Intel® Server Board SE7501BR2

Specification Update

Intel Order Number C13978-026

February, 2005

Enterprise Platforms and Services Marketing

Revision History

Date	Modifications
January 2003	Initial release.
February 2003	Updated product scope, corrected typo on Table 1, Errata 1.
March 2003	Update workaround on Errata 9.
April 2003	Updated to include Errata 17 – 26 and Documentation Changes 1 and 2.
May 2003	Updated Erratum 1, 21, and 25.
June 2003	Updated Erratum 20.
July 2003	Updated Documentation Changes 1 and 2.
August 2003	No changes.
September 2003	Updated to include Errata 27 – 35.
October 2003	Updated to include Errata 36.
November 2003	Updated Errata 36.
December 2003	Updated Errata 17.
January 2004	Updated to include Errata 37 – 40 and Documentation Changes 3.
February 2004	No changes.
March 2004	Updated to include Documentation Changes 4.
April 2004	No changes.
May 2004	No changes.
July 2004	Updated to include Errata 41, updated Documentation Changes 3 and 4.
August 2004	No changes.
September 2004	No changes.
October 2004	No changes.
November 2004	No changes.
December 2004	No changes.
January 2005	No changes.
February 2005	Updated Errata 42.

Disclaimers

The Intel® Server Board SE7501BR2 may contain design defects or errors known as errata that may cause the product to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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Preface

This document is an update to the specifications contained in the *Intel® Server Board SE7501BR2 Technical Product Specification* (Order Number C13977-002). It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain specification changes, specification clarifications, errata, and document changes.

Refer to the *Intel® Xeon™ Processor with 512KB L2 Cache Specification Update* (Order Number 249678-029) for specification updates concerning the Intel® Xeon™ processor. Items contained in the *Intel® Xeon™ Processor Specification Update* that either do not apply to the SE7501BR2 Server board or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

Nomenclature

- **Specification Changes** are modifications to the current published specifications for the SE7501BR2 server boards. These changes will be incorporated in the next release of the specifications.

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

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

- **Errata** are design defects or errors. Errata may cause the SE7501BR2 server board's behavior to deviate from published specifications. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

Product Scope

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

Product Code	Product TA#	Board PBA #	Board Fab #	Board BIOS	Board BMC
SE7501BR2 BBR2BB	A98206-001 A84860-502	A95686-502	FAB5	P01-0041	1.08
SE7501BR2 BBR2BB	A98206-002 A84860-503	A95686-503	FAB5	P01-0041	1.10
SE7501BR2 BBR2BB	A98206-003 A84860-504	A95686-504	FAB5	P04-0047	1.14
SE7501BR2 BBR2BB	A98206-004 A84860-505	A95686-505	FAB5	P04-0047	1.14
SE7501BR2 BBR2BB	A98206-005 A84860-506	A95686-506	FAB5	P13-0072	1.18

Summary Tables of Changes

The following tables indicate the errata and the document changes that apply to the Intel® Server Board SE7501BR2. Intel intends to fix some of the errata in a future stepping of components, and to account for the other outstanding issues through documentation or specification changes as noted. The tables use the following notations:

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

Fix: Intel intends to fix this erratum in a future release of the component.

Fixed: This erratum has been previously fixed.

NoFix: There are no plans to fix this erratum.

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

Table 1. Errata Summary

No.	Plans	Description of Errata
1.	Fixed	System hangs when configuring NIC drivers on Netware* 6.0 when an Intel® Pro/1000T is installed.
2.	No Fix	SERR# manifested during stress testing with Intel® Pro/1000XT and Emulex* LP9402 in same PCI segment.
3.	No Fix	System hangs when both the Intel® SRCU32U and the SRCMRU RAID controllers are installed in the same PCI segment from the P64H2.
4.	No Fix	Linux Operating Systems cannot boot from a RAID controller when adding additional HDDs to OB-SCSI controller.
5.	Fixed	System may reboot when running on-board SCSI option ROM with no activity due to expiration of Watchdog Timer.
6.	Fixed	Events continue to be logged in the SEL even when Event Logging is disabled in BIOS Setup.
7.	Fixed	Serial Event Log entry "CPU temperature going low" exhibited on system when configured with 400MHz FSB processors.
8.	Fixed	FRUSDR ver 5.3.9 enables CPU2 Fan Sensor in uni-processor configuration.
9.	No Fix	Warning Message displayed by Caldera Open Unix* 8.0 operating system when the server is configured with certain Seagate Hard Drives.
10.	Fixed	When only DIMM Bank1 is populated the system does not POST Error Pause on single or double bit errors.
11.	Fixed	Thermal trip on CPU1 causes Thermal Trip and IERR error on CPU2.
12.	Fixed	System does not disable CPU when FRB Policy is set to "Retry 3 Times" in BIOS SETUP.
13.	Fixed	DIMM BANK1 & BANK2 displayed as "Not Installed" in BIOS Setup after CMOS Clear is performed.
14.	Fixed	PS/2 keyboard does not work when plugged in the mouse PS/2 port (top) when no PS/2 mouse is present.
15.	No Fix	Possible mechanical interference of certain full length PCI adapters in PCI slot 6 with on-board SCSI connector.
16.	Fixed	BIOS does not display the Front Side Bus speed during POST.

17.	Fixed	Intel Server Management Software displays incorrect processor fan speed when Intel® Xeon™ 3.0 GHz boxed processor fans are used.
18.	Fixed	IDE hard drives larger than 128GB in size are not recognized at full size in certain operating systems.
19.	Fixed	Intel® Server Board SE7501BR2 FRUSDR version 5.5.B does not support default shipping configuration of the Intel Server Chassis SC5200 Hot-Swap Redundant Power.
20.	Fixed	Service Partition can not be created on fibre SCSI hard drive connected to QLogic* QLA2200/66 adapter
21.	Fixed	Power Unit #02 Redundancy Lost event triggered during shutdown when the server board is installed in the Intel® SC5200 Base Redundant Power Chassis
22.	Fixed	Intel® Xeon™ Processor fans for the 3.0 GHz speed and above are not supported by the SE7501BR2 server board CPU Fan headers
23.	Fixed	Wake on PME does not work consistently from PCI Slot 5 & PCI Slot 6
24.	Fixed	BIOS Flash Chip Not Fully Write Protected
25.	Fixed	Microsoft* Windows 2000 Advanced Server blue screens when a bridged adapter is added in PCI Slot 5 or PCI Slot 6
26.	Fixed	Server configuration with Intel® Xeon™ Processors 3.00 GHz in speed results on Processor Vccp Upper Non-Critical Event
27.	Fixed	SE7501BR2/SC5200 HSRP Server Platform running system fans at higher RPM than necessary
28.	Fixed	System Fault LED on Intel Server Chassis SC5200 Base and Base Redundant Power does not turn Amber upon fan failure
29.	Fixed	BIOS POST Error Pause manifested on systems configured with B0 & C1 or C1 & D1 mixed processor steppings
30.	No Fix	Backup fails at U320 speeds under Microsoft* Windows 2000 with Sony* SDX-500C/SDX-700C SCSI Tape Drives
31.	Fixed	Intel Server board SE7501BR2 does not wake up from Standby in Microsoft* Windows 2003 when configured with an Intel Pro1000MT Server Adapter
32.	Fixed	Certain ATAPI Tape Drives do not work in U-DMA mode only PIO
33.	Fixed	BIOS POST Error Pause manifested on systems configured with D1 & M0 mixed processor steppings
34.	Fixed	Cooling Unit Global table error exhibited in Intel Server Management with the Intel server board SE7501BR2
35.	Fixed	FRUSDR 5.5.H does not signal Front Panel LED for faults when selecting "Other" chassis
36.	Fixed	Potential CPU IERR and FRB2 Failures manifested with 3.06GHz/533 MHz FSB 1M L3 Cache (M0 Stepping) Intel Xeon ® Processors
37.	Fixed	PCI Slot #2 is displayed in BIOS setup utility when the board is installed on the SR1350-E chassis
38.	Fixed	There is no AC-Link Option available in BIOS setup utility
39.	Fixed	Boot from USB devices is not disabled when Legacy USB is configured as Keyboard only or Keyboard and Mouse in BIOS Setup Utility
40.	Fixed	Booting from SuSE Linux 8.2 CD fails when HostRAID is enabled on SE7501BR2 onboard AIC-7901 SCSI controller
41.	No Fix	Video may not restore from Power Save Mode with specific LCD monitors in excess of 100 consecutive times without a reboot
42.	Fix	BMC Timestamp Erratum

Table 2. Documentation Changes

No.	Plans	Description of Documentation Change
1.	Fixed	SE7501BR2 Technical Product Specification does not disclose HostRAID capabilities available on the board

2.	Fixed	SE7501BR2 Technical Product Specification does not disclose which system fan headers must be used with each Intel Server Chassis
3.	Fixed	Incorrect Absolute Maximum Ratings Listed in the SE7501BR2 Technical Product Specification rev 1.1
4.	Fixed	SE7501BR2 Technical Product Specification does not disclose all extended POST error messages and codes

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

Errata

1. System hangs when configuring Network Interface Controller drivers on Netware* 6.0 when an Intel® Pro/1000T is installed

Problem — System hangs during installation of Netware 6.0 when configuring the NIC drivers for the on-board Gigabit and an add-in Pro/1000T controller when the controller is installed in a PCI-X slot and is running at 33 MHz. Symptom occurs when using the 6.70 version of the ce1000 driver with ACPIDRV (v1.00b), MPS14 (v2.08) or either platform specific module (located in the startup.ncf file). Whenever the ce1000 driver v6.70 is loaded for the Pro/1000T, the system will hang and no longer respond. The 3.57 version of the driver works for the Pro-1000T and the 10/100 Mb on-board controller, but is not compatible with the 1.0 Gb on-board controller. Driver 6.70 version is compatible with both the 10/100 Mb and the 1.0 Gb on-board controllers, but not the Pro/1000T.

Implication — Pro/1000T cannot be used in the Intel SE7501BR2 server under Netware 6.0 without disabling the on-board Gigabit controller when the Pro/1000T is forced to run at 33 MHz in one of the PCI-X slots.

Workaround — Configure the server in a fashion such that the Pro/1000T runs at the default speed of 66MHz on PCI mode when installed in a PCI-X Slot (i.e. do not install any adapter on the PCI-X segment that will downgrade the segment to PCI 33 MHz mode/speed). In this configuration, the driver ver 6.70 will be compatible with the onboard and the Pro/1000T NICs.

Status — Fixed with ce1000 driver v6.90 available at support.intel.com.

2. SERR# manifested during stress testing with Intel® Pro/1000XT and Emulex* LP9402 in same PCI segment

Problem — During stress testing, intermittent SERR# and/or system hang may be manifested when the system is configured with an Intel(R) Pro-1000XT and Emulex LP9402 adapter in same PCI segment from the P64H2 (PCI slots 1 & 2 or PCI Slots 3 & 4). SERR# is caused by an MCH Master Abort caused by the Pro-1000XT initiating a Dual Address cycle during a memory read. This master abort results on an SMI and BIOS logging an SERR error in the SEL.

Implication — Configuration not supported.

Workaround — Install the Intel Pro/1000XT and the Emulex LP9402 on different PCI segments from the P64H2 (e.g. Pro/1000XT in PCI Slot 1 or 2 and Emulex LP9402 in PCI Slot 3 or 4).

Status No Fix.

3. System hangs when both the Intel® SRCU32U and the SRCMRU RAID controllers are installed in the same PCI segment from the P64H2

Problem System hangs during POST (code 83) when the system is configured with the Intel SRCMRU RAID controller installed in PCI Slot 4 and the Intel SRCU32 RAID controller installed in PCI slot 3.

Implication The SE7501BR2 server board does not support this configuration.

Workaround Install the Intel SRCU32 in the alternate PCI segment from the P64H2 (e.g. PCI Slot 1 or PCI Slot 2).

Status No Fix.

4. Linux Operating Systems cannot boot from a RAID controller when adding additional HDDs to on-board SCSI controller

Problem Installation of Linux OSes on a system configured with a SRCU31L RAID controller and no HDDs connected to the on-board SCSI, will result on kernel PANIC when adding additional HDDs to on-board SCSI controller. This failure is exhibited during the next boot with the on-board SCSI controller enabled. During kernel loading, the dev/sda (boot device) is changed from SRCU31L to on-board SCSI.

Implication This symptom is not a board limitation; it is the way linux operating systems operate. The problem results when drives are added to the system and the boot drive is enumerated differently and the system tries to boot from a non-bootable disk. Linux OSes enumerate drives in the order it finds them, so if the on-board SCSI driver is loading before the RAID driver, adding drives to the on-board SCSI will change the enumeration of drives on the RAID.

Workaround The two basic approaches to a workaround are to either change the boot loader information to reflect the new location of the boot drive, or change the order in which drivers are loaded so that the driver for the boot device is always loaded first. Edit /etc/modules.conf so the boot device is listed before any other storage devices. Create a new initrd by executing mkinitrd <name> <kernel> (e.g. mkinitrd /boot/foo 2.4.9-3smp), Edit /etc/lilo.conf and add an image just like the existing linux image but change the label and change initrd to point to the new initrd you just created (e.g. label=foo, initrd=/boot/foo). Run /sbin/lilo to update the boot loader.

Status No Fix.

5. System may reboot when running on-board SCSI option ROM with no activity due to expiration of Watchdog Timer

Problem System may reboot when running OB SCSI option ROM with no activity due to expiration of Watchdog timer.

Implication If the user enters the SCSI option rom utility (by pressing ctrl-A) during POST and there is no activity for six minutes; the system may reboot and one of the processors is disabled upon the next boot. This issue was root caused to BIOS not loading CMOS default of "disabled" for the Late POST feature between BIOS updates. Will be addressed in the next production release.

Workaround Perform CMOS Clear after any BIOS update.

Status Fixed on BIOS P02 build 0043.

6. Events continue to be logged in the SEL even when Event Logging is disabled in BIOS Setup

Problem After disabling both Event Logging and Critical Event Logging in BIOS Setup, only POST errrors are no longer being entered in the SEL; memory errors continue to be logged.

Implication There are two BIOS setup options which control if BIOS will enter logs to the SEL. These setup options are under the Server menu in BIOS setup and are named as follows: "Event Logging" and "Critical Event Logging". The default value for both of these options is enabled. When these options are set to disabled the BIOS should not enter logs to the SEL. Intel has found that under specific stress test conditions, the BIOS stills enters memory error logs to the SEL when both of the BIOS setup options are disabled ("Event Logging" and "Critical Event Logging"). This does not happen during run-time and it does not happen for any non-memory errors that might occur during POST.

Workaround None.

Status Fixed on BIOS P02 build 0043.

7. Serial Event Log entry "CPU temperature going low" exhibited on system when configured with 400MHz FSB processors

Problem CPU temperature going low event being logged in SEL intermittently when configured with 400MHz FSB processors. Issue root-caused to BMC firmware not loading specific temperature sensor values according to processor type.

Implication When temperature sensor readings are exceeded, the BMC enters an event on the serial event log documenting in this case a false condition. The SEL event does not resulting on any adverse effects on system operation or performance.

Workaround None.

Status Fixed on BMC Firmware version 1.09.

8. FRUSDR ver 5.3.9 enables CPU2 Fan Sensor in uni-processor configuration

Problem When the board is configured in an SC5200 Base chassis in a uni-processor configuration, the FRUSDR ver 5.3.9 enables CPU2 Fan Sensor causing system to enter false events on the Serial Event Log.

Implication Systems meeting the above configuration may result with false events on non-existant CPU2 being entered in the Serial Event Log. The SEL event does not resulting on any adverse effects on system operation or performance.

Workaround None.

Status Fixed on FRUSDR ver 5.3.A.

9. Warning Message displayed by Caldera Open Unix* 8.0 operating system when the server is configured with certain Seagate Hard Drives

Problem Systems configured with Open Unix 8.0 may display a warning message with certain Seagate hard drives. This warning message is manifested only during OS bootup or shutdown, no adverse effects have been found under stress testing of systems displaying this message. Warning message:

WARNING: Disk Driver: HA 0 TC 0 LU 0 - I/O ERROR 0x4DD13002 Completion code indicates "Completion Code 0x40000000"

Implication The operating system defaults the SCSI command queue depths to 64; some drives will report a queue full status when receiving more than 64 tagged read commands to the queue. This queue full status is not a failure and no data is lost, the command issued during queue full status message is simply re-issued. Although no adverse effects have been found on systems that exhibit this warning message, message display may raise user concern.

Workaround To eliminate this warning message the drive manufacturer recommends to lower the default queue depth from 64 to 32 (e.g. "adpu320_num_quecmds = 32"). This would ensure that the drive queue available is not exceeded. The command queue depth definition can be found in the "space.c" file under the "/etc/conf/pack.d/adpu320" directory. Once changed, the kernel needs to be rebuilt with the "./idbuild -B" command under the "/etc//conf/bin" subdirectory.

Status No Fix.

10. When only DIMM Bank1 is populated the system does not POST Error Pause on single or double bit errors

Problem When the system is configured with only DIMMs on slots DIMM1A and DIMM1B, the BIOS does not POST Error Pause on injected single or double bit errors durign POST. The system is reset and events are logged in the SEL as expected, but it does not result on a POST Error Pause message displayed during next boot. When all DIMM slots are populated (1A, 1B, 2A, 2B) the system does POST Error Pause appropriately (displaying message during boot) on single or double bit errors in all slots and the errors are logged in the SEL accordingly.

Implication The server reboots appropriately but does not pause and display the following POST Error Pause message during the next boot:

8601: All Memory marked as fail. Forcing minimum back online.

System not pausing and posting error message may result on memory condition not being detected.

Workaround None.

Status Fixed on BIOS P02 build 0043.

11. Thermal trip on CPU1 causes Thermal Trip and IERR error on CPU2

Problem Thermal trip on CPU1 causes Thermal Trip and IERR error on CPU2.

Implication Symptom resulting on a false event on CPU2 being logged in the serial event log. The SEL event does not resulting on any adverse effects on system operation or performance.

Workaround None.

Status Fixed on BMC Firmware version 1.09.

12. System does not disable CPU when FRB Policy is set to "Retry 3 Times" in BIOS SETUP

Problem When the FRB2 timer expires three consecutive times while the FRB Policy is set to "Retry 3 Times" in BIOS SETUP, the system appropriately displays the following message on the third consecutive FRB2 timer reboot:

8190: Watchdog timer failed on last boot

However, the CPU is not disabled by the system and no processor disabled message is displayed.

Implication CPU is not disabled and no error message is seen during POST. Symptom may result on processor condition not being detected.

Workaround None.

Status Fixed on BIOS P02 build 0043.

13. DIMM BANK1 & BANK2 displayed as "Not Installed" in BIOS Setup after CMOS Clear is performed

Problem DIMM BANK1 & BANK2 displayed as "Not Installed" in BIOS Setup after CMOS Clear is performed.

Implication BIOS Setup provides incorrect information to user until next memory restest.

Workaround While in BIOS Setup, perform Memory Retest and reboot.

Status Fixed on BIOS P02 build 0043.

14. PS/2 keyboard does not work when plugged in the mouse PS/2 port (top) when no PS/2 mouse is present

Problem PS/2 keyboard does not work when plugged in the top PS/2 port (green), when no PS/2 mouse is present on bottom PS/2 port (purple). When a PS/2 keyboard is located in the top port (green) and a PS/2 mouse is in the bottom port (purple), or viceversa, the keyboard and mouse work apropriately. When a PS/2 keyboard is in the bottom PS/2 port (purple), and there is no PS/2 mouse present, the keyboard also works appropriately.

Implication The PS/2 ports are color coded: purple for keyboard (bottom), green for mouse (top). BIOS should allow these ports to be fully interchangeable. There is one configuration.

Workaround When configuring server without a PS/2 mouse, plug-in the PS/2 keyboard on the keyboard dedicated PS/2 port (purple/bottom).

Status Fixed on BIOS P02 build 0043.

15. Possible mechanical interference of certain full length PCI adapters in PCI slot 6 with on-board SCSI connector

Problem The PCI Spec calls for calls for a PCI connector height of 0.6". Any components taller than 0.6" might touch or interfere with a PCI adapter card. The SCSI connector (J1F1) when mated with an LVD SCSI cable is typically 0.7" or taller. This creates the possibility of a mechanical interference with some adapters when installed in PCI slot 6.

Implication Certain full length PCI adapters may not fit mechanically on PCI Slot 6.

Workaround Plug interfering full length PCI adapter in PCI slot 5.

Status No Fix.

16. BIOS does not display the Front Side Bus speed during POST

Problem BIOS does not display the Front Side Bus speed during POST. The system does not provide any inherent means to determine FSB configuration. This is a feature enhacement.

Implication Users are unable to determine if the system is configured with 400MHz or 533MHz Intel(R) Xeon(TM) processors with 512KB L2 cache.

Workaround Utilize the Intel® Processor Frequency ID Utility available at http://support.intel.com/support/processors/procid/.

Status Fixed on BIOS P02 build 0043.

17. Intel Server Management Software displays incorrect processor fan speed when Intel® Xeon™ 3.0 GHz boxed processor fans are used

Problem: When boxed Intel Xeon 3.0 GHz processors are utilized in the SE7501BR2 server board with BMC firmware v. 1.14 and FRU/SDR v. 5.5.D or previous versions, Intel Server Management (ISM) software will report that the 3.0 GHz boxed processor fan is spinning at a maximum of 7692 RPM. The actual maximum RPM of the processor fan included with the boxed Intel Xeon 3.0GHz processors is 10,800 RPM.

Implication: Customers using ISM software to monitor the speed of the 3.0GHz boxed processor fans should be aware that the maximum processor fan RPM displayed will be 7692 RPM, even though the actual maximum RPM of the processor fan included with the boxed 3.0GHz processors is 10,800 RPM. This issue will not cause processor fan speed errors to occur in ISM or to be logged in the SE7501BR2 system event log.

Workaround: None.

Status: Fixed on SE7501BR2 BMC Firmware ver 1.13 and FRUSDR ver 5.5.D.

18. IDE hard drives larger than 128GB in size are not recognized at full size in certain operating systems

Problem Some operating systems recognize only the first 128GB of hard disk space on IDE drives larger than 128GB in size. This is due to the SE7501BR2 BIOS not enabling 48-bit LBA support.

Implication Certain operating system do not have access to entire drive space; the OS is limited to the first 128GB of hard disk space on an IDE hard drive.

Workaround None.

Status Fixed on BIOS P05 build 0051.

19. Intel® Server Board SE7501BR2 FRUSDR version 5.5.B does not support default shipping configuration of the Intel Server Chassis SC5200 Hot-Swap Redundant Power

Problem The Intel Server Chassis SC5200 (HSRP) Hot-Swap Redundant Power ships from factory with two 350W power supply modules installed in slots PS2 & PS3, a third power supply module can be purchased as an accessory to enable full power redundancy. The power supply cage enables two Alternating Current inlets to power all three modules: AC1 powers modules PS1 and PS3, and AC2 powers modules PS2 and PS3. With two power supply modules installed in PS2 and PS3, the system requires AC presence only on the AC2 inlet. When updating the SE7501BR2 server board with the FRUSDR utility version 5.5.B,

the update utility incorrectly request movement of these two power supply modules to positions PS1 and PS2.

Implication Moving the power supply modules to position PS1 and PS2 results on only the PS2 power supply being powered when only AC2 is present. This exposes the potential for the server to exceed the power rails which could result on a system reboot. This issue is not exhibited in a fully power redundant configuration (i.e. 3 power modules and 2 AC cords present).

Workaround None.

Status Fixed on BMC Firmware ver 1.14 and FRUSDR ver 5.5.D.

20. Service Partition can not be created on fibre SCSI hard drive connected to QLogic* QLA2200/66 adapter

Problem Service Partition can not be created and accessed on fibre SCSI hard drives connected to QLogic QLA2200/66 adapter. When the SE7501BR2 BIOS tries to access the MBR on the fibre disk to detect the presence of service partition, the BIOS receives a controller failure response. Currently the server board SE7501BR2 BIOS does not offer a workaround to accommodate the adapter's anomaly.

Implication Users cannot create and install the Service Partition on on SCSI fibre hard drives connected to the QLogic QLA2200/66. Servers meeting this configuration may may have limited server management functionality.

Workaround None.

Status Fixed on BIOS P06 build 0063.

21. Power Unit #02 Redundancy Lost event triggered during shutdown when the server board is installed in the Intel® SC5200 Base Redundant Power Chassis

Problem Power Unit #02 Redundancy Lost event is triggered during shutdown on the SE7501BR2 Server board when the board is installed in the Intel SC5200 Base Redundant Power Chassis.

Implication Condition results on false fault condition resulting on an event being logged in the SEL and the front panel LED turn Amber when the system is powered off.

Workaround None.

Status Fixed on BMC Firmware version 1.15.

22. Intel® Xeon™ Processor fans for the 3.0 GHz speed and above are not supported by the SE7501BR2 server board CPU Fan headers

Problem The Intel Xeon Boxed Processors 3.0 GHz and above ship with a fan requiring 1.5 Amps of current as part of the (PWT) Processor Wind Tunnel thermal cooling solution. The SE7501BR2 PBA A95686-503 and earlier do not support these fans as the current requirement exceeds the thermistor current limiter in series with the board's CPU Fan Headers (CPU1 FAN - J7F21; CPU2 FAN - J5F1).

Implication The 3.0 GHz and above Intel Xeon Processor fans do not work when connected directly to the server board's CPU fan headers. Configurations such as the Intel SC5200 Hot-Swap Redundant Power chassis which do not use the PWT thermal solution are not affected.

Workaround In order to properly power the fan for these processors, the adapter cable shipped with the boxed processor must be used to draw power directly from the power supply unit.

Status Fixed on PBA A95686-504 version of the board. The thermistor in series with each CPU Fan header on the server board was removed; both CPU fan headers on a -504 and later revision board can support direct connect of the aforementioned processor fans.

23. Wake on PME does not work consistenly from PCI Slot 5 & PCI Slot 6

Problem When enabling "Wake from PME" in BIOS Setup, the server board does not consistently wake from a PME event from PCI Slot 5 & PCI Slot 6. Issue is caused by the way BIOS implements the clearing order of the PME status in the chipset.

Implication Server cannot be waken consistently by PME event from PCI Slot 5 and PCI Slot 6.

Workaround None

Status Fixed on BIOS P05 build 0051.

24. BIOS Flash Chip Not Fully Write Protected

Problem The BIOS P02 and earlier was found to leave the BIOS flash not fully write protected. In this condition, inadvertent writes to the flash may result on BIOS corruption.

Implication Although the risk of inadvertent writes to the BIOS flash chip is extremely low; if the flash chip is corrupted, customers may or may not be able to restore the BIOS using the BIOS Recovery process.

Workaround Update server board BIOS to version P04

Status Fixed on BIOS P04 build 0047

25. Microsoft* Windows 2000 Advanced Server blue screens when a bridged adapter is added in PCI Slot 5 or PCI Slot 6

Problem Adding a bridged adapter (e.g. Intel Pro100+ S Network Adapter) to PCI Slot 5 or PCI slot 6 to an existing Windows 2000 Adv Server installation which uses the on-board SCSI controller will result on blue screen with the following error message:

> STOP: 0X0000007B (0XF401F848, 0XC0000034, 0X00000000, 0X00000000)
> INACCESSIBLE_BOOT_DEVICE

The error is manifested due to the SCSI device being moved from Bus 3/Device 18 to Bus4/Device 21 due to improper handling of the introduction of the bridge adapter by the Windows 2000 SCSI driver.

Implication Once the operating system has been installed on a drive connected to the AIC-7901 SCSI controller, adding any bridged adapter to PCI Slot 5 or PCI Slot 6 causes the OS to crash. No failure occurs when a bridged adapter is installed on any of the 64-bit slots (PCI Slots 1 through 4). Also no failure occurs when the OS is first installed while the bridge adapter is present in PCI Slot 5 or PCI Slot 6.

Workaround Install any bridge devices on the 64-bit slots when upgrading a previously installed system.

Status Fixed on AIC-7901 SCSI Windows 2000 driver version 1.3.0.

26. Server configuration with Intel® Xeon™ Processors 3.00 GHz in speed results on Processor Vccp Upper Non-Critical Event

Problem System configuration with Intel Xeon Processors 3.00GHz in speed and above results on Processor Vccp (#B8) UNC event (7F).

Implication Processor Vccp (#B8) Upper Non-Critical event logged in SEL and false Fault Status indicated by the front panel LED (amber).

Workaround None.

Status Fixed on FRUSDR ver 5.5.B and later.

27. SE7501BR2/SC5200 HSRP Server Platform running system fans at higher RPM than necessary

Problem SE7501BR2 server board runs system fans at much higher RPM than necessary when configured in an Intel Server Chassis SC5200 Hot-Swap Redundant Power.

Implication SE7501BR2 system will run approximately 9DB louder due to system fans running at higher RPMs than required.

Workaround None.

Status Fixed on SE7501BR2 FRUSDR ver 5.5.F and later.

28. System Fault LED on Intel Server Chassis SC5200 Base and Base Redundant Power does not turn Amber upon fan failure

Problem On an SE7501BR2 system configured with BMC Firmware ver 1.15 and FRUSDR ver 5.5.F, the Fault LED does not go Amber upon fan failure on the Intel Server Chassis SC5200 Base and BRP. Event correctly logged on SEL log.

Implication Fan failure not reflected by System Fault LED.

Workaround None.

Status Fixed on SE7501BR2 BMC Firmware ver 1.16 and FRUSDR ver 5.5.G.

29. BIOS POST Error Pause manifested on systems configured with B0 & C1 or C1 & D1 mixed processor steppings

Problem When configuring systems with mixed ±1 CPUs stepping (i.e. B0 & C1 or C1 & D1), POST Error Pause occurs with following message: "8193: CPUID, Processor stepping are different".

Implication False error message is displayed during boot, there should be no error message displayed during POST as these configurations are supported.

Workaround None.

Status Fixed on SE7501BR2 BIOS P11 build 0070.

30. Backup fails at U320 speeds under Microsoft* Windows 2000 with Sony* SDX-500C/SDX-700C SCSI Tape Drives

Problem Backup fails at U320 speeds under Microsoft* Windows 2000 with Sony* SDX-500C/SDX-700C SCSI Tape Drives resulting on backup application unable to catalog the tape media. The anomaly is caused by the backup application attempting to generate a 256KB write to media which results in the Adaptec* AIC-7901 controller generating a CRC after the first 64KB chunk and the device/software reporting this as an error since it was not expecting it.

Implication Backup will fail at U320 speeds under Microsoft* Windows 2000 with Sony* SDX-500C/SDX-700C SCSI Tape Drives.

Workaround A workaround for this anomaly is provided in the driver disk for the Adaptec AIC-7901 with a file called MaxIo64k.REG. This file when executed modifies the registry setting of the adpu320.sys driver to a maximum of 64 KB chunk size upon the NEXT Reboot. That registry setting is then active in the OS, hence the I/O requests will be correctly set at a maximum of 64KB and will not create the failing scenario.

Status No Fix.

31. Intel Server board SE7501BR2 does not wake up from Standby in Microsoft* Windows 2003 when configured with an Intel Pro1000MT Server Adapter

Problem The Intel Server board SE7501BR2 does not wake up from Standby in Microsoft* Windows 2003 when configured with a Pro1000MT Server Adapter in any slot and Gbit NIC drivers version 7.0.36.0. Attempt to wake from Standby results on PCI SERR event entered in SEL log.

Implication Wake up from Standby in Microsoft Windows 2003 when configured with a Pro1000MT Server Adapter is not functional.

Workaround Disable power management settings on both ports of the adapter properties by un-checking the "Allow the computer to turn off this device to save power" box; doing so, will allow system to wake up from standby successfully.

Status Fixed on Pro1000MT Windows 2003 driver ver Pkg8.2.

32. Certain ATAPI Tape Drives do not work in U-DMA mode only PIO

Problem Certain ATAPI Tape Drives cannot work in U-DMA mode in SE7501BR2 system; although these devices support U-DMA mode, the BIOS configures them to work only on slower PIO mode.

Implication Fast ATAPI U-DMA capable Tape Drives are limited by the BIOS to work in the slower PIO mode.

Workaround None.

Status Fixed on SE7501BR2 BIOS P13 build 0072.

33. BIOS POST Error Pause manifested on systems configured with D1 & M0 mixed processor steppings

Problem When configuring systems with mixed ±1 CPUs stepping (i.e. D1 & M0 without L3 cache), POST Error Pause occurs with following message, "8193: CPUID, Processor stepping are different".

Implication False error message displayed during boot, there should be no error message displayed during POST as this configuration is supported.

Workaround None.

Status Fixed on SE7501BR2 BIOS P13 build 0072.

34. Cooling Unit Global table error exhibited in Intel Server Management with the Intel server board SE7501BR2

Problem When the board with FRUSDR ver 5.5.B is configured in an SC5200 Base, SC5200 BRP, SC5250-E, SR1350-E chassis, error message "Cooling Unit Global Table 1"-->Sufficient Resources From Insufficient" will be shown in Platform Instrumentation Control Window of ISM ver 5.5.5.

Implication False error displayed in Platform Instrumentation Control Window of ISM ver 5.5.5 even when all fans are working normally.

Workaround None.

Status Fixed on SE7501BR2 BMC Firmware ver 1.18 and FRUSDR ver 5.5.I.

35. FRUSDR 5.5.H does not signal Front Panel LED for faults when selecting "Other" chassis

Problem FRUSDR 5.5.H does not signal Front Panel LED for faults when selecting "Other" chassis during installation of FRUSDR. The sensors are enabled correctly, but the Front Panel LED does not light amber when a system or CPU fan fails. Serial Event Log events are logged correctly.

Implication Processor fan or System fan failure is not reported by the Front Panel Status LED on third party reference chassis using FRUSDR 5.5.H.

Workaround None.

Status Fixed on SE7501BR2 BMC Firmware ver 1.18 and FRUSDR ver 5.5.I.

36. Potential CPU IERR and FRB2 Failures manifested with 3.06GHz/533 MHz FSB 1M L3 Cache (M0 Stepping) Intel Xeon ® Processors

Problem Under power cycling stress testing, Intel discovered that the SE7501BR2 server board exhibits CPU IERRs during POST causing the system to hang and/or reset with FRB2 Timer expiration. This anomaly has been exhibited at less that 2% rate only when the 1M L3 Cache in the processor is ENABLED in BIOS Setup (Default). This failure is NOT observed using B0, C1 or D1 processor steppings or when the 1M L3 Cache on the M0 stepping processor is disabled via BIOS Setup.

Implication Unexpected behavior during boot.

Workaround Hard reset the system and perform CPU Retest function via BIOS Setup Screen.

Status Fixed on SE7501BR2 BIOS P14 build 0073. All customers currently using BIOS P11 Build 0070 are urged to upgrade to BIOS P14 Build 0073.

37. PCI Slot #2 is displayed in BIOS setup utility when the board is installed on the SR1350-E chassis

Problem When the SE7501BR2 is installed in the SR1350-E chassis, only PCI Slot #1 is available on the one-slot 1U PCI riser card that ships with SR1350-E chassis, but PCI Slot #2 is displayed in BIOS Setup Utility.

Implication Display of non-existant PCI slot #2 in the BIOS Setup Utility when the SE7501BR2 is installed in SR1350-E chassis might confuse user.

Workaround None.

Status Fixed on SE7501BR2 BIOS P20 build 0079 and FRUSDR ver 5.6.J.

38. There is no AC-Link Option available in BIOS setup utility

Problem There is no AC-Link Option available in SE7501BR2 BIOS setup utility.

Implication Power status after AC-Link lost (i.e. Last State, Always Power On, Stay Off) cannot be configured in BIOS setup utility.

Workaround Use IPMITool.exe IPMI DOS utility to set Power Restore Policy.

Status Fixed on SE7501BR2 BIOS P15 build 0074.

39. Boot from USB devices is not disabled when Legacy USB is configured as Keyboard only or Keyboard and Mouse in BIOS Setup Utility

Problem Boot from USB devices is not disabled on SE7501BR2 when Legacy USB is configured as Keyboard only or Keyboard and Mouse in BIOS setup utility.

Implication SE7501BR2 system can still boot from USB devices when Legacy USB is configured as Keyboard only or Keyboard and Mouse in BIOS setup utility.

Workaround None.

Status Fixed on SE7501BR2 BIOS P15 build 0074.

40. Booting from SuSE Linux 8.2 CD fails when HostRAID is enabled on SE7501BR2 onboard AIC-7901 SCSI controller

Problem When HostRAID is enabled on SE7501BR2 onboard AIC-7901 SCSI controller, system will hang at Welcome Screen after booting from SuSE Linux 8.2 installation CD. Issue root caused to the option ROM (ver 4.10.03S2) on the AIC-7901 not providing required support. AIC-7901 option ROM Ver 4.30S2 addresses this issue.

Implication SE7501BR2 system cannot boot from SuSE Linux 8.2 CD when HostRAID is enabled.

Workaround None.

Status Fixed on SE7501BR2 BIOS P15 build 0074.

41. Video may not restore from Power Save Mode with specific LCD monitors in excess of 100 consecutive times without a reboot

Problem Video may not restore on the SE7501BR2 server board when coming from power save mode in excess of 100 consecutive times without a reboot; this symptom is manifested only with LCD monitors and specific OEM models. During testing, the video was successfully restored by reconnecting the monitor signal cable to the server board and was found to work successfully once again on subsequent wake events following a server reboot.

Implication The LCD monitor may not be activated when the SE7501BR2 system is invoked to return from power save mode with either mouse or keyboard stimulus.

Workaround None.

Status No Fix.

42. BMC Timestamp Erratum

Problem The Intel® Server Board SE7520BR2 has been found to have a BIOS erratum which causes the BMC timestamp information to be incorrect. Beginning on January 1, 2005, the BMC date will lag the system date by 1 day throughout

2005. It will return to the correct date in 2006. This will recur for each year that follows a leap year, i.e. 2009, 2013, etc.

Implication The effect of this erratum is that the BMC will use this incorrect date for all entries in the System Event Log (SEL) maintained by the BMC. This includes informational events as well as error events, e.g. memory error events. Other BMC functions are unaffected.

Workaround None.

Status This issue will be fixed in the next revision of the Intel Server board SE7520BR2 quarterly BIOS release.

Documentation Changes

1. SE7501BR2 Technical Product Specification does not disclose HostRAID capabilities available on the board

Problem The SCSI section 6.2 of the SE7501BR2 Server board TPS does not reflect the HostRAID capabilities added to the board post launch.

Implication HostRAID functionality of the board not documented in the Technical Product Specification.

Workaround None.

Status Fixed in the Intel Server Board SE7501BR2 TPS ver 1.1

2. SE7501BR2 Technical Product Specification does not disclose which system fan headers must be used with each Intel Server Chassis

Problem The TPS does not include a description of which fan header must be used when integrating the server board in a given Intel server chassis.

Implication Not connecting the chassis fans to the correct system fan header on the board may result on a fault condition causing the front panel Status LED to stay Amber, some fans to boost and Intel Server Management to report the fault condition.

Workaround Information available in FRUSDR release notes.

Status Fixed in the Intel Server Board SE7501BR2 TPS ver 1.1

3. Incorrect Absolute Maximum Ratings Listed in the SE7501BR2 Technical Product Specification rev 1.1

Problem The SE7501BR2 Technical Product Specification rev 1.1 lists incorrect values on the Operating Temperature (5º to 55º C) and Storage Temperature (-55º to 150º C) for the board. The correct values are 0º - 55º C for Operating Temperature and -40º to 70º C for Storage Temperature.

Implication Incorrect information provided to the user.

Workaround None.

Status Fixed in the Intel Server Board SE7501BR2 TPS ver 1.2

4. SE7501BR2 Technical Product Specification does not disclose all extended POST error messages and codes

Problem The TPS does not include some extended POST error messages and codes.

Implication Some extended POST error messages and codes are not available in the Technical Product Specification.

Workaround All extended POST error messages and codes are listed as below,

Extended POST Error Messages and Codes

Error Code	Error Message	Pause on Boot
8100	Processor 1 failed BIST	No
8101	Processor 2 failed BIST	No
8110	Processor 1 Internal error (IERR)	No
8111	Processor 2 Internal error (IERR)	No
8120	Processor 1 Thermal Trip error	No
8121	Processor 2 Thermal Trip error	No
8130	Processor 1 disabled	No
8131	Processor 2 disabled	No
8140	Processor 1 failed FRB-3 timer	No
8141	Processor 2 failed FRB-3 timer	No
8150	Processor 1 failed initialization on last boot.	No
8151	Processor 2 failed initialization on last boot.	No
8160	Processor 01: unable to apply BIOS update	Yes
8161	Processor 02: unable to apply BIOS update	Yes
8170	Processor P1 :L2 cache Failed	Yes
8171	Processor P2 :L2 cache Failed	Yes
8180	Bios does not support current stepping for Processor P1	Yes

Error Code	Error Message	Pause on Boot
8181	Bios does not support current stepping for Processor P2	Yes
8190	Watchdog Timer failed on last boot	No
8191	4:1 Core to bus ratio: Processor Cache disabled	Yes
8192	L2 Cache size mismatch	Yes
8193	CPUID, Processor Stepping are different	Yes
8194	CPUID, Processor Family are different	Yes
8195	Front Side Bus Speed mismatch. System Halted	Yes, Halt
8196	Processor Model are different	Yes
8197	Cpu Speed mismatch	No
8198	Failed to load processor microcode	Yes
8199	Boot processor failed BIST	Yes
8300	Baseboard Management Controller failed to function	Yes
8301	Front Panel Controller failed to Function	Yes
8305	Hotswap Controller failed to Function	Yes
8306	OS Boot watchdog timer failure	Yes
8307	BIOS/POST watchdof timer failure	Yes
8310	Change in server management configuration	No
8420	Intelligent System Monitoring Chassis Opened	Yes
84F1	Intelligent System Monitoring Forced Shutdown	Yes
84F2	Server Management Interface Failed	Yes
84F3	BMC in Update Mode	Yes
84F4	Sensor Data Record Empty	Yes
84FF	System Event Log Full	Yes
8500	Bad or missing memory in slot 2A	Yes
8501	Bad or missing memory in slot 1A	Yes
8504	Bad or missing memory in slot 2B	Yes
8505	Bad or missing memory in slot 1B	Yes
8601	All Memory marked as fail. Forcing minimum back online.	Yes

Status Fixed in the Intel Server Board SE7501BR2 TPS ver 1.2.