# Monthly Specification Update
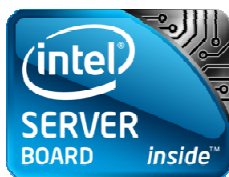
*Intel® Server Board S5000PAL*
*Intel® Server Board S5000XAL*
*Intel® Server System SR1500AL*
*Intel® Server System SR1550AL*
*Intel® Server System SR2500AL*

# *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. |
| December 2010 | Errata #66 was added. |
| February 2011 | Errata #67 and #68 were added. |

# *Disclaimers*

The Intel Products Specified may contain design defects or errors known as errata that may cause the products to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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# 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 are 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 system 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 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. | Fixed | Please use AXXMINIDIMM512 as the replacement solution for AXXMINIDIMM which is EOLed. |
| 67. | No Fix | Minus "year" number to go past "2000" at BIOS "system date" set up interface will cause the server system to hang. |
| 68. | No Fix | Please use AXXMINIDIMM512 as the replacement solution for AXXMINIDIMM which is EOLed. |

**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://www.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://www.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:
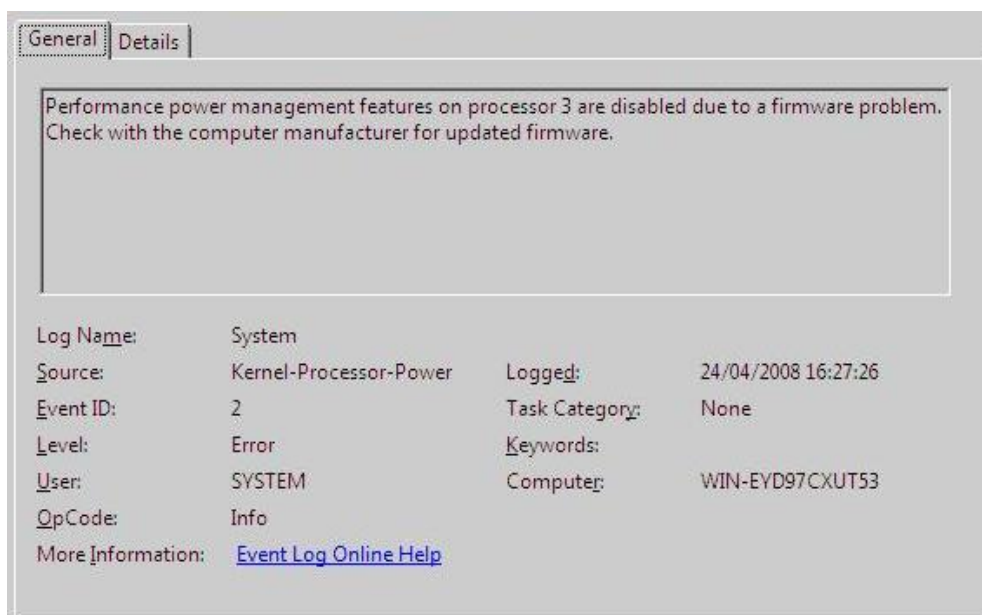


The Event Error is related to a change in Microsoft's validation and logging of supported P-States for a processor. The wording of the error that is displayed is misleading. There is no performance impact. Microsoft logs the error because the BIOS has a default PSS object (P-State info) in the ACPI space 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
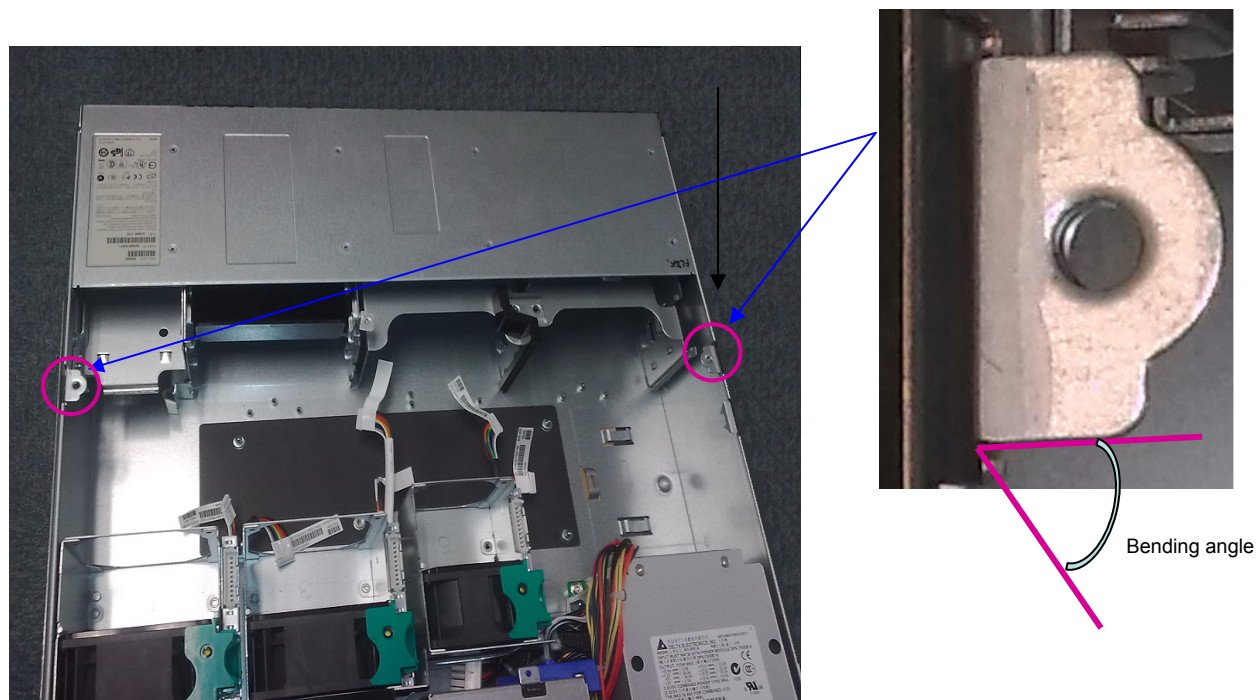
## 64.    System May not Boot After Multiple DC power Cycles with BIOS Revision R0098

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      None.

## 66.     Please use AXXMINIDIMM512 as the replacement solution for AXXMINIDIMM which is EOLed

Problem           AXXMINIDIMM (MM 881258) was EOLed. Please use AXXMINIDIMM512 (MM#881258) as replacement.

Implication       AXXMINIDIMM512 (MM#881258) is on shelf.

Status            This problem was fixed.

Workaround      None.

## 67.     If you set the BIOS system date to the year 1999 or earlier, the system will hang

Problem           If you set the BIOS system date to the year 1999 or earlier, the system will hang. No keyboard, or mouse input is effective. Pressing the power button on the front panel will cause the server to reboot and function as before.

Implication       All server system SR2500AL, SR1500AL, SR1550AL families and server base board S5000PAL, BB5000XAL families have this problem.

Status            Not fixed.

Workaround      None.

## 68.     Please do not downgrade BIOS from factory shipped BIOS 101 to any previous version

Problem           To support new on-board video OPROM chip, factory ships BIOS 101 for all post change base boards and server systems. All previous BIOS cannot work with post change boards and server systems. BIOS 101 can support all post change and pre change boards and server systems.

Implication       Products Affected/Intel Ordering Codes:

| Pre Change Product Code | Pre Change MM# | Pre Change TA | Pre Change PBA | Post Change TA | Post Change PBA |
|---|---|---|---|---|---|
| BB5000PALR | 900375 | E51575-103 | E50232-102 | E51575-104 | E50232-103 |
| BB5000XALR | 900396 | E51577-103 | E50387-102 | E51577-104 | E50387-103 |
| S5000PALR | 902749 | E11675-010 | E50232-102 | E11675-011 | E50232-103 |

| Pre Change Product Code | Pre Change MM# | Pre Change TA | Post Change TA |
|---|---|---|---|
| SR1500ALR | 900350 | D99976-020 | D99976-021 |
| SR1500ALSASR | 900351 | E10101-016 | E10101-017 |
| SR1500ALSASRNA | 900352 | E10101-016 | E10101-017 |
| SR1500ALRNA | 900353 | D99976-020 | D99976-021 |
| SR2500ALBRPR | 900358 | E10104-016 | E10104-017 |
| SR1550ALR | 900369 | E10102-017 | E10102-018 |
| SR1550ALSASR | 900370 | E10103-017 | E10103-018 |
| SR2500ALLXRNA | 900371 | E10105-016 | E10105-017 |
| SR2500ALBRPRNA | 900372 | E10104-016 | E10104-017 |
| SR1550ALSASRNA | 900381 | E10103-017 | E10103-018 |
| SR1550ALRNA | 900397 | E10102-017 | E10102-018 |
| SR2500ALLXR | 900362 | E10105-016 | E10105-017 |

Status          Not fixed.
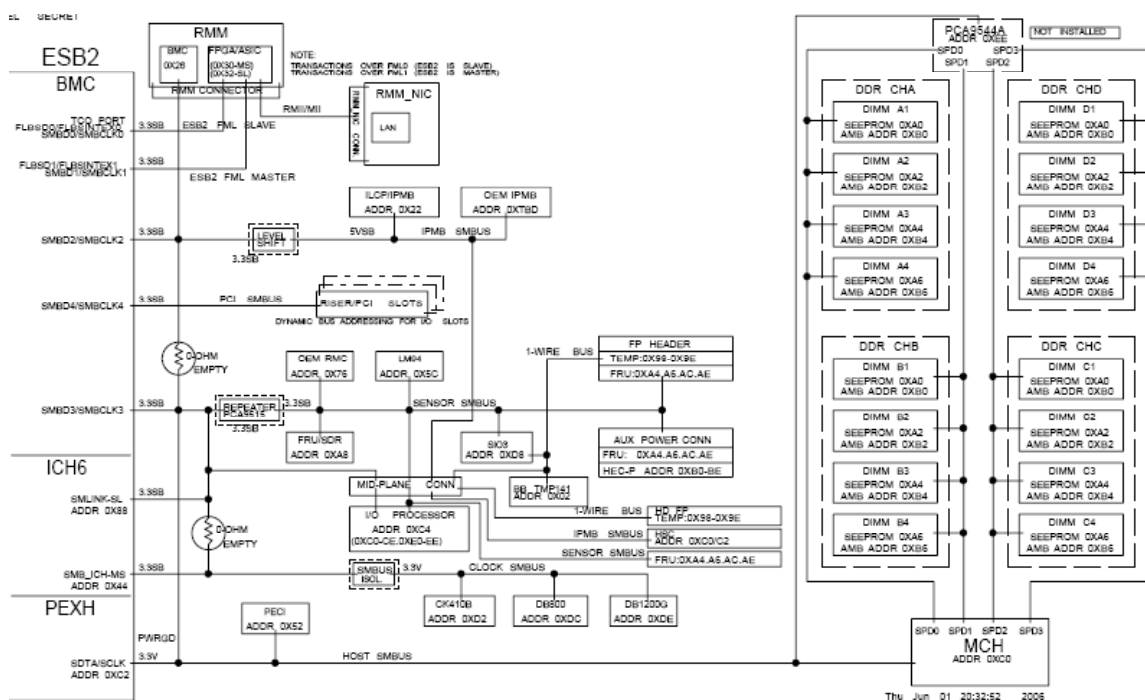
Workaround      None.

# 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.
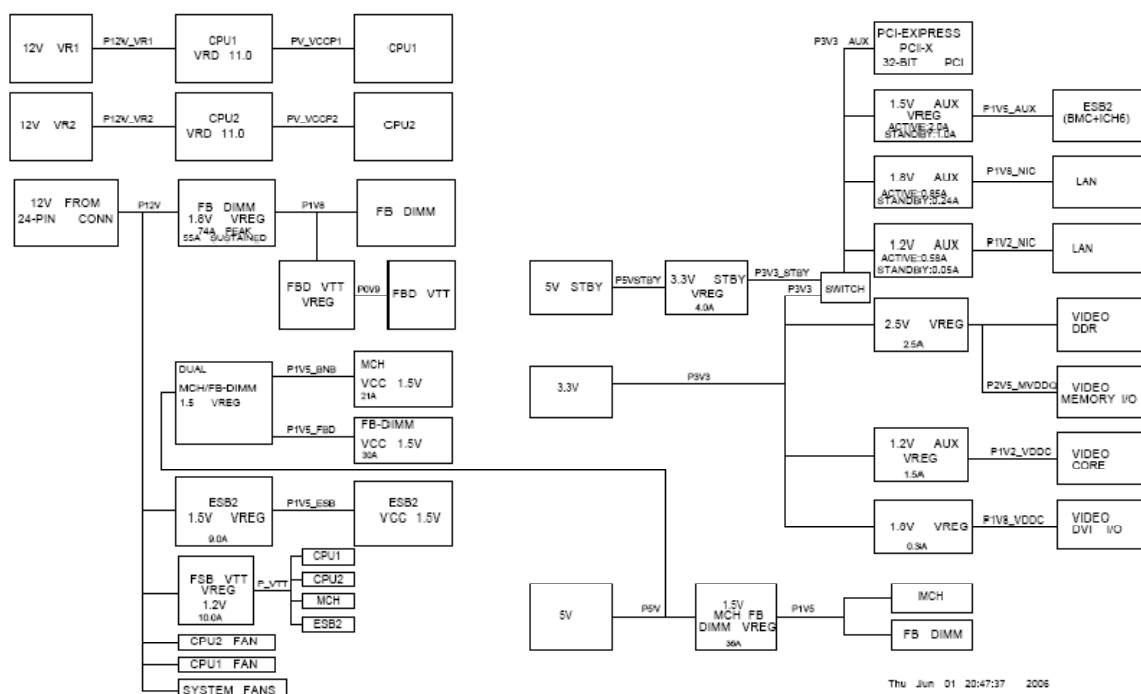
Workaround:     None.

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.



AF000046
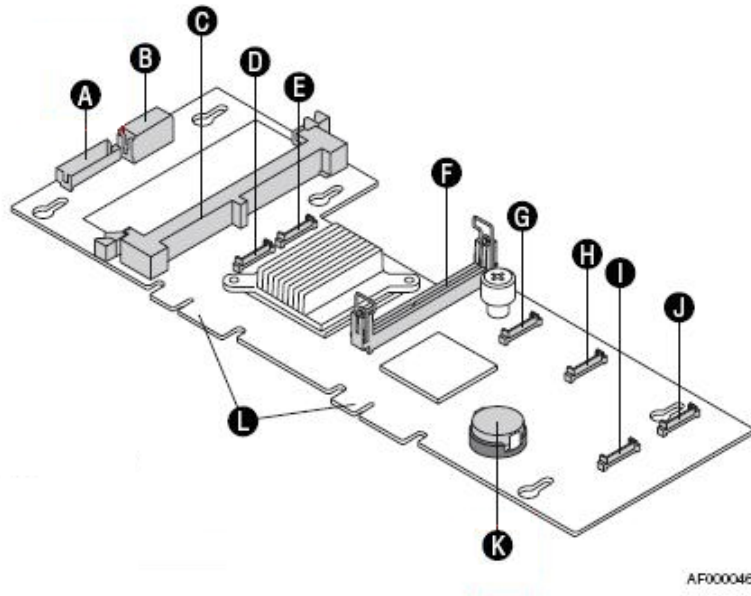
Figure 22. SAS/SAS RAID Mid-plane Board

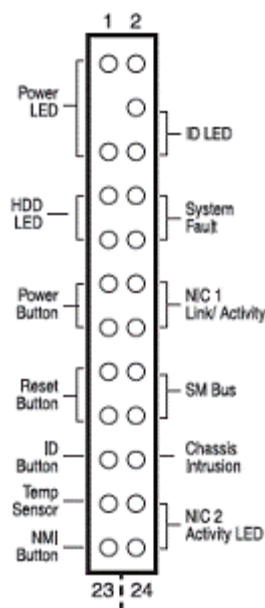| A | Battery | G | Fan 4 Connector |
|---|---|---|---|
| B | Power Connector | H | Fan 3 Connector |
| C | Mini-DIMM Connector | I | Fan 1 Connector |
| D | Fan 6 Connector | J | Fan 2 Connector |
| E | Fan 5 Connector | K | RAID Activation Key |
| F | Bridge Board Connector | L | Backplane Connector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

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.