Intel® Server Platforms SR4850HW4 SR6850HW4 SR4850HW4/M SR6850HW4/M SR4850HW4/S SR6850HW4/S and Intel® Server Board SE8500HW4 SE8501HW4

BIOS and Firmware Update Instructions

Revision 1.9

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Enterprise Platforms and Services Division – Marketing

Revision History

Date	Revision Number	Modifications
May, 2005	1.0	Initial release.
July, 2005	1.1	Corrections
October, 2005	1.2	Updated for new software revisions
September, 2005	1.3	Updates and addition on new platform
November 2006	1.4	Updates
May 2006	1.5	P08 Updates
July 2006	1.6	P09 Updates
Sep 2006	1.7	P10 Updates
Jan,2007	1.8	P11 Updates and addition on new platform
April,2007	1.9	P12 Updates

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1. Introduction

This document is part of the Software Update Package (SUP) written for use with production released Intel® Server Platforms SR4850HW4, SR6850HW4, SR4850HW4/M,SR6850HW4/M SR4850HW4/S,SR6850HW4/S and the Intel® Server Board SE8500HW4,SE8501HW4.

The software stack should be updated in the following order:

1. Update to Sensor Data Records (SDR) 39
2. Update to Baseboard Management Controller (BMC) 56
3. Update to BIOS P12

*Please update both BIOS banks for servers that have the Dual-Core Intel® Xeon® processor 7000 sequence, which includes:

- Dual-Core Intel® Xeon® processor 7040 (3 GHz/2M L2 cache/667MHz)
- Dual-Core Intel® Xeon® processor 7010 (2.66 GHz/1M L2 cache/667MHz)

This will ensure support for all processors in the event the BIOS rolls to the secondary bank.

2. Preparation For Upgrade

Before starting the updates in this document, please perform the following steps:

Verify the system boots and completes BIOS POST
Verify the SE8500HW4 SE8501HW4main board jumper settings
Create a DOS bootable USB flash memory device (keyfob)

2.1 Installing New Intel® Management Modules

Whenever the system has an AC power cord connected, +3.3V standby power is active, even though the system may not be powered on. Since the IMM draws power from this standby circuitry, AC power must be removed from the power supplies to ensure a complete drain of standby power before installing or removing an IMM. To ensure the complete drain of standby power, Intel recommends that after removing the AC cords, to also disengage the power supplies from the system. See the *Intel® Server Platforms SR4850HW4 & SR6850HW4 & SR4850HW4M & SR6850HW4M Product Guides* for instructions on removing the power supplies.

2.1.1 Product Codes: AHWIMMPRO2 and AHWIMMADV2

When plugging an AC power cord into the power supplies, please wait 20-30 seconds. The system will automatically power up for about 3 seconds and then power down. This allows the the BMC to initialize the Out-Of-Band management capabilities.

After this sequence, the power button may be pressed to power on the system.

2.2 Verify the main board jumper settings

Confirm that the main board jumpers are set to the defaults, as shown in Figure 2 and Table 1.

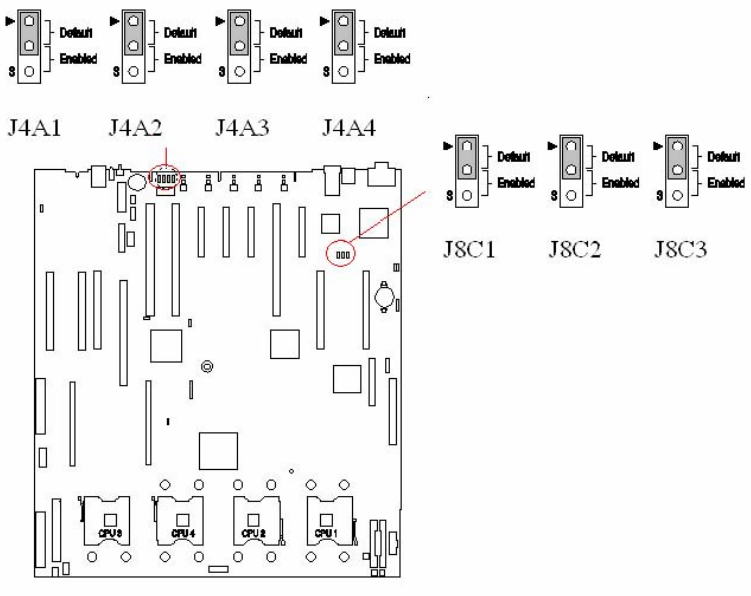

Figure 1. SE8500HW4 & SE8501HW4 Main Board Jumper Locations

Table 1. SE8500HW4& SE8501HW4 Main Board Jumper Settings

Name	Location	Default State
Password Disable or Clear	J4A1	1-2 – Password Enabled
BIOS Write Protect	J4A2	1-2 – BIOS Unprotected
BIOS Recovery	J4A3	1-2 – Normal Boot
BIOS Clear CMOS/NVRAM	J4A4	1-2 – BIOS Clear CMOS/NVRAM
FRB3 Disable	J8C1	1-2 – FRB3 Timer Enabled
BMC Reset	J8C2	1-2 – BMC Enabled
FWHID	J8C3	1-2 Enabled BMC control of FWHID swap

2.3 Prepare a DOS Bootable USB keyfob

Not all flash memory devices have been tested with this server, and devices over 128MB of capacity may not function with this update. For a complete list of tested devices please refer to the *Intel® Server Board SE8500HW4 & SE8501HW4 Tested Hardware and Operating System List*.

1. Format the USB flash device with a FAT file system, using Microsoft* DOS, FreeDOS or ROM-DOS. For instructions on formatting a USB flash device for use with this SUP please

see the document: “Creating_DOS_bootable_USB_devices.doc” included in the root directory of this SUP.

2. Copy all of the SUP contents to the USB flash memory device.

3. Updating the SDRs

1. Please read the release notes for the FRUSDR.
2. Boot to the DOS device where the SUP was just loaded.
3. At the DOS prompt, change to the directory containing the SDR update.
4. At the command prompt, type: **FRUSDR /cfg master.cfg**
5. A menu will come up and give you three options. Choose option: "**[2]** Update just the SDR Repository" by pressing the **2** key.
6. Continue to updating the BMC secion.

4. Updating The BMC

1. Please read the release notes for the BMC.
2. At the DOS prompt, change to the directory containing the BMC files.
3. At the command prompt, type: **BMC56UPN.bat**.
4. You should see the Opcode and PIA being programmed and then verified.
5. If you have a AHWIMMADV2 installed and want to use the embedded web server, you need to update with **UPD_EFS.bat**
6. After the SDR and BMC programming has completed, power off the system, disconnect the AC cord and remove the power supplies to drain standby power.
7. Plug in the power supplies, and reconnect the AC cord.
8. Power on the server and continue the software update process.

NOTE:

If using a new, sealed IMM from the factory, update the BMC with the **BMC56NEW.bat** file. This will make BMC settings to default. Please use Server Configuration Wizard (SCW) to correctly set the server management values.

5. Updating the BIOS

Only use the iflash32.exe utility that accompanies this update package.

1. Please read the release notes for the BIOS.
2. Verify the SE8500HW4，SE8501HW4/M main board jumper settings are set to defaults (Refer to Figure 2, above).
3. Power on the system.
4. Boot to the DOS device where the SUP was just loaded.
5. At the DOS prompt, change to the directory containing the BIOS update.
6. At the command prompt, type: **iflash32 SHW4.CAP /u /ni**
7. This will start the BIOS update process.
8. After the BIOS update completes reboot the system by using the reset button on the front panel and then flash the secondary bank by re-run the step5 to step7.
9. Once the BIOS update completes reboot the system and continue the software update process.

6. Verifying Update

After the updates, the system should have the following versions of software:

Table 1. Final Software Versions

BIOS	BMC	HSC	SDR
P12	56	1.07	39

6.1 BIOS

Displayed at the top of the screen in the System Options menu.

6.2 BMC

Displayed via: **fwpiaupd –i**

6.3 HSC

Displayed via:

fwpiaupd –i –addresss=C0 (SR4850HW4)

or

fwpiaupd –i –addresss=C2 (SR6850HW4)

6.4 SDR

Displayed via: **frusdr –d sdr**, the last line will end with the version number.

7. Troubleshooting

7.1 BIOS

This troubleshooting information assumes the system was booting and working prior to performing the SUP updates.

“I performed this update but after the procedure the BIOS still says the old version”

Power down the system and remove the AC power cords.

Move the FWHID jumper J8C3 to boot the “other” BIOS, and perform the BIOS update again.

Power down the system and remove the AC power cords.

Remove the FWHID jumper, and perform the BIOS update again.

Power down the system and remove the AC power cords.

Move the FWHID jumper to the original position and boot into the new BIOS.

“I hear beep codes as soon as I reset the system after an update.”

Wait for up to 10 minutes to see if the system completes POST and displays text on the screen.

These beep codes might not indicate a BIOS update failure.

Wait till the system completely boots. Then reboot the system and check for the beep codes. The BMC switches to the new BIOS on the first boot after the update.

“My system will complete POST and boot prior to performing the BIOS update and I have waited 3 minutes for the system to boot. There is nothing on the screen.”

Wait for up to 10 minutes to see if the system completes POST and displays text on the screen.

Have you been unplugging and plugging in the AC power cords?

Did the video cable become accidentally unplugged or dislodged?

Are the power cables plugged in?

Move the FWHID jumper J8C3 - boot the “other” BIOS.

(Power down the system and remove the AC power cords prior to moving the jumper).

Try clearing the “BIOS Clear CMOS jumper” J4A4.

(Power down the system and remove the AC power cords prior to moving the jumper).

Disable the IMM by setting the BMC_RST jumper.

(Power down the system and remove the AC power cords prior to setting the jumper).

Do you see POST LED activity?

Check the 8 LED block located on the SE8500HW4 main board next to memory board slot B.

What are the LED codes when the system hangs?

Does the CD ROM drive initialize within 3 minutes of powering on the system? Watch for the CD ROM drive LED.

Are the system fans spinning?

If the system fans are running at a low to medium speed:

Remove one of the cooling fans.

Do the other fans go to high speed?

Is the System Fault LED on?

What is the color?

Does the System ID LED work when you push the switch?

Does the reset button on the front panel work?

Does the power button on the front panel work (hold it in for 5 seconds)?

“The BIOS update hangs when I try to run it from a DOS bootable CD-ROM”.

Make sure to set the following environment variable when running the BIOS update from read only media.

AUTOEXEC.BAT:

```
SET  CAUSEWAY=NOVM
```

“When I plug the Server into AC - the power button does not work.”

Wait for 30 seconds and try again.

“When the server comes up, it halts at Error Manager with error 5223 – Configuration default loaded…”

This is a one-time information due to BIOS update.

7.2 BMC

“When I plug the server in to AC it powers up immediately or after about 30 seconds.”

Update the BMC.

“The front panel buttons do not work.”

Check the cabling to the front panel and from the control board to the main board (connector J9F1).

Update the BMC.

“The BMC update fails with the following error when I try to update using ROM-DOS: ROM DOS FATAL ERROR \ Stack Overflow (2401:0099) System Halted....”

Create a CONFIG.SYS file that contains the following settings:

Shell=\COMMAND.COM /E:512 /P

Stacks=9,256

Files=20

Buffers=30

"After updating the BMC the fans run at high speed."

This is normal behavior for a system with only one power supply providing power to the system.

"BMCxxUPO.BAT failed to update the BMC"

Try BMCxxUPN.BAT.

"After updating my new IMM, the fan LED is on. "

Use the BMC*xx*NEW.bat file to update your BMC. This will BMC settings to default. Please use Server Configuration Wizard to correctly set the server management values.

7.3 SDR

"The amber front panel LED is on and there are voltage events in the SEL after update."

The system has Cranford processors installed. Rerun the SDR update and answer "No" to the question if there are any Potomac processors installed.

7.4 General

"When I plug in my SR4850HW4 server to AC it does not power up."

The SR4850HW4 power supplies only support high-line power – make sure you are using 2xx volt power.