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TA-0699-3

5200 NE Elam Young Parkway
Hillsboro, OR 97124

November 8, 2004

SR870BN4 Server Platform Upgrade to Itanium® 2 Processors with up to 9MB L3 Cache

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Products Affected
SR870BN4 Server Platform

Description
The Itanium® 2 Processor with up to 9MB L3 Cache requires a unique bios version. A special process is needed in order to upgrade from the Itanium® 2 Processor with up to 3MB or 6MB L3 Cache. This Technical Advisory documents the process required to perform this upgrade.

The table below illustrates the different Itanium® 2 Processor speed and cache size combinations, and which BIOS version is required for each processor as of the date of this Technical Advisory. Please visit the Intel Business Link (IBL) or the support.intel.com website for the most recently released BIOS versions. Note: The dual-processor and low-voltage versions of the Itanium® 2 are not supported on the SR870BN4 platform.

Cache Size	Frequency					
	900MHz	**1.0GHz**	**1.3GHz**	**1.4GHz**	**1.5GHz**	**1.6GHz**
1.5MB	🟩	🟩				
3MB		🟩	🟨			
4MB				🟨	🟦	
6MB					🟨	🟦
9MB						🟦

🟩 = Itanium® 2 Processor with up to 3MB L3 Cache BIOS (PR9.2)
🟨 = Itanium® 2 Processor with up to 6MB L3 Cache BIOS (PR4.1)
🟦 = Itanium® 2 Processor with up to 9MB L3 Cache BIOS (PR1.3)

To perform the upgrade, first obtain the following items, which can be downloaded from iBL:
- SUP Package for PR9.2 BIOS or PR4.1 BIOS (depending on the currently installed processor) saved to an EFI-viewable El Torito CD-ROM, LS-240 floppy disk, or USB memory key device.
- PR1.3 BIOS Recovery image on an EFI-viewable El Torito CD-ROM. A PR1.3 Recovery .iso image is available on iBL to simplify creation of this CD.

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Then, complete the following steps:

Flash to PR9.2 or PR4.1 BIOS

1. Record any changes made to BIOS setup and EFI Boot Manager settings. The process will reset BIOS setup options to defaults and erase any Boot Manager options that have been added, including operating system boot options.
2. Follow the instructions included in the SUP package to flash the BIOS to PR9.2 or PR4.1.
3. Insert the PR1.3 recovery CD into the CD-ROM drive.
4. Power down the system by pressing and holding the power button on the front panel for several seconds. Unplug both AC power cords to remove standby power from the server.

Remove the Processor/Memory Module

5. Push in and pull down on the uniform levers of the processor memory module (front of system) to release the catches.
6. Continue to pull down on the levers to cam the module out of its housing.
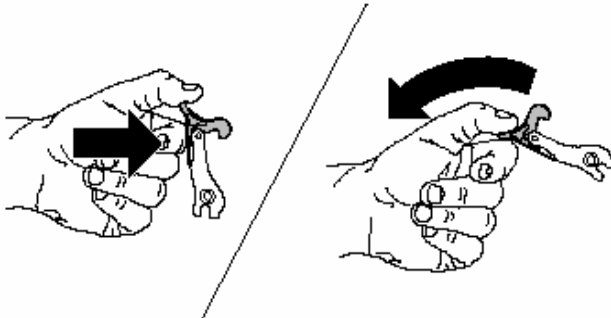
7. Pull the module out of the chassis until it stops.
8. To remove the module completely, press in on the secondary latches on either side of the module and pull the module free of its slides.
9. Place the module on a clean, static-free work surface.
10. Place the module primary side up on a clean, static-free work surface. (The primary side is identified along the top, front edge of the case and on the label.)
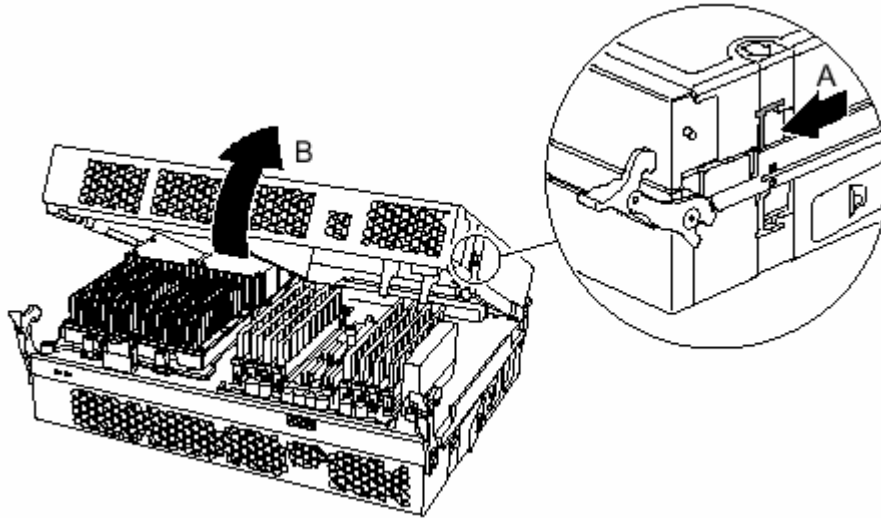11. Unlatch the fasteners by pulling them in the direction of the arrow

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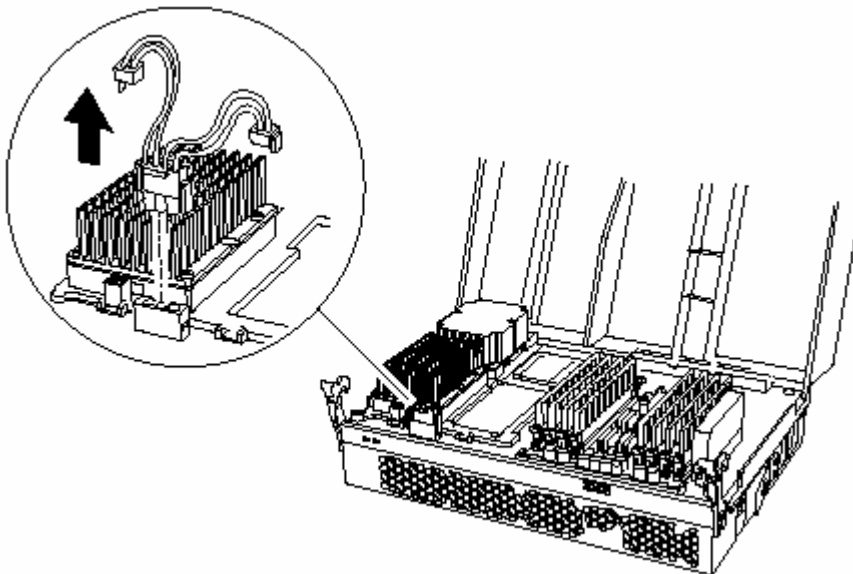Hillsboro, OR 97124

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12. Open the module in the direction of the arrow.

Remove Power Pods

13. Disconnect the Y-cable to the power pod by releasing the connector.
14. With a T15 Torx driver, loosen the captive screws on the power pod and pull the power pod away from the processor to disengage it from its connector.
15. Lift the power pod out of the system.

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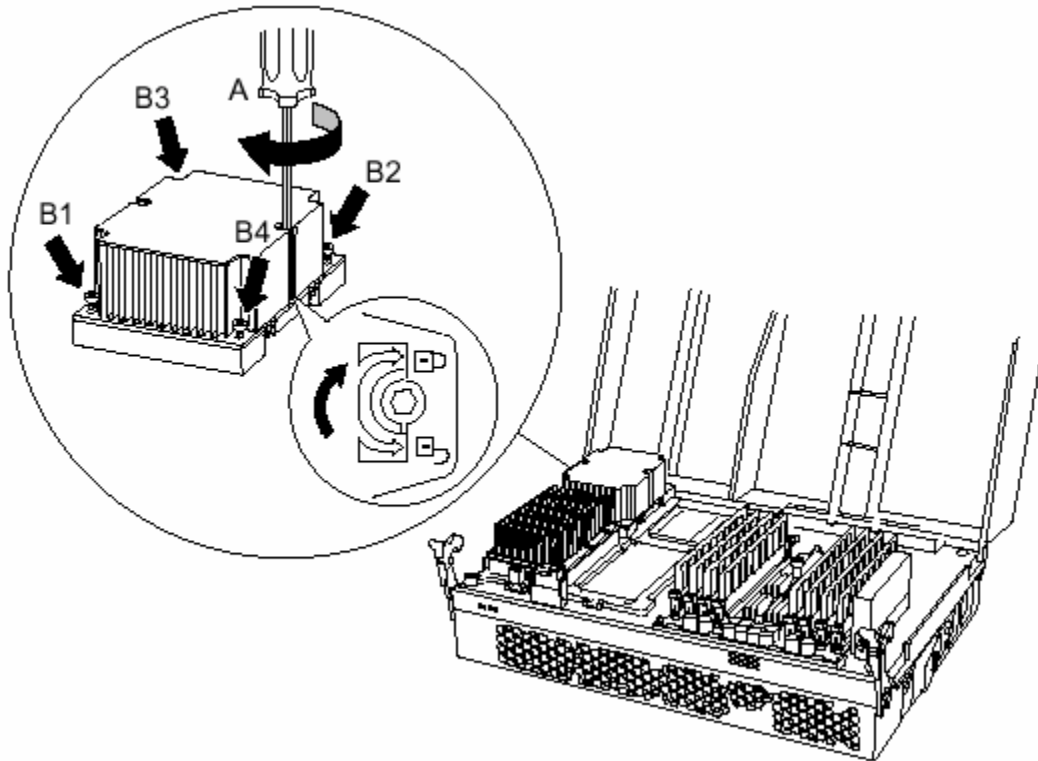Hillsboro, OR 97124

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Remove Processors

16. With a T15 Torx driver, loosen the four captive screws on the processor.
17. Using a 2.5 mm hex driver, rotate the processor release mechanism 180 degrees counter-clockwise to release the processor's pins so that the processor can be lifted out of the socket.
18. Place the processor on a clean, ESD-protected work surface, in an antistatic bag, or in the processor's original "clamshell" container.

Install Itanium® 2 Processors with up to 9MB L3 Cache

19. Before trying to insert the processor, verify that the processor release mechanism is in the open or unlocked position.
20. Position the processor (with heat sink attached) inside the four posts on the processor board, pins toward the back and over the socket. Once centered in the socket, the weight of the processor/heat sink assembly should cause the processor to drop into the socket. Do not apply force. Once the processor is in the socket, gently press the processor to verify the processor has seated properly.
21. Using a 2.5 mm hex driver, rotate the processor release mechanism 180 degrees clock-wise so that the indicator flag shows the processor socket is locked (see inset).
22. Tighten the four captive screws in a cross-pattern in this order, B1, B2, B3, and B4 as shown in to secure the processor to the processor board.

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Install Power Pods

23. Place the power pod into position on the processor board.
24. Slide the power pod to engage the power pod's connector with the connector on the processor as shown by the arrow.
25. Tighten the four captive screws on the power pod to secure it to the processor board.
26. Connect one side of the Y-cable to the power pod and verify that the Y-cable connects to all installed power pods.
27. Repeat steps 11-26 for all installed processors and power pods on both the primary and secondary sides of the processor/memory module.
28. Close the processor/memory module and verify that the latches are secure.
29. With the uniform levers in the maximum open position, place the module into its housing and slide it until the uniform levers contact the front of the chassis.
30. Raise the uniform levers to the vertical position to clamp the module into the chassis.
31. Push in and lift up on the uniform levers to engage the catches (reverse of figure illustrating release of uniform levers).
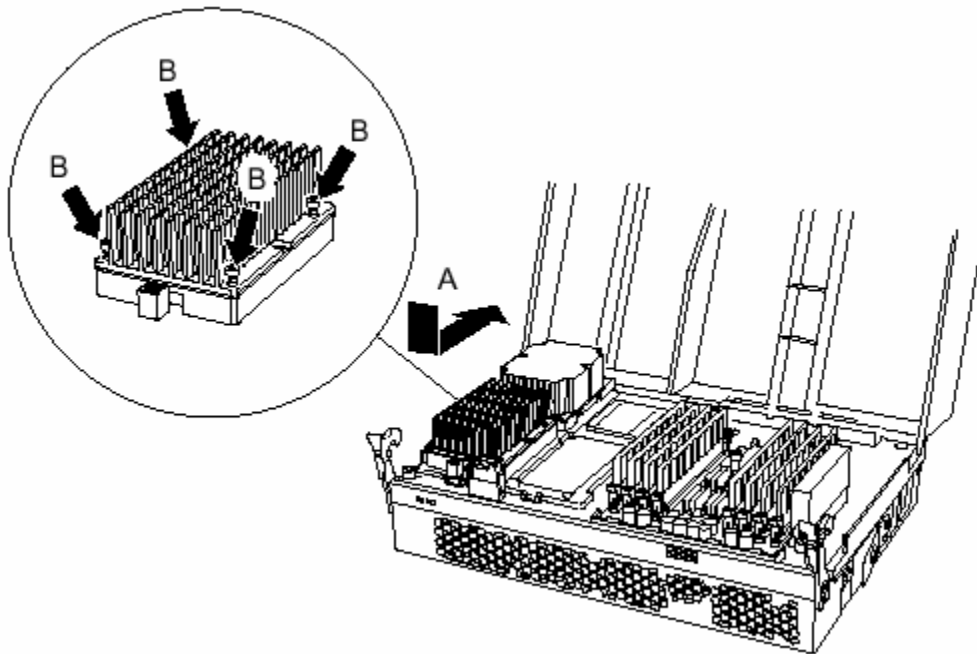
32. Reconnect the AC power and switch server power on. When performing the processor upgrade, the system will automatically force recovery mode. SA81 switch #1 does not need to be toggled.
33. At this point, the recovery CD should already be loaded into the CD-ROM drive. **One full beep** indicates load of SR870BN4C.REC from disk to memory.
34. **Wait two minutes**. No video will be displayed during this process. **Two beeps** will sound that indicate the BIOS recovery has completed successfully. The system will automatically reboot.
35. Remove the CD-ROM.
36. When the system reboots, go into BIOS setup by hitting 'F2' function key.
37. On the Main menu, verify that the BIOS version string contains 929.P01
38. Restore BIOS setup and Boot Manager settings as documented in step 1.

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