Monthly Specification Update

Intel® Server Boards S5500WB, S5500WB12V and Intel® Server System SR1690WB
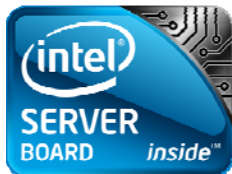
Revision History

Date	Modifications
April 2009	Initial release.
June 2009	Fixed erratum 2, 18, 19. Added erratum 22
July 2009	No Update
August 2009	Add Intel® Server System SR1690WB related information
January 2010	Added erratum 30

Disclaimers

The Monthly Specification Update Server System may contain design defects or errors known as errata that may cause the product to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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Preface

This document is an update to the specifications contained in the *Intel® Server Boards S5500WB and S5500WB12V Technical Product Specification* (Order Number E53971) and *Intel® Server System SR1690WB Technical Product Specification* (Order Number E72797). It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain specification changes, specification clarifications, errata, and document changes.

Refer to the *Intel® Xeon® Processor 5500 Series Specification Update (Order Number 321324)* for specification updates concerning the Intel® Xeon® Processor 5500 Series. Items contained in the *Intel® Xeon® Processor 5500 Series Specification Update* that either do not apply to the *Intel® Server Boards S5500WB and S5500WB12V* or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

Refer to the *Intel® 5520 and Intel® 5500 Chipsets I/O Hub (IOH) Specification Update (Order Number 313069)* for specification updates concerning the *Intel® 5520 and Intel® 5500 Chipsets I/O Hub (IOH)*. Items contained in the *Intel® 5520 and Intel® 5500 Chipsets I/O Hub (IOH) Specification Update* that either do not apply to the *Intel® Server Boards S5500WB and S5500WB12V* or have been worked around are noted in this document. Otherwise, it should be assumed that any chipset errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

Refer to the *Intel® I/O Controller Hub 10 (ICH10) Family Specification Update (Order Number 319974)* for specification updates concerning the *Intel® I/O Controller Hub 10 (ICH10) Family*. Items contained in the *Intel® I/O Controller Hub 10 (ICH10) Family Specification Update* that either do not apply to the *Intel® Server Boards S5500WB and S5500WB12V* or have been worked around are noted in this document. Otherwise, it should be assumed that any chipset errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

1.   Nomenclature

- **Specification Changes** are modifications to the current published specifications for Intel® server boards. These changes will be incorporated in the next release of the specifications.

- **Specification Clarifications** describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in the next release of the specifications.

- **Documentation Changes** include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.

- **Errata** are design defects or errors. Errata may cause the server board behavior to deviate from published specifications. Hardware and software designed to be used

with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

2.   Product Scope

Below are the specific boards, BIOS and components covered by this update.

Product Code	Baseboard PBA Revision	BIOS Revision	BMC Revision	FRU / SDR Revision	ME Revision	EEPROM Revision	Back Plane Revision	Power Supply Revision	Change Description (PCN#)
S5500WB	E48472-305	R0030	00.33	6	1.10	105	N/A	N/A	Product Launch
S5500WB	E48472-306	R0030	00.33	6	1.10	105	N/A	N/A	PCN# 109466-00
S5500WB	E48472-307	R0038	00.42	9	1.2	105	N/A	N/A	PCN# 109435-01
S5500WB12V	E40367-305	R0030	00.33	6	1.10	105	N/A	N/A	Product Launch
S5500WB12V	E40367-306	R0030	00.33	6	1.10	105	N/A	N/A	PCN# 109466-00
S5500WB12V	E40367-307	R0038	00.42	9	1.2	105	N/A	N/A	PCN# 109435-01
SR1690WB	E40367-305	R0030	00.33	6	1.10	105	Fab 2	B	Product Launch

Summary Tables of Changes

The following tables provide an overview of known errata and known document changes that apply to the specified Intel Server Products. The tables use the following notations:

Doc: Intel intends to update the appropriate documentation in a future revision.

Fix: Intel intends to fix this erratum in the future.

Fixed: This erratum has been previously fixed.

NoFix: There are no plans to fix this erratum.

Shaded: This erratum is either new or has been modified from the previous specification update.

Table 1. Errata Summary

No.	Plans	Description of Errata
1.	Fix:	Errors are reported during the installation of SuSE* SLES 10 EM64T
2.	Fix:	Hyper-Threading cannot be disabled in BIOS setup
3.	No Fix:	A critical interrupt is logged in the System Event Log (SEL) when installing SuSE* SLES 10 32-bit
4.	No Fix:	Wake on LAN (WOL) does not work on 1GB IO Modules
5.	Fixed:	Is SATA compatabiltiy mode, the operating system may take more than four hours to install
6.	Fix:	Serial Console may display extra text or intermingled text
7.	Fix	The PXE boot option is missing in BIOS setup
8.	Fix	Fans may boost temporarily when the BMC is under load
9.	Fix	Extra events may be seen in the SEL during system reset
10.	Fix	BIOS setup may report incorrect firmware versions
11.	Fix	Hard drive status LED for blank drive slots may blink amber when system is in AHCI mode
12.	No Fix	If the server board battery is missing, firmware will detect it as present and good
13.	Fix	Server board can't detect a 10Gb or QDR IB IO Module without a PCI Riser installed
14.	Fixed	Cannot Update DVD Drive Firmware when 6 DIMMs are installed
15.	Fix	Closed Loop Thermal Throttling (CLTT) is not automatically detected and set when using unbuffered memory (UDIMMs)
16.	Fixed	Intel Deployment Assistant cannot be used to perform unattended Windows OS installs
17.	Fix	DCMI Capabilities test failure: Temperature Sensor Discovery
18.	Fix	DCMI Capabilities test failure: VLAN Support test
19.	Fix	DCMI conformance test failure: LAN configuration ARP control
20.	Fix	System Hangs when AXX4SASMOD I/O Module set to ESRTII
21.	No Fix	Dual Display Not Working In SuSE* 10 32-bit
22.	Fix	Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037
23.	Fix	Error numbering of SATA ports in TPS rev1.0
24.	Fix	Error numbering of SATA ports in Quick Reference Label
25.	Fix	Error numbering of SATA ports in Quick Start User Guide
26.	No Fix	HDD status LED on HDD carrier will light as bright amber during rebuild
27.	Fix	Port 1, 2, 3 fault LED (Amber) on HDD backplane will be flashing during POST
28.	Fix	System power parameters cannot be displayed under Intel® Active System Console

No.	Plans	Description of Errata
29.	Fixed	System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors
30.	No Fix	SLES11 kernel may halt for 20 seconds during installation with default BIOS setting

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.	Publish	*Intel® Server System SR1690WB TPS*	Revision change from E72797-002 to E72797-003
2.			
3.			
4.			

The following sections provide in-depth descriptions of each erratum / documentation change indicated in the tables above. The errata and documentation change numbers referenced in the following sections correspond to the numbers in the tables above.

Errata

1.   Errors are reported during the installation of SuSE* SLES 10 EM64T

Problem   When installing SuSE* SLES 10 EM64T with Advanced Error Reporting (AER) capabilites enabled, an AER error is logged in the operating system event log.

Implication   AER uses an optional ACPI requirement, -OCS, that is not available in the S5500 BIOS revisions. There is no functional impact.

Status   This issue may be fixed in a future BIOS revision.

Workaround   None

2.   Hyper Threading cannot be disabled in BIOS setup

Problem   In the BIOS Setup Menu: \Advanced\Processor, setting the Hyper Threading option to disabled will initially indicate the option is disabled. However, when the user re-enters BIOS Setup, the option will be enabled.

Implication   Users that desire to disable Hyper Threading will not be able to do so.

Status   This issue is fixed in BIOS 37.

Workaround   None

3.   A critical interrupt is logged in the System Event Log (SEL) when installing SuSE* SLES 10 32 bit

Problem   A critical interrupt, PCIe Fat Sensor –[severity] event: Critical Interrupt, is logged during the installation of SuSE* SLES 10 32 bit.

Implication   The user will see a PCIe crtical event logged. There is no functional impact.

Status   No Fix.

Workaround   Ad "noisapnp" to the command line option to prevent scanning of a ISA plug and play devices.

4.   Wake on LAN does not work on 1 GB I/O modules

Problem   When a 1 GB dual or quad port I/O module is installed, the system will not be able to wake from the S1 sleep state using the WOL feature.

Implication   Users will not be able to utilize WOL with 1 GB dual or quad port I/O modules.

Status   No Fix.

Workaround   None

5.   In SATA compatibility mode the operating system may take more than four hours to install

Problem   When the BIOS setup option: \Advanced\Mass Storage Controller Configuration\Configure SATA Mode is set to Compatiblity mode, Red Hat* RHEL 5.x may take in excess of four hours to install.

Implication   Users may experience an extended installation time when SATA Mode is configured as Compatilbility mode and installing Red Hat* RHEL 5.x.

Status   This issue was fixed in BIOS 33 and BMC 34.

Workaround   None

6.   Serial Console mode may display extra text or intermingled text

Problem   When operating in serial console mode, during POST the user may notice 1 of 2 conditions.

                 1. The user may see the numeral 10 displayed at the top right corner of the screen, or

                 2. The RAID controller information may be intermingled with the platform information displayed by BIOS.

Implication   There is no functional impact associated with this erratum.

Status   This may be fixed in a future BIOS revision.

Workaround   None

7.   The PXE boot option is missing in BIOS Setup

Problem   If a user disables the primary (onboard) video in BIOS Setup, the PXE boot
               option will disapear from the BIOS Boot Manager.

Implication   Users that desire to utilize the PXE boot option must leave the primary
               (onboard) video enabled.

Status   This issue may be fixed in a future BIOS revision.

Workaround   None

8.   Fans may boost temporarily when BMC is under load

Problem   The system fans may boost when the BMC is operating under a heavy load.
               This can include large sequential BMC tasks such as viewing the system event
               log, configuring the BMC or resetting the system. The fans return to normal
               automatically after the BMC operations complete.

Implication   The systems fans will run at a higher state temporarily, increasing acoustics.

Status   This issue may be fixed in a future BMC release.

Workaround   None

9.   Extra events may be seen in the SEL during system reset

Problem   The BMC may log periodic, spurious SEL events during a system reset or AC
               power cycle. These events may appear as fan errors or double appearances of
               normal events. The spurious fan readings will only happen during reset and are
               not an indication of an actual fan failure. Fan failure events that occur during a
               reboot should be ignored.

               Below SEL entries indicate the POST process after system reset / AC power
               cycle.

               *System Event/BIOS Evt Sensor (# 0x83) Timestamp Clock Sync. 1st of pair.
               Asserted Event.*

               *System Event/BIOS Evt Sensor (# 0x83) Timestamp Clock Sync. 2nd of pair.
               Asserted Event.*

Implication   The SEL log may indicate fan errors or double instances of normal events
               intermittently.

Status   This issue may be fixed in a future BMC release.

Workaround   None

10.   BIOS setup may report an incorrect firmware versions

Problem   The BIOS setup screens to display the versions of SDR and ME firmware
                version may report an incorrect version. The version displayed may be of the
                previously installed versions.

Implication   After firmware update, the BIOS screens may not show the correct version until
                the system is AC cycled.

Status   This issue may be fixed in a future BMC release.

Workaround   None

11.   Hard drive status LED for blank drive slots may blink amber when system is in AHCI mode

Problem   The hard drive status LEDs for empty drive slots may blink amber when the
                system is operating in AHCI mode.

Implication   The hard drive status LED may indicate a false status for an unpulated drive
                slot.

Status   This issue may be fixed in a future BIOS or BMC release.

Workaround   None

12.   If the Server Board battery is missing, firmware will detect it as present and good

Problem   The firmware will detect a serverboard battery as present and good when it is
                missing.

Implication   A missing battery will not be reported. If a battery is present, it will still accuratly
                report the health of the battery. Problem is only seen when the battery is
                missing.

Status   This issue will NOT be fixed.

Workaround   None

13.   Server Board can't detect a 10Gb IO Module or a QDR IB IO Module without a PCI Riser installed

Problem   When the riser is removed from the server board, the PCI-E lane settings prevent a x8 PCI-E IO Module (10GbE or QDR IB) from being detected.

Implication   Problem is only seen with the x8 PCI-E IO Modules and only when a riser is removed. This problem does not affect the other IO Modules.

Status   This issue may be fixed in a future revision of the server board.

Workaround   Be sure that a riser is installed when using the 10GbE or QDR IB IO Modules.

14.   Cannot update DVD Drive FW when 6 DIMMs are installed

Problem   When all memory channels are populated and active, the FW update for the SATA DVD drive fails.

Implication   System must not have 6 or more DIMMs installed if updating the DVD Drive FW.

Status   This issue may be fixed in a future BIOS revision.

Workaround   None

15.   Closed Loop Thermal Throttling (CLTT) is not automatically detected and set when using unbuffered memory (UDIMMs)

Problem   When using UDIMMs, CLTT will not automatically be selected if using the "Auto" feature on the System Acoustics and Performance page of BIOS setup.

                Users must ensure that the Serial Presence Detect (SPD) on *ALL* installed DIMMs supports CLTT. If the user is unsure if *ALL* DIMMs installed support CLTT, then the user should maintain the system in Open Loop Thermal Throttling (OLTT).

Implication   If users elect to utilize UDIMMs in their system, they must manually enable CLTT in BIOS setup. If the setting is left on "Auto" with UDIMMs installed, the setting will revert to OLTT.

Status   This issue may be fixed in a future BIOS revision.

Workaround   None

16.   Intel Deployment Assistant (IDA) cannot be used to perform unattended Windows OS installs

Problem   The OSD.XML file included on the Resource CD is incorrect and prevents IDA from properly installing RAID drivers when preparing an unattended install.

Implication   IDA cannot be used to prepare unattended installations of Windows OS's.

Status   This issue may be fixed in a future revision of the Resource CD.

Workaround   None

17.   DCMI Capabilities test failure: Temperature Sensor Discovery

Problem   The DCMI conformace test will report a failure in the temperature sensor discovery test if no temperature sensor is found in the chassis. A front panel temperature sensor is required to pass the DCMI conformance test.

Implication   The DCMI conformance test suite will report a failure.

Status   This issue will NOT be fixed.

WORKAROUND   None

18.   DCMI Capabilities test failure: VLAN Support test

Problem   The DCMI conformance test may report a failure in the VLAN support test. This is due to a lack of VLAN support in the BMC.

Implication   The DCMI conformance test suite will report a failure. VLAN ID tagging is not supported by the BMC.

Status   This issue is fixed in BMC 38.

Workaround   None

19.   DCMI conformance test failure: LAN configuration ARP control

Problem   The DCMI conformance test may report a failure when testing the BMC's ARP control parameters. The BMC does not support gratuitous ARP generation.

Implication   The DCMI conformance test suite will report a failure. The BMC can only support ARP responses, but gratuitous ARP messages are not supported by the BMC.

Status   This issue is fixed in BMC 38.

Workaround   None

20.   System Hangs when AXX4SASMOD I/O Module set to ESRTII

Problem   In BIOS set the Intel SAS Entry RAID (AXX4SASMOD) module to Enabled and set the Configure Intel SAS Entry RAID to Intel ESRTII. When the system resets it will hang before video appears.

Implication   Only the IT/IR mode will work with the AXX4SASMOD module. Use BIOS Reset jumper to recover from setting ESRTII mode. This will set the BIOS defaults allowing the system to boot.

Status   This issue will be fixed in a future BIOS release.

Workaround   None

21.   Dual Display Not Working In SuSE* 10 32-bit

Problem   Dual display does not work when starting the GUI. It fails with the error message, "Fatal server error: Caught signal 11. Server aborting.".

Implication   The video would work through one port on the add-in card but not on the onboard video and the add-in card at the same time. This only affects the 32-bit OS. The 64-bit version of the OS works after editing the xorg.conf file.

Status   This issue will NOT be fixed.

Workaround   Use 64-bit OS.

22. Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037

Problem   If AHCI is enabled in BIOS setup, it will take the user approximately three or more minutes to enter the EFI shell from BIOS Setup and approximatley three or more minutes to exit the EFI shell.

Implication   Users should expect long delays when entering the EFI shell from BIOS setup if AHCI is also enabled.

Status   This issue may be fixed in a future BIOS revision.

Workaround   None

23. Error numbering of SATA ports in TPS rev1.0

Problem   SATA ports numbering is 1 to 6 on baseboard, and 1 to 4 on backplane.

Implication   The description of SATA ports can not match the port numbering in BIOS.

Status   This issue has been fixed in new TPS rev1.1.

24. Error numbering of SATA ports in Quick Reference Label

Problem   The SATA ports numbering in QRL is from 1 to 6.

Implication   The description of SATA ports can not match the port numbering in BIOS.

Status   This issue will be fixed in future QRL release.

25. Error numbering of SATA ports in Quick Start User's Guide

Problem   The SATA ports numbering in QSUG is from 1 to 6.

Implication   The description of SATA ports can not match the port numbering in BIOS.

Status   This issue will be fixed in future QRL release.

26.   HDD status LED on HDD carrier will light as bright amber during rebuild

Problem   HDD status LED will demo as bright amber (close to yellow) during rebuild, which is differentiated from amber as described in TPS.

Implication   HDD fault LED(Amber) and HDD activity LED(Green) are sharing the same light pipe. They may light together during rebuild.

Status   This issue will NOT be fixed.

27.   Port 1, 2, 3 fault LED (Amber) on HDD backplane will be flashing during POST

Problem   The Amber LED of HDD on front panel will be flashing randomly during system POST.

Implication   The blinking amber LED during POST does not mean HDD fault. It is rootcaused to BIOS issue.

Status   This issue will be fixed in BIOS release R0041.

28.   System power parameters cannot be displayed under Intel® Active System Console

Problem   When checking power status under Intel® Active System Console, the power parameters for system/PSU cannot be displayed.

Implication   iASC cannot read out current system power consumption and rating.

Status   This issue is under investigating.

Workaround   None

29.   System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors

Problem   When user goes to "CLTT" mode under "System Acoustics and Performance Configuration" --> "Set Throttling Mode" in BIOS version 38. After changing the "Set throttling mode" from default "AUTO" to "CLTT" mode and saving it by pressing F10 key. In next reboot and entering into BIOS settings, CLTT mode is changes to "OLTT" mode.

Implication   CLTT Mode is the preferred operating mode but when using UDIMM's with
                     thermal sensors the system changes to OLTT mode.

Status   This issue will be fixed in BIOS 41

Workaround   None

30.   SLES11 kernel may halt for 20 seconds during installation with default BIOS setting

Problem   Customer may find SLES11 kernel halts for 20 seconds during installation with
                 default BIOS setting.

Implication   When boots to SLES installation media, after clicking "installation" at the
                 prompt, screen will go black and freeze for 20secs or until the "Enter" key on
                 the USB keyboard is pressed.

Status   This issue is caused by a kernel bug.

Workaround   Customer can wait 20secs or press "Enter" key after screen freezes to continue
                 with the installation.

Documentation Changes

Intel® Server System SR1690WB TPS has been updated to rev1.2.

Intel® Server System S5500WB TPS has been updated to rev1.4.