



Upgrading Intel[®] Server Board Set SE8500HW4 to Support Intel[®] Xeon[®] Processors 7000 Sequence

Revision 1.2

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Enterprise Platforms and Services Division - Marketing

Revision History

Date	Revision Number	Modifications
November, 2005	1.0	Initial release.
November, 2005	1.1	Added clarification on VRM distinction.
January, 2006	1.2	Corrected the VRM 10.2 part number.

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1. Introduction

This document explains the revisions of hardware and firmware/BIOS that are required to support the multi-core 64-bit Intel® Xeon® processor 7000 sequence processors on the Intel® Server Board Set SE8500HW4 and provides information on the upgrade process and dependencies.

The following steps are required to upgrade to the new processor:

1. Verify hardware support for the processors.
2. Possibly upgrade the processor core VRMs.
3. Upgrade the system BIOS and BMC firmware.
4. Possibly upgrade the operating system to add support for multi-core processors.
5. Install the new processors.

2. Hardware Requirements

Ensure that the main board is at the recommended revision level to support the Intel® Xeon® processor 7000 sequence. The recommended revision levels are listed below.

2.1 Intel® Server Board Set SE8500HW4 Main Board

All production level fabs (C51891-6xx) of the main board will support the new processors.

2.2 Processor Core VRMs/VRD's

Processor core VRDs (Voltage Regulator Down) are not replaceable and support the new dual-core processor electricals. The plug-in processor core VRMs (Voltage Regulator Modules) come in two flavors, 10.2LD VRMs do not support the new dual-core processor electricals, and while they may work in limited application, Intel will not warranty dual-core processors with 10.2LD VRMs.

Newer 10.2 VRMs must be used for processor sockets 3 and 4 with Intel® Xeon® processors 7000 sequence. The 10.2 VRM can be identified by its part number (C47406-xxx). The 10.2LD VRM can be identified by its part number (C80471-xxx).

Please refer to the product guide for proper handling and replacement. The product order code for the 10.2 VRM is AHWVRMPM.

3. Software Requirements

Ensure the system contains firmware (BIOS, BMC and SDR) at the required minimum versions or better to support Intel® Xeon® processor 7000 sequence as indicated in table 3-1 below.. The latest version of firmware can be downloaded from IBL as a Software Update Package (SUP).

3.1 Firmware/BIOS

Table 3-1: Intel® Server Board Set SE8500HW4 Software Required

SDR	BMC	BIOS
31 or later	43 or later	P06 or later

When the Intel® Xeon® Processor 7000 Sequence is released, BIOS P06 will be made available for download. Please download the latest SUP, containing P06 or better, to update the SDR, BMC, and BIOS to the latest releases.

3.2 Operating Systems

Microsoft* Windows* 2003 SP1 Enterprise Server and some Linux operating systems are known to support dual-core 64-bit Intel® Xeon® processors 7000 sequence.

See *The Intel® Server Board Set SE8500HW4 Hardware and OS List (THOL)* for details on these specific operating systems.

4. Processor Requirements

Important: As with any hardware installation, make sure the machine is powered down and unplugged before removing or inserting any hardware.

Intel® Server Board Set SE8500HW4-based systems support one to four processors. The following are restrictions on those processors:

- Processor's Front Side Bus (FSB) speeds must be 667 MTS.
- Processors must be of the same family.
- All the processors in the system must have the same cache size.

Processor configuration errors will result in a system that may not completely boot. Under these conditions, no POST information will be seen on the video display. Please refer to the Intel® Server Platform SR4850HW4 or Intel® Server Platform SR6850HW4 Product Guide for proper processor installation procedures and safety information.

Appendix A: Glossary

Term	Definition
BIOS	Basic Input / Output System – PC software, typically contained in a nonvolatile memory chip, which the PC uses to boot itself and which contains all the code required to control the keyboard, display screen, disk drives, serial communications, and other miscellaneous functions
BMC	Baseboard Management Controller – a microcontroller on the system baseboard, usually providing the majority of server management functionality
FRU	Field Replaceable Unit – a module or component which will typically be replaced in its entirety as part of a field service repair operation
FSB	Front Side Bus – The address and data bus to/from the processor and the chipset.
MTS	Mega-Transactions per Second – Equivalent to million data transfers per second, often used interchangeably with MHz
POST	Power On Start Test- BIOS performs this test as a part of system boot to ensure memory and I/O is functioning properly.
SDR	Sensor Data Record – a data record that provides platform management sensor type, locations, event generation, and access information
SUP	Software Update Package
VRD	Voltage Regulator Down – Voltage circuitry built-in to mainboard for processor sockets 1 and 2.
VRM	Voltage Regulator Module – plug-in modules for processor sockets 3 and 4.