Intel® Server Board SE7520BD2D2

Specification Update

Intel Order Number D27104-003

Nov, 2006

Enterprise Platforms and Services Division – Marketing

Revision History

Date of Revision	Version	Description
June 15, 2005	001	This document is the first Specification Update for the Intel® Server Board SE7520BD2D2. Added Errata 1 – 3.
October 19, 2005	002	Added Erratum 4.
December 14, 2005	003	Updated Erratum 4, Added Erratum 5.
July 26, 2006	004	Added Erratum 6 and 7
Sep 11th, 2006	005	Added Erratum 8
Nov 11th, 2006	006	Added Erratum 9,10

Disclaimers

The Intel® Server Board SE7520BD2D2may contain design defects or errors known as errata that may cause the product to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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Contents

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Preface

This document is an update to the specifications contained in the *Intel® Server Board SE7520BD2 Technical Product Specification* (Order Number C62349-003). 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® Pentium® III Xeon™ Processor Specification Update* (Order Number 244460-021) for specification updates concerning the Pentium® Xeon™ III processor. Items contained in the *Pentium® III Xeon™ Processor Specification Update* that either do not apply to the [product] 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 Intel® server boards. These changes will be incorporated in the next release of the specifications.
- **Specification Clarifications** describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in the next release of the specifications.
- **Documentation Changes** include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.
- **Errata** are design defects or errors. Errata may cause the server board behavior to deviate from published specifications. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

Product Scope

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

Product Code	Order Code (MM#)	Baseboard PBA #	BIOS Rev. / Build #	FRU / SDR
BBDBBSCSID2	870784	D10350-303	P01.00.00	6.6.6
BBDBBSCSID2	874953	D10350-401	P02.10.0014	6.6.6
BBDBBSATAD2	870785	D10351-303	P01.00.00	6.6.6
BBDBBSATAD2	874951	D10351-401	P02.10.0014	6.6.6
BBDVBBD2	870762	D10352-303	P01.00.00	6.6.6
BBDVBBD2	874952	D10352-401	P02.10.0014	6.6.6
SE7520BD2SCSID2	870783	D10350-303	P01.00.00	6.6.6
SE7520BD2SCSID2	870783	D10350-401	P02.10.0014	6.6.6
SE7520BD2SATAD2	870759	D10351-303	P01.00.00	6.6.6
SE7520BD2SATAD2	870759	D10351-401	P02.10.0014	6.6.6
SE7520BD2VD2	870760	D10352-303	P01.00.00	6.6.6
SE7520BD2VD2	870760	D10352-401	P02.10.0014	6.6.6
BBDBBSATAD2	877335	D10351-450	P03.00	6.6.G
BBDBBSCSID2	877333	D10350-450	P03.00	6.6.G
BBDVBBD2	877334	D10352-450	P03.00	6.6.G
SE7520BD2SATAD2	877482	D14351-450	P03.00	6.6.G
SE7520BD2SCSID2	877331	D10350-450	P03.00	6.6.G
SE7520BD2VD2	877332	D10352-450	P03.00	6.6.G

Summary Tables of Changes

The following tables indicate the errata and the document changes that apply to the Intel® Server Board SE7520BD2D2. 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	Plan Fix	Critical and non-critical fan events are logged in the System Event Log (SEL) after each system power cycle boot.
2	Plan Fix	SYS_FAN_5 does not generate an event in the System Event Log (SEL) when the fan is stopped.
3	Plan Fix	Back panel status LED and front panel LED are incorrect if CPU1_FAN or SYS_FAN_1 are stopped.
4	Plan Fix	Blinking green chassis LED associated with FRUSDR 6.6.6 and earlier on S7520BD2VD2 server boards.
5	Plan Fix	Blinking green status LED associated with FRUSDR 6.6.6 and earlier on S7520BD2SATAD2 server boards.

Table 2. Documentation Changes

No.	Plans	Description of Documentation Change
		None at this time

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. Critical and Non-Critical Fan Events are Logged in the System Event Log (SEL) After Each System Power Cycle Boot

Problem When the board is power cycled while utilizing the Intel® Server Chassis SC5275E, a critical and a non-critical error will be logged to the SEL.

Implication After each board power cycle in the Intel® Server Chassis SC5275E, the user will see two events logged in the SEL – one critical and one non-critical.

Workaround None.

Status This erratum may be fixed in a future BIOS or firmware.

2. SYS_FAN_5 Does Not Generate an Event in the System Event Log (SEL) When the Fan is Stopped

Problem A system event is not logged if the SYS_FAN_5 is stopped.

Implication If the SYS_FAN_5 stops responding for any period of time, the user will not be notified via the SEL.

Workaround None.

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

3. Back Panel Status LED and Front Panel LED are Incorrect if CPU1_FAN or SYS_FAN_1 are Stopped

Problem Under normal operation, the back panel status LED and the front panel status LED should be green. If either the CPU1_FAN or the SYS_FAN_1 are stopped, the back panel status LED will remain green and the front panel staus LED will show no indication (amber or green).

Implication If CPU1_FAN or SYS_FAN_1 stop responding for any period of time, the back panel and front panel LEDs wil have erroneuous readings.

Workaround None.

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

4. Blinking Green Status LED Associated with FRUSDR 6.6.6 and Earlier on S7520BD2VD2 Server Boards

Problem SE7520BD2VD2 (PBA versions **D10352-303** or later) server boards utilizing the Intel® Management Module (IMM) Advanced Edition or Professional Edition

in a SC5300 LX, SC5300 BRP or SC5300 Base chassis may exhibit a blinking green system status LED. The System Event Log does not indicate a degraded system condition.

As stated in the Intel® Technical Product Specification (TPS) for the SC5300 chassis, a blinking green light indicates the system is ready but in a degraded condition due to CPU, memory or power supply issues.

In addition, a blinking green LED may also indicate a degraded SCSI channel condition.

Implication The system status LED may be blinking green indicating a degraded system configuration that does not exist.

Workaround This workaround is intended to alleviate the blinking green LED that is being generated by an incorrect SCSI channel B terminator sensor.

The following workaround **only** applies to PBA revisions **D10352-303** or later

Note: The use of this workaround on any board revision other than listed above may result in abherrant board behavior.

1) Verify the CPU, memory or power supplies are not the causal factors.
2) Download version FRU/SDR package 6.6.6 (or later) to a writable media.
3) Using an editor such as Windows* notepad, open the file named '**SBD2BMCQ.SDR**'
4) Search for the following text: "**61 // Sensor Number**" *See example below.*
5) To make sure that you will be modifying the correct SDR record, please verify that 23 lines down, the following text exists: "**'SCSI 2 Term Flt' // String Bytes**"
6) Find the line: "**61 // Sensor Initialization**". This line should be 5 lines below the Sensor Number line found in step 3.
7) Change the value in this line of text from **61** to **00**
8) Save the file

Example SBD2BMCQ.SDR file:

```
_SDR_TYPE     02
_SDR_TAG      'SCSI'
_REC_LEN      002F

  // Sensor Record Header
  004C  // Record ID
  51    // SDR Version
  02    // Record Type
  2A    // Record Length

  // Record Key Bytes
  20    // Sensor Owner ID
  00    // Sensor Owner LUN
```

61 // Sensor Number

// Record Body Bytes
07 // Entity ID
02 // Entity Instance
61 // Sensor Initialization; change to 00
C0 // Sensor Capabilities
1C // Sensor Type
06 // Event / Reading Base Type
0300 // Assertion Event Mask
0000 // Deassertion Event Mask
0300 // Reading Mask
C0 // Sensor Units 1
00 // Sensor Units 2
00 // Sensor Units 3
0100 // Sensor Record Sharing
00 // Positive-going Threshold Hysteresis
00 // Negative-going Threshold Hysteresis
00 // Reserved
00 // Reserved
00 // Reserved
00 // OEM
CF // Type/Length Code
'SCSI 2 Term Flt' // String Bytes

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

5. Blinking Green Status LED Associated with FRUSDR 6.6.6 and Earlier on S7520BD2SATAD2 Server Boards

Problem SE7520BD2SATAD2 (PBA versions **D10351-303** or later) server boards utilizing the Intel® Management Module (IMM) Advanced Edition or Professional Edition in a SC5300 LX, SC5300 BRP or SC5300 Base chassis may exhibit a blinking green system status LED. The System Event Log does not indicate a degraded system condition.

As stated in the Intel® Technical Product Specification (TPS) for the SC5300 chassis, a blinking green light indicates the system is ready but in a degraded condition due to CPU, memory or power supply issues.

In addition, a blinking green LED may also indicate a degraded SCSI channel condition.

Implication The system status LED may be blinking green indicating a degraded system configuration that does not exist.

Workaround None

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

6. SE7520BD2D2 board can not be shut down in Windows 2003 server SP1/R2 with Intel chassis SC5295DP plus Newton NPS420AB power supply

Problem SE7520BD2D2 board can not be shut down in Windows2003 SP1/R2 with Intel chasis SC5295DP plus Newton NPS420AB PSU.

Implication The server system can not be turned off in windows 2003 SP1/R2 with soft shut down potton in OS menu. System looks halt in shut down process.

Workaround (1) disable the primary IDE/PATA controller in BIOS F2/setup or completely remove the IDE cable from server motherboard
Or (2) change SATA from “Enhanced” to “Legacy” Mode in BIOS F2/Setup.
Either of these two workarounds will allow the board to shutdown normally using Windows 2003 server SP1/R2

Status Root cause is still under analysis.

7. SE7520BD2D2 Fab450 boards will have mBMC corrupted issue if customer run FRUSDR update with Riggins chassis SATA HSBP FW1.09 and SCSI HSBP 1.14 FW attached to the system.

Problem SE7520BD2 D2 Fab450 boards will have mBMC corrupted issue if customer run FRUSDR update with Riggins chassis SATA HSBP FW1.09 and/or SCSI HSBP 1.14 FW attached to the system

Implication The on board mBMC component will become corruptred and invalid any more.

Workaround This issue’s root cause is Riggins HSBP SATA HSBP 1.09 FW and SCSI HSBP 1.14 FW. Please do double check your Riggins chassis HSBP FW before running FRUSDR update package on SE7520BD2D2 boards. Intel is fixing the issue with HSBP FW update and no HSBP FW is available to be used to update, so please do not run any FRUSDR update if your Riggins chassis SATA HSBP FW is 1.09 and SCSI HSBP FW is 1.14.

Status Root cause is still under analysis by Intel HSBP FW engineering.

8. SAS/SATA Backplanes may fail FRU update on the Intel Server Chassis SC5300

Problem The EEPROM on the SC5300 SAS/SATA backplane is not compatible with the backplane's electrical requirements. This can cause the FRU update on the backplane to fail. This ONLY affects systems that have an IMM installed.

Implication The FRU information on the SAS/SATA backplane could be unreadable. Systems with an IMM module and SAS/SATA backplane may receive an error when updating FRU.
Only the FRU data is impacted by the FRUSDR update. Users who only update the SDR portion will be unaffected

Status This erratum will not be fixed.

Workaround To prevent the error while updating the FRU, remove the I2C cable from the SAS/SATA backplane before running the FRUSDR update. This prevents communication with the backplane and will complete the update successfully.

9. SATA RAID can not be built automatically under Linux without using Hypercfg tool.

Problem When SATA RAID1 degraded in Linux OSes, the SATA RAID array does not automatically get rebuilt without using Hypercfg utility to trigger the RAID rebuild.

Implication The SATA RAID array will not get rebuilt unless using Hypercfg to trigger the RAID array rebuilt process. This is not a technical bug but a SATA RAID driver feature limitation in Linux OS environment. Hypercfg is a specific utility to manually handle the RAID array rebuild process.

Status This issue can be resolved by using Hypercfg utility.

Workaround Using Hypercfg utility is a must step to rebuild the SATA RAID array.

10. Spilt.exe utility will not be suggested to split BIOS rom image to update Brandon2 board BIOS by using two floppy disks

Problem — Channel customers reported that no more split .exe utility and separate 1MB BIOS images provided in Brandon2 BIOS update package on Support website.

Implication — customers report that in Brandon2 TPS, Intel mentions how to use split.exe utility to split BIOS image and update system BIOS by using floppy drives.

Status — Split.exe will not be provided as Intel discovered that BIOS updating by using floppy drive makes high BIOS updating failure rate and board damage.

Workaround — Please use USB flash disk to update BIOS, Intel does not suggest/support customer to update BIOS by using floppy drives. Please customer use DOS bootable USB flash disk to update system BIOS. We provide the BIOS image and update bat file to provide automatic BIOS updating that run in DOS.

Documentation Changes

None at this time