Monthly Specification Update

Intel® Server Boards S5520HC, S5520HCT and S5500HCV

Intel Order Number E68105-012

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Enterprise Platforms and Services Division

Revision History

Date	Modifications
04/06/2009	Initial release.
05/12/2009	Fixed erratum 2, and erratum 5.
06/30/2009	Fixed erratum 11, erratum 12, and erratum 13; Added erratum 20.
07/14/2009	Correct production version S5520HC PBA revision; Updated product scope table; Added erratum 21.
09/21/2009	Fixed erratum 9, erratum 16; Added erratum 22, and erratum 23.
12/11/2009	Added erratum 24, erratum 25.
04/06/2009	Initial release.
05/12/2009	Fixed erratum 3, and erratum 6.
06/30/2009	Fixed erratum 12, erratum 13, and erratum 15. Added erratum 20.
07/14/2009	Updated product scope table; added erratum 21.
09/21/2009	Fixed erratum 10, erratum 17; Added erratum 22 and erratum 23.
12/11/2009	Added erratum 24 and erratum 25.
01/18/2010	Added erratum 26; updated product scope
03/28/2010	Added Intel® Xeon® Processor 5600 series information; Updated Product Scope; Added erratum 27.
04/22/2010	Added erratum 28 and erratum 29.
05/18/2010	Updated Product Scope.
06/11/2010	Updated erratum 25 and 29; Added erratum 30.
07/14/2010	No update.
08/19/2010	Updated Product Scope.
09/19/2010	Added erratum 31.
10/28/2010	Added erratum 32.
11/29/2010	No update.
12/22/2010	Updated erratum 24, Added erratum 33, 34
02/11/2011	Updated erratum 31,32
04/19/2011	Added erratum 35
05/17/2011	Updated erratum 24
06/20/2011	Update erratum 36
07/22/2011	No update
08/23/2011	Update erratum 37
09/25/2011	No update
10/24/2011	No update
11/21/2011	No update
12/22/2011	No update
01/23/2012	No update
02/21/2012	No update
03/24/2012	No update
04/20/2012	No update
05/25/2012	No update
06/23/2012	No update
07/22/2012	No update

Date	Modifications
08/23/2012	No update
09/23/2012	Update erratum 38

Disclaimers

The S5520/S5500 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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Contents

Preface **1**
Summary Tables of Changes **3**
Errata **5**
1. Enabling AHCI mode in BIOS setup will cause Microsoft Windows 2008* to hang during installation 5
2. System will hang entering the ACPI S1 sleep state 5
3. USB devices limited to a total of twelve 5
4. Excessive Temperature does not trigger a Thermal Trip event 6
5. Hyper Threading cannot be disabled in BIOS setup 6
6. A critical interrupt is logged in the System Event Log (SEL) when installing SuSE* SLES 10 SP2 32 bit 6
7. Errors are reported during the installation of SuSE* SLES 10 SP2 EM64T 7
8. In SATA compatibility mode the operating system may take more than four hours to install 7
9. Serial Console mode may display extra text or intermingled text 7
10. The PXE boot option is missing in BIOS Setup 8
11. Fans may boost temporarily when BMC is under load 8
12. Extra events may be seen in the SEL during system reset 8
13. BIOS setup may report incorrect firmware versions 9
14. Onboard SATA controller SW RAID mode is not available when Intel® SAS Entry RAID Module AXX4SASMOD is set to Intel® ESRTII mode 9
15. When battery is missing, firmware will think it is there 10
16. SES connection is not enabled in Intel® SAS Entry RAID Module AXX4SASMOD firmware v2009.03.24 10
17. Closed Loop Thermal Throttling (CLTT) is not automatically detected and set when using unbuffered memory (UDIMM) 10
18. SASflash for EFI may not run when EFI Optimized Boot BIOS option is enabled . 11
19. Stopped Intel® Server Chassis SC5600LX power supply fans may cause continuous reboots 11
20. Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037 12
21. Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup 12
22. Windows Server 2003* may hang when log in to Intel® Raid Web Console2 version 3.04-05 with Intel® Embedded Server RAID Technology II (ESRTII) Raid enabled ... 12
23. Cannot boot from SATA CD/DVD ROM using a “bootable Microsoft DOS* CD/DVD when RAID (or AHCI) is Enabled in the BIOS setup 13
24. High CPU utilization may occur when installing or running Microsoft Windows Server 2008 R2* or Microsoft Windows 7* with default NIC driver 13
25. Clearing BIOS CMOS in BIOS Revision R0042 may return an invalid Date 14

26. SuSE* SLES11 kernel may halt for 60 seconds during installation with default BIOS setting 14
27. Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors....15
28. Wrong Fan Fault LED may glow if “other chassis” is selected when flashing FRUSDR21....16
29. Processor 01 Fan sensor may not display as expected in FRUSDR25....17
30. Inaccurate HSC FW revision displayed in BIOS configuration GUI....17
31. System may go to EFI first instead of Hardware Raid configuration setup page...17
32. Lower network performance may be observed when Hyper-V role is added in Windows* Server 2008 R2 with more than 32GB memory....18
33. System may not enter LSI* 9260-4i/8i RAID card webBIOS when both LSI* 9260-4i/8i and LSI* 20320-R SCSI card installed....18
34. System with BIOS Revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed 18
35. System may get blue screen on display during the installation of Windows* Server 2008 R2 under UEFI mode....19
36. PCI Express link down error or bandwidth changed message may be logged in System Event Log....19
37. User will read wrong Processor frequency in BIOS R0058....20
38. Voltage Change Error Message is logged in the SEL when LVDIMM’s are installed20

Documentation Changes....21

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Preface

This document is an update to the specifications contained in the *Monthly Specification Update Technical Product Specification* (Order Number E39528). 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) and the *Intel® Xeon® Processor 5600 Series Specification Update* for specification updates concerning the Intel® Xeon® Processor 5500 Series and Intel® Xeon® Processor 5600 Series. Items contained in the *Intel® Xeon® Processor 5500 Series Specification Update* and *Intel® Xeon® Processor 5600 Series Specification Update* that either do not apply to the Monthly Specification Update 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 Monthly Specification Update 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 Monthly Specification Update 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.

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.

Product Scope

The following specific boards, BIOS and components are covered by this update:

Product Code	Baseboard PBA Revision	BIOS Revision	BMC Revision	FRU/SDR Revision	ME Revision	EEPROM Revision	Change Description (PCN#)
S5520HC	E26045-406	R0025.1	00.28	11	1.05	1.3	Product Launch
S5500HCV	E40912-402	R0025.1	00.28	11	1.05	1.3	Product Launch
S5520HC	E26045-407	R0038	00.40	19	1.11	1.3	PCN109471-00
S5500HCV	E40912-403	R0038	00.40	19	1.11	1.3	PCN109471-00
S5520HCR	E26045-452	R0045	00.45	21	1.11	1.4	Product Launch
S5500HCVR	E40912-453	R0045	00.45	21	1.11	1.4	Product Launch
S5520HCT	E80888-552	R0045	00.45	21	1.11	1.2	Product Launch
S5520HCR	E26045-453	R0048	00.49	25	1.12	1.4	PCN109867-00
S5500HCVR	E40912-454	R0048	00.49	25	1.12	1.4	PCN109867-00
S5520HCT	E80888-553	R0049	00.49	25	1.11	1.2	PCN109903-00
S5520HCR	E26045-454	R0050	00.53	28	1.12	1.4	PCN110126-00
S5500HCVR	E40912-455	R0050	00.53	28	1.12	1.4	PCN110126-00
S5520HCT	E80888-554	R0050	00.53	28	1.12	1.4	PCN110126-00

Summary Tables of Changes

The following tables indicate the errata and the document changes that apply to the Monthly Specification Update. Intel intends to fix some of the errata in a future stepping of components, and to account for the other outstanding issues through documentation or specification changes as noted. 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 a future release of the component.

Fixed: This erratum has been previously fixed.

No Fix: 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.	Fixed	Enabling AHCI mode in BIOS setup will cause Microsoft Windows 2008* to hang during installation.
2.	Fixed	System will hang entering the ACPI S1 sleep state.
3.	Fixed	USB devices limited to a total of twelve.
4.	Fixed	Excessive Temperature does not trigger a Thermal Trip event.
5.	Fixed	Hyper Threading cannot be disabled in BIOS setup.
6.	No Fix	A critical interrupt is logged in the System Event Log (SEL) when installing SuSE* SLES 10 SP2 32 bit.
7.	Fix	Errors are reported during the installation of SuSE* SLES 10 SP2 EM64T.
8.	Fixed	In SATA compatibility mode the operating system may take more than four hours to install.
9.	Fixed	Serial Console mode may display extra text or intermingled text.
10.	Fix	The PXE boot option is missing in BIOS Setup.
11.	Fixed	Fans may boost temporarily when BMC is under load.
12.	Fixed	Extra events may be seen in the SEL during system reset.
13.	Fix	BIOS setup may report incorrect firmware versions.
14.	Fixed	Onboard SATA controller SW RAID mode is not available when Intel® SAS Entry RAID Module AXX4SASMOD is set to Intel® ESRTII Mode.
15.	No Fix	When battery is missing, firmware will think it is present.
16.	Fixed	SES connection is not enabled in Intel® SAS Entry RAID Module AXX4SASMOD firmware v2009.03.24.
17.	Fix	Closed Loop Thermal Throttling (CLTT) is not automatically detected and set when using unbuffered memory (UDIMM).
18.	No Fix	SASflash for EFI may not run when EFI Optimized Boot BIOS option is enabled.
19.	Fix	Stopped Intel® Server Chassis SC5600LX power supply fans may cause continuous reboots.

No.	Plans	Description of Errata
20.	Fixed	Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037.
21.	Fix	Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup.
22.	Fix	Winodws* Server 2003 may hang when log in to Intel® Raid Web Console2 version 3.04-05 with Intel® Embedded Server RAID Technology II (ESRTII) Raid enabled.
23.	No Fix	Cannot boot from SATA CD/DVD ROM using a "bootable" Microsoft DOS* CD/DVD when RAID (or AHCI) is Enabled in the BIOS setup.
24.	Fixed	High CPU utilization may occur when installing or running Microsoft Windows Server 2008 R2* or Microsoft Windows 7* with default NIC driver.
25.	Fixed	Clearing BIOS CMOS in BIOS Revision R0042 May Return an Invalid Date.
26.	No Fix	SLES11 kernel may halt for 60 seconds during installation with default BIOS setting.
27.	Fix	Intel® Active System Console (IASC) 3.5.1 and 3,5.2 may fail to detect status of low voltage memory sensors.
28.	Fixed	Wrong FAN Fault LED may glow if "other chassis" is selected when updating FRUSDR21.
29.	Fixed	Processor fan 01 sensor may not display as expected in FRUSDR25.
30.	Fix	Inaccurate HSC FW revision displayed in BIOS configuration GUI.
31.	No Fix	System may go to EFI first instead of Hardware Raid configuration setup page.
32.	Fixed	Lower network performance may be observed when Hyper-V role is added in Windows Server 2008* R2 with more than 32GB memory.
33.	Fix	System may not enter LSI* 9260-4i/8i RAID card webBIOS with both LSI* 9260-4i/8i RAID card and LSI* 20320-R SCSI card installed.
34.	Fix	System with BIOS revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed.
35.	Fixed	System may get blue screen on display during the installation of Windows* Server 2008 R2 under UEFI mode.
36.	Fixed	PCI Express link down error or bandwidth changed message may be logged in System Event Log
37.	Fix	User will read wrong Processor frequency in BIOS R0058
38.	Fix	VDIMM Voltage changed error massage may be logged in System Event Log.

Table 2. Documentation Changes

No.	Plans	Description of Documentation Change
1.	None	None.

Following are in-depth descriptions of each erratum/documentation change indicated in the tables above. The errata and documentation change numbers below correspond to the numbers in the tables.

Errata

1. Enabling AHCI mode in BIOS setup will cause Microsoft Windows 2008* to hang during installation

Problem	AHCI mode enabled causes Microsoft Windows 2008* to hang during operating system installation.
Implication	Users that desire to utilize the AHCI feature in BIOS setup will encounter a system hang during the installation of the Microsoft Windows 2008* operating system.
Status	This issue was resolved in BIOS release R0027.
Workaround	Disable AHCI in BIOS setup.

2. System will hang entering the ACPI S1 sleep state

Problem	Entering an S1 sleep state with Microsoft Windows 2003 R2* will result in a system hang condition.
Implication	Users of Microsoft Windows 2003 R2* will encounter a system hang entering an S1 sleep state.
Status	This issue was resolved with BIOS R0035 and NIC driver package v14.0.
Workaround	None.

3. USB devices limited to a total of twelve

Problem	Populating more than twelve USB devices may cause the system to hang during POST.
Implication	Users needing more than twelve USB devices on the system may experience system hangs during POST.

Status This issue was resolved in BIOS revision R0030.

Workaround None.

4. Excessive Temperature does not trigger a Thermal Trip event

Problem If the I/O Hub (IOH) of the Tylersburg chipset is heated beyond thermal limits, a thermal trip event is not generated.

Implication Excessive heat on the IOH for extensive lengths of time may damage or lower the expected life of the integrated Circuit (IC).

Status This issue was resolved in BIOS revision R0029 and BMC revision 31.

Workaround None.

5. 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 was fixed in BIOS release R0034.

Workaround None.

6. A critical interrupt is logged in the System Event Log (SEL) when installing SuSE* SLES 10 SP2 32 bit

Problem A critical interrupt, PCIe Fat Sensor –[severity] event: Critical Interrupt, is looged during the installation of SuSE* SLES 10 SP2 32 bit.

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

Status No Fix.

Workaround Add “noisapnp” to the command line option to prevent scanning of a ISA plug and play devices.

7. Errors are reported during the installation of SuSE* SLES 10 SP2 EM64T

Problem When installing SuSE* SLES 10 SP2 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.

8. 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 UP2 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 UP2.

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

Workaround None.

9. 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 issue was fixed in BIOS R0038.

Workaround None.

10. The PXE boot option is missing in BIOS Setup

Problem If a user disables the primary (onboard) video in BIOS Setup and enable console redirection, 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.

11. 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 was fixed with BMC 00.36.

Workaround None.

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

Problem The BMC may log periodic, spurious SEL events during a system reset. 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.

To identify when a reboot happened, locate the following events, which are normally logged after system rest or 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 was fixed with BMC 00.36.

Workaround None

13. BIOS setup may report 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.

14. Onboard SATA controller SW RAID mode is not available when Intel® SAS Entry RAID Module AXX4SASMOD is set to Intel® ESRTII mode

Problem The *SW RAID* mode for BIOS setup option: *Configure SATA Mode* is not avaialbe, when the Intel® SAS Entry RAID Module AXX4SASMOD is installed and set to *Intel® ESRTII* mode.

Implication Users that desire to use both onboard SATA controller and Intel® SAS Entry RAID Module AXX4SASMOD module in Intel® ESRTII mode simultaneously will not be able to do so.

Status This issue was resolved with BIOS R0037.

Workaround None.

15. When battery is missing, firmware will think it is there

Problem If the server board battery is missing, firmware will think it is there and good.

Implication There is no function impact associated with this erratum. Firmware will however monitor the battery health if it is present

Status No Fix.

Workaround None.

16. SES connection is not enabled in Intel® SAS Entry RAID Module AXX4SASMOD firmware v2009.03.24

Problem The SES connector is available on the Intel® SAS Entry RAID Module AXX4SASMOD, but the SES connection is not enabled in Intel® SAS Entry RAID Module AXX4SASMOD firmware v2000.03.24.

Implication Users that desire to use SES connection on AXX4SASMOD for Intel® non-expander backplanes AXX4DRV3GR and AXX6DRV3GR fault LED control will not be able to do it.

Status This issue was fixed with Intel® SAS Entry RAID Module AXX4SASMOD firmware package v2009.08.06_ph16p3.

Workaround None.

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

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

Implication If users elect to utilize UDIMMs in their system, they must manually enable CLTT in BIOS setup.

Note: Users must ensure that the Serial Presence Detect (SPD) on *ALL* installed DIMMs support CLTT. If the user is unsure if *ALL* DIMMs installed

support CLTT, the user should maintain the system in Open Loop Thermal Throttling (OLTT) mode.

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

Workaround None.

18. SASflash for EFI may not run when EFI Optimized Boot BIOS option is enabled

Problem SASflash.efi may not run when BIOS option: *EFI Optimized Boot* is enabled and RAID controller is in IT/IR or Intel® ESRTII RAID mode.

Implication Users need to disable *EFI optimized Boot* BIOS option when update firmare by SASflash.efi on RAID controller that in IT/IR or Intel® ESRTII RAID mode.

Status No Fix

Workaround None.

19. Stopped Intel® Server Chassis SC5600LX power supply fans may cause continuous reboots

Problem In the Intel® Server Chassis SC5600LX based system, if a power supply fan fails, the system may enter a continuous reboot cycle. If redundant power supply modules are populated, the system will only reboot if fans in both power supply modules fail simultaneously.

Implication If a power supply fan fails, the system may enter a reboot cycle. This problem will only occur in instances where a shutdown is expected. The system will reboot rather than shutting down. The LED on the power supply module with fan fails will turn into amber to indicate this failure state.

Status This issue may be fixed in a future version of the power supply module, which will also has system status LED indicate the power supply fan failure state when it happens.

Workaround None.

20. 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 3 or more minutes to enter the EFI shell from BIOS Setup and approximatley 3 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 was fixed with BIOS R0038.

Workaround None.

21. Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup

Problem If console redirection is disabled in BIOS setup SOL will no longer automatically detect this condition and then enable console redirection.

Implication Console redirection must be enabled in BIOS setup prior to utilizing SOL. Furthermore, the IPMI command *SetSystemBootOption* to enable console redirection is not supported.

Status This issue may be fixed in a future BIOS revision or with the optional IPMI c ommand support.

Workaround None.

22. Windows Server 2003* may hang when log in to Intel® Raid Web Console2 version 3.04-05 with Intel® Embedded Server RAID Technology II (ESRTII) Raid enabled

Problem When using Windows Server 2003* with onboard ESRTII raid enabled, user may experience system hang when trying to log in to Intel® Raid Web Console2, BSOD(Blue Screen of Death) with either of the following messages may occur:

- BAD_POOL_HEADER Error code: STOP 0x00000019
- IRQL_NOT_LESS_OR_EQUAL Error code: STOP 0x000000D1

Implication This issue is caused by a minor bug in Intel® Raid Web Console2 software code.

Status This erratum may be fixed in a future Intel® Embedded Server RAID Technology II (ESRTII) driver.

Workaround Use Intel® Raid Web Console2 version v2.92-01.

23. Cannot boot from SATA CD/DVD ROM using a "bootable Microsoft DOS* CD/DVD when RAID (or AHCI) is Enabled in the BIOS setup

Problem Users cannot boot Intel® Server Board S5520HC or S5500HCV from SATA CD/DVD ROM using a "bootable" Microsoft Disk Operating System* (MS-DOS) based CD/DVD when the RAID (or AHCI) is enabled in the BIOS setup.

Implication Users needing to boot to any MS-DOS based diagnostic, pre-install, or application CDs (for example, Bart's PE), are limited to using only the "IDE" mode setting in BIOS. Please note: Operating system installation CDs are not affected by this issue since they typically use "iso-linux".

Status This is a known limitation. Whenever the RAID (or AHCI) setting is selected, the Advanced Host Controller Interface Option ROM is loaded. Unfortunately, AHCI is not supported by MS-DOS.

Workaround None.

24. High CPU utilization may occur when installing or running Microsoft Windows Server 2008 R2* or Microsoft Windows 7* with default NIC driver

Problem There has been high CPU load observed when installing or running Microsoft Windows Server 2008 R2* or Microsoft Windows 7* with default NIC (Network Interface Card) driver.

Implication When the ports are not electrically "linked" and the embedded driver is loaded the DPC rate steadily increases until the system slows to the point where it is essentially unusable.

Status This issue was fixed in BIOS R0054. Before Operation System installation, change the BIOS setting Pcie AER support under Advanced -> PCI configuration from “Enable” to “Disable”.

Workaround Make sure the ports are connected to a network, switch or simply back-to-back. This need to be done at least prior to the driver loading because once the port is malfunctioning, it cannot be recovered by connecting the ports. Updating to the latest posted driver resolves the problem. The latest NIC driver can be obtained from the following location:

http://downloadcenter.intel.com/Detail_Desc.aspx?agr=Y&DwnldID=18388

25. Clearing BIOS CMOS in BIOS Revision R0042 may return an invalid Date

Problem If the user clears the BIOS CMOS settings via jumper or using the Sysconfig /bldfs switch, the date in BIOS setup may be corrupted and read 09XX.

Implication An invalid date stamp, 09XX, may be displayed in BIOS setup after clearing BIOS CMOS settings using the jumper or the Syscfg utility resulting in the user having to perform an extra reboot of the system to recover the date in the proper format.

Status This issue is fixed in BIOS revision R0045 or later.

Workaround An additional reboot will reset the date format in BIOS setup. However, the user will have to set the date and time to the current local settings.

26. SuSE* SLES11 kernel may halt for 60 seconds during installation with default BIOS setting

Problem Customer may find SuSE* SLES11 kernel halts for 60 seconds during installation with default BIOS setting.

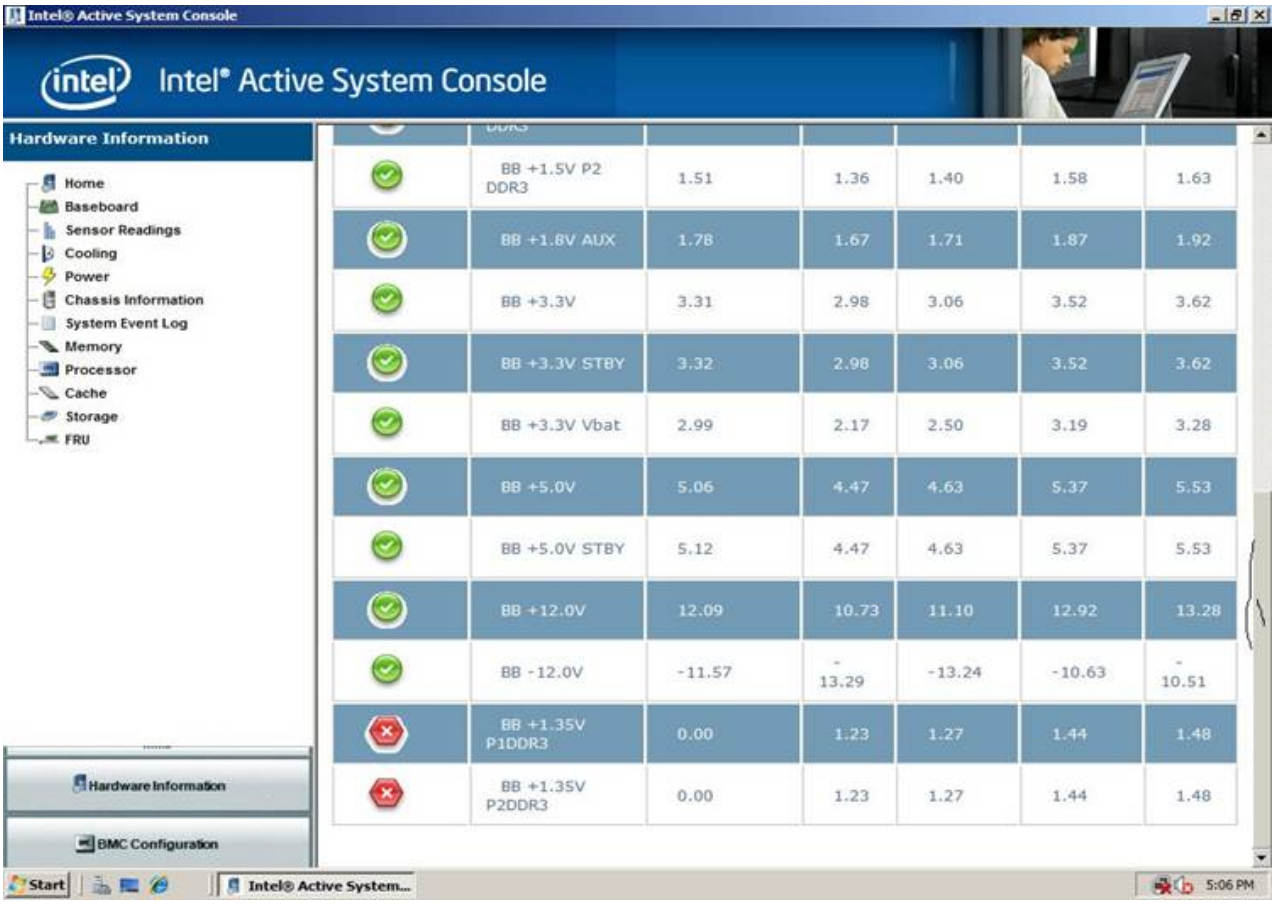
Implication When boots to SLES installation media, after clicking “installation” at the prompt, screen will go black and freeze for 60 seconds until USB keyboard “enter” key is pressed.

Status This issue is caused by a kernel bug.

Workaround Customer can wait 60 seconds or press “enter” key after screen freezes to continue with the installation.

27. Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors

Problem Intel® Active System Console (IASC) v3.5.1 and v3.5.2 is used to monitor hardware status on Intel server system. Intel® Xeon® 5500 Series Platforms start to support low voltage memory DIMM, so current FRUSDR has contained four memory voltage sensors "BB+1.5v P1DDR3", "BB+1.5v P2DDR3", "BB+1.35v P1DDR3" and "BB+1.35v P2DDR3", When system has 1.5v memory or 1.35v memory, only corresponding memory voltage sensors will be enabled, the other type memory voltage sensors will be disabled. IASC cannot judge the status of memory voltage sensors which have been disabled, and still try to detect those sensors reading. Because sensor reading is "0", lower than its threshold, so IASC shows those sensors status as critical warning. A screenshot of this failure is shown below:



Implication IASC fails to judge the status of disabled sensors and still considers those sensors to server health algorithm.

Status This issue may be fixed in future IASC release.

Workaround None.

28. Wrong Fan Fault LED may glow if "other chassis" is selected when flashing FRUSDR21

Problem When users update FRUSDR21 and select "other chassis" in the update process, users may see CPU FAN2 Fault LED glow when the upgrade process finishes. This issue occurs only when one CPU is installed in the motherboard.

Implication The unexpected CPU FAN2 Fault LED glowing event is due to a FRUSDR issue, however, there will be no functional impact to the system.

Status This issue is fixed by FRUSDR25.

Workaround None.

29. Processor 01 Fan sensor may not display as expected in FRUSDR25

Problem When users update FRUSDR25 and select "Intel® Server Chassis SC5650BRP" or "Intel® Workstation Chassis SC5650WS" in the update process, users may find Processor 01 fan sensor disappear once FRUSDR update is completed.

Implication Users may not be able to check processor 01 fan sensor status.

Status This issue is fixed by FRUSDR28.

Workaround None.

30. Inaccurate HSC FW revision displayed in BIOS configuration GUI

Problem With baseboard BIOS version R0050 and BMC version 53, the HSC FW revision may be inaccurately shown as 123.415 instead of 0.00 if there is no backplane connected to the board or system. HSC FW revision is located at the BIOS setup Server Information page (Server Management – Sever Information – HSC Firmware Revision).

Implication There is no functional impact associated with this erratum.

Status This erratum may be fixed in future BIOS release.

Workaround None.

31. System may go to EFI first instead of Hardware Raid configuration setup page

Problem When using Hardware Raid and setting EFI boot sequence in the first boot device, if Ctrl+G is pressed during POST, system first goes to EFI, not to Hardware Raid configuration setup page.

Implication There is no functional impact associated with this erratum.

Status Will not fix.

Workaround 1, Change EFI booting order instead of first boot device.
2, Type “EXIT” in Internal EFI shell, then users can enter Raid configuration setup page.

32. Lower network performance may be observed when Hyper-V role is added in Windows* Server 2008 R2 with more than 32GB memory

Problem On a dual Intel® Xeon® 5600 series processor configuration with more than 32GB memory installed, user may notice network performance drop in Windows Server 2008 R2* when Hyper-V role is added.

Implication User may see lower than expected network performance under Windows Sever 2008 R2*.

Status This issue was fixed on BIOS 55 and later version. Change the setting in BIOS setup Advanced -> PCI -> Maximize/minimum Memory below 4G to Min.

Workaround Reduce memory size to less than 32GB.

33. System may not enter LSI* 9260-4i/8i RAID card webBIOS when both LSI* 9260-4i/8i and LSI* 20320-R SCSI card installed

Problem System may not enter LSI* 9260-4i/8i RAID card webBIOS with both LSI* 9260-4i/8i RAID card and LSI* 20320-R SCSI card installed

Implication User may find not able to go into LSI* 9260-4i/8i RAID card webBIOS even Ctrl+H was pressed.

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

Workaround Press CTRL key again when see blinking cursor, the blinking cursor will be on the top left corner when Ctrl+H was pressed.

34. System with BIOS Revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed

Problem On a system with the Adaptec* 5405 or 5805 RAID card installed, the system may hang during POST.

Implication User may experience system hangs during POST with the above system configuration.

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

Workaround Use BIOS revision R0050.

35. System may get blue screen on display during the installation of Windows* Server 2008 R2 under UEFI mode

Problem When installing Windows* Server 2008 R2 under UEFI mode, system may hang with BSOD (blue screen of death)

Implication User will not be able to install Windows* Server 2008 R2 under UEFI mode. The BSOD happens at the “Installing Windows” page.

Status This issue is fixed in BIOS 57.

Workaround None

36. PCI Express link down error or bandwidth changed message may be logged in System Event Log.

Problem With Intel network card E1G44ET or E1G44ET2 installed, below message may be loged in System Event Log(SEL):

Critical Interrupt /PCIe Fat Sensor (#0x04) CRITICAL event:

PCIe Fat Sensor reports a fatal PCI Express Surprise Link Down error. SMI Handler (Channel #00h)

Critical Interrupt /PCIe Cor Sensor Informational event:

PCIe Cor Sensor reports a correctable PCI Express Link Bandwidth Changed error. SMI Handler (Channel #00h)

Implication The network card will stop service.

Status This issue was fixed on BIOS 55 by disabling the BIOS setting PCIe AER Support (under Advanced > PCI Configuration)

Workaround None

37. User will read wrong Processor frequency in BIOS R0058

Problem When using BIOS R0058, user will read wrong Processor frequency in BIOS and OS on any of the Intel(R) Xeon(R) Processor 5500/5600 series

Implication User Might find incorrect Processor frequency in BIOS serup->Advanced->Processor configuration->Processor Frequency. The Processor frequency might be displayed as 1.60GHz in BIOS R0058

Status This issue might be fixed in a future BIOS revision

Workaround Use BIOS R0057 or previous revision. The correct Processor frequency will be displayed after the system is AC cycled.

38. Voltage Change Error Message is logged in the SEL when LVDIMM's are installed

Problem When LVDIMM's are installed in an Intel® S5500/S5520 Series Server System, the Integrated BMC will report a DIMM voltage change error message in the SEL, when the server boots up. The Sensor also reads a higher threshold value (*1.44V*) than the expected 1.35V for the LVDIMM memory

Example:78 06/19/2012-15:29:06 Voltage /BB +1.35v P1 MEM (#0x1D) Warning event: BB +1.35v P1 MEM reports the sensor is in a high, but non-critical, and going higher state. Sensor reading: Unspecified. Threshold value: 1.44 Volts. BMC - LUN #0 (Channel #00h)

Implication User may incorrectly conclude that the Intel® S5500/S5520 Series Server System does not support LVDIMM use, when it really does.

Status	BIOS detects the system memory population, and reports two VDD related changes if a one (1) DIMM per channel configuration is used, or reports 1.5V if two (2) DIMMs perchannel are installed.
Workaround	This issue might be fixed in the future.

Documentation Changes

None.