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Processor Upgrade Instructions

HP Integrity rx2600 server
HP workstation zx6000

This document explains how to:

- Add a second processor

- Upgrade processor(s) from 900Mhz or 1GHz to 1.3 MHz or 1.5 Mhz

To remove or replace the processor, you must:

1. Check the contents of the Processor Upgrade Kit

2. Upgrade the system firmware (if necessary)

3. Follow electrostatic discharge (ESD) precautions

4. Read the safety warnings

5. Remove the old processor (if necessary)

6. Install the new processor

7. Upgrade the operating system (if necessary)

This document explains these tasks.

Check Package Contents

NOTE: On systems with two processors, you must upgrade both at the same time. This requires two processor upgrade kits.

Check to verify that you have all of the components:

- Processor

■ Special processor tool

■ Firmware upgrade CD, which contains the System and Management Processor (MP) card firmware

■ ESD materials:

❑ Static-free mat

❑ Static strap

Upgrade System Firmware (if necessary)

⚠ **CAUTION:** DO NOT ATTEMPT TO DOWNGRADE FIRMWARE AFTER UPDATING TO REVISION 2.01. DOWNGRADING FIRMWARE COULD POTENTIALLY RENDER THE SYSTEM INOPERABLE.

If you are upgrading from 900 Mhz or 1 GHz to 1.3 GHZ or 1.5 GHz, you may need to upgrade the system firmware.

If you are adding a second processor, you should not need to upgrade the firmware.

The following firmware versions are required:

■ **System firmware version 2.01 or higher**

■ **BMC firmware version 1.50 or higher**

   To check the system and BMC firmware versions, execute the Extensible Firmware Interface (EFI) **info fw** command. The first line of the output lists the firmware versions.

   For instructions on using the EFI, see "Extensible Firmware Interface (EFI)" in Chapter 3 of the *hp rx2600/zx6000 Operation and Maintenance Guide*.

■ **MP card firmware version 2.10 or higher**

   Connect to the MP through the console. Execute the **help** command. The firmware version is listed on the first line of the output.

   For instructions on connecting to the MP or using the MP card, see "Management Processor (MP)" in Chapter 3 of the *hp rx2600/zx6000 Operation and Maintenance Guide*.

Follow these steps to upgrade the system and BMC firmware or the MP card firmware if necessary:

1. Use the CD included in the upgrade kit, or download the firmware update from the web:

   a. Go to **www.hp.com/go/bizsupport**. Navigate to the support page.

   b. Select **download drivers/software**.

   c. Enter the product name in the search field (**Integrity rx2600 server** or **zx6000 workstation**).

   d. Select the search result.

   e. Choose the firmware release you need to download (system and BMC or MP card).

   f. Click the **i** information icon for instructions on how to download, unpack, and install the firmware upgrade.

2. Install the firmware upgrade following the CD or download instructions.

3. Execute the **info fw** EFI command to confirm that the upgrade was successful.

Read Safety Warnings

⚠ **WARNING:** To remove or replace a processor, you must:
1. Power off the system.
2. Unplug the system power cord from the AC power outlet.

⚠ **WARNING:** Avoiding Electrical Shocks. To avoid electrical shock, do not open the power supplies. There are no user-serviceable parts inside. To avoid electrical shock and harm to your eyes by laser light, do not open the DVD laser module. The laser module should be serviced by service personnel only. Do not attempt to make any adjustment to the laser unit. Refer to the label on the DVD for power requirements and wavelength. This product is a class I laser product.

⚠ **WARNING:** Removing and Replacing the Cover. For your safety, never remove the system side cover without first disconnecting the power cord from the power outlet and removing any connection to a telecommunications network. If a Power Protection Device is fitted to your system, you must shut down your computer using its on/off switch, then remove the power cord before removing the system's side cover. Remove the Power Protection Device cables before any servicing operation. Always replace the side cover before switching the system on again.

⚠ **WARNING:** Avoiding Burn Injuries. Some parts inside the computer will be hot. Wait approximately three to five minutes for them to cool down before touching them.

⚠ **CAUTION:** Avoiding Static Electricity. Static electricity can damage electronic components. Turn OFF all equipment before installing an accessory card. Don't let your clothes touch any accessory card. To equalize the static electricity when replacing an accessory card, rest the accessory card bag on top of the system unit while you are removing the card from the bag. Handle the card as little as possible and with care.

⚠ **CAUTION:** To maintain FCC Electromagnetic Interference (EMI) compliance, verify that all covers are replaced and that all screws are properly seated.

⚠ **CAUTION:** DO NOT ATTEMPT TO DOWNGRADE FIRMWARE AFTER UPDATING TO REVISION 2.01. DOWNGRADING FIRMWARE COULD POTENTIALLY RENDER THE SYSTEM INOPERABLE.

Follow Electrostatic Discharge (ESD) Precautions

To prevent damage to this system, observe all of the following ESD precautions while performing the system parts removal/replacement procedures:

- Work on a static-free mat.

- Wear a static strap to ensure that any accumulated electrostatic charge is discharged from your body to ground.

- Create a common ground for the equipment you are working on by connecting the static-free mat, static strap, and peripheral units to that piece of equipment.

- Keep uninstalled printed circuit boards in their protective antistatic bags.

- Handle printed circuit boards by their edges once you have removed them from their protective antistatic bags.

Add or Upgrade the Processor

If there are two processors on your system board, you must upgrade both. This requires two Processor Upgrade Kits.

If you are upgrading a processor, you must first remove the old one. See "Remove the Old Processor" on page 6.

If you are adding a second processor, skip to "Install the New Processor" on page 10.

⚠ **CAUTION:** You must **disconnect all power** and follow the correct sequence of steps for your system to avoid serious damage to the system.

Remove the Old Processor

1. Turn off the system, **disconnect all power** and external cables and remove the system cover(s).

2. Remove the processor airflow guide and cables.

3. Unscrew the processor power pod mounting screws (1) and disconnect the module from its processor by sliding it toward the back of the system chassis (2).
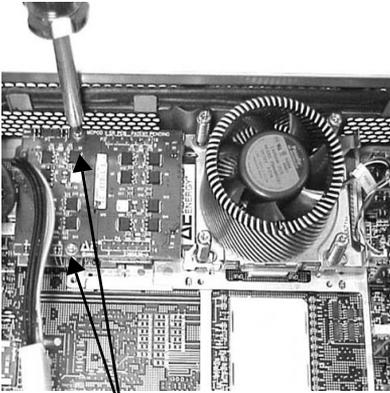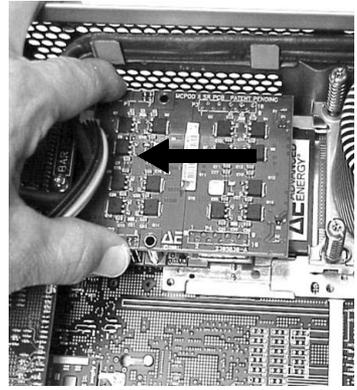
1   **2**

Disconnect the Processor Power Pod

4. Remove the processor power pod from the system.
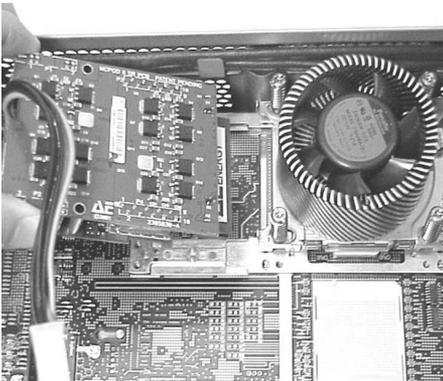
Remove the Processor Power Pod

5. Disconnect the power cable for the processor turbo fan.
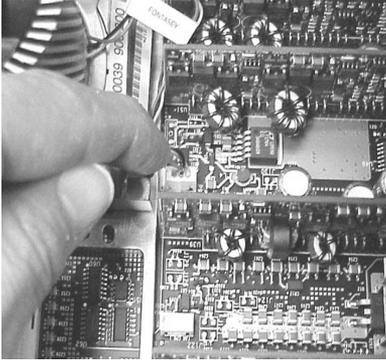
Disconnect the Power Cable for the Processor Turbo Fan

6. Unscrew the four heatsink captive screws using the special processor tool (provided with the processor upgrade kit).

7. Slide the sequencing retainer plate toward the back of the system to open the hole in the edge of the turbo fan heatsink.
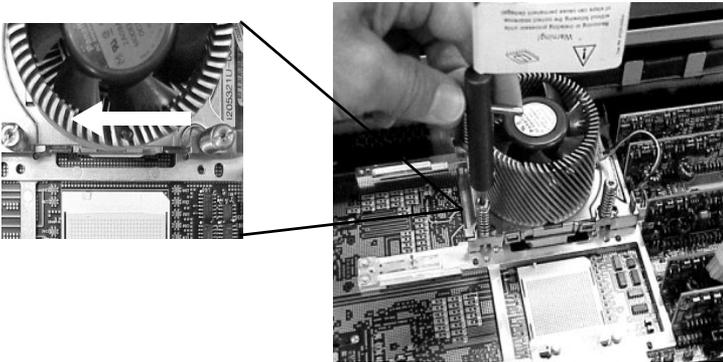
Unscrew the Turbo Fan Heatsink Captive Screws

8. Insert the special processor tool into the processor locking mechanism, and unlock the mechanism.

   The hole runs down through the edge of the turbo fan heatsink. Rotate the special processor tool 180 degrees counterclockwise.
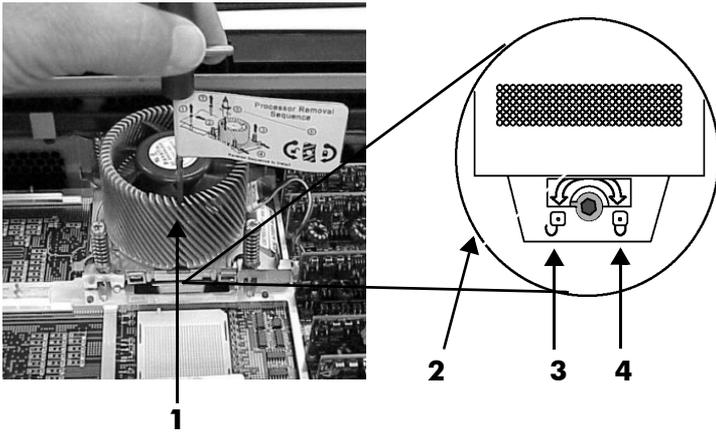
Unlocking the Processor Locking Mechanism

1	Insert special processor tool here
2	The special processor tool rotates this lock underneath the heat sink
3	Unlocked
4	Locked

9. Remove the turbo fan heatsink and processor from the system.
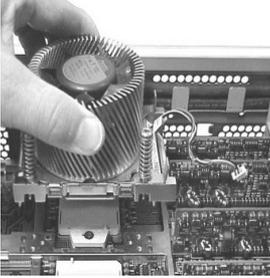
Removing the Turbo Fan Heatsink and the Processor

Install the New Processor

You **must** have a processor in socket CPU0 before installing one in socket CPU1.

1. If you have not already done so, turn off the system, disconnect all power and external cables and remove the system cover(s) and remove the old processor.

2. Ensure that the processor locking mechanism is rotated into the unlocked position.
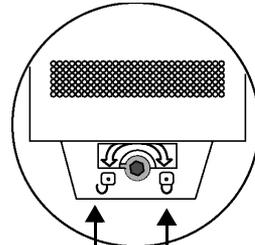
1   2   **1   2**

Processor Locking Mechanism

1	**Unlocked**
2	Locked

3. Check to ensure that no processor pin is bent.

4. Use the four locator posts on the heatsink and the turbo fan power cable to properly align the fan and processor assembly on the system board. The four locator posts will fit in locator holes on the system board processor mount. The turbo fan power cable must be positioned so that it is located on the side of the heatsink that faces the front of the system.
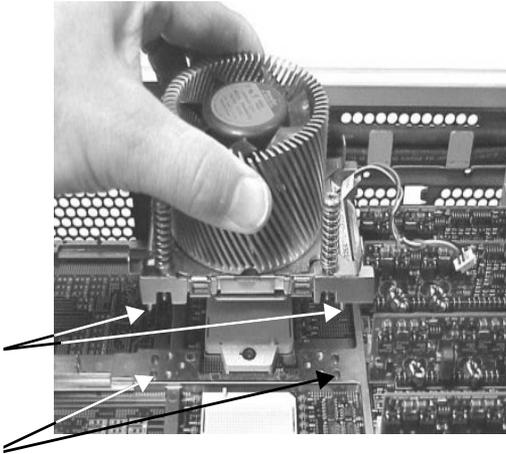
Aligning the Turbo Fan and Processor Assembly

1	Locator posts
2	Locator holes

5. Use the special processor tool shipped with your replacement processor assembly to lock the processor in place on the system board. Insert the special processor tool into the hole that runs down the side of the heatsink and rotate it clockwise 180 degrees.
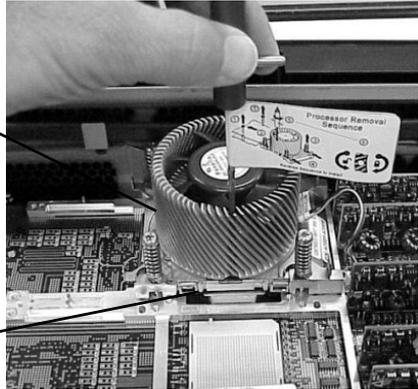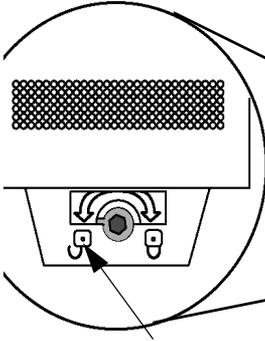
Locking the Processor in Place

6. Slide the sequencing retainer plate toward the front of the system.
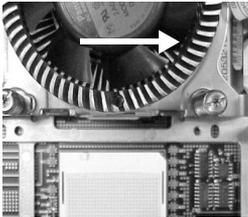
Sliding Sequencer Retainer

7. Screw in the four heatsink captive screws.
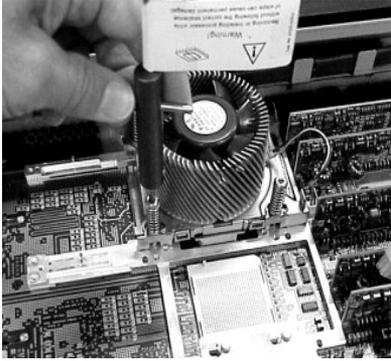
Screw in the Heatsink and Processor Screws

8. Connect the power cable for the processor turbo fan to its connector on the system board.

9. Slide the processor power pod on the system board metal mounting bracket so that the processor power pod connects to the processor. Align the two mounting screw holes on the processor power pod with the holes on the system board metal mounting bracket. Screw in the processor power pod mounting screws.

10. Replace the processor airflow guide, connect the power cable and turn on the system.

11. Verify that the processor works by turning on the system.

Upgrade Operating System (if necessary)

You must have one of these operating systems. If you need to upgrade, follow the instructions for your OS.

- **Microsoft® Windows®**:

  - ❏ XP 64-Bit Edition Version 2003 (zx2000/zx6000 workstation)

  - ❏ Server 2003, Enterprise Edition (Integrity rx2600 server)

- **HP-UX:** Version 11i v2.0 or higher.

  HP-UX upgrades are available from you HP sales representative or from **www.hp.com**.

- **Red Hat® Linux®:** Advanced Workstation 2.1 for the Itanium® Processor Errata A.

  Check the patch level and install Errata A if necessary. See **https://rhn.redhat.com**.

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