Sun Enterprise 10000 SSP 3.3 Release Notes and Installation Guide

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Contents

Figures

Tables

Preface

The *Sun Enterprise 10000 SSP 3.3 Installation Guide and Release Notes* contains the Release Notes for SSP 3.3 and describes how to install SSP 3.3 on the System Service Processor (SSP), which enables you to monitor and control the Sun Enterprise™ 10000 system.

How This Book Is Organized

This document contains the following chapters and appendixes:

Chapter 1 contains Release Notes.

Chapter 2 explains the requirements for installing or upgrading to SSP 3.3.

Chapter 3 describes how to install SSP 3.3 on a new disk.

Chapter 4 explains the procedure for upgrading to SSP 3.3.

Chapter 5 provides information on restoring initialization files and configuring the Network Time Protocol daemon.

Chapter 6 explains how to install the SSP 3.3 AnswerBook2 collection.

Appendix A describes how to configure the SSP network files.

Appendix B describes how to uninstall the SSP 3.3 software.

Before You Read This Book

This manual is intended for the Sun Enterprise 10000 system administrator, with a working knowledge of UNIX® systems, particularly those based on the Solaris™ operating environment. If you do not have such knowledge, you must first read the Solaris User and System Administrator AnswerBook2™ collections provided with this system, and consider UNIX system administration training.

Using UNIX Commands

This document does 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:

- AnswerBook online documentation for the Solaris software environment, particularly those dealing with Solaris system administration
- Other software documentation that you received with your system

Typographic Conventions

TABLE P-1   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. Command-line variable; replace with a real name or value.	Read Chapter 6 in the *User Guide*. These are called *class* options. You *must* be root to do this. To delete a file, type rm *filename*.

Shell Prompts

TABLE P-2   Shell Prompts

Shell	Prompt
C shell	*machine_name*%
C shell superuser	*machine_name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Related Documentation

TABLE P-3   Related Documentation

Application	Title	Part Number
User Guide	*Sun Enterprise 10000 SSP 3.3 User Guide*	806-2887-10
Reference (man pages)	*Sun Enterprise 10000 SSP 3.3 Reference Manual*	806-2888-10
Other	*Sun Enterprise 10000 Capacity on Demand 1.0 Administrator Guide*	806-2190-10
	Sun Enterprise 10000 Capacity on Demand 1.0 Reference Manual	806-2191-10
	Sun Enterprise 10000 Dynamic Reconfiguration User Guide	806-4122-10
	Sun Enterprise 10000 Dynamic Reconfiguration Reference Manual	806-4123-10
	Sun Enterprise 10000 InterDomain Networks User Guide	806-4131-10
	Sun Enterprise 10000 Domain Configuration Guide	806-4121-10
	Sun Enterprise 10000 Domain Error Messages	806-4120-10
	Sun Enterprise Server Alternate Pathing 2.3 User Guide	806-1933-10
	Sun Enterprise Server Alternate Pathing 2.3 Reference Manual	806-1934-10

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```

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 docfeedback@sun.com
```

Please include the part number (806-2886-10) of your document in the subject line of your email.

SSP 3.3 Release Notes

This chapter covers the following topics:

- "General Issues"
- "Changes to the SSP Software"
- "Known SSP Bugs"
- "Bugs Fixed Since SSP 3.2"
- "Requests for Enhancements Completed in SSP 3.3"

General Issues

SSP Startup

Bulk Power trap messages are now written to the platform log file during SSP startup. Also, the control board VCC Fan Voltage level has been raised. The voltage level can be verified after SSP startup using the `power` command.

Viewing man Pages with AnswerBook2 Server

When viewing the man page collection with the AnswerBook2 server, clicking on the letters of the alphabet shown at the top of the page does not always display the section in which you are interested. Click on a man page from the list shown below the alphabet.

Changes to the SSP Software

SSP 3.3 provides the following new features:

- Automated Dynamic Reconfiguration (ADR)
- Support for 16 domains
- Support for the Sun Enterprise 10000 dual grid power option
- Support for the Solaris™ 8 operating environment

Changes to SSP Commands

TABLE 1-1 lists the changes that were made to SSP commands.

TABLE 1-1   SSP Command Changes

Command Name	Description of Change
bringup(1M)	bringup(1M) now displays its logfile messages as NOTICE messages rather than INFO messages as done in earlier versions of SSP. When you are performing a bringup, you must respond to certain prompts within ten minutes, otherwise a timeout occurs. bringup(1M) also performs certain actions depending on the prompt: • If you do not respond to the prompt asking whether the centerplane is to be configured, the centerplane is not configured but the bringup continues. • When a message is displayed indicating that the host is active and that file systems might be corrupted by the bringup, and you do not indicate whether the bringup is to continue, the bringup command assumes no and exits. • If you do not respond to the prompt asking whether the command is being executed because of a "hung" host, the bringup continues but does not log a message.
domain_rename(1M)	The -o option enables you to change the version of the operating environment.
edd_cmd(1M)	The -e displays event monitoring information from the edd.erc and edd.emc configuration files.

TABLE 1-1   SSP Command Changes

Command Name	Description of Change
hostview(1M)	hostview(1M) uses telnet instead of the rlogin command to log in to domains. You can also customize domain colors using your .Xdefaults file.
power(1M)	The Sun Enterprise 10000 dual power grid option provides two power grids that each contain up to eight power supplies. The power supplies in the primary grid are associated with power supplies in the secondary grid. For example, a relationship exists between power supplies 0 and 8, 1 and 9, 2 and 10, and so forth.

If you are using the Sun Enterprise 10000 dual power grid option and you use the power(1M) command to turn off a single power supply, be aware that both the specified power supply and its associated power supply are turned off. You can turn off all bulk power supplies by using the power (1M) command to turn off power supplies 0 through 7. |
| ssp_downgrade(1M) | ssp_downgrade is a new command used to downgrade from SSP 3.3 to a previous version of SSP. |

Known SSP Bugs

Performance Problem Seen When Domains Are Unlinked From an IDN Network (4285895)

Unlinking domains that are running the Solaris operating environment in a large interdomain network takes considerable time. Performance improves slightly when domain_unlink is run for individual domains, but the unlinking process is still slow.

Workaround: First, halt all the domains in the interdomain network, then unlink the domains one at a time.

`bringup` Fails in Post-Test Phase I/O (4299369)

`SYSIO` errors are generated intermittently during the I/O phase of `hpost` processing. If the failure is associated with the boot device, the domain cannot boot. Otherwise, the associated I/O device is not accessible and DR operations might fail once the domain is booted.

Workaround: The affected system board should be powered off and then powered on before attempting another bringup.

SSP Man Pages Display "SunOS" Footer and Require Solaris OS Man Pages (4299789)

You must install the Solaris man pages on the SSP. If the Solaris man pages are not installed, SSP 3.3 man pages displayed using the `man`(1M) command will not display some of the headings, such as "EXAMPLES" and "SEE ALSO."

New `alt_level` Flag for `hpost` Has Been Reduced to Minimal Usefulness (4302411)

A new `hpost` flag was implemented in SSP 3.1.1 to enable a higher level of diagnostics to be run after a catastrophic failure, such as a panic, arbstop, or heartbeat failure. However, the default alternate level 16 is still being used for recovery operations in this release.

Workaround: Set the `alt_level` value in the `.postrc` file to a higher level to override the default alternate level. You also might need to increase the `poll_timeout_mult` value in the `.postrc` file to prevent timeout conditions.

`moveboard` Generates ERR (4306044)

When the `moveboard` command is used to move boards between two domains in an interdomain network, the following error message is displayed in the platform message file:

```
ERR: libcbs:cbs_destroy_chain_list:general error
```

This error message does not indicate a fatal error and can be ignored.

Syntax Error from `showusage` is Misleading When `SUNW_HOSTNAME` is Invalid (4311232)

If the `SUNW_HOSTNAME` environment variable is set to an invalid domain name when you run `showusage`, a syntax error is generated.

Workaround: Use `domain_switch` to set the `SUNW_HOSTNAME` environment variable to a valid domain name.

`obp_helper` Dies Trying to Read Zero-Length `eeprom` Backup Files (4311778)

Workaround: If this condition occurs, check the `/var/opt/SUNWssp/etc/`*platform*`/`*domain* directory for zero-length `eeprom` backup files and remove those files.

Bugs Fixed Since SSP 3.2

The following bugs were fixed in SSP 3.3:

4112376 - Local directories appear to be hardcoded into SSP 3.1

4124191 - machine_server loses messages during reboot after installing 103738-05

4133019 - Critical error messages associated with the CBE on the Sun Enterprise 10000

4223354 - Simultaneous bringups fail with `hpost` level greater than 16

4243651 - PSI recordstop with no active ports

4280694 - If `netcon` is not running, the `netcon` log file does not record console output

4291084 - Sun Enterprise 10000 heartbeat failures do not provide the information needed to diagnose the cause of the failure

4294678 - SSP 3.1.1 boot net fails after changing spare SSP to main SSP

Requests for Enhancements Completed in SSP 3.3

The following Request for Enhancement (RFE) was implemented in SSP 3.3:

4009587 - The `edd` command needs to give the user feedback on what is being monitored

Patches

This section identifies the patches recommended for SSP 3.3.

SSP Patches

Before upgrading to SSP 3.3, install SSP patch 108710-01 if you are running SSP 3.1.1, or SSP patch 108709-01 if you are running SSP 3.2.

Solaris Patches for Domains

If you use ADR or DR on domains running the Solaris 2.6 operating environment, you must apply patch 105181. Check SunSolve™ to determine the version of this patch that addresses the following bugs:

- 4283719 - Kernel allocations can end up waiting forever, causing a complete attach operation to hang
- 4297641 - Detach of a board with a PCI-GEM I/O card may fail
- 4304993 - Kernel cage can grow onto the wrong board under certain circumstances, causing the detach of boards with nonpageable memory to fail

Known DR Bugs

Failed to Select Valid Memory Target on Detach (4306401)

A detach fails because a valid memory target cannot be located. This behavior was observed with domains running the Solaris 7 and Solaris 8 operating environments.

Workaround: Halt the domain and reconfigure it.

Preparing for SSP 3.3 Installation or Upgrade

SSP installation refers to the installation of SSP 3.3 on a new disk. An upgrade refers to the update of SSP software to version 3.3.

This chapter describes the information you need to know before installing or upgrading to SSP 3.3:

- "Getting Started"
- "SSP 3.3 Hardware and Software Requirements"
- "About Main and Spare SSP Configurations"
- "SSP Installation and Upgrade Options"

The procedures in this guide use the conventions shown in TABLE 2-1 for command line prompts:

TABLE 2-1   Command Line Prompt Conventions

Prompt	User Indicated
`ssp#`	superuser on the SSP
`ssp%`	`ssp` user on the SSP
`#`	superuser on a system other than the SSP

Getting Started

This section describes how to begin the installation or upgrade process:

- If you do not know the current version of your SSP software, determine which version of the SSP software you are running.

For details, see "To Determine Your Current SSP Version". You can also use this procedure after installation or upgrade to verify that SSP 3.3 is running.

- Obtain the SSP software from one of the following sources:
  - The Web
  - The Software Supplement for the Solaris™ 8 Operating Environment CD-ROM

  For details, see "To Obtain SSP Software From the Web" and "To Obtain SSP Software From the CD-ROM".

- Create a backup file of your SSP environment

  If you are currently running SSP software, you can create a backup file of the SSP environment (the data contained in the /var/opt/SUNWssp directory) using the ssp_backup command. This command creates a backup file named ssp_backup.cpio in a directory that you specify. For dual SSP configurations, you use this backup file to restore the SSP environment on the appropriate SSP. This backup file can also be used to restore the SSP environment if you need to revert from SSP 3.3 to a previous version of SSP.

▼ To Determine Your Current SSP Version

1. **Log in as superuser on the SSP and type:**

```
ssp# pkginfo -l SUNWsspr
```

2. **Look for the VERSION line, for example:**

```
VERSION:  3.3.0,REV=2000.02.01.19.51
```

This is an example of the version number for SSP 3.3. The version number for SSP 3.3 is shown as 3.3.0.

▼ To Obtain SSP Software From the Web

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

2. **Click the link** Enterprise 10000 System Service Processor (SSP) Software.

3. **In the SSP 3.3 section, click the link** Click here to download.

   The file that will be downloaded is named ssp_3_3_sparc.tar.Z.

4. On the SSP, log in as superuser.

5. Change directory to the location where you downloaded the SSP software.

```
ssp# cd download_directory
```

6. Extract the downloaded file by typing:

```
ssp# zcat ssp3_3_sparc.tar.Z | tar xvf -
```

The SSP 3.3 packages are located in
/*download_directory*/System_Service_Processor_3.3/Product
and the install and upgrade scripts are located in
/*download_directory*/System_Service_Processor_3.3/Tools.

Note – Be sure to use /usr/sbin/tar for extraction.

▼ To Obtain SSP Software From the CD-ROM

● **Insert the "Software Supplement for the Solaris 8 Operating Environment" CD-ROM into the CD-ROM drive.**

Allow time for the volume manager to mount the CD-ROM.
The SSP 3.3 packages are located in
/cdrom/cdrom0/System_Service_Processor_3.3/Product
and the install and upgrade scripts are located in the
/cdrom/cdrom0/System_Service_Processor_3.3/Tools directory.

▼ To Create an SSP Backup File

Note – The size of the SSP backup file can vary depending upon the contents of the
subdirectories in the /var/opt/SUNWssp directory. You can use the du(1M)
command to determine the approximate amount of disk space required for the
backup file.

---

1. On the SSP, log in as superuser.

2. **Backup the SSP environment on the SSP by typing:**

```
ssp# ./ssp_backup target_directory
```

A backup file named `ssp_backup.cpio` is created in *target_directory*. You may want to rename this file.

If you have run `ssp_backup`(1M) and are planning to upgrade to SSP 3.3, do not make any changes to the Sun Enterprise 10000 environment, such as domain state or power status of boards, until you have completed the upgrade procedure and restored the SSP environment.

SSP 3.3 Hardware and Software Requirements

TABLE 2-2 describes the minimum requirements for running SSP 3.3:

TABLE 2-2　　SSP 3.3 Requirements

Item	Description
SSP upgrade	The SSP must run SSP 3.1.1 or 3.2 on the Solaris 2.6 or Solaris 7 operating environment.
	Before upgrading, install SSP patch 108710-01 if you are running SSP 3.1.1 or SSP patch 108709-01 if you are running SSP 3.2. If you do not install this patch, the `MaxHeartBeats` value in the `ssp_resource` file will not be upgraded to the optimum value.
	If your SSP also runs Capacity on Demand (COD), review the COD upgrade process in the *Sun Enterprise Capacity on Demand 1.0 Administrator Guide* before upgrading to SSP 3.3.
SSP new installation	Solaris 2.6, Solaris 7, or Solaris 8 operating environment
	Configure SSP network files before installing SSP 3.3, as described in Appendix A "Configuring the SSP Network".
Hardware	SPARCstation™ 5, Sun Ultra™ 5, or Sun Enterprise 250 workstation.
	If you plan to use more than eight domains (SSP 3.3 supports up to 16 domains), the SSP must be a Sun Ultra 5 or Sun Enterprise 250 workstation. The SPARCstation 5 supports up to eight domains only.
Disk space	Minimum 2.1 Gbytes for the Solaris operating environment and SSP 3.3 software (refer to FIN number I0527-1)
Processor speed	Minimum 170 MHz
Memory	Minimum 64 Mbytes
Swap space	Minimum 512 Mbytes

About Main and Spare SSP Configurations

You can set up a dual SSP configuration that consists of a main and spare SSP. The spare SSP serves as a backup if the main SSP fails. For instructions on switching between the main and spare SSP, see the *Sun Enterprise 10000 SSP 3.3 User Guide.*

If you plan to use the new features offered in SSP 3.3, it is recommended that both the main and spare be upgraded in order to maintain failover compatibility. If you plan to upgrade only one SSP for verification purposes, upgrade the main SSP but do not implement the new features introduced in SSP 3.3. This will allow the spare SSP to continue to serve as a backup to the main SSP. When you are satisfied with the base release of SSP 3.3, upgrade the spare SSP, then begin using the new SSP 3.3 features.

SSP Installation and Upgrade Options

TABLE 2-3 describes the basic SSP installation and upgrade options and where to find detailed instructions on each option:

TABLE 2-3   SSP Installation and Upgrade Options

To	See
Create a new SSP 3.3 disk	Chapter 3 "Installing SSP 3.3 on a New Disk"
Upgrade to SSP 3.3	Chapter 4 "Upgrading to SSP 3.3"
Install the SSP 3.3 AnswerBook2 documentation	Chapter 6 "Installing the SSP 3.3 AnswerBook2 Collection"
Uninstall SSP 3.3	Appendix B "Uninstalling SSP 3.3"

Installing SSP 3.3 on a New Disk

This chapter explains how to install SSP 3.3 on a new disk.

Note – Before installation, review the SSP 3.3 requirements explained in Chapter 2 "Preparing for SSP 3.3 Installation or Upgrade".

The SSP 3.3 Installation Process

The creation of a new SSP 3.3 disk involves the following key tasks:

- Installing the Solaris operating environment
- Configuring the SSP network files as explained in Appendix A "Configuring the SSP Network"
- Installing the SSP software using Web Start™ (the GUI installer) or the `ssp_install`(1M) command
- Restoring the SSP environment if you have an SSP backup file, or providing system information, such as the name of the platform and control board
- Optionally installing the SSP 3.3 AnswerBook2 collection, described in Chapter 6 "Installing the SSP 3.3 AnswerBook2 Collection"

The following sections provide detailed descriptions of the SSP 3.3 installation steps using Web Start or the `ssp_install` command.

Using Web Start

You can use Web Start to install the SSP 3.3 software and optionally the SSP 3.3 AnswerBook2 collection. Web Start is a GUI application that you can use to perform a fresh install from CD-ROM or from files you have downloaded from the Web.

▼ To Create a New SSP 3.3 Disk Using Web Start

1. **Log in as superuser.**

2. **Set the** `DISPLAY` **environment variable.**

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

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

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

3. **Begin Web Start by typing:**

   ```
   ssp# cd base_directory
   ssp# ./installer
   ```

   where *base_directory* specifies one of the following:
   - The directory where you downloaded the SSP software if you obtained the SSP software from the Web.
   - The directory `/cdrom/cdrom0` if you obtained the SSP software from the CD-ROM.

4. **Select Custom Install, then select the System Service Processor 3.3 software and optionally the System Service Processor 3.3 Answerbook2 product.**

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

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

6. **Click the Install Now button.**

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

7. **If you have a backup file of a previous SSP environment, restore this file by typing:**

```
ssp# ./ssp_restore backup_directory/ssp_backup.cpio
```

where the *backup_directory* is the directory in which the backup file
`ssp_backup.cpio` resides. For information on backing up the SSP, see "To Create
an SSP Backup File" on page 11.

8. **Configure the SSP as a main or spare using the** `ssp_config` **command:**

```
ssp# /opt/SUNWssp/bin/ssp_config
```

The subsequent prompts and information displayed will vary depending on
whether you restored a backup file in Step 7.

The following is an example session that shows the prompts and responses
displayed if you restored an SSP backup file and you are configuring the main SSP:

```
Beginning setup of this workstation to act as a MAIN or SPARE SSP.
Are you currently configuring the MAIN SSP? (y/n)y
MAIN SSP configuration completed.
```

If you did not restore a backup file, you will be prompted for the following system
information:

■ Processor speed

If you have a mixture of processors, select the number corresponding to the *lowest*
processor speed. You are prompted to confirm your selection.

■ The name of the platform this SSP will service

The platform name is simply a name by which the SSP software refers to the
entire Sun Enterprise 10000 host. The platform name is *not* the host name of a
domain or the SSP workstation. A domain name can be the same as the platform
name, but it is not suggested.

Note – The term *starfire* is reserved and cannot be used as the platform name.

■ Host control boards

For each control board slot, indicate whether there is a control board present and
the host name for the respective control board (host names are in the `/etc/
hosts` file). If the IP address for a control board is not found in existing

configuration files, you will be prompted for this information. If two control boards are present, you will be asked which control board is the primary (active) control board.

The following is an example session that shows the prompts and responses displayed when a backup file was not restored:

```
You must specify what type of processor modules you have installed in your
Enterprise-10000 platform.  Please select one of the options below.

1) 250 MHz processors
2) 336 MHz processors
3) 400 MHz processors
4) Unlisted (manually enter clock values)
5)

What speed of processors do you have installed? 2

Your selections are apparently for a 336 MHz processor.

Is this correct? (y/n) y

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

What is the name of the platform this SSP will service? allxf4
Do you have a control board 0? (y/n)y

Please enter the host name of the control board 0 [allxf4cb0]: xf4-cb0

Do you have a control board 1? (y/n)y

Please enter the host name of the control board 1 [allxf4cb1]: xf4-cb1

Please identify the primary control board.

Is Control Board 0 [xf4-cb0] the primary? (y/n)y

Platform name     = allxf4
Control board 0 = xf4-cb0 => 129.153.151.123
Control board 1 = xf4-cb1 => 129.153.152.123
Primary Control Board = 0

Is this correct? (y/n)y
Are you currently configuring the MAIN SSP? (y/n) y

Main SSP configuration completed.
```

9. **Reboot the SSP.**

10. **Log in to the SSP as user** `ssp` **and specify a new password when you are prompted to do so.**

11. **Enter the SUNW_HOSTNAME (the platform name you specified when configuring the SSP) when you are prompted to do so.**

12. **If you have just configured the main SSP, do the following:**

    a. **Monitor the platform message file by typing:**

    ```
    ssp% tail -f $SSPLOGGER/messages
    ```

    b. **Before proceeding, wait for the** `SSP startup complete` **message to appear.**

    The platform message file displays information about various SSP processes that are started. If you did not restore an SSP backup file, the `thermcaldata.tcl` database is generated during SSP startup, which may take some time to complete.

    c. **Check the platform message file and verify that the correct flash PROM version (3.46) is installed.**

    For information on updating the control board prom, see the man page for the `cb_prom`(1M) command.

Note – If an error occurs during installation, manually remove all the SSP 3.3 software packages that were installed using the `pkgrm`(1M) command and return to the beginning of this installation procedure. For details on removing packages, see Appendix B "Uninstalling SSP 3.3".

Using the `ssp_install` Command

The `ssp_install` command is a utility that enables you to install the SSP software from the command line. The following procedure describes the detailed installation steps involved when you use `ssp_install`.

▼ To Create a New SSP 3.3 Disk Using the `ssp_install` Command

1. On the SSP, log in as superuser and change directory to the `Tools` directory:

```
ssp# cd base_directory/System_Service_Processor_3.3/Tools
```

where *base_directory* specifies one of the following:

- The directory where you downloaded the SSP software if you obtained the SSP software from the Web.
- The directory `/cdrom/cdrom0` if you obtained the SSP software from the CD-ROM.

2. Install the SSP software by typing:

```
ssp# ./ssp_install ../Product
```

3. When you are asked to install the SUNWsspfp (the SSP flash prom image) package, type `y`.

The installation process verifies the disk space available and checks for any conflicts with packages already installed.

4. If conflicting files exist, type `y` when you are asked if you want to install these conflicting files.

5. If you have a backup file of a previous SSP environment, restore this file by typing:

```
ssp# ./ssp_restore backup_directory/ssp_backup.cpio
```

where the *backup_directory* is the directory in which the backup file `ssp_backup.cpio` resides. For information on backing up the SSP, see "To Create an SSP Backup File" on page 11.

6. **Configure the SSP as a main or spare using the** ssp_config **command:**

```
ssp# /opt/SUNWssp/bin/ssp_config
```

The subsequent prompts and information displayed will vary depending on whether you restored a backup file in Step 5.

The following is an example session that shows the prompts and responses displayed if you restored an SSP backup file and you are configuring the main SSP:

```
Beginning setup of this workstation to act as a MAIN or SPARE SSP.
Are you currently configuring the MAIN SSP? (y/n)y
MAIN SSP configuration completed.
```

If you did not restore a backup file, you will be prompted for the following system information:

■ Processor speed

   If you have a mixture of processors, select the number corresponding to the *lowest* processor speed. You are prompted to confirm your selection.

■ The name of the platform this SSP will service

   The platform name is simply a name by which the SSP software refers to the entire Sun Enterprise 10000 host. The platform name is *not* the host name of a domain or the SSP workstation. A domain name can be the same as the platform name, but it is not suggested.

Note – The term *starfire* is reserved and cannot be used as the platform name.

■ Host control boards

   For each control board slot, indicate whether there is a control board present and the host name for the respective control board (host names are in the /etc/ hosts file). If the IP address for a control board is not found in existing

configuration files, you will be prompted for this information. If two control boards are present, you will be asked which control board is the primary (active) control board.

The following is an example session that shows the prompts and responses displayed if a backup file was not restored:

```
You must specify what type of processor modules you have installed in your
Enterprise-10000 platform.  Please select one of the options below.

1) 250 MHz processors
2) 336 MHz processors
3) 400 MHz processors
4) Unlisted (manually enter clock values)
5)

What speed of processors do you have installed? 2

Your selections are apparently for a 336 MHz processor.

Is this correct? (y/n) y

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

What is the name of the platform this SSP will service? allxf4
Do you have a control board 0? (y/n)y

Please enter the host name of the control board 0 [allxf4cb0]: xf4-cb0

Do you have a control board 1? (y/n)y

Please enter the host name of the control board 1 [allxf4cb1]: xf4-cb1

Please identify the primary control board.

Is Control Board 0 [xf4-cb0] the primary? (y/n)y

Platform name     = allxf4
Control board 0 = xf4-cb0 => 129.153.151.123
Control board 1 = xf4-cb1 => 129.153.152.123
Primary Control Board = 0

Is this correct? (y/n)y
Are you currently configuring the MAIN SSP? (y/n) y

Main SSP configuration completed.
```

7. **Reboot the SSP.**

8. **Log in to the SSP as user** `ssp` **and specify a new password when you are prompted to do so.**

9. **Enter the SUNW_HOSTNAME (the platform name you specified when configuring the SSP) when you are prompted to do so.**

10. **If you have just configured the main SSP, do the following:**

    a. **Monitor the platform message file by typing:**

    ```
    ssp% tail -f $SSPLOGGER/messages
    ```

    b. **Before proceeding, wait for the** `SSP startup complete` **message to appear.**

       The platform message file displays information about various SSP processes that are started. If you did not restore an SSP backup file, the `thermcaldata.tcl` database is generated during SSP startup, which may take some time to complete.

    c. **Check the platform message file and verify that the correct flash PROM version (3.46) is installed.**

       For information on updating the control board prom, see the man page for the `cb_prom`(1M) command.

Note – If an error occurs during installation, manually remove all the SSP 3.3 software packages that were installed using the `pkgrm`(1M) command and return to the beginning of this installation procedure. For details on removing packages, see Appendix B "Uninstalling SSP 3.3".

Upgrading to SSP 3.3

This chapter describes the procedure for upgrading to SSP 3.3.

Note – Before upgrading, review the SSP 3.3 requirements explained in Chapter 2 "Preparing for SSP 3.3 Installation or Upgrade".

The SSP Upgrade Process

The SSP upgrade process automatically updates SSP 3.1.1 or 3.2 to version 3.3. During the upgrade, SSP daemons are stopped if appropriate, existing SSP packages are removed, certain SSP files are archived, and the SSP 3.3 packages are added.

If you encounter problems with the upgrade to SSP 3.3, you can revert back to a previous release of SSP. However, switching back to a previous release requires that you downgrade the SSP. For instructions on switching back to a previous SSP release, see Appendix B "Uninstalling SSP 3.3"

Upgrading from 3.1.1 or 3.2 involves the following main tasks:

- Backing up the SSP environment using the `ssp_backup` command
- Running the `ssp_upgrade` command
- Optionally installing the SSP AnswerBook2 Collection as explained in Chapter 6 "Installing the SSP 3.3 AnswerBook2 Collection"

The following procedure describes the detailed steps for upgrading either a main or spare SSP.

▼ To Upgrade to SSP 3.3

1. **On the SSP, log in as superuser and change directory to the** `Tools` **directory:**

   ```
   ssp# cd base_directory/System_Service_Processor_3.3/Tools
   ```

   where *base_directory* specifies one of the following:

   - The directory where you downloaded the SSP software if you obtained the SSP software from the Web.
   - The directory `/cdrom/cdrom0` if you obtained the SSP software from the CD-ROM.

2. **Backup the environment on the main SSP by typing:**

   ```
   ssp# ./ssp_backup target_directory
   ```

   A backup file named `ssp_backup.cpio` is created in *target_directory*. For information on backing up the SSP, see "To Create an SSP Backup File" on page 11.

3. **Upgrade the SSP by typing:**

   ```
   ssp# ./ssp_upgrade ../Product
   ```

   A message indicates that the upgrade is complete and that the upgrade log file (`/var/sadm/system/logs/ssp_upgrade_log`) is written. The upgrade log provides information on upgrade processing.

4. **If you are upgrading the main SSP, reboot the SSP.**

5. **If you have a dual SSP configuration and you just updated the spare SSP, run** `ssp_restore` **on the spare so that your spare SSP matches the main SSP configuration.**

After SSP Installation or Upgrade

After you have completed an SSP installation or upgrade, you may need to do the following:

- Edit some of the initialization files in the `/export/home/ssp` directory.

  If you made changes to the files, you did not restore the environment during the fresh install or upgrade, and you want to retain your changes, see the next section, "Editing Initialization Files".

- Configure the Network Time Protocol (NTP) daemon (see "Configuring the Network Time Protocol Daemon" on page 28).

Editing Initialization Files

When you run `ssp_upgrade` or `ssp_restore`, the following files are copied and saved with a `.__upgrade` suffix. If you have made changes to these files, you can incorporate these changes into the new versions of the files when you have completed the upgrade or install procedure.

The default `blacklist`(4) file found in `/var/opt/SUNWssp/etc` is backed up by `ssp_backup` and restored by `ssp_restore`. However, if you have created a `.postrc` file that changes the location of the `blacklist` file, the relocated `blacklist` file is not backed up by `ssp_backup`.

The following files are copied and saved when you run `ssp_upgrade` or `ssp_restore`.

- `/export/home/ssp/.Xdefaults`
- `/export/home/ssp/.xinitrc`
- `/export/home/ssp/.drtclrc`
- `/export/home/ssp/.redxrc`
- `/export/home/ssp/.cshrc`

- `/export/home/ssp/.login`
- `/export/home/ssp/.postrc`
- `/var/opt/SUNWssp/.ssp_private/ssp_resource`
- `/var/opt/SUNWssp/adm/.logger`

The following additional files are copied and saved only when `ssp_restore` is run:

- `/export/home/ssp/.ssp_env`
- `/export/home/ssp/.dtprofile`
- `/export/home/ssp/.dt/dtwmrc`
- `/export/home/ssp/.dt/user.dtwmrc`

If you made changes to the `Ultra-Enterprise-10000.snmpd.cnf` file that is in the `/etc/opt/SUNWssp/snmp/agt` directory, you will have to incorporate your changes into the file installed on the restored system.

Configuring the Network Time Protocol Daemon

If the SSP is to function as a time server, configure the Network Time Protocol (NTP) daemon.

The NTP daemon (`xntpd(1M)` for Solaris 2.6, Solaris 7, or Solaris 8 operating environments) provides a mechanism for keeping the time settings synchronized between the SSP and the domains. OBP obtains the time from the SSP when the domain is booted, and NTP keeps the time synchronized from that point on.

The configuration is based on information provided by the system administrator. If the Sun 10000 Enterprise system is not currently running in an NTP subnet, does not have access to the Internet, and is not going to use a radio clock, you can set up the Enterprise 10000 system to use its own internal time-of-day clock as the reference clock. Usually, however, the SSP uses its internal time-of-day clock for the Enterprise 10000 system.

The NTP packages are compiled with support for a local reference clock. This means that your system can poll itself for the time instead of polling another system or network clock. The poll is done through the network loopback interface. The first three numbers in the IP address are 127.127.1. The last numbers in the IP address are the NTP stratum to use for the clock.

When setting the SSP and the domains, set the SSP to stratum 4. Set up the domains as peers to the SSP and set the local clock two stratums higher.

If the `ntp.conf` file does not exist, create it as described in "To Create the `ntp.conf` File" on page 29.

▼ To Create the `ntp.conf` File

1. **Log in as superuser.**

2. **Create the `ntp.conf` file in a text editor.**

   The `ntp.conf` file is located in `/etc/inet`. You must have an `ntp.conf` file on both the SSP and the domains. The following is an example of server/peer lines in the `ntp.conf` file on the SSP.

   ```
   server 127.127.1.0
   fudge 127.127.1.0 stratum 8
   ```

   For the Solaris 2.6, Solaris 7, or Solaris 8 operating environments, you can add lines similar to the following to the `/etc/inet/ntp.conf` file on the domains:

   ```
   peer ssp_name
   server 127.127.1.0
   fudge 127.127.1.0 stratum 10
   ```

   For more information on the NTP daemon, refer to the *Network Time Protocol User's Guide*, the *NTP Reference*, and `xntpd`(1M).

Installing the SSP 3.3 AnswerBook2 Collection

This section explains how to manually install the SSP 3.3 AnswerBook2 document collection using the standard installation utility, `pkgadd`.

The SSP 3.3 AnswerBook2 Collection

Before you can install the SSP 3.3 AnswerBook2 document collection, you must have the AnswerBook2 Server software installed. For instructions on installing the AnswerBook2 server software, see "Installing and Administering an AnswerBook2 Server" in the AnswerBook2 Help collection on `docs.sun.com`. The server software can be obtained from the following sources:

- The Documentation CD for Solaris 7 and Solaris 8
- The Web (`http://www.sun.com/software/ab2/index.html`)

▼ To Install the SSP 3.3 AnswerBook2 Collection

1. **Login as superuser on the machine where the SSP 3.3 AnswerBook2 collection is to be installed.**

2. **If you have a previous version of the SUNWuessp package installed, remove it using the** `pkgrm` **command:**

```
ssp# pkgrm SUNWuessp
```

3. **Change directory to the location of the SSP 3.3 AnswerBook package:**

```
ssp# cd base_directory/System_Service_Processor_3.3_Answerbook/
Product
```

Where *base_directory* specifies one of the following:

- The directory where you downloaded the SSP software if you obtained the SSP software from the Web.
- The directory `/cdrom/cdrom0` if you obtained the SSP software from the CD-ROM.

4. **Add the SUNWuessp package by typing:**

```
ssp# pkgadd -d . SUNWuessp
```

5. **When you are requested to select an installation option, type 2 (heavy installation):**

```
Select an installation option: 2
```

6. **When you are asked to specify the parent path for the AnswerBook2 Collection, type the path to the directory in which you want to put the SSP 3.3 AnswerBook2.**

It is recommended that you install the SSP AnswerBook2 Collection in `/opt`.

```
Specify the parent path of this AnswerBook2 Collection directory: /opt
```

7. **Type y at the following prompt:**

```
This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of <SUNWuessp> [y,n,?] y
```

A message indicates that the SUNWuessp package was successfully installed.

For instructions on launching the AnswerBook2 viewer and viewing document collections, see "Viewing Online Documentation Using the AnswerBook2 System" in the AnswerBook2 Help collection on `docs.sun.com`.

Configuring the SSP Network

If you are installing the SSP software on a new disk, and have already performed a fresh install of the Solaris operating environment, you need to configure the SSP network files before performing a fresh install of the SSP software.

This appendix describes the following SSP network configurations:

- Two subnets
- Three subnets
- Spare SSP

TABLE A-1 and FIGURE A-1 describe the two-subnet network configuration.

TABLE A-1   Two-Subnet Network Configuration

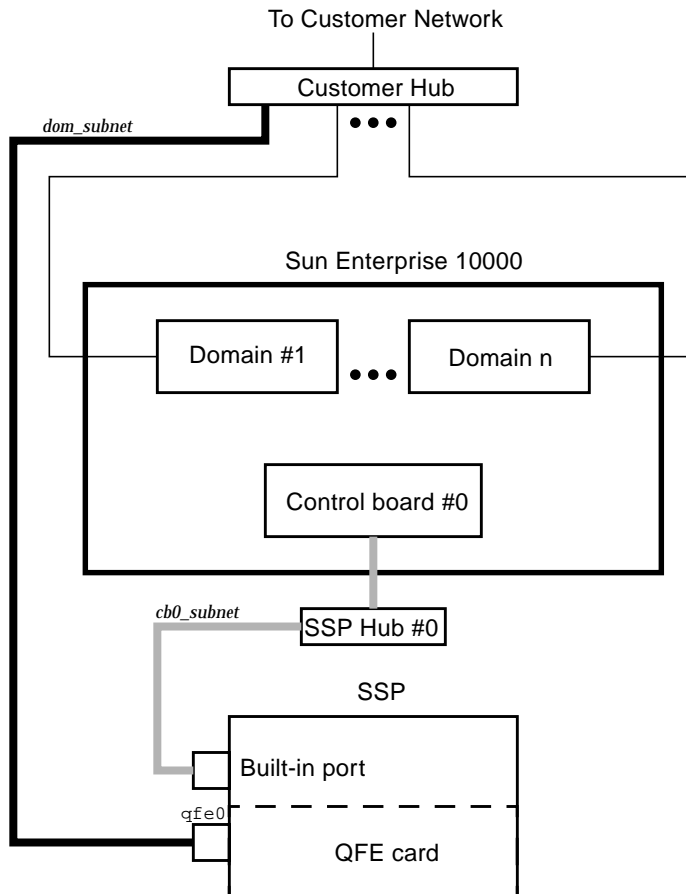| Subnet	Name	Description
Primary	Domain Subnet or `dom_subnet`	SSP and the domains
Second	Control Board Subnet or `cb0_subnet`	SSP and the control board

FIGURE A-1 Two-Subnet Network Configuration

In FIGURE A-1, the built-in port is `le0` for a SPARCstation 5 and `hme0` for a Sun Ultra 5 and a Sun Enterprise 250 system.

TABLE A-2 and FIGURE A-2 describe the three-subnet network configuration.

TABLE A-2 Three-Subnet Network Configuration

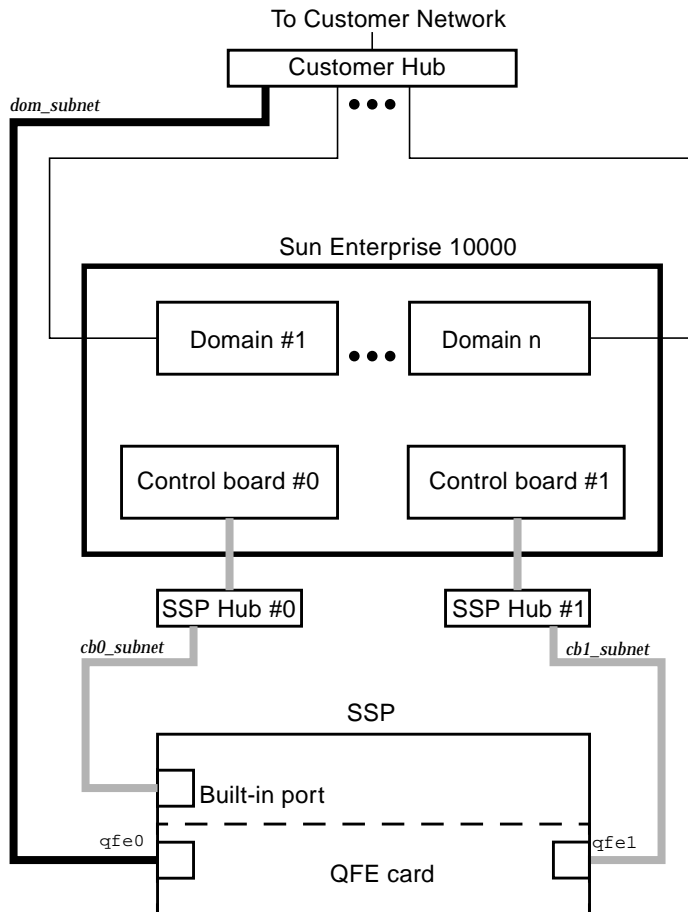| Subnet	Name	Description
Primary	Domain Subnet or `dom_subnet`	SSP and the domains
Second	Control Board Subnet 0 or `cb0_subnet`	SSP and the first control board
Third	Control Board Subnet 1 or `cb1_subnet`	SSP and the second control board

FIGURE A-2 Three-Subnet Network Configuration

In FIGURE A-2, the built-in port is `le0` for a SPARCstation 5 and `hme0` for a Sun Ultra 5 and a Sun Enterprise 250 system.

TABLE A-3 and FIGURE A-3 describe the spare SSP network configuration.

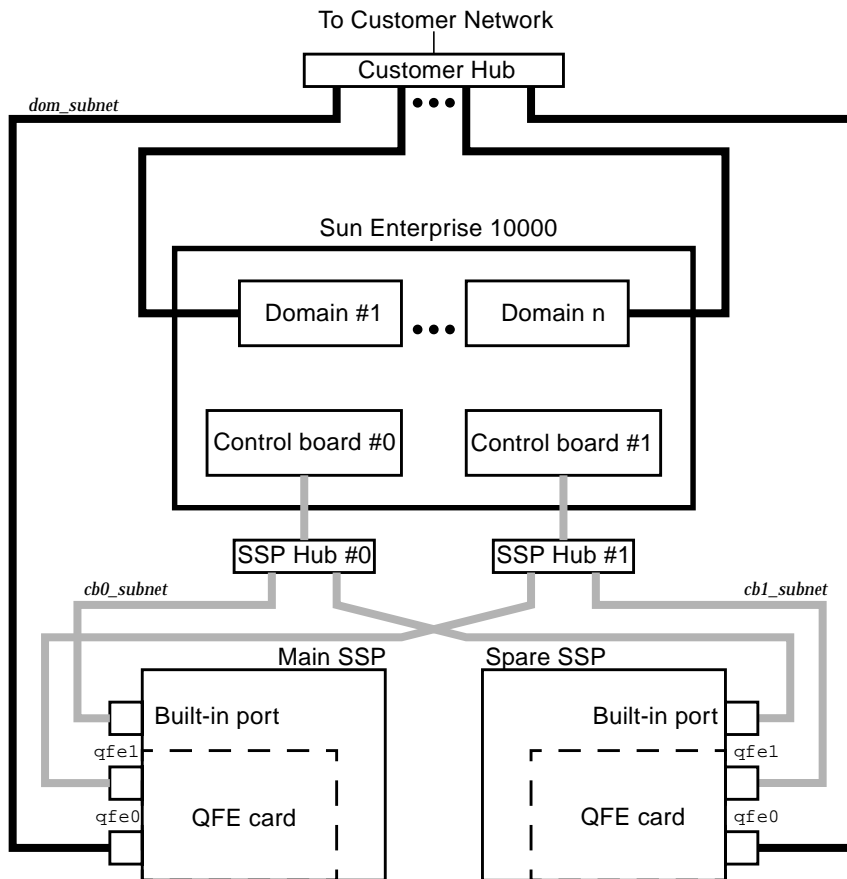| Subnet	Name	Description
Primary	Domain Subnet or dom_subnet	Both SSPs and the domains
Second	Control Board Subnet 0 or cb0_subnet	Both SSPs and the first control board
Third	Control Board Subnet 1 or cb1_subnet	Both SSPs and the second control board

FIGURE A-3   Spare SSP Network Configuration

In FIGURE A-3, the built-in port on the main SSP and the spare SSP is le0 for a
SPARCstation 5 and hme0 for a Sun Ultra 5 and a Sun Enterprise 250 system.

▼ To Configure Your SSP Network

This procedure provides instructions for configuring your SSP network in one of the three configurations discussed earlier in this appendix.

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

2. **Create the** `/etc/hostname.*` **configuration files.**

   If you need to view your network controllers, use `ifconfig -a`.

   For example, if you are using a Quad FastEthernet™ (QFE) card, model 1049A, in the two-subnet, three-subnet, or spare SSP network configuration on a Sun Ultra 5 system, you need the following files:

   - `/etc/hostname.qfe0` — contains the current SSP host name; it configures the primary subnet, `dom_subnet`.
   - `/etc/hostname.hme0` — contains *ssp_hostname*-`hme0`; it configures the second subnet, `cb0_subnet`.

   The following file is also needed if you are using either the three-subnet or spare SSP configuration:

   - `/etc/hostname.qfe1` — contains *ssp_hostname*-`qfe1`; it configures the third subnet, `cb1_subnet`.

3. **Set the contents of the** `defaultrouter` **file to the IP address of the primary network interface:**

```
ssp# echo primary_network_IP_address > /etc/defaultrouter
```

4. **Manually update your name service** `hosts` **registry to include the host names and IP addresses of your control board(s) and other hosts, such as domains and the SSP.**

This can involve updating the Network Information Service (NIS or NIS+), or the `/etc/hosts` file, or the Domain Name Service (DNS).

The following example shows the typical modifications for an `/etc/hosts` file on a Sun Ultra 5 system:

```
# Entries for dom_subnet.
www.xxx.yyy.zzz domain1_hostname
www.xxx.yyy.zzz domain2_hostname
...
www.xxx.yyy.zzz domainn_hostnname
(n is the number of domains)
#
# Entries on both ssp's.
# NOTE : On the spare SSP, make sure "loghost"
# belongs to the spare.
#
www.xxx.yyy.zzz main_ssp_hostname loghost
www.xxx.yyy.zzz spare_ssp_hostname
#
# The next three entries need to be on cb0_subnet.
#
www.xxx.yyy.zzz main_ssp_hostname-hme0
www.xxx.yyy.zzz spare_ssp_hostname-hme0
www.xxx.yyy.zzz cb0_hostname
#
# The next three entries need to be on cb1_subnet.
#
www.xxx.yyy.zzz main_ssp_hostname-qfe1
www.xxx.yyy.zzz spare_ssp_hostname-qfe1
www.xxx.yyy.zzz cb1_hostname
```

Here is an example of a main SSP `/etc/hosts` file. In this example, the SSP is configured as follows:

- `xf4` and `xf4-b3` are host domains.
- `xf4-ssp1` is the main SSP and `xf4-ssp2` is the spare SSP.

- `xf4-cb0` and `xf4-cb1` are the host names for the two control boards.

```
#/etc/hosts
#
#dom_subnet (www.xxx.49.zzz). The 49 subnet
#
129.153.49.8    xf4
129.153.49.9    xf4-b3
127.0.0.1       localhost
129.153.49.113  xf4-ssp1 loghost
129.153.49.114  xf4-ssp2
#
#cb0_subnet (www.xxx.151.zzz). The 151 subnet
#
129.153.151.113 xf4-ssp1-hme0
129.153.151.114 xf4-ssp2-hme0
129.153.151.123 xf4-cb0
#
#cb1_subnet (www.xxx.152.zzz). The 152 subnet
#
129.153.152.113 xf4-ssp1-qfe1
129.153.152.114 xf4-ssp2-qfe1
129.153.152.127 xf4-cb1
```

The `/etc/hosts` file is a link to the `/etc/inet/hosts` file.

Note – The SSP and the host domains must be on the same subnet so you can boot domains from the network.

5. **Manually update your name service** `ethers` **registry to include the Ethernet addresses for the domain(s), SSP(s), and control board(s).**

You need to update NIS or NIS+, or the `/etc/ethers` file. For example:

```
0:0:be:01:00:1e        xf4-cb0
0:0:be:01:00:57        xf4-cb1
```

Note – The Ethernet address of the control board(s) is located on the front of each control board.

6. **Edit the** `/etc/nsswitch.conf` **file on the main SSP and the spare SSP.**

   If you are using local configuration files, the lines in the `/etc/nsswitch.conf` files are similar to the following example:

   ```
   passwd:     files
   group:      files
   hosts:      files
   ethers:     files
   ```

   Note – The name server information (`nis`) is dependent on your network configuration.

7. **Reboot the SSP.**

Uninstalling SSP 3.3

You can remove the SSP 3.3 software and recover the previous version of the SSP software. However, you must run the `ssp_downgrade` (1M) command before uninstalling SSP 3.3 and reverting to an earlier version of SSP.

You will also need the backup file of the SSP environment that you created using `ssp_backup`(1M) before upgrading to SSP 3.3; this file is needed to restore the SSP environment. Or, you can run `ssp_backup` on SSP 3.3 and then run `ssp_restore` to restore the SSP environment on SSP 3.2 or 3.1.1.

This appendix describes the procedure for uninstalling the SSP 3.3 software. Refer to the appropriate version of the *Sun Enterprise 10000 SSP Installation Guide and Release Notes* for information on installing the previous version of the SSP software.

▼ To Uninstall SSP 3.3

1. Log in to the SSP as user `ssp` **and prepare the SSP for downgrading by typing:**

```
ssp% ssp_downgrade
```

2. Log in to the SSP as superuser.

3. If you are uninstalling on the main SSP, stop the SSP daemons:

```
ssp# /etc/init.d/ssp stop
```

4. **Remove the SSP packages by typing:**

```
ssp# pkgrm SUNWsspid SUNWsspdo SUNWsspdr SUNWssppo SUNWsspob \
SUNWsspr SUNWsspst SUNWsspdf SUNWsspmn SUNWsspop SUNWsspue \
SUNWsspfp
```

For the SUNWsspr, SUNWsspdf, SUNWsspop, and SUNWsspue packages, a message indicates that the package contains scripts that will be executed with super-user permission during package removal.

5. **For the SUNWsspr, SUNWsspdf, SUNWsspop, and SUNWsspue packages, type** y **when you are asked if you want to continue with the removal of the package.**

6. **If the SSP AnswerBook package is installed, remove it by typing:**

```
ssp# pkgrm SUNWuessp
```

7. **Remove the following directories:**
   - `/var/opt/SUNWssp`
   - `/opt/SUNWssp`
   - `/etc/opt/SUNWssp`

8. **Reboot the SSP.**

Index