

# Ultra™ Enterprise™ x000 to Sun™ Enterprise™ x500 Systems Upgrade Guide

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# Ultra Enterprise x000 Server Family Upgrades

This document provides upgrade information for Ultra™ Enterprise™ x000 systems to Sun Enterprise x500 systems.

- From Ultra Enterprise 3000 to Sun Enterprise 3500—page 2-1
- From Ultra Enterprise 3000 to Sun Enterprise 4500 or 5500—page 2-2
- From Ultra Enterprise 4000/5000 to Sun Enterprise 6500—page 2-3

The procedure for each of these upgrades includes:

1. Prepare your system for upgrade.
2. Exchange items that will not be reused in the upgraded system for new parts.
3. Once the upgrade parts are received, install new and reusable parts as appropriate.

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## 1.1 Related Documents

During the upgrade process, refer to the documents in TABLE 1-1 for information on removal and installation of components.:

TABLE 1-1 Related Documents

Document	Part Number
<i>Ultra Enterprise 3000 System Installation Guide</i>	802-6050
<i>Ultra Enterprise 3000 System Manual</i>	802-6051
<i>Sun Enterprise 3500 System Installation Guide</i>	805-2629

TABLE 1-1 Related Documents

Document	Part Number
<i>Sun Enterprise 3500 System Reference Manual</i>	805-2630
<i>Ultra Enterprise 6000/5000/4000 Systems Installation Guide</i>	802-3844
<i>Ultra Enterprise 6000/5000/4000 Systems Manual</i>	802-3845
<i>Sun Enterprise 6500/5500/4500 Systems Installation Guide</i>	805-2631
<i>Sun Enterprise 6500/5500/4500 Systems Manual</i>	805-2632

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## 1.2 Preparing Your System

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**Caution** – Before powering-off your system, halt the operating system using the appropriate commands. Failure to do so can cause the loss of disk drive data. For more information, refer to the *Solaris Handbook for SMCC Peripherals* that corresponds to your operating system.

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### 1. Power-off the server.

- For Enterprise 3000 systems, refer to Chapter 11, “Powering Off and On,” in the *Ultra Enterprise 3000 System Manual*
- For Enterprise 4000/5000 systems, refer to Chapter 12, “Powering Off and On,” in the *Ultra Enterprise 6000/5000/4000 Systems Manual*

### 2. Remove the reusable parts listed in TABLE 1-2 (for Enterprise 3000 systems) or TABLE 1-3 (for Enterprise 4000/5000 systems) from your Ultra Enterprise server.

Refer to the referenced sections in your system manual for detailed procedures.

The following items should receive special consideration during the upgrade, as migration will cause the system to run at the slower speed of the gigaplane or CPU MHz. Migrate these parts only if the slower speed is to be maintained.

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**Note** – You may mix old and new boards in your upgraded server. The gigaplane will run at the speed of the slowest board. A flash PROM may be required: Enterprise x500 servers require PROM version 3.2.14 or later. See “CPU Modules” in the following list for more information on PROM versions.

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## 1. CPU modules

336 MHz, 250 MHz and 167 MHz modules are supported. However, if you are migrating a 167 MHz module, you will need to ensure that your PROM version is 3.2.14 or higher.

To determine what PROM version is on your system, use POST (power-on self-test). If the version listed is earlier than 3.2.14, you can download a patch for the PROM level upgrade at URL: <http://sunsolve.sun.com/>, or contact your Sun service provider. For further information on POST and PROM version upgrades, refer to the *Sun Enterprise 6x00/5x00/4x00/3x00 Systems Flash PROM Programming Guide*, part number 802-5579.

## 2. CPU/Memory board

An upgrade exists for the 2600 CPU/Memory board. Please contact your Sun sales representative for information.

## 3. SBus I/O board

## 4. Graphics I/O board

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**Note** – Hard disks in the Ultra Enterprise 3000 server *cannot* migrate to the Sun Enterprise 3500 Server.

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**TABLE 1-2** List of Reusable Parts for 3000 Systems

Reusable Part	Reuse in E3500	Reuse in 4500/5500	Removal procedure in <i>Ultra Enterprise 3000 System Manual</i>
SIMMs	Yes	Yes	Section 3.4
Peripheral power supply/AC	Yes	No	Section 6.3
Power/cooling module (PCM)	Yes	Yes	Section 6.4
Auxiliary Fan Tray Assembly	Yes	No	Section 6.4
Tape drive	Yes	Yes	Section 7.2
CPU/Memory board <sup>1</sup>	Yes	Yes	Section 3.4
CPU Modules <sup>1</sup>	Yes	Yes	Section 3.4
SBus I/O board <sup>1</sup>	Yes	Yes	Section 4.5
Graphics I/O board <sup>1</sup>	Yes	Yes	Section 4.5

1. Migrate these parts ONLY if the slower speed of the Gigaplane or CPU MHz is to be maintained.

**TABLE 1-3** List of Reusable Parts for 4000/5000 Systems

Reusable Part	Use in E6500	Removal procedure in <i>Ultra Enterprise 6000/5000/4000 Systems Manual</i>
SIMMs	Yes	Section 3.4
Power/cooling module (PCM)	Yes	Section 7.4
Tape drive	Yes	Section 8.1
Disk board	Yes	Section 5.5
Peripheral power supply	Yes	Section 7.3
CPU/Memory board <sup>1</sup>	Yes	Section 3.4
CPU Modules <sup>1</sup>	Yes	Section 3.4
SBus I/O board <sup>1</sup>	Yes	Section 4.5
Graphics I/O board <sup>1</sup>	Yes	Section 4.5

1. Migrate these parts ONLY if the slower speed of the Gigaplane or CPU MHz is to be maintained.

**3. Remove the TOD NVRAM from the clock board in the Ultra Enterprise server.**

Refer to Chapter 5, “Clock Board,” in the *Ultra Enterprise 3000 System Manual* or Chapter 6, “Clock Board,” in the *Ultra Enterprise 6000/5000/4000 Systems Manual*.

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## 1.3 New and Exchangeable Parts

The upgrade package includes items that are to be exchanged as well as several new items. Exchanged items include:

- System enclosure or chassis
- System boards
- Power supplies
- Sun CD-ROM player
- Power/Cooling modules (PCM)

It is the customers responsibility to ensure that returned equipment is packaged adequately to prevent damage and expedite shipping.

- 1. Pack the returnable parts in appropriate shipping boxes.**
- 2. Label the boxes “Box 1 of *n*,” “Box 2 of *n*,” and so forth, where *n* is the total number of boxes shipped.**



**TABLE 1-4** Parts List - Exchange and New

<b>Old Parts Returned</b>	<b>New Parts for 3000 upgrade to 3500</b>	<b>New Parts for 3000 upgrade to 4500/5500</b>	<b>New Parts for 4000/5000 upgrade to 6500</b>
Chassis (3000 or 4000) Rack and Chassis (5000)	Chassis	Chassis (4500), Rack and Chassis (5500)	Rack and Chassis
Clock board	Clock+ Board	Clock+ Board	Clock+ Board
Fan Tray Assembly (beneath disk drives)	Fan Tray Assembly (beneath disk drives)		
Sun CD	Sun CD	Sun CD	
	(1) Filler Panels for PCM's		(4) Filler Panels for PCM's
Peripheral power supplies (3000)		(1) Peripheral power supply (1) Power/Cooling Module (PCM)	
Fan Tray		(4) PCM Filler Panel	
			(8) Load boards

**3. Attach the Return Materials Authorization(RMA) label to Box 1 of *n*.**

The RMA label is contained in the Sun Enterprise X500 Server Family system upgrade kit.



# Upgrade Procedures

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## 2.1 Ultra Enterprise 3000

The Ultra Enterprise 3000 can be upgraded to a Sun Enterprise 3500, 4500, or 5500.

### 2.1.1 Upgrading to a Sun Enterprise 3500

Once you have completed the procedure in Section 1.2 “Preparing Your System”, remove the parts listed in TABLE 1-4 and return them to Sun Microsystems, Inc. for exchange using the procedure in Section 1.3 “New and Exchangeable Parts.”

The following items require special consideration. For more detailed information, refer to Appendix D, “Rules for System Configuration,” in the *Sun Enterprise 3500 Systems Reference Manual*:

- Filler boards are required in every unpopulated board slot in the Sun Enterprise 4500 server.
- PCM filler panels are required for every unpopulated PCM slot.
- One PCM is required for every two installed boards.
- The PCM must be adjacent to the installed boards.

#### 2.1.1.1 Installing Parts in the 3500 System

1. **Unpack and prepare the new Sun Enterprise 3500 server.**

Refer to the *Sun Enterprise 3500 System Installation Guide*.

**2. Install all new parts that were exchanged.**

Refer to the *Sun Enterprise 3500 System Installation Guide*.

**3. Install the TOD NVRAM into the new clock+ board in the Sun Enterprise 3500 server.**

Refer to Chapter 5, “Clock+ Board,” in the *Sun Enterprise 3500 System Reference Manual*.

**4. Install the parts to be reused from TABLE 1-2 in the Sun Enterprise 3500 server.**

Refer to the referenced sections in the *Sun Enterprise 3500 System Reference Manual* for instructions on installing these parts.

**5. Cable the Sun Enterprise 3500 server.**

Refer to Chapter 2, “Cabling the System,” in the *Sun Enterprise 3500 System Installation Guide* and connect the cables.

**6. Power on the Sun Enterprise 4500 or 5500 server.**

Refer to Chapter 3, “Powering the System On and Off,” in the *Sun Enterprise 3500 Systems Reference Manual* to complete the upgrade.

## 2.1.2 Upgrading to a Sun Enterprise 4500 or 5500

Once you have completed the procedure in Section 1.2 “Preparing Your System”, remove the parts listed in TABLE 1-4 and return them to Sun Microsystems, Inc. for exchange using the procedure in Section 1.3 “New and Exchangeable Parts.”

The following items require special consideration. For more detailed information, refer to Appendix D, “Rules for System Configuration,” in the *Sun Enterprise 6500/5500/4500 Systems Reference Manual*

- Filler boards are required in every unpopulated board slot in the Sun Enterprise 4500 server.
- PCM filler panels are required for every unpopulated PCM slot.
- One PCM is required for every two installed boards.
- The PCM must be adjacent to the installed boards.

### 2.1.2.1 Installing Parts in the 4500 or 5500 System

**1. Unpack and prepare the new Sun Enterprise 4500 or 5500 server.**

Refer to the *Sun Enterprise 6500/5500/4500 Systems Installation Guide*.

**2. Install all new parts that were exchanged.**

Refer to the *Sun Enterprise 6500/5500/4500 Systems Installation Guide*.

**3. Install the TOD NVRAM into the new clock+ board in the Sun Enterprise 4500 or 5500 server.**

Refer to Chapter 6, “Clock+ Board,” in the *Sun Enterprise 6500/5500/4500 Systems Manual*.

**4. Install the parts to be reused from TABLE 1-2 in the Sun Enterprise 4500 or 5500 server.**

Refer to the referenced sections in the *Sun Enterprise 6500/5500/4500 Systems Manual* for instructions on installing these parts.

**5. Cable the Sun Enterprise 4500 or 5500 server.**

Refer to Chapter 2, “Cabling the System,” in the *Sun Enterprise 6500/5500/4500 Systems Installation Guide* and connect the cables.

**6. Power on the Sun Enterprise 4500 or 5500 server.**

Refer to Chapter 3, “Powering the System On and Off,” in the *Sun Enterprise 6500/5500/4500 Systems Reference Manual* to complete the upgrade.

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## 2.2 Ultra Enterprise 4000 or 5000

An Ultra Enterprise 4000 or 5000 can be upgraded to Sun Enterprise 6500 using the procedures that follow.

### 2.2.1 Upgrading to a Sun Enterprise 6500

Once you have completed the procedure in Section 1.2 “Preparing Your System,” remove the parts listed in TABLE 1-4 and return them to Sun Microsystems, Inc. for exchange using the procedure in Section 1.3 “New and Exchangeable Parts.”

The following items require special consideration. For more detailed information, refer to Appendix D, “Rules for System Configuration,” in the *Sun Enterprise 6500/5500/4500 Systems Manual*:

- Load boards are required in every unpopulated board slot in the Sun Enterprise 6500 server.
- PCM filler panels are required for every unpopulated PCM slot.
- One PCM is required for every two installed boards.
- The PCM must be adjacent to the installed boards.
- Disk boards must be installed only in slots 14 and 15.
- When only one Disk board is installed, it must be in slot 15.

## 2.2.1.1 Installing Parts in the 6500 System

### 1. **Unpack and prepare the new Sun Enterprise 6500 server.**

Refer to the *Sun Enterprise 6500/5500/4500 Systems Installation Guide*

### 2. **Install all new parts that were exchanged.**

Refer to the *Sun Enterprise 6500/5500/4500 Systems Installation Guide*.

### 3. **Install the TOD NVRAM into the new clock+ board in the Sun Enterprise 6500 server.**

Refer to Chapter 6, “Clock+ Board,” in the *Sun Enterprise 6500/5500/4500 Systems Manual*.

### 4. **Install the reusable parts, listed in TABLE 1-3 in the Sun Enterprise 6500 server.**

Refer to the referenced sections in the *Sun Enterprise 6500/5500/4500 Systems Manual* for instructions on installing these parts.

### 5. **Cable the Sun Enterprise 6500 server.**

Refer to Chapter 2, “Cabling the System,” in the *Sun Enterprise 6500/5500/4500 Systems Installation Guide* and connect the cables.

### 6. **Power on the Sun Enterprise 6500 server.**

Refer to Chapter 3, “Powering the System On and Off,” in the *Sun Enterprise 6500/5500/4500 Systems Installation Guide* to complete the upgrade.