Monthly Specification Update

Intel® Server Board S5000PAL
Intel® Server Board S5000XAL
Intel® Server System SR1500AL
Intel® Server System SR1550AL
Intel® Server System SR2500AL

Revision History

Date	Modifications
June 2006	Initial release.
August 2006	Updated errata # 6, 8, 16, 18, 19, 21, 22, 23, 24, 25, 26, and 27. Errata # 28 were added.
November 2006	Errata # 30, 31, 32, 33, and 34 were added; documentation changes # 3, 4 were added.
February 2007	Errata # 35, 36, and 37 were added; updated errata # 25 and 33.
March 2007	Errata # 38, 39, and 40 were added.
April 2007	Errata # 41 and 42 were added.
June 2007	Errata # 42, 43, 44, 45, 46, 47, 48, and 49 were added.
July 2007	Updated errata # 36 and # 42. Errata # 50 were added.
August 2007	Updated erratum # 47.
September 2007	Errata # 51, 52, and 53 were added.
October 2007	Updated errata # 42; errata # 54 were added.
December 2007	Errata # 55 was added.
February 2008	Errata # 56 was added.
August 2008	Errata # 57 was added.
October 2008	Errata # 58 and # 59 were added.
January 2009	Errata # 60 and # 61 were added.
April 2009	Errata # 62 and # 63 were added.
July 2009	Errata # 64 was added.
September 2009	Errata # 65 was added.
March 2010	Errata # 66 was added.
April 2010	Errata # 67 was added.

Disclaimers

Contents

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Preface

This document communicates product Errata and Documentation Changes and Corrections for the following Intel Server Products:

- Intel® Server Board S5000PAL
- Intel® Server Board S5000XAL
- Intel® Server Chassis SR1500
- Intel® Server Chassis SR1550
- Intel® Server Chassis SR2500
- Intel® Server System SR1500AL
- Intel® Server System SR1550AL
- Intel® Server System SR2500AL

Refer to the *Dual-Core Intel® Xeon® Processor 5000 Sequence Specification Update* (Order Number: 313065) for specification updates concerning the Dual-Core Intel® Xeon® Processor 5000 Series processors. Items contained in the *Dual-Core Intel® Xeon® Processor 5000 Sequence Specification Update* that do not apply to the products in this document or were worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping is applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

This document communicates the following types of changes:

- **Specification Changes** are modifications to the current published specifications for a given product. These include typos, errors, or omissions. The next release of the document will incorporate the specified changes.

- **Specification Clarifications** describe a supported feature or function in greater detail or further highlight their impact to a complex design requirement. The next release of the document will incorporate these clarifications.

- **Errata** are design defects or deviations from current published specifications for a given product. Published errata may or may not be corrected.

    - Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping is present on all devices.

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 correct this erratum.

Fixed   This erratum was corrected.

No Fix   There are no plans to correct this erratum.

Shaded   This item is new or was modified from the previous specification update.

Table 1. Errata Summary

No.	Plans	Description of Errata
1.	Doc	IPMI over serial direct connect not supported.
2.	Fix	Serial over LAN and IPMI over LAN connections may terminate unexpectedly under certain conditions.
3.	Fix	Intermittent beep code 1-5-2-1 when booting with two processors.
4.	Doc	Power supply population errors may not appear in the SEL.
5.	Fix	Fan 5 may report a reading of 0 RPM after the BMC is updated.
6.	Fixed	The BMC may not respond to the IPMI command, *Send Message* sent via LAN.
7.	Fixed	Fans may take a long time to slow down after fan boosting.
8.	Fixed	System requires ~35 seconds after AC is power applied before the power button responds.
9.	Fix	SEL events for Hot-swap Controller (HSC) may appear after a DC cycle
10.	Fixed	Fans may run faster than expected after exiting BIOS setup.
11.	Fixed	System fault LED may report incorrect status for some events.
12.	Fixed	Fan removal does not generate a SEL event.
13.	Fix	Power supply redundancy state is misleading when only one power supply is installed.
14.	Fix	Hot-swap Controller (HSC) and Local Control Panel (LCP) updates may take a long time
15.	Fixed	Console Redirection Baud Rate Setting auto changing to 19.2K with Serial Over LAN (SOL) active.
16.	Fixed	Serial Over LAN (SOL) unable to redirect DOS output.
17.	No Fix	Password on boot not supported.
18.	Fixed	Intel® Embedded Server RAID Technology II option is not enabled in the initial BIOS release.
19.	Fixed	HSC and BMC versions intermittently not seen in BIOS setup
20.	Fixed	Intel® Server Boards S5000PAL/S5000XAL and Intel® Server System SR1500AL show a "Changes in Hardware or Drivers Detected" error message during WHQL ACPI stress testing.
21.	Fixed	POST LEDs do not turn off after operating system loads.
22.	Fixed	Checkup7.exe (microcode update utility) is not storing microcode in BIOS.
23.	Fixed	Intel® RAID Controller SRCSAS144E causes systems to reset multiple times before completing POST.
24.	Fixed	Change Logo Utility does not save modified BIOS capsule files with correct extension.
25.	Fixed	PS/2 keyboards and mice may stop functioning after Red Hat* Enterprise Linux is installed.

26.	Fixed	Failures seen installing to a SATA drive when SATA is set to "Legacy" in BIOS setup.
27.	Fixed	System hangs after disabling onboard video in BIOS setup.
28.	Fixed	The SMBIOS entry point may not be visible under certain hardware configurations.
29.	Fixed	Intel® Embedded Server RAID Technology II and IO module IRQ routing conflict.
30.	No Fix	SuSE* Linux Enterprise Server may not install successfully with Intel® Embedded Server RAID Technology II enabled.
31.	No Fix	Red Hat* Enterprise Linux 4 and BIOS setup display a different L2 cache size for the Quad-Core Intel® Xeon® processor 5300 Series.
32.	Fixed	Change Logo Utility causes BIOS corruption.
33.	Fixed	Microsoft Windows* System Event Viewer may record Error Event with ID 11
34.	Fixed	POST screen may generate "NMI has been received - System Halted" message after the system reboots.
35.	Fixed	Intel® RAID Web Console 2 utility displays "Unexpected Sensor" warning message in Microsoft Windows* operating system.
36.	Fixed	Random drives may go offline when a sixth drive is installed and Intel® Embedded Server RAID Technology II is enabled in the Intel® Server System SR2500ALBRP.
37.	No Fix	Intel recommends enterprise class hard drives for use with Intel® Server Systems.
38.	Fix	Dual Gigabit Expansion Module may not properly reset.
39.	Fixed	SAS drive in a ROMB RAID 5 may drop offline during a reboot in the Intel® Server System SR2500PALLX.
40.	No fix	Intel® Server System SR2500ALLX sixth hard drive filler panel is difficult to remove.
41.	No fix	SUSE* Linux Enterprise Server unable to boot after basic installation.
42.	Fixed	Drives may not be detected or may go offline in the Intel® Server System SR2500ALBRP when operating at SATA 300 MB/s data rate.
43.	No Fix	New versions of BMC firmware with previous versions of BIOS cause system POST failure.
44.	Fixed	Intel® Server System SR2500ALLX may operate louder than expected.
45.	No Fix	Red Hat* Enterprise Linux may report the wrong processor speed.
46.	Fixed	The SuSE* Linux Enterprise Server 10 driver for SAS HW RAID causes unwanted error logs during installation.
47.	Fixed	IERR or thermal trip event reported in System Event Log (SEL) after system power on.
48.	No Fix	USB device generates "The following boot-start or system-start driver(s) failed to load: i8042prt" error message in Windows* operating systems.
49.	No Fix	Microsoft Windows* and Intel® RAID Web Console II report an error when the ASR2500SATAPE kit is used.
50.	No Fix	System may log IERRs when running Red Hat* Enterprise Linux 4, Update 4 on the Intel® Server Board S5000PAL with video driver ati_drv.o 6.5.6.
51.	Fixed	Microsoft Windows* Operating Systems installed without a service pack will display blue screen with BIOS 79 and 81.
52.	Fixed	Sluggish system performance may be experienced with BMC60.
53.	No Fix	Downgrading the firmware of the Integrated RAID (ROMB), Intel® Embedded Server RAID Technology II or SAS may cause system damage.
54.	Fixed	In the Intel® Server Systems SR2500ALLX and SR1550ALSAS, flashing of SAS firmware 1.22 and SAS BIOS 06.16.00 makes hard drive #1 (upper left drive tray) undetected during SAS controller scanning.
55.	Fixed	Microsoft Windows 2003* R2 SP2 may display blue screen during an operating system boot or shutdown with a specific version of Intel® I/OAT driver.
56.	Fix	Server System Event Log (SEL) time may be one day later than BIOS time after entering year 2008.
57.	Fix	Performance Power Management Error in Microsoft(R) Windows* Server 2008.
58.	Fixed	Midplane2 hardware RAID produces unexpected beep sounds during system POST
59.	Fixed	Platform Confidence Test (PCT) fails with BIOS 88 and later version.

60.	Fix	USB mouse may hang in BIOS 94 RAID Console.
61.	No Fix	PCI IBIST Error with BIOS84.
62.	Fix	System may hang during login or Shutdown
63.	Fixed	Hard Disks are Difficult to Install in Intel® Server System SR2500AL and Intel® Server Chassis SR2500
64.	Fix	System May not Boot After Multiple DC power Cycles with BIOS Revision R0098
65.	Fix	System will not skip CD/DVD drive with BIOS Revision R0098 when RMM2 installed
66.	No Fix	HSC firmware 1.41 need to be updated to revision 2.09 before updating to 2.11
67.	No Fix	BMC may not be able to complete code power on operation under heavy BMC LAN traffic

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.	Fixed	Intel® Server Board S5000PAL/S5000XAL Technical Product Specification Rev. 1.1	The SMBUS block diagram (Figure #16) as provided in Rev 1.1 of the Intel® Server Board S5000PAL/S5000XAL TPS requires changes to accurately reflect production hardware design.
2.	Fixed	Intel® Server Board S5000PAL/S5000XAL Technical Product Specification Rev. 1.1	The power block diagram (Figure #25) as provided in Rev 1.1 of the Intel® Server Board S5000PAL/S5000XAL TPS does not reflect final production level baseboard design.
3.	Fix	Intel® Server System SR2500AL Technical Product Specification Rev. 1.0	SAS/SAS RAID mid-plane board (Figure #22) as provided in Rev.1.0 of the Intel® Server System SR2500AL TPS should swap the descriptions of items A and K.
4.	Fix	Intel® Server Board S5000PAL Quick Reference Label	The front panel pin-out on the Intel® Server Board S5000PAL Quick Reference Label is incorrect.

The following sections provide in-depth descriptions of each erratum / documentation change indicated in Tables 1 and 2. The errata and documentation change numbers referenced in the following sections correspond to the numbers in Tables 1 and 2.

Errata

1.   IPMI over serial direct connect not supported

Problem   Dual-Core Intel® Xeon® processor 5000 sequence-based server boards list
                 support for IPMI access via serial direct connect. Serial access to the BMC is
                 not supported at this time.

Implication   Users should use the IPMI over LAN interface to connect to the BMC.

                 Note: This only affects serial and terminal mode access to the BMC; this does
                 not affect BIOS console redirection and operating system redirection via serial
                 port.

Status   This erratum may be fixed in a future firmware revision and hardware revision.

Workaround   None.

2.   Serial over LAN and IPMI over LAN connections may terminate
unexpectedly under certain conditions

Problem   During an active serial over LAN connection or an active IPMI over LAN
                 connection to the BMC, the connection may be intermittently lost during a DC
                 cycle or reset.

Implication   The user's connection may be lost and the user must reconnect to the session.

Status   This erratum may be fixed in a future firmware revision.

Workaround   None.

3.   Intermittent beep code 1-5-2-1 when booting with two
processors

Problem   During POST, if two processors are installed, the system may pause at POST
                 code 0x13 (SMM Initialization). This may result in a 1-5-2-1 beep code and a
                 processor event in the System Event Log (SEL).

Implication   The system may log erroneous errors in the SEL or via beep code, and under
               some conditions, the system may halt at 0x13 and require an AC cycle.

Status   This erratum is fixed in BMC release 47 and later releases.

Workaround   If an error is encountered, AC cycle the system and the system should run
               normally.

4.   Power supply population errors may not display in the SEL

Problem   The BMC does not give any indication if a single power supply is improperly
               installed in a redundant chassis.

Implication   Some chassis require power supplies to be installed in specific slots if a single
               power supply is installed.

Status   This erratum may be fixed in a future firmware revision.

Workaround   None.

5.   Fan 5 may report a reading of 0 RPM after the BMC is updated

Problem   After a BMC update, fan 5 may not return an accurate reading until AC power
               is cycled.

Implication   Intel® System Management Software and other software may display a reading
               of 0 RPM for this sensor. The BMC may respond as though this fan has failed
               and fan redundancy is lost. This causes the system fault LED and fan status
               LED to indicate a failure for this sensor. In addition, the fans will run in a high
               speed "boost" state.

Status   This erratum may be fixed in a future firmware revision.

Workaround   AC cycle the system again and the system should run normally.

6.   The BMC may not respond to the IPMI command, *Send*

Message sent via LAN

Problem   The BMC may not respond correctly to a *Send Message* command from the
                 LAN channel to the IPMB channel. This issue only affects an IPMI 2.0 based
                 RMCP+ session not an IPMI 1.5 based RMCP session.

Implication   Remote IPMI over LAN software cannot forward commands to the IPMB bus.

Status   This erratum is fixed in BMC release 50 and later releases.

Workaround   Software developers should use IPMI 1.5 based sessions to bridge commands
                 to the IPMB channel.

7.   Fans may take a long time to slow down after fan boosting

Problem   System fans that "boost" due to an increased processor temperature may not
                return to normal speed immediately after the processor temperature returns to
                normal.

Implication   If the system fans boost due to a high processor temperature, the BMC does
                not restore the fans to a normal speed until a similar amount of time spent in a
                boosted state passes. For example, if a high processor temperature caused the
                fans to boost for five minutes, the fans would not return to normal until five
                minutes after the processor temperature returned to normal.

Status   This erratum is fixed in BMC release 59 and later releases.

Workaround   The fans will return to normal speed over time.

8.   System requires ~35 seconds after AC power is applied before

the power button responds

Problem   The BMC requires approximately 35 seconds to fully initialize the system after
                an AC cycle before the system can be powered on.

Implication   After an AC cycle, a user must wait approximately 35 seconds before the
                power button responds. The BMC causes the front panel LED to blink in an
                alternating amber/green pattern while the BMC initialization is in progress.
                Users should wait until the LED stops blinking in this pattern before pressing
                the power button.

Status   This erratum is fixed in BMC release 50 and later releases.

Workaround   None.

9.   SEL events for Hot-swap Controller (HSC) may appear after a

DC cycle

Problem   The HSC may log critical and non-critical temperature events in the SEL after a
                DC cycle.

Implication   The SEL events are "deassertion" events, which are not an indication of a
                problem with the system. Users can ignore these events as they are not errors
                or an indication of a problem in the system.

Status   This erratum will be fixed in a future HSC firmware revision.

Workaround   None.

10.   Fans may run faster than expected after exiting BIOS setup

Problem   Some system fans may run faster after exiting the BIOS setup using the "Save
                and Exit" option.

Implication   The system may generate more fan noise than normal.

Status   This erratum is fixed in BMC release 59 and later releases.

Workaround   The system must be AC cycled or allowed to boot to the operating system and
                then reset to restore fans to their normal speeds.

11.   System fault LED may report incorrect status for some events

Problem   The system fault LED may report incorrect status for some events. The proper
                LED state is described in the server board TPS, but some events may not
                reflect the states described in the TPS.

Implication   The user may receive an incorrect indication via the system fault LED. The
                user should verify the system state by looking at the SEL.

Status   This erratum is fixed in BMC release 59 and later releases.

Workaround   None.

12.   Fan removal does not generate a SEL event

Problem   Fan removal does not trigger a fan failure event.

Implication   Simulating a fan failure by fan removal does not work.

Status   This erratum is fixed in BMC release 59 and later releases.

Workaround   None.

13.   Power supply redundancy state is misleading when only one power supply is installed

Problem   If a single power supply is installed in a chassis that supports redundant power supplies, the BMC indicates the power supply redundancy state as "redundant".

Implication   In a single power supply configuration, the redundancy sensor should be ignored. Redundant chassis with fully redundant power supplies accurately reflect the redundancy status.

Status   This erratum may be fixed in a future firmware revision.

Workaround   None.

14.   Hot-swap Controller (HSC) and Local Control Panel (LCP) updates may take a long time

Problem   The Hot Swap Controller (HSC) and Intel® Local Control Panel (LCP) updates may take a long time. The time to complete each update could exceed 30 minutes.

Implication   Updating HSC and LCP may take a long time.

Status   This erratum may be fixed in a future firmware revision.

Workaround   None.

15.   Console Redirection Baud Rate Setting auto changing to 19.2K with Serial Over LAN (SOL) active

Problem   If configuring a SOL connection, the only baud rate allowed is 19.2K. If any other baud rate is selected, the system will always revert back to 19.2K after the DC cycle.

Implication   Users will not be able to configure a SOL connection with a different baud rate for their application.

Status   This erratum is fixed in BIOS release R0045 and later releases.

Workaround   None.

16.   Serial Over LAN (SOL) unable to redirect DOS output

Problem   No SOL output displays when booted to DOS. SOL only redirects F2 Setup and
                 POST output.

Implication   Users who require SOL to redirect DOS output cannot use this feature.

Status   This erratum is fixed in BIOS release R0054 and later releases.

Workaround   None.

17.   Password on boot not supported

Problem   If an admin or user password is defined in the BIOS setup, these will be
                 required before the user can enter the BIOS Setup. There is no option to
                 configure a password during POST before the server boots.

Implication   Users will not be able to create a password and will not require a password on
                 boot.

Status   Intel does not intend to fix this erratum.

Workaround   None.

18.   Intel® Embedded Server RAID Technology II option is not

enabled in initial BIOS release

Problem   The Intel® Embedded Server RAID Technology II feature that was available in
                 pre-production BIOS releases is not available in the initial production BIOS
                 release. The option ROM that allows configuration of the Intel® Embedded
                 Server RAID Technology II was deemed not ready for production by Intel at this
                 time.

Implication   Users who require or were planning to use this feature in their production
                 environments must wait for a post-launch BIOS release, which will have this
                 feature enabled.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   Several hardware RAID options are readily available and supported by Intel®
                    Server Boards. Consult the product *Tested Hardware and Operating System
                    List* for a variety of hardware options. No workarounds for the Intel® Embedded
                    Server RAID Technology II are available.

19.   HSC and BMC versions intermittently not seen in BIOS setup

Problem   BMC and HSC revision information is intermittently missing from the BIOS
                    setup.

Implication   HSC and BMC information is not easily found.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   Users must use the DOS utility, "fwpiaupd.exe" to probe and get the backplane
                    HSC information. Boot to DOS and using the fwpiaupd.exe utility,that is used to
                    flash the BMC and HSC code onto the server system, enter the following
                    command

```
fwpiaupd –i –address={c0, c2}
```

                    where c0 is the primary backplane address and c2 is the secondary backplane
                    address. This provides you with the operational code revision for the HSC on
                    each backplane.

                    To retrieve the BMC version information, use the same "fwpiaupdt.exe" utility
                    with the following command:

```
fwpiaupdt –i –address=20
```

20.   Intel® Server Boards S5000PAL/S5000XAL and Intel® Server System SR1500AL show a "Changes in Hardware or Drivers Detected" error message during WHQL ACPI stress testing

Problem   While running Microsoft Windows* Hardware Compatibility Test (HCT) 12.1
                    ACPI stress device I/O or any HCT test that needs to reboot, the system
                    displays the following error message: "Changes in Hardware or Drivers
                    Detected".

Implication   This message may prevent users from receiving Microsoft WHQL certification.

Status   This erratum is fixed in BIOS release R0045 and later releases.

Workaround   If the system is shut down and restarted (rather than rebooted) between tests,
                     the error does not appear.

21.   POST LEDs do not turn off after operating system loads.

Problem   The POST Code LEDs at the rear of the system do not turn off once POST
                     completes and the operating system loads. The POST code LEDs display
                     [Green Red Green Red] at the rear of the system.

Implication   Since the LEDs are lit on the server board, user may believe that that an error
                     occurred.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   None.

22.   Checkup7.exe (microcode update utility) is not storing microcode in BIOS

Problem   The Checkup7.exe utility, which is used to update the processor microcode in
                     the BIOS, is not working properly. The utility says it completes the flash update
                     successfully; however, upon the next reboot, the microcode is not actually
                     present in the BIOS.

Implication   Users cannot update their BIOS with a new processor microcode.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   Users must update to the latest BIOS revision which includes the latest
                     processor microcode releases. They cannot use this utility to add a microcode
                     patch to the existing BIOS.

23.   Intel® RAID Controller SRCSAS144E causes systems to reset multiple times before completing POST

Problem   With the Intel® RAID Controller SRCSAS144E installed in the system, the system may become caught in a reset loop during POST. The system resets itself four to five times before completing POST. This is seen early in POST within the first few seconds of power on and before video initialization. POST code LEDs show 0x21 "Chipset" Initializing a chipset component.

Implication   POST takes approximately 15-20 seconds longer to complete.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   Moving the RAID controller into a different slot sometimes resolves this issue. Populating the card in a slower bus (x4 or x8) seems to make this issue appear less frequently.

24.   Change Logo Utility does not save modified BIOS capsule files with correct extension

Problem   When using the Change Logo Utility to modify a BIOS capsule file and replace the Intel Splash Screen logo with a new one, it fails to save the new capsule file with a .cap extension. The file produced has an .fd extension. The file is the correct capsule file but has the wrong extension.

Implication   Users may be confused and believe the utility is not saving the file in the correct format.

Status   This erratum is fixed in version 4.16 of the utility.

Workaround   When saving the file in the "Save As" dialog box, select Capsule File (*.cap) from the 'Save as Type' drop-down box. In the File Name box, type the name of the file with the .cap extension. It is important you include the '.cap' extension in the file name; otherwise, the Change Logo Utility saves the file with the incorrect extension.

                If you forget to include the '.cap' in the file name but you selected 'Capsule File (*.cap)' in the 'Save as Type' drop-down box, you can rename the file from an .fd extension to a .cap extension and this works as well.

25.   PS/2 keyboards and mice may stop functioning after Red Hat* Enterprise Linux is installed

Problem   After installing Red Hat* Enterprise Linux on a system with BIOS release R0045, the PS/2 keyboard and mouse stop working; however, USB keyboards and mice work.

Implication   Users cannot use the Linux operating system if a PS/2 keyboard and mouse are installed.

Status   This erratum is fixed in BIOS release R0054 and later releases.

Workaround   If the user goes into the BIOS setup and disables port 60/64 emulation, PS/2 keyboards and mice will continue to work. If USB keyboards and mice are used, the user should enable port 60/64 emulation.

26.   Failures seen installing to a SATA drive when SATA is set to "Legacy" in the BIOS setup

Problem   If a user has SATA set to "Legacy" in the BIOS setup and tries to install an operating system, the installation may fail.

Implication   Users who require SATA to be configured in legacy mode may not be able to get their operating system to install properly.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   If possible, leave SATA in enhanced mode. No workaround exists for the legacy mode issue.

27.   System hangs after disabling on-board video in the BIOS setup

Problem   After disabling on-board video in the BIOS setup, the system hangs during POST.

Implication   Users cannot disable on-board video via the BIOS setup.

Status   This erratum is fixed in BIOS release R0057 and later releases.

Workaround   Adding in a video controller automatically disables the onboard video. It is not necessary to manually disable the video controller via the BIOS setup. No workaround exists for configurations that do not include video controller support.

28.   The SMBIOS entry point may not be visible under certain hardware configurations

Problem   The server BIOS maintains an area in memory to act as an entry point to locate the SMBIOS area. This entry point includes the anchor string "_SM_", memory pointers and information about the SMBIOS area as required by the SMBIOS specification. This information is dynamically created by the BIOS during POST and is placed in a required memory range between 000F0000h-000FFFFFh. Hardware configurations that require large amounts of memory at POST (option ROM space or I/O configuration space) could fill up this memory range and the SMBIOS entry point cannot be created correctly.

Implication   This problem shows an inability for software to locate the SMBIOS records.
                   This can affect management software and also some Intel provided update
                   utilities, including: BIOS update utilities and FRUSDR update utilities. An error
                   may also appear in the BIOS error manager. Intel update utilities generate an
                   error and abort before performing an update.

Status   This erratum is fixed in BIOS release R0060 and later releases.

Workaround   If a specific hardware configuration experiences this issue, remove the add-in
                   PCI and PCI Express* cards to reduce the amount of add-in card resource
                   space used. Perform the system update (BIOS, FRUSDR) and replace the
                   add-in cards when updates are completed.

29.   Intel® Embedded Server RAID Technology II and I/O module

IRQ routing conflict

Problem   If the Intel® Embedded Server RAID Technology II is enabled in the BIOS while
                   an I/O module is installed, the system hangs at the RAID Option ROM on the
                   next reboot due to the RAID device's IRQ not being serviced properly.

Implication   The Intel® Embedded Server RAID Technology II option in BIOS cannot be
                   used while an I/O module is installed in the system.

Status   This erratum is fixed since BIOS release R0061 and later releases.

Workaround   None.

30.   SuSE* Linux Enterprise Server may not install successfully

with Intel® Embedded Server RAID Technology II enabled

Problem   If SuSE* Linux Enterprise Server is being installed with Intel® Embedded
                   Server RAID Technology II enabled, the RAID array may not be detected after
                   the driver is loaded, which results in an installation failure.

Implication   The AHCI.o module inside the operating system is loaded prior to the third-
                   party driver and, therefore, may take control of the RAID controller. This results
                   in an installation failure.

Status　　　　Users cannot load a third-party RAID driver and the AHCI driver simultaneously in SuSE* Linux Enterprise Server. Doing so may cause installation failures.

Workaround　　The "brokenmodule-ahci" command can prevent AHCI from loading during installation. At the very first install screen, press F6 to load a driver. In the text tab, type

```
brokenmodules=ahci
```

This allows the installation to complete successfully.

31.   Red Hat* Enterprise Linux 4 and BIOS setup display a different L2 cache size for the Quad-Core Intel® Xeon® processor 5300 Series

Problem   In Red Hat* Enterprise Linux 4, the Quad-Core Intel® Xeon® processor 5300 Series L2 cache size is displayed as 4 MB; while in the BIOS setup, the cache size is displayed as 8 MB.

Implication   In the BIOS setup, the system reports the total L2 cache size as 8 MB due to the 4 MB + 4 MB structure of the processor. The Quad-Core Intel® Xeon® processor 5300 Series is similar to a package of two sets, each with a 4 MB L2 cache size. In each set, the two cores share the 4 MB cache. Red Hat* Enterprise Linux 4 views the processor per logical CPU thread. Each logical thread (each set) has access to only 4 MB cache, and Red Hat* Enterprise Linux 4 reports it as such.

Status   The different L2 cache size display is due to the different cache size reporting mechanisms of Red Hat* Enterprise Linux 4 and the BIOS setup, and is not an incorrect display by the operating system.

Workaround   None.

32.   Change Logo Utility causes BIOS corruption

Problem   Any board flashed with a version of BIOS release R0064 edited with the Change Logo Utility no longer boots. The board hangs with "Off – Off – Red – Green" shown on the Post Code LEDs at the rear of the board.

Implication   You cannot use the Change Logo utility with BIOS release R0064.

Status   This erratum is fixed in BIOS release R0066 and later releases.

Workaround   None.

33.   Microsoft Windows* System Event Viewer may record Error Event with ID 11

Problem	In the Microsoft Windows* operating system, the Event Viewer's System log may record an Error Event. The source for this error event is lsi_sas and the event ID is 11.
Implication	The problem may occur because the controller is sending an unsupported command to the enclosure management device. This error does not affect functionality and you can ignore the error.
Status	This erratum is fixed in Intel® Embedded Server RAID Technology II firmware and/or drivers later than the following revisions: SAS firmware revision – v.01.16.00.00; MPT OpROM revision – v.6.10.00; SAS ESRT2 OpROM revision – v. A.01.10241435I.
Workaround	None.

34. After the system reboots, the POST screen may generate "NMI has been received - System Halted" message

Problem	After the system reboots, the POST screen may generate "NMI has been received - System Halted" message.
Implication	Along with this error, sometimes the "Bus Uncorrectable Error" may also be recorded to the System Event Log (SEL).
Status	This erratum is fixed in BIOS release R0066 and later releases.
Workaround	Reboot the system again.

35. Intel® RAID Web Console 2 utility displays "Unexpected Sensor" warning message in Microsoft Windows* operating system

Problem	The "unexpected sensor" warning message may be displayed in the Intel® RAID Web Console 2 utility; however, there seem to be no functional issues with the system.
Implication	This warning message is only seen in Microsoft Windows* operating systems. Previous RAID firmware versions (before v.89) could not support any communication to the Storage Enclosure Processor (SEP) on backplanes. The firmware was modified to support SEP devices, but the backplanes used in the

Intel® Server Chassis SR1500, Intel® Server Chassis SR1550, and Intel® Server Chassis SR2500 do not respond as expected to the inquiry command, so the error is generated and captured in the log. This is a harmless message and does not cause any problems with the RAID array or the drives.

Status   This warning message is removed from the Intel® RAID Web Console 2's error reporting mechanism since RAID firmware v.4xx and later releases

Workaround   None.

36.   Random drives may go offline when a sixth drive is installed and Intel® Embedded Server RAID Technology II is enabled in the Intel® Server System SR2500ALBRP

Problem   When a sixth drive is installed and Intel® Embedded Server RAID Technology II is enabled in the Intel® Server System SR2500ALBRP, random drives may go offline. This may result in boot failure of the Intel® Embedded Server RAID Technology II or the operating system.

Implication   This may result in boot failure of the Intel® Embedded Server RAID Technology II or the operating system.

Status   Fixed. This was identified as a documentation issue. The sixth drive backplane insert needs to be cabled directly to the server board. Use the cabling method documented at:
http://support.intel.com/support/motherboards/server/sb/CS-025698.htm

Workaround   Not Applicable.

37.   Intel recommends enterprise-class hard drives for use with Intel® Server Systems

Problem   Some desktop-class hard disk drives show performance loss and, in some cases, take the drive offline when running in an enterprise environment.

Implication   Desktop drives often lack workload management to lower thermal stresses and have a lower tolerance for the normal rotational vibration found in a server environment. They are not designed to run 24 hours a day, seven days a week and may fail prematurely when installed in a server. To attain best performance and avoid drive failures, Intel recommends using enterprise-class hard drives for server applications.

Status   No fix.

Workaround   None.

38.   Dual Gigabit Expansion Module may not properly reset

Problem   In certain conditions, it is possible the Dual Gigabit Expansion Module may not properly reset after a system reset.

Implication   If the expansion module does not properly reset, the module could lose network connectivity and the operating system will not see the Gigabit ports. This was only seen on the Intel® Server System SR1550AL.

Status   This erratum will be fixed in a future revision of the Dual Gigabit Expansion Module.

Workaround   If the module is not reset, you can force it to reset by removing and replacing AC power to the system.

39.   SAS drive in a ROMB RAID 5 may drop offline during a reboot in the Intel® Server System SR2500PALLX

Problem   When five or six drives are inserted and SAS ROMB RAID 5 is configured, drives may drop offline during a system reboot in the Intel® Server System SR2500PALLX.

Implication   This only happens with specific drives. Updating the drive's firmware to the latest version should resolve this issue.

Status   This erratum is fixed by updating SAS drive firmware.

Workaround   None.

40.   Intel® Server System SR2500ALLX sixth hard drive filler panel is difficult to remove

Problem   It may be difficult to remove the Intel® Server System SR2500ALLX 6th hard drive filler panel.

Implication   Certain systems may exhibit this issue. Root cause was found with the manufacturing tooling.

Status   No fix.

Workaround   Customers who order ASR2500SIXDRV with MM#885929 (TA# D43807-004) will also get a installation guide.

41.   SuSE* Linux Enterprise Server unable to boot after basic installation

Problem   During SuSE* Linux Enterprise Server installation, if a USB floppy drive is used to load the mass storage driver, SuSE* Linux Enterprise Server might not boot after basic installation.

              The following message may display:

```
resume device /dev/sdb1 not found (ignoring)
waiting for device /dev/sdb2 to
appear.............................not found -- exiting to
/bin/sh
$
```

Implication   During installation, the USB floppy device is recognized as sda, and the mass storage is recognized as sdb. After reboot, the mass storage is now recognized as sda, but SuSE* Linux Enterprise Server still tries to load system files from sdb. To resolve this issue, you must modify the grub menu list file and the fstab file.

Status   No Fix.

Workaround   http://support.intel.com/support/motherboards/server/sb/CS-025446.htm describes this issue and its workaround.

42.   Drives may not be detected or may go offline in the Intel® Server System SR2500ALBRP when operating at SATA 3GB/s data rate

Problem   In the Intel® Server System SR2500ALBRP with a passive midplane, hard drives may not maintain stable operation at 3GB/s data rate. The problem is known to exist when using the on-board ESB2 controller with any 3GB/s capable drive. The active midplane is not affected.

Implication   The drives may not be detected during boot or may go offline during an operating system installation or stress load.

Status   The erratum is fixed with the new revision of the passive midplane FALPASMP
              MM# 901687, TA# D43781-003, PBA# E24192-203 that will improve SATA
              signal margins.

Workaround   Force hard drives to operate at 1.5GB/s data rate. The SATA data rate change
              does not have a significant impact on hard drive performance as the data rate
              of 1.5GB/s is still substantially higher than sustained drive media throughput.
              The active midplane is not affected.

              On most drives, the SATA data rate can be forced to 1.5GB/s by installing a
              jumper on the drive. If jumpering the HDD is not an option, contact your HDD
              supplier for alternate options.

43.   New versions of BMC firmware with previous versions of BIOS cause system POST failure

Problem   In systems updated with newer versions of only the BMC firmware, there is a
              high failure rate that they can no longer complete POST successfully.

Implication   Any BIOS/BMC/FRU update should adhere to the "SYSTEM FIRMWARE
              REQUIREMENTS" in the release notes, where the minimum required versions
              are listed. If the release notes recommendations are not followed, unexpected
              errors may occur.

Status   If the system is going to be updated by system firmware, always follow SFUP
              (System Firmware Update Package) to update the BIOS and BMC together.
              Always update the FRU after the hardware configuration changes (including
              changing the power supply, processor, and system fans).

Workaround   No.

44.   Intel® Server System SR2500ALLX may operate louder than expected

Problem   The Intel® Server System SR2500ALLX may operate louder than expected.

Implication   The abnormal noise is caused by the two unbalanced 60-mm system fans #5 and #6. Using a FRUSDR, which is older than v41, also contributes to the faster fan speed and noise.

Status   FRUSDR v41 and later set the maximum fan speed to 75% of the original maximum value. This change lowers the fan noise and does not break the thermal condition design specification.

Workaround   None.

45.   Red Hat* Enterprise Linux may report the wrong processor speed

Problem   In Red Hat* Enterprise Linux, the operating system may report the wrong processor speed. For example, if the processor is 3.0 GHz, the operating system shows it as 3300 MHz.

Implication   This symptom is operating system-related. Although it does not reflect the processor speed correctly, this is only a report; it is harmless to the system and you can ignore it.

Status   Ignore the processor speed in Red Hat* Enterprise Linux.

Workaround   None.

46.   The SuSE* Linux Enterprise Server 10 driver for SAS HW RAID causes unwanted error logs during installation

Problem   The SuSE* Linux Enterprise Server 10 driver for SAS HW RAID causes unwanted error logs during installation.

Implication   The error logs are repeatedly displayed on screen if Alt+F4 is pressed during installation. They can also display by typing the *dmesg* command after the operating system is installed successfully. These are harmless errors you can ignore.

Status   The driver version equal to or later than 00.00.03.09 removes these error logs during installation.

Workaround   None.

47.   IERR or thermal trip event reported in System Event Log (SEL) after system power on

Problem   An IERR or thermal trip event may be reported in the System Event Log (SEL) after the system is powered on. The system status LED on the front panel also displays as amber, but the system seems to run normally.

Implication   This is due to an internal communication error induced by the GTL2007 chip on the server board. The GTL2007 chip has an interaction issue with the BMC, and startup times with the processor at power on can cause false CPU IERRs. You can ignore the false error.

Status   A hardware change to the GTL2107 chip will be implemented on future board revisions to fix this issue. See Product Change Notification PCN107725-01 for additional details.

Workaround   A processor retest can make the system status LED go back to a normal state.

48.   USB device generates "The following boot-start or system-start driver(s) failed to load: i8042prt" error message in Microsoft Windows* operating systems

Problem   If only an USB keyboard and mouse are used, and no PS/2 devices are connected, the following message may be displayed in the pop-up dialog box:

```
At least one service or driver failed during system startup. Use
Event Viewer to examine the event log for details.
```

Also, the following error message may be recorded in the Microsoft Windows* event log:

```
The following boot-start or system-start driver(s) failed to
load: i8042prt.
```

Implication   This is a harmless warning message, which may occur when only a USB keyboard and mouse are used and no PS/2 devices are connected.

Status   This is a harmless error message in Microsoft Windows* operating systems that you can ignore.

Workaround   Use a PS/2 keyboard and mouse.

49.   Microsoft Windows* and Intel® RAID Web Console II report an error when the ASR2500SATAPE kit is used

Problem   In the Intel® Server System SR2500AL with the ASR2500SATAPE SAS/SATA tape drive mounting kit, a pop-up message "Controller ID 0 PHY is bad on enclosure" appears after you log in to Microsoft Windows*. The same message is seen when viewing the RAID log through the Intel® RAID Web Console II. This is a false error with no impact to performance. The error message does not display when booting off the Intel® Deployment Assistant CD and running the Intel® RAID Web Console from the CD.

Implication   Users must acknowledge this pop-up window after logging on.

Status   No Fix.

Workaround   Powering the tape drive via an external source, rather than the
                 ASR2500SATAPE kit, prevents this message from appearing.

50.   System may log IERRs when running certain Red Hat*

Enterprise Linux versions on the Intel® Server Board S5000PAL

with video driver ati_drv.o 6.5.6

Problem   When running certain Red Hat* Enterprise Linux on the Intel® Server Board
                 S5000PAL with video driver ati_drv.o 6.5.6, the System Event Log (SEL) may
                 report an IERR event. Additionally, the keyboard and mouse may not respond
                 until an AC power cycle is applied to reboot the system.

Implication   Stressing the video controller on the Intel® Server Board S5000PAL running
                 RHEL3U8, RHEL4U4, and RHEL4U5 can induce timeout errors caused by the
                 default video driver (ati_drv.o 6.5.6). These errors trigger IERRs, which cause
                 the system to stop responding. You can obtain register dumps if the system is
                 instrumented for NMI.

Status   This erratum is fixed in Red Hat* Enterprise Linux 5 and later releases.

Workaround   Users can load the VESA video driver rather than the ati_drv.o 6.5.6 video
                 driver to prevent IERRs.

51.   Microsoft Windows* Operating Systems installed without a

service pack will display blue screen with BIOS 79 and 81

Problem   If a user attempts to install a Microsoft Windows* operating system without an
                 integrated service pack, it will display a blue screen during the installation
                 process if BIOS 79 or BIOS 81 is on the server board. Conversely, if a user
                 upgrades the system BIOS to BIOS 79 or 81 *prior* to installing the appropriate
                 service pack, the system will display the blue screen. Starting in BIOS 79,
                 support for enhanced sleep states was added. This addition to the BIOS
                 requires that the Microsoft* service pack be integrated into the operating
                 system installation process to understand the extended sleep state support.

The following is a list of Microsoft* Operating Systems and required service packs:

- Microsoft Windows 2003*, 32-bit and 64-bit, requires Service Pack 1
- Microsoft Windows 2003 SBS* requires Service Pack 1
- Microsoft Windows XP*, 32-bit and 64-bit, requires Service Pack 2

Implication   Users cannot install Microsoft Windows* or upgrade the system BIOS to BIOS 79 or BIOS 81 without a service pack integrated into the installation process.

Status   This erratum was fixed in BIOS R0084. Users need to upgrade BIOS to R0084 or a later version, then disable Deep C-state Support in the BIOS setup (Advanced BIOS menu -> Processor sub menu) before installing or booting a Microsoft Windows* operating system without the required service pack.

Workaround   Users need to remain on BIOS 76, use a Microsoft Windows* installation process that includes the service pack integrated into the installation, or install Microsoft Windows* and the required service pack prior to updating to BIOS 79 or 81. Additionally, the R2 release versions of Microsoft Windows* do not exhibit this issue. Use of this version of Microsoft Windows*, if possible, is also another valid workaround.

52.   Sluggish system performance may be experienced with BMC 60

Problem   An issue with BMC 60 is causing incorrect interpretation of the user selected Open Loop Thermal Throttling (OLTT) option in the BIOS Setup. The Advanced screen in the BIOS Setup contains OLTT selections for Performance Mode and Acoustic mode. BMC 60 recognizes a Performance Mode selection in the BIOS setup as an Acoustic Mode request. An Acoustic Mode selection in the BIOS setup is being disregarded and fail safe defaults for Fan Profiles are enforced. This misinterpretation can manifest the BIOS/BMC interaction, causing a throttling condition and thus slowing down the system performance significantly.

Implication   Systems set to Performance Mode are incorrectly being configured in Acoustics Mode, which can make the system more susceptible to overheating, especially in 1U chassis or can cause performance degradation due to memory throttling rather than fan boosts being used to cool the memory. Systems being

configured to Acoustics Mode in the BIOS are actually being set up in a fail safe state.

Status   This erratum is fixed in BMC 62 and later releases.

Workaround   None.

53.   Downgrading the firmware of the Integrated RAID (ROMB), Intel® Embedded Server RAID Technology II, or SAS may cause system damage

Problem   Downgrading the firmware of the Integrated RAID (ROMB), Intel® Embedded Server RAID Technology II, or SAS from the original version to older versions may cause unexpected issues such as break the controller, or make the controller invisible during system POST. The failure could result in permanent damage that cannot be recovered.

Implication   Any downgrade actions of firmware can cause a system breakdown. Intel does not officially support firmware downgrade for any of above situations.

Status   No Fix. Do not downgrade the firmware of the Integrated RAID (ROMB), Intel® Embedded Server RAID Technology II, or SAS.

Workaround   None.

54.   In the Intel® Server Systems SR2500ALLX and SR1550ALSAS, flashing of SAS firmware 1.22 and SAS BIOS 06.16.00 makes hard drive #1 (upper left drive tray) undetected during SAS controller scanning

Problem   In the Intel® Server Systems SR2500ALLX and SR1550ALSAS, flashing of SAS firmware 1.22 and SAS BIOS 06.16.00 makes hard drive #1 undetectable during SAS controller scanning.

Implication   In either SAS Only Mode or SAS Software RAID, hard drive #1 may be undetected.

Status   This erratum is fixed in updated SAS firmware 1.22, whose package contains version number "2007.12.05".

Workaround   Choose the update package of SAS firmware 1.20 and SAS BIOS 06.14.00. Enter the EFI interface, go to the firmware directory, and run *almp_upd.nsh* to flash it.

55.   Microsoft Windows 2003* R2 SP2 may display blue screen during an operating system boot or shutdown with a specific version of Intel® I/OAT driver

Problem   Microsoft Windows 2003* R2 SP2 may display blue screen during an operating system boot or shutdown. The issue occurs only with ver. 1.2.78.6 of the Intel® I/OAT driver, and only if Intel® I/OAT is enabled in the BIOS Setup. This symptom was seen with the I/OAT driver in NIC driver package ver 12.3.

Implication   In the recent Intel® I/OAT driver, Microsoft* has changed a structure in their NetDMA API. It is not backward-compatible with the previous version of the API.

Status   Fixed in ESB2 LAN Driver package ver 12.4.

Workaround   I/OAT driver version 1.2.66.0, included in NIC driver package ver 12.0, has the previous structure definition for NetDMA 1.0 usage and does not show this symptom.

56.   Server System Event Log (SEL) time may be one day later than BIOS time after entering year 2008.

Problem   Server System Event Log (SEL) time may be one day later than the BIOS time after entering year 2008.

Implication   BIOS version 85 or even an earlier version may produce this erratum.

Status   Will be fixed in a future BIOS release.

Workaround   None.

57.   Performance Power Management Error in Microsoft Windows Server 2008*

Problem   If you are use any Intel® Xeon® Processor of the 5300 or the 5400 series in the Intel® S5000PAL Server Board and install Microsoft Windows Server 2008* on the system, you may encounter the following error in the Windows* event log:

General	Details		
Performance power management features on processor 3 are disabled due to a firmware problem. Check with the computer manufacturer for updated firmware.			
Log Name:	System		
Source:	Kernel-Processor-Power	Logged:	24/04/2008 16:27:26
Event ID:	2	Task Category:	None
Level:	Error	Keywords:	
User:	SYSTEM	Computer:	WIN-EYD97CXUT53
OpCode:	Info		
More Information:	Event Log Online Help		

The Event Error is related to a change in Microsoft's validation and logging of supported P-States for a processor. The wording of the error that is displayed is misleading. There is no performance impact. Microsoft logs the error because the BIOS has a default PSS object (P-State info) in the ACPI space for these processors. Basically, this default PSS object indicates no P-State is supported. However, Microsoft Windows Vista* and Microsoft Windows Server 2008* have changed their interpretation of this table.

Implication   BIOS version 88 or even an earlier version may produce this erratum.

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

Workaround   None.

58.   Midplane2 hardware RAID produces unexpected beep sounds during system POST

Problem   In the hardware RAID mode, midplane 2 produces unexpected beep sounds during system POST. These beeps do not match any designed POST error beep codes of any Intel® Server Board S5000PAL-based server systems. These beeps do not impact customer usage.

Implication   The impacted Midplane2 PBA is E14273-202 with firmware version 1.20.22-0495 or an earlier version.

Status   This erratum is fixed in BIOS 94.

Workaround   None.

59.   Platform Confidence Test (PCT) fails with BIOS 89/91 on Intel® Server Board S5000PAL/S5000XAL

Problem   Customer may experience problems when they run PCT on Intel® Server Board S5000PSL, Intel® Server Board S5000PAL, Intel® Server Board S5000VSA, Intel® Server Board S5000VCL, and Intel® Workstation Board S5000XVN. There are two types of test options when a customer runs a PCT test: Quick Test, and Comprehensive Test. The customer may see the following behavior during a PCT test.

Quick Test	***ERROR T.EXE
	Unknown error:MSDRAM64.EXE
	Standard Error Code = 01300005
Comprehensive Test	System hung at Probing ICH

This issue occurs when these boards are loaded with BIOS 89 or 91/91.6.

Status   This erratum is fixed in BIOS 94

Workaround   This issue is caused by the incompatibility between the BIOS and PCT; it does not impact system stablity or performance. Customer can ignore this issue or customer can roll back to BIOS 85 to run the PCT.

60.   USB mouse may hang in BIOS 94 RAID Console

Problem   USB mouse may hang when user press Ctrl+G during system booting period to enter the BIOS RAID Console. This may be observed with BIOS 94.

Implication   BIOS 94 may produce this erratum.

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

Workaround   Customer can still use PS/2 mouse. Alternatively, the customer can boot into BIOS, select the "Advanced" tab, select "USB Configuraiton", and then enable "Port 60/64 Emulation" to make the USB mouse work.

61.   PCI IBIST Error with BIOS 84

Problem   If customers use add-in RAID cards, such as Adaptec 3805 and LSI Megaraid 8708ELP, they may get PCI Express* IBIST errors, and BMC may show "Critical Interrupt /PCIe Link7 (#0xA Bus Uncorrectable Error. Asserted Event.)" in System Event Log.

Implication   BIOS 84 or later may produce this erratum.

Status   This erratum will not be fixed.

Workaround   If customers see this erratum, customers can do a CMOS clear as an effective workaround.

62.   System May Hang during Login or Shutdown

Problem   Installing the Intel® PRO/1000 PT Quad Port Low Profile Server Adapter
                 (Model # EXPI9404PTL) may hang the system at the login screen or when
                 shutting down. This has been reported with Microsoft Windows Server 2008*.

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

Workaround   None.

63.   Hard Disks Are Difficult to Install in Intel® Server System

SR2500AL and Intel® Server Chassis SR2500

Problem   Customers may find it difficult to properly and fully install the hard drives into
                 the hard drive slots. This is because the backplane is about 0.5-1.5 mm
                 vertically higher than the specification.

Status   This erratum has been fixed.

Workaround   Check to ensure the bottom of the backplane touches the chassis base. If there
                 is an obvious gap, check the two bending features (shown below) and make
                 sure the bending angle is no more than 90 degrees. If necessary, use flat-nose
                 pliers to bend these two features down to lower the backplane. Contact your
                 local Intel Customer Service for more information.

Bending angle
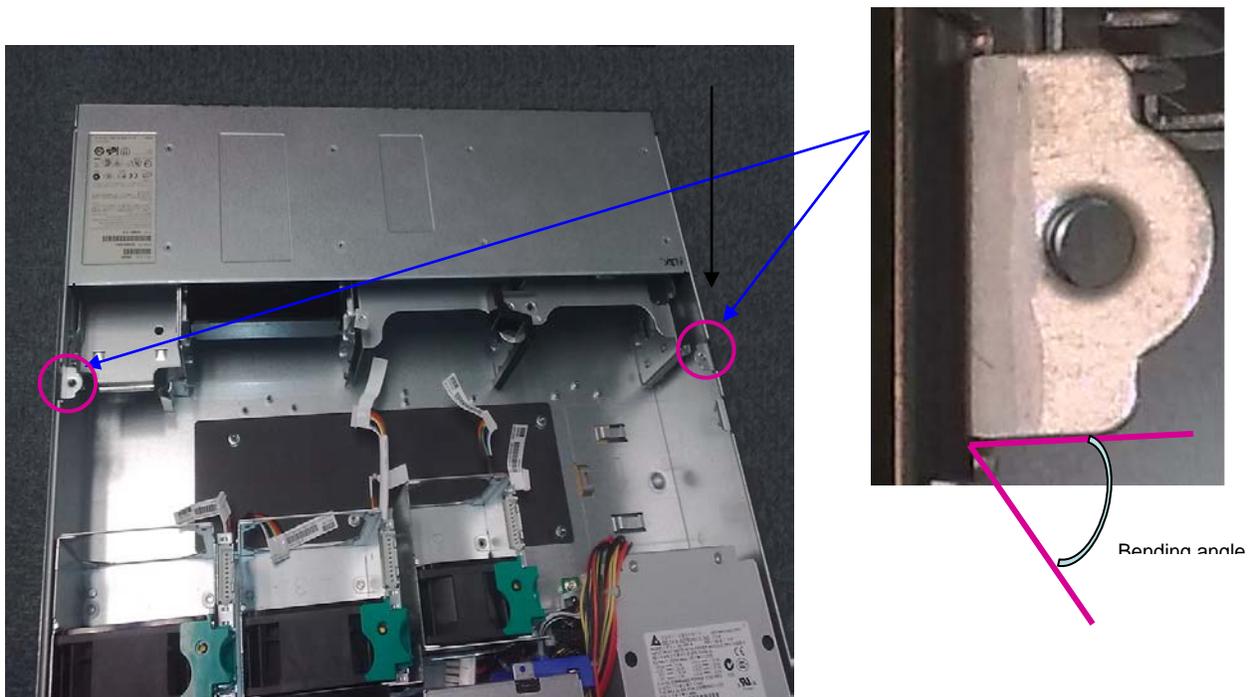
64.   System May not Boot After Multiple DC power Cycles with

BIOS Revision R0098

Problem   If console redirection and Legacy OS redirection are both enabled in BIOS
                 setup, the system may hang early in POST after multiple DC power cycles.

Implication   Users may occasionally experience system hangs during POST after multiple
                 power cycles if console redirection and legacy OS redirection have been
                 configured as enabled in BIOS setup.

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

Workaround   A soft system reboot (<CTL> <ALT> <DEL>) will result in a subsequent
                 successful completion of POST.

65.   System will not skip CD/DVD drive with BIOS Revision R0098

when RMM2 installed

Problem   If RMM2 is installed and CD/DVD drive is the first BIOS boot option, the system will not
                 skip CD/DVD drive as expected when there is no bootable media in the drive.

Implication   Users would experience system boot failure when RMM2 is installed and no bootable media
                 in CD/DVD drive

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

Workaround   No

66.   HSC firmware 1.41 need to be updated to revision 2.09 before

updating to 2.11

Problem   SR1500/SR1550/SR2500 HSC firmware update process may fail and exit if updating HSC
                 firmware directly from revision 1.41 to 2.11

Implication   Users can not update HSC firmware from revision 1.41 to 2.11 directly.

Status   This issue will not be fixed.

Workaround   Users can update HSC firmware from revision 1.41 to 2.09 first, then update from revision 2.09 to 2.11.

67.   BMC may not be able to complete code power on operation under heavy BMC LAN traffic

Problem   If BMC LAN is put under heavy traffic like flood ping condition, it is possible that BMC will not be able to complete cold power on operation to enable System to start.

Implication   ESB2 BMC firmware is designed to be robust to withstand any network surges, but if the network surge is applied for an extended period of time, this could impact the regular functioning of BMC firmware operations for the duration of the network surge is applied. Non-IPMI network packets like ICMP and ARP packets could cause this impact, as the ESB2 Firmware processes them at real-time, to enable IPMI network packets from being dropped by the NIC.

Status   No fix.

Workaround   ESB2 BMC Firmware will recover once the network surge passes

Documentation Changes

1.   The SMBUS block diagram (Figure #16) provided in Rev. 1.1 of the Intel® Server Board S5000PAL/S5000XAL TPS requires changes to accurately reflect production hardware design

Problem: The current diagram does not reflect the following board design changes made to the final production-level server board.

- Add PECI controller
- Remove separate HSC connector
- Correct Midplane -> FP SMBus connections and 1-wire temp sensor
- Correct SMBus and 1-wire temp sensor connections to FP connector
- Correct FBDIMM labeling

The corrected diagram is shown:
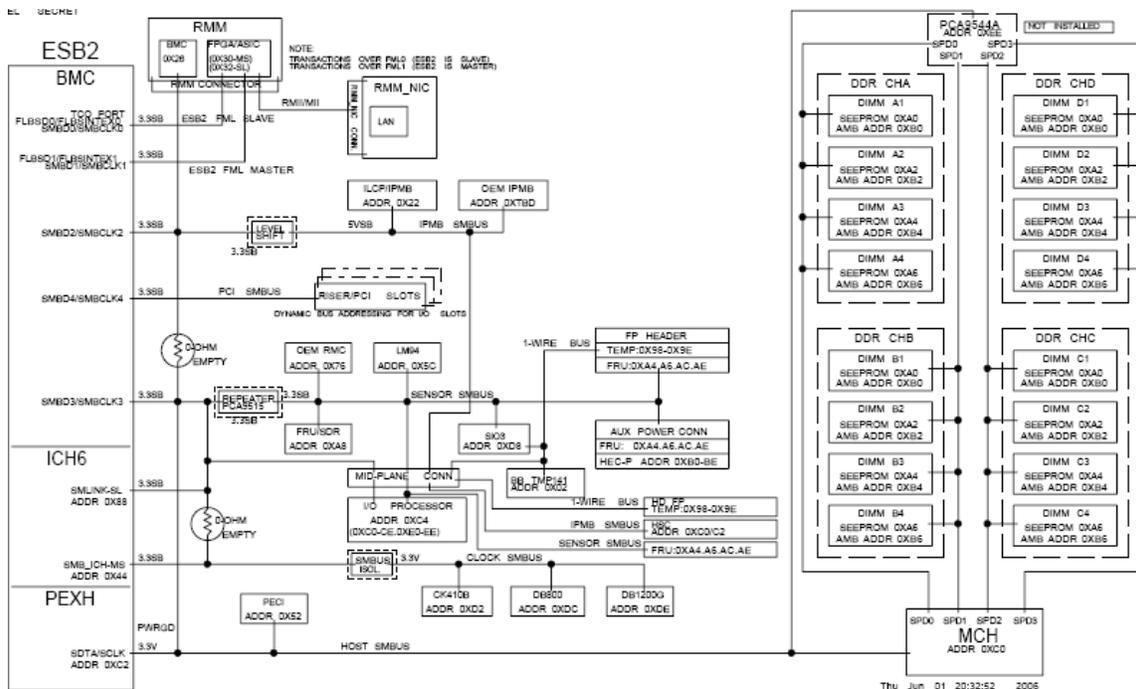
Implication: Inaccurate understanding of actual server board design with respect to the specified diagram.

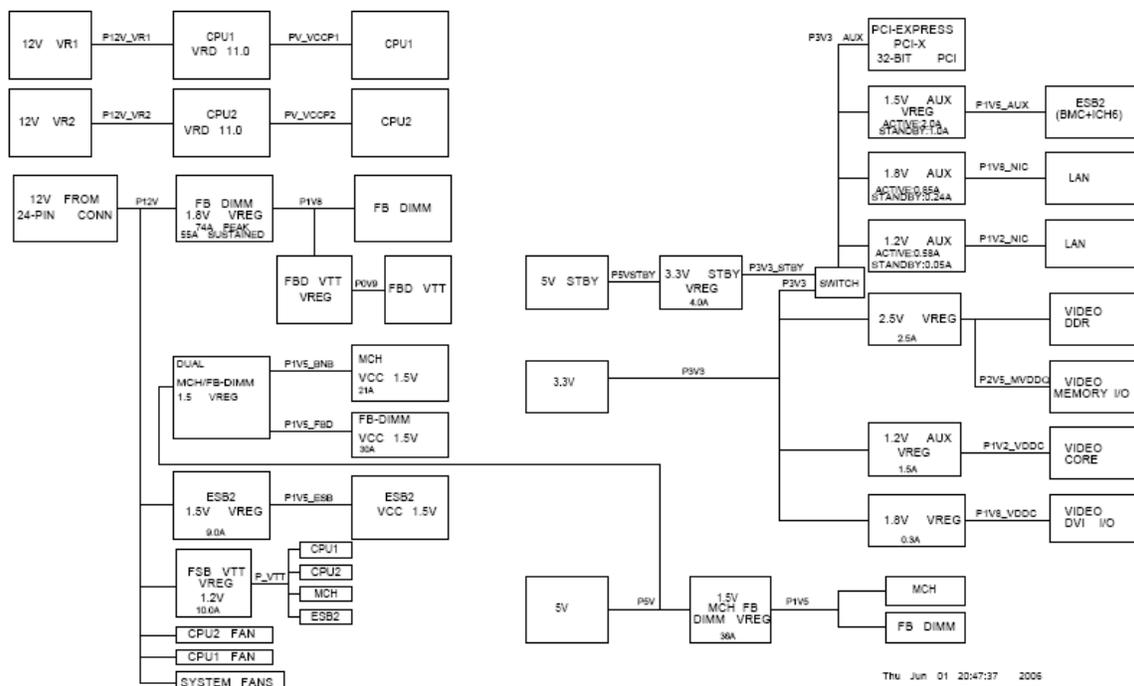Workaround: None.

Status: Corrections incorporated into version 1.2 of the *Intel® Server Board S5000PAL Technical Product Specification*.

2.   The power block diagram (Figure #25) as provided in Rev. 1.1 of the Intel® Server Board S5000PAL/S5000XAL TPS does not reflect the final, production-level baseboard design

Problem: Current diagram does not reflect changes incorporated into the final production-level server board:

- MCH/FBDIMM 1.5 Vreg moved from 12 V rail to 5 V rail.
- Video Memory Vreg corrected to only one 2.5 V reg. instead of two.
- "ATI" label for Video components changed to generic "Video".

The corrected diagram is shown:

Implication: Inaccurate understanding of actual server board design with respect to specified diagram.

Workaround: None.

Status: Corrections incorporated into version 1.2 of the *Intel® Server Board S5000PAL Technical Product Specification*.

3. SAS/SAS RAID midplane board (Figure #22) as provided in Rev.1.0 of the Intel® Server System SR2500AL TPS should swap the descriptions of items A and K

Problem: The current diagram swaps the descriptions of items A and K:

- Item A should be the battery connector; it is incorrectly described as the RAID activation key connector.
- Item K should be the RAID activation key connector; it is incorrectly described as the battery connector.

The corrected diagram is shown:

System Board Interconnects   Intel® Server System SR2500AL

The chassis also supports an active SAS / SAS RAID mid-plane. This system board incorporates an LSI* LSISAS1068 SAS controller onto the board. See Chapter 5 for details describing SAS / SAS RAID support. The following diagram shows the location for each connector found on this board.
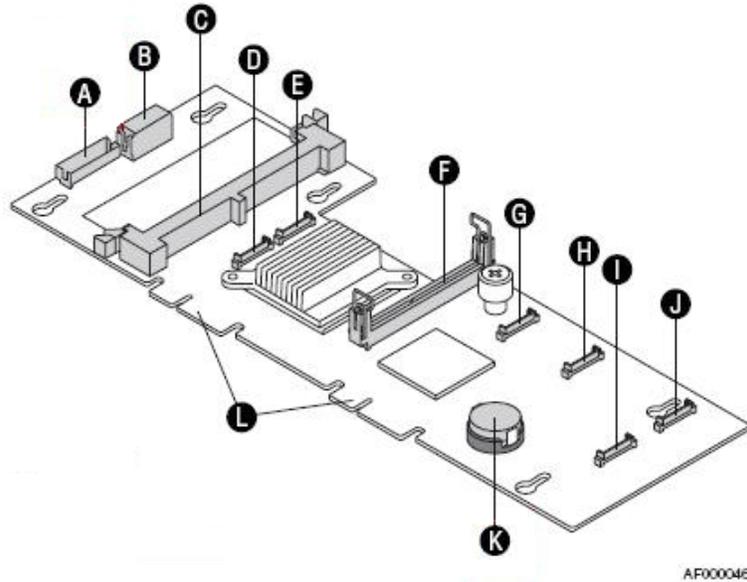

Figure 22. SAS/SAS RAID Mid-plane Board

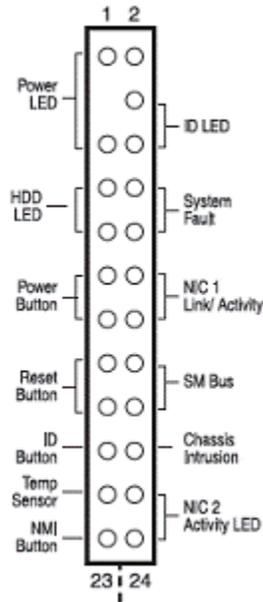| A	Battery	G	Fan 4 Connector
B	Power Connector	H	Fan 3 Connector
C	Mini-DIMM Connector	I	Fan 1 Connector
D	Fan 6 Connector	J	Fan 2 Connector
E	Fan 5 Connector	K	RAID Activation Key
F	Bridge Board Connector	L	Backplane Connector

Implication: This is a typo.

Workaround: None.

Status: Corrections will be incorporated into the next version of the *Intel® Server System SR2500AL Technical Product Specification*.

4.   Front panel pin-out in the Intel® Server Board S5000PAL Quick Reference Label is incorrect

Problem: The current diagram incorrectly lists a cooling status pin, does not have the temperature sensor listed, and shows incorrect locations for the ID LED. The corrected diagram is shown:

Implication: This is a typo.

Workaround: None.

Status: Corrections will be incorporated into the next version of the label.