locate your System Controller within your Sun Fire 15K cabinet and depress the Abort and then Reset buttons on the SC board. Once the SC has been reset you should see OpenBoot PROM messages indicating that the new version of the firmware is loading. After the system successfully returns to the `ok` prompt, you can boot your new installation of the Solaris software.

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 hfs -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_1.1/Docs
```

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

816-0899-05.pdf - SMS 1.1 Administration Guide

816-0900-05.pdf - SMS 1.1 Reference Manual

816-0901-10.pdf - SMS 1.1 Installation Guide and Release Notes

806-7048-06.pdf - Sun Fire 15000 Software Overview Guide

Documentation Errata

Privileges Do Not Match Between SMS Commands and SMS Documentation

The SMS software does not match man pages nor Privileges Table in Chapter 2 of the *System Management Services (SMS) 1.1 Administrator Guide* as follows:

`disablecomponent`, `enablecomponent`, `flashupdate`, `poweron`, `poweroff`, `resetsc`, `setbus`, `setfailover` privileges do not match the code. Refer to BugId 4477169.

`showdate` privileges do not match the code. Refer to BugId 4477357.

`showcomponent` privileges do not match the code. Refer to BugId 4477464.

Table Error

The tables on pages 95 and 96 of the *System Management Services (SMS) 1.1 Administrator Guide* incorrectly list the range of Processor Pairs as (0...2). The table is corrected as follows:

location	Valid form
<code>board_loc</code>	SB(0...17) IO(0...17) CS(0 1) EX(0...17)
Processor/Processor Pair	P(0...3) PP(0 1)
<code>bank</code>	B(0...3)
<code>DIMM</code>	D(0...3)
<code>cassette</code>	C(3 5)V(0 1)
<code>bus</code>	ABUS DBUS RBUS (0 1)

MAN Configuration

On page 157 in the *System Management Services (SMS) 1.1 Administrator Guide* the description of `smsconfig -m` is incorrect.

`smsconfig -m` does *not* update `/etc/system`. Refer to BugId 4434696.

Dynamic Reconfiguration Documentation

References to dynamic reconfiguration documentation should be disregarded.

Fixed SMS 1.1 Bugs

This section contains bugs fixed since SMS 1.1 Beta.

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.

Workaround: None.

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).

Workaround: None. The only effect is on performance. DR will retest the board when there is no need for it.

Console Session Would Not Open (BugId 4447218)

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

Workaround: Reboot the domain by typing:

```
domain_id:sms_user:> setkeyswitch -d domain_id off
domain_id:sms_user:> setkeyswitch -d domain_id on
```

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.

Workaround: Reboot the domain by typing:

```
domain_id:sms_user:> setkeyswitch -d domain_id off
domain_id:sms_user:> setkeyswitch -d domain_id on
```

Failover Bugs

Addboard Hangs After Interrupted by Failover (BugId 4459812)

Workaround: Once failover is complete, use deleteboard to reset the correct status. Then run addboard to complete the operation. BUILD 9

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.

Workaround: First, restart SMS on the SC that was main when SMS was stopped. Then start SMS on the SC that was the spare.

SMS 1.1 Software Bugs/RFEs

The following are known SMS 1.1 software bugs.

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

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

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.

Workaround: None.

Socket Error When Using the I2 Net (BugId 447233)

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.

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.
```

Workaround: None.

`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.

Workaround: None.

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.

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.

Workaround: None.

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.

Workaround: CLIs display the correct power information. Ignore log entry.

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.

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".

Workaround: Retry command.

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.

Workaround: Do not use -q.

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.

Workaround: Wait. `setkeyswitch` is waiting for other POST processes to complete.

esmd Doesn't Do a Graceful Domain Shutdown (BugId 4487091)

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

Workaround: None.

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

Occurs when `esmd` restarts.

Workaround: None.

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.

Workaround: Use the external network or reboot the domain.

`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.

Workaround: None.

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 become main.

Workaround: Ignore when they occur before the SC has become 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.

Workaround: Stop and restart SMS. Refer to “Stopping and Starting SMS” on page 39.

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.

Workaround: Rerun `smsconfig -a` and `smsconfig -m` before running `smsrestore`.

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.

Workaround: Deassign any boards that are not active, especially if they are the lowest-numbered expander in the domain.

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.

Workaround: None.

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: eril: Cannot assign
requested address
```

Workaround: Ignore it.

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).

Set them by hand as superuser on the SC:

```
/usr/sbin/ndd -set /dev/ip ip_forwarding 0
```

```
/usr/sbin/ndd -set /dev/ip ip_respond_to_echo_broadcast 0
/usr/sbin/ndd -set /dev/ip ip6_respond_to_echo_multicast 0
/usr/sbin/ndd -set /dev/ip ip6_forwarding 0
```

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 33.

MAN I1 Network IP Address of an Installed Domain Using smsconfig -m Doesn't 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 33.

Fixed Other Bugs

This section contains bugs fixed since SMS 1.1 Beta.

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.

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 44.

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.

IPMP Fail `eril` Path Group (BugId 4469112)

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

Workaround: None.

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
```

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