

# intel® Technical Advisory

TA-0710-2

5200 NE Elam Young Parkway  
Hillsboro, OR 97124

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## SR870BH2 Server Platform Upgrade to Itanium® 2 Processors with up to 9MB L3 Cache

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### Products Affected

SR870BH2 Server Platform

### Description

The Itanium® 2 Processor with up to 9MB L3 Cache requires a unique BIOS version. A special upgrade process must be followed in order to load the BIOS required for these processors. This Technical Advisory documents the process required to perform this update.

The table below illustrates the different Itanium® 2 processor speed and cache size combinations, and which BIOS version is required for each processor.

Cache Size	Frequency				
	1.0GHz	1.3GHz	1.4GHz	1.5GHz	1.6GHz
1.5MB	6MB core		6MB core		
3MB		6MB or 9MB core	6MB core		6MB or 9MB core
4MB			6MB core	9MB core	
6MB				6MB core	9MB core
9MB					9MB core

6MB core	Itanium® 2 Processor with up to 6MB L3 Cache (6MB core). This processor requires BIOS PR6.2
9MB core	Itanium® 2 Processor with up to 9MB L3 Cache (9MB core). This processor requires BIOS PR2.1
6MB or 9MB core	Both core types are available at this frequency and cache size. The specific BIOS required the processor is dependent on core type.

To perform the upgrade, first obtain the following items, which can be downloaded from IBL:

- SUP package for BIOS PR6.2 saved to an EFI-viewable EI Torito CD-ROM or USB memory key device.
- PR2.1 BIOS recovery image on an EFI-viewable EI Torito CD-ROM. A PR2.1 recovery .iso image is available on the Intel Business Link (IBL) to simplify creation of this CD.

Then, complete the following steps:

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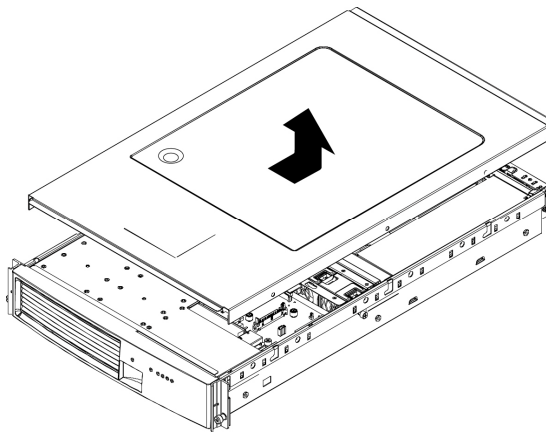
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## Flash to PR6.2 BIOS

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 PR6.2.
3. Insert PR2.1 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 Top Cover

5. If the chassis is rack-mounted, slide the chassis out to expose the back area of the top cover.
6. To open the top cover, use a coin to turn the locking mechanism to the unlocked position.
7. Push the top cover towards the back of the system until it stops, approximately 1-inch towards the rear and lift the cover up from the front and remove it from the chassis.



## Remove the Processor Air Duct

The processor air duct must be removed to access the processor(s) follow the steps outlined below:

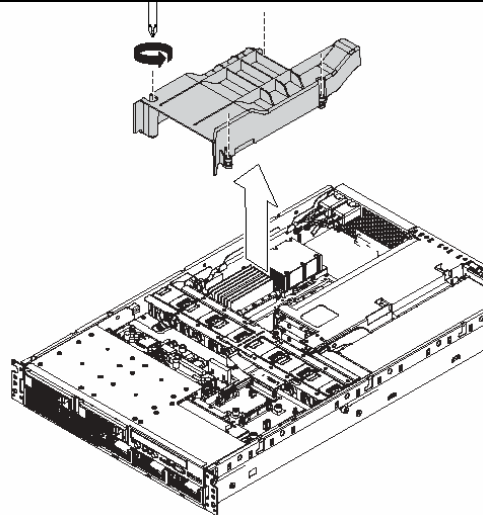
8. Locate the processor air duct and loosen the four Phillips head screws that secure the air duct over the processors.
9. Lift the processor air duct from the system and set it aside.

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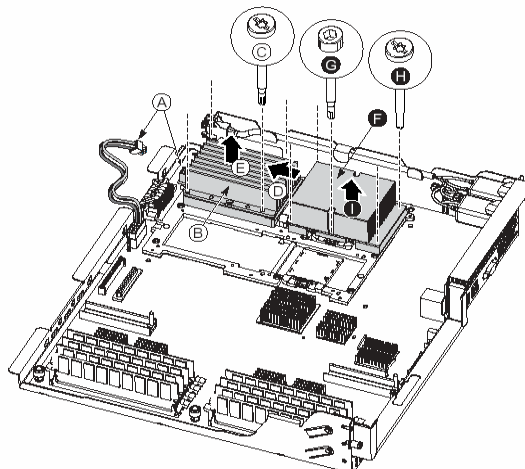


**Note:** Your server may have one or two processors with an associated power pod installed on the main board. A thermal blank is used to direct airflow for proper cooling when a single processor is installed in the server system. If your server system has two processors installed, it will not have a thermal blank installed. If the system contains only one processor, the processor must be installed into the CPU1 socket for proper termination; the thermal blank must be in place over the CPU2 position.

## Remove the Power Pod

To remove a processor, the power pod must first be removed.

10. Disconnect the Y-cable to the power pod by releasing the connectors. Refer to letter "A"
11. Loosen the four captive screws on the power pod. Refer to letter "C".
12. Slide the power pod away from the processor to disengage it. Refer to letter "D".
13. Lift the power pod out of the system. Refer to letter "E" in the figure.



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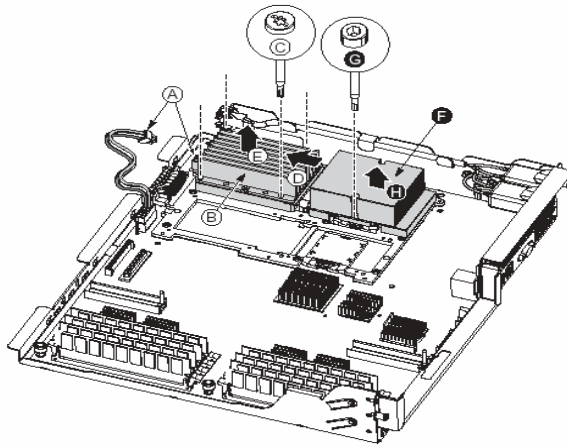
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## Remove the Processor

14. After the power pod is removed, use the following instructions to remove the processor:
15. Use a 2.5 mm Allen head key to rotate the processor release mechanism 90 degrees counter-clockwise to release the processor's pins. Refer to letter "G" in the figure below.
16. Loosen the four captive screws on the processor, Lift the processor from the socket.



**NOTE:** Once the processor is removed, the release mechanism indicates the socket is open (Tab on side of socket extended = open). If you are not installing another processor, use a 2.5 mm Allen head key to rotate the hex screw clockwise to the closed position to release spring tension in the mechanism.

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

17. Before trying to insert the processor, verify that the processor release mechanism is in the open or unlocked position (Tab on side of socket extended = open).
18. Position the processor and attached heat sink, over the processor socket, inside the four posts.
19. Once the processor is centered, the weight of it will cause the processor to drop into the socket; do not apply force. When the processor is in the socket, gently press on it to verify it is seated.
20. Using a 2.5 mm Allen key, rotate the processor release mechanism 90 degrees clock-wise so that the indicator tab shows the processor socket is locked (Tab on side of socket is out of view = closed).
21. Tighten the four captive screws in a cross-pattern to "6-inch lbs" of torque to secure the processor to the processor retention mechanism on the main board.

## Install the Power Pod

22. Place the power pod on the processor retention mechanism
23. Slide the power pod toward the processor to engage it, there should be a slight "snap" when properly engaged.
24. Connect the Y-cable to the power pod

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25. Tighten the four captive screws in a cross-pattern to "6-inch lbs" of torque to secure the power pod to the processor retention mechanism on the main board.

## Install the Processor Air Duct

26. Locate the processor air duct and place it over the processors and power pods, it should drop in place once the unit is aligned correctly.
27. Tighten the four captive Phillips head screws that secure the air duct to the main board.
28. Replace the top cover.

## Complete the upgrade process

29. Reconnect the AC power source (both AC cords are required) and power the system on.
30. At this point, the PR2.1 BIOS recovery CD should already be loaded in the CD / CDRW drive. The system will automatically enter the BIOS recovery mode when it senses the 9MB core processors.
31. **One full beep** indicates the recovery image (S870BH2C.REC) is loading from disk to memory.
32. **Wait two minutes.** Video will not displayed during the upgrade process.
33. **Two beeps** indicate the BIOS recovery has completed successfully and the system will automatically reboot.
34. Remove the PR2.1 BIOS recovery CD from the CD / CDRW drive.
35. When the system reboots, press F2 to enter BIOS setup.
36. At the Main menu, verify that the BIOS version string contains **86B.0183.P02**

Please contact your Intel Sales Representative if you require more specific information about this issue.

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