Ultra™ Enterprise™ 450 Server Upgrade Guide

THE NETWORK IS THE COMPUTER™

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Preface

The *Ultra Enterprise 450 Server Upgrade Guide*, used with the *Ultra Enterprise 450 Server Owner's Guide*, and the *Ultra Enterprise 450 Server Product Notes*, gives you the information you need to upgrade your Sun™ server to an Ultra™ Enterprise™ 450 server. These three documents accompany this upgrade package.

Features and options, installation, troubleshooting, parts replacement, network administration information, and other topics about the Ultra Enterprise 450 server are all covered in the *Ultra Enterprise 450 Server Owner's Guide*. To install the parts you will be transferring from other systems into your new Ultra Enterprise 450 server, refer to the *Ultra Enterprise 450 Server Upgrade Guide*, or to your third-party documentation. To install any options that you purchased with this upgrade, use the accompanying documentation.

In addition, you can also view many of the component installation and replacement procedures in the multimedia CD-ROM application ShowMe™ How™, which also accompanies this upgrade.

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 such information:

- *Solaris 2.x Handbook for SMCC Peripherals*
- AnswerBook™ online documentation for the Solaris™ software environment
- Other software documentation that you received with your system

Typographic Conventions

TABLE P-1 Typographic Conventions

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

Shell Prompts

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
Performing diagnostic tests	*SunVTS User's Guide*
	SunVTS Quick Reference Card
	SunVTS Test Reference Manual
	Solstice SyMON User's Guide
System and network administration	*Solaris System Administrator AnswerBook*
	SPARC: Installing Solaris Software
Using operating system software	*Solaris User's Guide*
Miscellaneous	*Solaris on Sun Hardware AnswerBook*
	Solaris Handbook for Sun Peripherals

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Ultra Enterprise 450 Server Upgrade Guide

This document contains information for upgrading from any Sun Ultra Enterprise 1 server, Sun Ultra Enterprise 2 server, or SPARCstation™ server to an Ultra Enterprise 450 server. For important safety and electromagnetic compatibility information, read the *Ultra Enterprise 450 Server Owner's Guide* that comes with this upgrade.

Overview

The following sections of this document cover the main steps involved in the upgrade procedure:

- Upgrade contents
- Cautions
- Unpacking the shipping cartons
- Backing up data disk drives
- Halting your system
- Removing any SBus card and extra memory
- Installing your upgrade
- Installing new disk drive brackets
- Transferring disk drives into the Ultra Enterprise 450 server
- Powering up your upgraded system
- Return material procedure

Be sure to read each section in its entirety, and any necessary information in the *Ultra Enterprise 450 Server Owner's Guide* and the *Ultra Enterprise 450 Server Product Notes* before attempting to perform the upgrade. You should also have on hand the documentation that came with your original system. You will need to refer to it to perform some of the procedures on the original system.

Upgrade Contents

Your upgrade includes the Ultra Enterprise 450 server chassis. The upgrade may also include one or more of the following hardware components:

- Memory modules (32-megabyte or larger capacity SIMMs)
- CPU module with DC to DC converter
- New disk drive bracket(s)

If any item in the list above is not included in either the upgrade or your new system, you are expected to transfer the item(s) from your old system to your new system.

For instructions about configuring your new system, or for instructions about installing new parts, or the parts you are transferring from your old system into your new system, consult the *Ultra Enterprise 450 Server Owner's Guide*, the *Ultra 450 Hardware Setup Instructions*, or view the ShowMe How CD-ROM multimedia documentation supplied with your new system.

When you upgrade to an Ultra Enterprise 450 server, you must return your old system unit to Sun Microsystems. See "Return Material Procedure" on page 9 for additional details.

Note – Since you are upgrading to a new CPU architecture, your system's Ethernet address and host identification (hostid) will change, and applications that are licensed to your system may change as well. Be sure to inform your system administrator of this fact before you begin the upgrade. He or she will need to update certain network configuration files before your system can rejoin the network.

Cautions

Caution – This equipment contains lethal voltage. Accidental contact can result in serious injury or death.

Caution – Improper handling by unqualified personnel can cause serious damage to this equipment. Unqualified personnel who tamper with this equipment may be held liable for any resultant damage to the equipment.

Caution – Use proper electrostatic discharge (ESD) grounding techniques when handling components. Wear an antistatic wriststrap and use an ESD-protected mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

Individuals servicing this equipment must observe all safety precautions and ensure compliance with skill level requirements, certification, and all applicable local and national laws.

Some procedures in this document must be performed by trained maintenance providers. Only people who have been trained at the Sun Microsystems training facilities (or at Sun Microsystems affiliates) and have been certified as required by local and national laws are considered qualified.

Unpacking the Shipping Cartons

Illustrations depicting how to unpack your new Ultra Enterprise 450 server are printed on the shipping cartons—these pictures are self-explanatory. However, there are a few additional steps you should take:

1. **Inspect the shipping cartons before opening them.**

   If there is evidence of damage to a carton, contact your sales representative and arrange for an agent of the carrier to be present when you remove the equipment.

2. **Remove and save the** *Customer Information Sheet***.**

   This sheet is in the plastic envelope on the side of the system unit carton. Retain this sheet for your records. If you are connecting your system to a network, your system administrator will need this sheet during the installation procedure.

3. **Save the cartons and the packing material.**

   You will need them if you ever want to ship your system anywhere. In addition, you may need them to return your old system unit if its original shipping materials are missing.

Backing Up Data Disk Drives

Ultra Enterprise 450 servers support 1-inch high and 3.5-inch wide Ultra SCSI disk drives. If you are transferring data disk drives to the new system, back up the data on the drives before halting the system.

Note – You cannot transfer a *boot* disk from your old system and use it as a *boot* disk in your Ultra Enterprise 450 server. You must reformat the drive and install the new version of the operating system software.

---

1. **Back up each data disk drive onto media that will be accessible to your new server.**

   Use a level 0 dump backup.

2. **Record each disk's device name.**

   Use the `df` command to read the disk device name before removing any disk drive from your old system.

Halting Your System

Caution – You must halt the system in an orderly manner. When the operating system or any other standalone program is up and running, do not press Stop(L1)-a to halt the system. Abruptly aborting program execution may cause damage to data files.

Halt your system using the following procedure:

1. **Save all your work.**

   Consult your software documentation for instructions on ending a work session and saving your files. If you do not save your work, you could lose it when you switch off the power.

2. **Perform a complete system dump before starting the upgrade process.**

   See your operating system documentation if you need instructions on how to do this.

3. **Return to the operating system environment.**

   If you are in a windowing environment, exit from it and wait for the system prompt to appear. See the documentation supplied with your windowing system.

4. **Halt the operating system.**

   See the documentation supplied with your operating system for instructions on how to halt it.

- **For Solaris 2.6 or later compatible systems, type:**

```
% su
Password: superuser password
# /usr/sbin/shutdown -y -g60 -i0
```

- **Or, for Solaris 2.5.1 Hardware: 4/97 or later compatible systems, type:**

```
% su
Password: superuser password
# /usr/etc/shutdown -h +1
```

The operating system warns other users of your system of the impending shutdown, and then halts itself after a one-minute delay. If you wish to provide a longer delay, see the man page for `shutdown(1)`.

The system responds with system halt messages, followed by either the > prompt or the `ok` prompt. When either prompt appears, you can safely turn off the power in the proper sequence.

5. **Turn off the power in sequence to:**

   a. External drive units (if any)

   b. Sun system unit

   c. Monitor (if applicable)

Removing SBus Cards and Extra Memory

If your system unit contains SBus cards, memory, or other modules, you should remove them before returning the system unit to Sun Microsystems.

You may transfer memory modules that were factory-installed inside your old system unit, as well as any memory module that you purchased as a separate option.

Consult the installation guide that came with your system for detailed instructions about removing SBus cards and extra memory.

Installing Your Upgrade System

Your upgrade includes the Ultra Enterprise 450 server chassis. The upgrade may also include one or more of the following hardware components:

- Memory modules (32-megabytes or larger capacity SIMMs)
- CPU module with DC to DC converter
- New disk drive bracket(s)

To install memory modules and CPU modules in your Ultra Enterprise 450 server, see the installation sections in the *Ultra Enterprise 450 Server Owner's Guide*.

Installing New Disk Drive Brackets

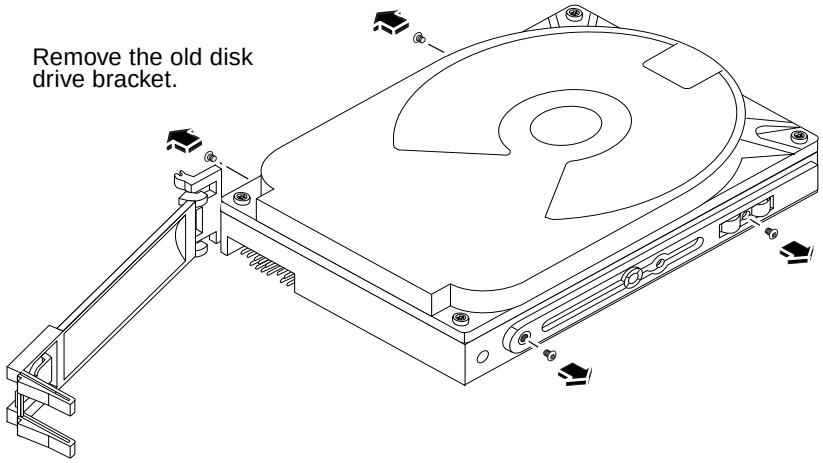
The Ultra Enterprise 450 server supports 1-inch high 3.5-inch wide Ultra SCSI disk drives with a *new* bracket for securing each drive in the disk drive array. If your 1-inch high disk drives have the old brackets on them, you must install the new brackets that came with your upgrade before you can transfer the drives into the new system.

Examine the following drawing to see if your drives have the old bracket. To install new brackets on your disk drives follow this procedure.

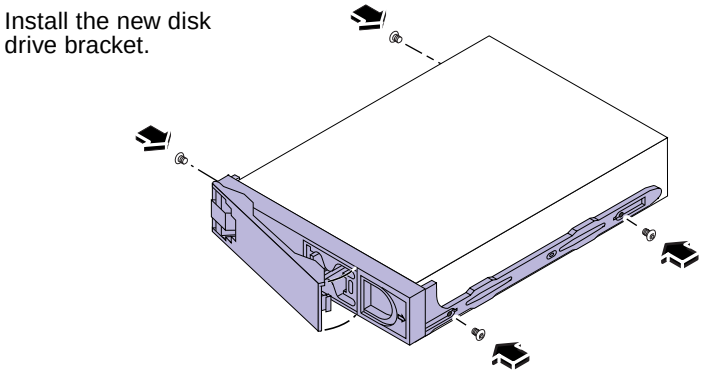
1. **Remove the disk drive from your old system.**

   See the documentation supplied with your system for disk drive removal. If you have not backed up your data disks, see “Backing Up Data Disk Drives” on page 4.

2. **Remove the four Phillips screws securing the old bracket to the disk drive.**



3. **Attach the new bracket to the disk drive using the four Phillips screws.**



4. **Repeat steps 1 to 3 as many times as is necessary to install the new disk drive brackets onto your 1-inch high disk drives.**

Transferring Disk Drives Into the Ultra Enterprise 450 Server

For information about mounting a data disk as an Ultra Enterprise 450 server data disk, consult the System Administration Guide accompanying your software documentation. Use the device name you recorded in the section “Backing Up Data Disk Drives” on page 4.

To configure and use any transferred data disk as part of a disk array, consult the Solstice™ Disk Suite™ documentation.

- **Install each disk drive into the Ultra Enterprise 450 server.**

  See the *Ultra Enterprise 450 Server Owner’s Guide* and the *Ultra Enterprise 450 Server Product Notes* for information about installing and configuring disk drives in your server.

Powering Up Your Upgraded System

The procedure for powering up your system for the first time depends on the operating system you are using. Refer to the *Ultra Enterprise 450 Server Owner’s Guide* for instructions about configuring your server. Your system is connected to a network, and the network environment will require some advance preparation before you turn on your server.

Do not power up your system until you have notified your system administrator and have received permission to proceed. If you must act as your own system administrator, see the documentation that accompanies your operating system software.

Return Material Procedure

Accompanying your upgrade is a Return Material Authorization (RMA) documentation set that includes a letter and instructions for returning your old equipment to Sun Microsystems.

Once you have completed the upgrade procedure, you must return your old system unit to Sun Microsystems. Be sure to remove and keep any SBus cards or memory modules before returning the system.

To return your old equipment to Sun Microsystems:

1. **Disconnect any cables that may still be attached to the system unit.**
2. **Pack the system unit in appropriate packing materials.**

   Use the system's original packing materials or the Ultra Enterprise 450 materials, if possible. Be sure that the unit is secure and well padded inside its shipping carton.
3. **Follow the instructions in the** *Sun Upgrades RMA Letter* **to return the equipment to Sun Microsystems.**

   You have completed the upgrade procedure. If you encounter any difficulties with your new server, call the Sun Response Center or your authorized service provider.