



Monthly Specification Update

Intel® Server Board S500VSA SATA

Intel® Server Board S500VSA SATA 4 DIMM

Intel® Server Board S500VSA SCSI

Intel® Server Board S500VSA SAS

Intel Order Number E57949-004

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Enterprise Platforms and Services Marketing

Revision History

Date	Modifications
Nov. 2006	Initial release; 24 known issues addressed by the initial release.
Dec. 2006	Errata #25 has been added; clarified "memory mirroring" is not supported on S5000VSA (all SKUs).
Mar. 2007	Added known issues to this document.
June 2007	Added a known issue to this document.
Oct. 2007	Added a known issue to this document.
Aug. 2008	Errata #36 has been added.
Oct. 2008	Errata #37 has been added.
Nov. 2008	Errata #38 has been added.
Dec. 2008	No update
Jan. 2009	Errata#39 has been added.
Feb. 2009	Minor formatting changes.
May, 2009	Updated following errata: 4, 5, 6, 7, 8, 23, 29, 30, 33, 34, 36, 37, 38
June, 2009	No update
July, 2009	Errata #40 has been added
August, 2009	Errata#41 has been added
September, 2009	Errata#42 has been added
November, 2009	No update

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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Preface

This document communicates product Errata and Documentation Changes & Corrections for the following Intel® server products:

- Intel® Server Board S5000VSA SATA
- Intel® Server Board S5000VSA SATA 4 DIMM
- Intel® Server Board S5000VSA SAS
- Intel® Server Board S5000VSA SCSI

Refer to the *Dual-Core Intel® Xeon® Processor 5000 Series Specification Update* (Order Number: 313065) for specification updates concerning the Intel® Xeon® Processor 5000 Series processors. Items contained in the *Dual-Core Intel® Xeon® Processor 5000 Series Specification Update* that either do not apply to the products listed in this document 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.

This documentation 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. Specified changes will be incorporated in the next release of the document.
- **Specification Clarifications** describe a supported feature or function in greater detail or further highlight their impact to a complex design requirement. These clarifications will be incorporated in the next release of the document.
- **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 are present on all devices.

Summary Tables of Changes

The following tables provide an overview of known errata and 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 has been corrected.

No Fix There are no plans to correct 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	Serial over LAN and IPMI over LAN connections may terminate unexpectedly under certain conditions.
2	Fixed	Integrated BMC may not respond to the Send Message IPMI command sent via LAN.
3	Fixed	System requires around 35 seconds after AC power is applied before power button responds.
4	Fixed	SEL events for Hot-swap Controller (HSC) may appear after DC cycle.
5	Fixed	Fans may run faster than expected after exiting BIOS setup.
6	Fixed	System Fault LED may report incorrect status for some events.
7	No Fix	Fan removal does not generate SEL event.
8	Fixed	Power supply redundancy state is misleading when only one power supply is installed.
9	Fix	Hot-swap Controller (HSC) and Local Control Panel (LCP) updates may take a long time.
10	No Fix	Password on boot not supported.
11	Fixed	SAS Software RAID option is not enabled in initial BIOS release.
12	Fixed	HSC and Integrated BMC versions intermittently not seen in BIOS setup.
13	Fixed	POST LEDs do not turn off after OS loads.
14	Fixed	Checkup7.exe (microcode update utility) is not storing microcode in BIOS.
15	Fixed	Change Logo utility does not save modified BIOS capsule files with correct extension.
16	Fixed	PS/2 Keyboards and Mice may stop functioning after Red Hat* Enterprise Linux is installed.
17	Fixed	Failures seen installing to a SATA drive when SATA is set to Legacy in BIOS setup.
18	Fixed	System Hangs after disabling On-board Video in BIOS setup.
19	Fixed	The SMBIOS entry point may not be visible under certain hardware configurations.
20	Fix	SuSE* Linux Enterprise Server may not install successfully to ENTERPRISE SOUTH BRIDGE 2 SATA Software RAID.
21	Fix	Different L2 cache size shown for 5300 Series processors in Red Hat* Enterprise Linux 4 and in the BIOS Setup.

No.	Plans	Description of Errata
22	Fixed	Change Logo Utility causes BIOS corruption.
23	Fixed	Windows System Event Viewer may record Error Event with ID 11.
24	Fixed	POST Screen may generate "NMI has been received – System Halted" message after system reboots.
25	No Fix	Upcoming new product names "Owosso" and "SR2520SAF; SAX; SAXF" appear in FRUSDR 36 release.
26	Fix	Boot device order not restored with user defaults in BIOS.
27	Fix	'Kernal panic-not syncing:Oops' error is displayed after loading Red Hat* Enterprise Linux 4.0 AS Update 4 EM64T operating system in Intel® Server Board S5000VSA.
28	Fixed	SAS SW RAID 5 cannot be configured in Intel® Server Board S5000VSA SAS.
29	Fixed	Kernel panic is likely to be observed with RHEL40 or SuSE* 9.0 when Speedstep is Disabled in F2/BIOS setting.
30	Fixed	Software SAS RAID activation key may not be detected by system.
31	No Fix	Unsuccessful BIOS flash update can make the system display the black screen.
32	No Fix	System front panel LEDs lit.
33	Fixed	Microsoft Windows* Operating Systems without Service Pack will exhibit blue screen with BIOS 79 and 81.
34	Fixed	Sluggish system performance may be experienced with Integrated BMC 60.
35	Fixed	Intel® Server Board S5000VSA (all versions) with BIOS 79 when ghosting to or from the server with GSS2 (and older versions of ghost) appears to not be able to connect to the server.
36	Fixed	Performance Power Management Error in Microsoft Windows Server 2008*.
37	Fixed	Platform Confidence Test (PCT) fail with BIOS 89 and later version.
38	Fixed	R0094 does not support Mixed Stepping E-0 and C-0 Processors.
39	No Fix	Cannot boot from SATA CD/DVD ROM using a "bootable" Microsoft* DOS CD/DVD when RAID (or AHCI) is Enabled in the BIOS setup.
40	Fix	System may not boot after multiple DC cycles with BIOS revision R0098.
41	Fix	Windows* Server 2003 may hang when log in to Intel® Raid Web Console2 version 3.04-05 with ESRTII Raid enabled
42	Fix	System would only boot to CD/DVD drive with BIOS revision R0098 when RMM2 installed

Table 2. Documentation Changes

No.	Plans	Description of Documentation Change
1.	Fix	Memory mirroring feature is not supported on 5000VSA all SKUs.

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

Errata

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

Problem	During an active Serial over LAN connection, or during an active IPMI over LAN connection to the Integrated BMC, the connection may be lost intermittently during a DC cycle or reset.
Implication	The user's connection may be lost and the user will have to reconnect the session.
Status	This erratum may be fixed in a future firmware revision.
Workaround	None.

2. Integrated BMC may not respond to the Send Message IPMI command sent via LAN

Problem	The BMC may not respond correctly to a <i>Send Message</i> command that is sent 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 Integrated BMC release 50 and later releases.
Workaround	Software developers should use IPMI 1.5 based sessions to bridge commands to the IPMB channel.

3. System requires around 35 seconds after AC power is applied before power button responds

Problem	The BMC requires over 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 will have to wait approximately 35 seconds before the power button will respond. The Integrated BMC will cause the front panel LEDs 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 Integrated BMC release 50 and later releases.
Workaround	None.

4. SEL events for Hot-swap Controller (HSC) may appear after DC cycle

Problem	The HSC may log critical and non-critical temperature events in the SEL after 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 was fixed by HSC v.2.02 and later version.
Workaround	None.

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

Problem	Some system fans may run faster after exiting BIOS setup using the 'Save and Exit' option.
Implication	The system may generate more fan noise than normal.
Status	This erratum may be fixed in BMC firmware revision 49.
Workaround	The system must be AC cycled, or allowed to boot to the OS and then reset to restore fans to their normal speeds.

6. 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 incorrect indication via the system fault LED. The user should verify the system state by looking at the SEL. No event is reported with a less severe status than expected, but events may appear with a higher severity status.
Status	This erratum was fixed with BIOS R0065, BMC 55 and FRUSDR 42.
Workaround	None.

7. Fan removal does not generate SEL event

Problem	Fan removal does not trigger a fan failure event.
Implication	Simulating a fan failure by fan removal will not work.
Status	No Fix.
Workaround	None.

8. 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 will indicate 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 will accurately reflect the redundancy status.
Status	This erratum was fixed by BMC 36 and FRUSDR 42.
Workaround	None.

9. 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 may 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.

10. 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 access the BIOS Setup. There is no option to configure a password during POST before the server will boot.
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.

11. SAS Software RAID option is not enabled in initial BIOS release

Problem	The SAS Software RAID feature that has been available in pre-production BIOS releases will not be available in the initial production BIOS release. The option ROM that allows configuration of SAS Software RAID still has several defects logged against its functionality and 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 will need to wait for a post-launch BIOS release which will have this feature enabled.
Status	This erratum is fixed since BIOS release R0057.
Workaround	Several hardware RAID options are readily available and supported by Intel® server boards. Consult the product <i>Tested Hardware and Operating System List</i> for a variety of hardware Options. No workarounds for SAS Software RAID are available.

12. HSC and Integrated 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, which is used to flash the Integrated 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
```

13. POST LEDs do not turn off after OS 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 show [Green Red Green Red] at the rear of the system.
Implication	User may believe that since there are LEDs lit on the server board, the user may believe an error occurred.
Status	This erratum is fixed in BIOS release R0057 and later releases.
Workaround	None.

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

Problem	The Checkup7.exe utility used to update the processor microcode in BIOS is not working properly. The utility says it completed 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.

15. 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 a .fd extension. The file is the correct capsule file, but it 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)" in the Save as Type drop-down. Then in the File Name box, type the name of the file with the .cap extension.

16. 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 fine.
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 BIOS setup and disables port 60/64 emulation, PS/2 keyboards and mice will continue to work.

17. Failures seen installing to a SATA drive when SATA is set to Legacy in 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 systems to install properly.
Status	This erratum is fixed in BIOS release R0057 and later releases.
Workaround	Leave SATA in Enhanced mode if possible. There is no workaround for the Legacy mode issue.

18. System Hangs after disabling On-board Video in BIOS setup

Problem	If the on-board video is disabled in the BIOS setup, the system hangs during POST.
Implication	Users cannot disable the on-board video via the BIOS setup.
Status	This erratum is fixed in BIOS release R0057 and later releases.
Workaround	The on-board video is automatically disabled when a video controller is added. It is not necessary to manually disable the video controller via the BIOS setup. There is no workaround for configurations that do not include support for the video controller.

19. 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-000FFFFFFh. 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 appears as 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 will 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.

20. SuSE* Linux Enterprise Server may not install successfully to Enterprise South Bridge 2 SATA Software RAID

Problem	If SuSE* Linux Enterprise Server is installed to ENTERPRISE SOUTH BRIDGE 2 SATA Software RAID, the RAID array may not be detected after 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. At this time, the “brokenmodule-ahci” command can prevent AHCI from loading during installation.
Status	Users cannot load a third-party RAID driver and the AHCI driver together in SuSE* Linux Enterprise Server, in case normal installation fails.
Workaround	At the very first Install screen, press F6 to load a driver. In the text tab, type: <pre>brokenmodules=ahci</pre> This allows the installation to complete successfully.

21. Different L2 cache size shown for 5300 Series processors in Red Hat* Enterprise Linux 4 and in the BIOS Setup

Problem	In Red Hat* Enterprise Linux 4, the Intel® Xeon® processor 5300 Series L2 cache size is shown as 4 MB, while the BIOS Setup shows it as 8 MB.
Implication	In the BIOS setup, the system reports the total L2 cache as 8 MB, because it is a 4 MB + 4 MB structure. The 5300 Series processor is just like a package of two sets, each with a 4 MB L2 cache. 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 therefore Red Hat* Enterprise Linux 4 reports it as such.
Status	The different L2 cache size display is due to different cache size reporting mechanism between Red Hat* Enterprise Linux 4 and the BIOS setup, and is not an incorrect display by the operating system.
Workaround	None.

22. Change Logo Utility causes BIOS corruption

Problem	Any board flashed with a version of BIOS release R0064 edited with the change logo utility will no longer boot. The board hangs with “Off – Off – Red – Green” shown on the Post Code LEDs at the rear of the board.
Implication	The Change Logo Utility cannot be used with BIOS release R0064.
Status	This erratum is fixed in BIOS release R0066 and later releases.
Workaround	None.

23. 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 Isi_sas and the event ID is 11.
Implication	For both SAS and SAS RAID configurations, Intel believes the problem may happen because the controller is sending an unsupported command to the enclosure management device. This error does not affect the functionality at all and the error can be ignored.
Status	This erratum was fixed in Intel® Embedded Server RAID Technology II firmware revision: SAS firmware revision – v.01.16.00.00; MPT OpROM revision – v.6.10.00; SAS ESRT2 OpROM v.A.01.10241435I
Workaround	None.

24. After system reboots, 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	In addition to the "NMI has been received - System Halted" error, sometimes the System Event Log (SEL) might also record a "Bus Uncorrectable Error".
Status	This erratum is fixed since BIOS release R0066.
Workaround	Reboot the system again.

25. Upcoming new product names "Owosso" and "SR2520SAF; SAX; SAXF" appear in FRUSDR 36 release

Problem	"Owosso" and "SR2520SAF;SAX;SAXF" are the names of upcoming new products , whose system FRU and SDR information got built within FRUSDR 36 release. Channel customers are not aware of the products and called Intel support for clarification.
Implication	Channel customers will see these new product names when running FRUSDR 36 update on 5000VSA platforms.
Status	FRUSDR36 will contain the internal product names "Owosso" and "SR2520SAF; SAX;SAXF". Intel does not plan to remove these product names from FRUSDR36, as it was designed to launch "Owosso" and "SR2520SAF; SAX;SAXF".
Workaround	Clarification on the product names is announced to worldwide customers with this SPEC update.

26. Boot device order not restored with user defaults in BIOS

Problem	On S5000VSA (D52032-712) and previous fab boards, the BIOS (P74, P70, P66) series does not allow the user to save user defaults in the BIOS setup. When the user attempts to restore the saved user defaults, the boot device order is not restored.
Implication	This is a small issue induced by the BIOS source code, which does not allow the user to save or restore the user defaults in the BIOS setup.
Status	Issue was escalated by Intel to the BIOS source code vendor for further investigation.
Workaround	There is currently no fix available for this issue. Intel recommends that customers use the F9 button to restore the BIOS defaults and the F10 button to change the Boot device order and save the settings.

27. Kernel panic-not syncing: Oops' error is displayed after loading Red Hat* Enterprise Linux 4.0 AS Update 4 is Intel® Extended Memory 64 Technology operating system in Intel® Server Board S5000VSA

Problem	The following error message is displayed: Code: 48 F7 F3 48 89 07 8B 41 08 48 0F AF 41 90 34 00 8B 15 4H RIP <FFFFFFFF801168B6> {TIME_CPUFREQ_NOTIFIER+132} FSP<0000010006931C20> <0> KERNEL PANIC - NOT SYNCING:Oops
Implication	“Kernal panic-not syncing:Oops” error is displayed after loading Red Hat* Enterprise Linux 4.0 AS UP4 EM64T operating system in the Intel® Server Board S5000VSA.
Status	A workaround is available to address this issue.
Workaround	This issue is suspected to be a Enhanced Intel SpeedStep Technology feature confliction with Red Hat* Enterprise Linux 4.0 AS Update 4 operating system's kernel. The workaround is to disable the EIST feature in the BIOS. This issue has been reported to the operating system vendor for detailed root cause investigation.

28. SAS SW RAID 5 cannot be configured in Intel® Server Board S5000VSA SAS

Problem	When the customer installs the software SAS RAID 5 key on the server board, the Software SAS RAID 5 option does not display in the SAS RAID configuration menu.
Implication	This issue is induced by the old version of the SAS RAID firmware on the server board. If the same issue is seen on the Intel® Server Board S5000VSA SAS, update your SAS RAID firmware to V.01.16.00.00. The firmware is available on the support website.
Status	The new SAS firmware has fixed this issue.
Workaround	None.

29. Kernel panic is likely to be observed with RHEL4.0 or SuSE* Linux Enterprise Server 9.0 when Speedstep is Disabled in F2/BIOS setting

Problem	A Kernel Panic Blue Screen of Death is likely to be observed with RHEL 4.0 or SuSE* 9.0 when Intel SpeedStep® is disabled in F2/BIOS setup.
Implication	This makes operating system installation or system boot halt with a Kernel panic warning message.
Status	This issuse was fixed in BIOS release R0079 and later releases.
Workaround	The upcoming BIOS release R0079 (P0079) will include a fix to this issue.

30. Software SAS RAID 5 activation key may not be detected by system

Problem	The Software SAS RAID 5 activation key may not be detected by the Intel® Server Board S5000VSA. In the system POST screen, there is no message displayed to report that Software SAS RAID key is detected and software RAID 5 functionality is not available for configuration.
Implication	The customer will not see the Software SAS RAID 5 option in the system RAID configuration menu. The issue's root cause is not the board or RAID key hardware but the LSI Software RAID firmware attached into the system BIOS. The LSI Software RAID firmware does not include specific stepping Xeon DP and Intel® Xeon® Processor 5300 Series microcode, which makes the Software RAID key undetectable by the system if customer just populates the same stepping Woodcrest and Clovertown processors into the system.
Status	This erratum was fixed in Intel® Embedded Server RAID Technology II firmware later than the following revisions: SAS firmware revision -- v.01.22.00.00; MPT OpROM revision -- v.6.16.00; SAS ESRT2 OpROM v.A.01.07101204I.
Workaround	LSI has provided a new Software RAID firmware to Intel. The Intel BIOS engineering team will be embedding this firmware into the Intel BIOS to fix this issue. After internal validation, this BIOS will be released to worldwide customers.

31. Unsuccessful BIOS flash update can make the system display the black screen

Problem	Sometimes Intel® Server Board S5000VSA boards will display the black screen if the customer does not run BIOS flash successfully.
Implication	Customer suspects the board is dead but actually taking proper action can recover the board.
Status	Not an issue.
Workaround	The Intel® Server Board S5000VSA has a BIOS recovery jumper. Set the jumper to the recovery mode in order to recover the board. Also, note that since the Intel® Server Board S5000VSA has an Integrated BMC in the ENTERPRISE SOUTH BRIDGE 2 chipset, you must wait 15-20 seconds to power on the board. The Integrated BMC requires this period of time to initialize the Integrated BMC component.

32. System front panel LEDs lit

Problem	The system front panel LED is lit in RED or amber.
Implication	Customer suspects the board has some issue, while in most cases, the board is good.
Status	Not an issue as explained below.
Workaround	When you finish assembling a server based on the Intel® Server Board S5000VSA, you MUST reflash the FRUSDR package on the board. You MUST select the correct system fan, CPU, and chassis configurations when updating FRUSDR. When you swap your system any processor, you MUST reflash the FRUSDR again. This is because FRUSDR records the system fan, CPU fan, and CPU type configurations to provide thermal management support to your system.

If you do not reflash the FRUSDR for your system, then the previous FRUSDR will not recognize your new system hardware configurations if you change the CPU, FBDIMM, fan, and chassis configurations, which results in the front panel LED to be lit in red or amber. This actually is a fake warning message because your system is still running stable while your FRUSDR cannot recognize the new hardware configurations.

33. Microsoft Windows* Operating Systems without Service Pack will exhibit blue screen with BIOS 79 and 81

Problem	<p>If a user attempts to install Microsoft Windows* without an integrated service pack, it displays the blue screen during the installation process if BIOS 79 or BIOS 81 is on the Intel® Server Board. Conversely, if a user upgrades the system BIOS to BIOS 79 or 81 prior to installing the appropriate service pack, the system displays the blue screen.</p> <p>Starting 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.</p> <p>The following is a list of Microsoft Operating Systems and required service packs:</p> <ul style="list-style-type: none">• 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 BIOS setup (Advanced BIOS menu > Processor submenu) 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.

34. Sluggish system performance may be experienced with Integrated BMC 60

Problem An issue with Integrated 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 an option for selecting the OLTT mode, Performance mode, or Acoustic mode. BMC 60 recognizes the Performance mode selection in the BIOS setup as an Acoustic mode request. An Acoustic Mode selection in the BIOS setup is disregarded and fail safe defaults for fan profiles are enforced. This misinterpretation can manifest the BIOS/Integrated BMC interaction, causing a throttling condition and thus slowing down the system performance significantly.

Implication Systems set to Performance mode are incorrectly 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 used to cool the memory. Systems configured in the Acoustics mode in the BIOS are actually set up in a fail safe state.

Status This erratum was fixed in BMC 62.

Workaround: None.

35. Intel® Server Board S5000VSA (all versions) with BIOS 79 when ghosting to or from the server with GSS2 (and older versions of ghost) appears to not be able to connect to the server

Problem: When the Intel® Server Board S5000VSA (all versions) with BIOS 79 is ghosting to or from the server with Galaxy Software Services and older versions of ghost, may not connect to the server.

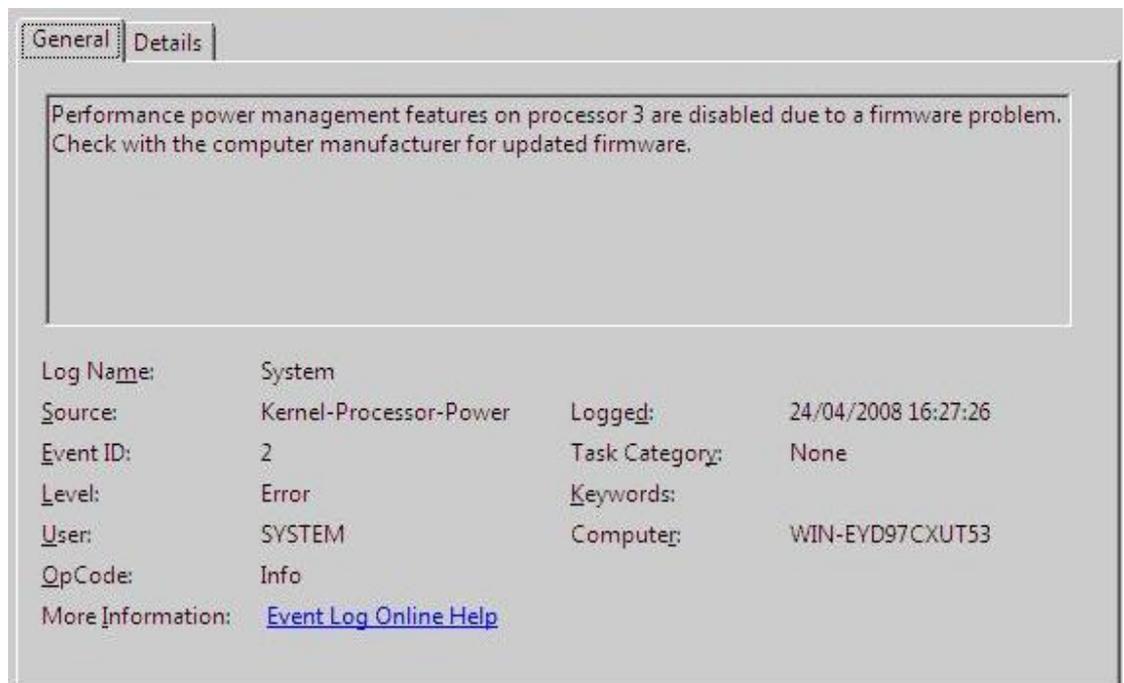
Implication: Customer cannot connect to the server when ghosting to or from the server. This is a NIC detection issue under DOS.

Status: Intel will fix this issue in BIOS 83.

Workaround: Not available at this time. Please wait for BIOS 83.

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

Problem: If you use any Intel® Xeon® Processor of the 5300 or the 5400 series in the Intel® Server Board S5000VSA and install Microsoft Windows Server 2008* on the system, you may encounter the following error in the Windows* event log:



The Event Error is generated due to a change in Microsoft’s validation and logging of supported P-States for a processor. The wording of the error is misleading. There is no performance impact. Microsoft is logging 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 the interpretation of this table.

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

Status: This erratum is fixed by BIOS91.6.

Workaround: None.

37. Platform Confidence Test (PCT) fail with BIOS 89 and later versions on Intel® Server Board S5000VSA

Problem Customer may experience problems when they run PCT on Intel® Server Board S5000VSA. There are two types of test options when customer runs a PCT test, Quick Test, and Comprehensive Test. Customer may see the following behavior during a PCT test. This issue occurs when these boards are loaded with BIOS 88 and later versions.

Quick Test	***ERROR T.EXE
------------	----------------

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

Status This erratum was fixed by BIOS R0094.

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

38. BIOS R0094 Does Not Support Mixed Stepping E-0 and C-0 Processors

Problem BIOS code specifically designed to allow support for mixed stepping processors was not included in BIOS R0094.

Implication The use of mixed stepping E-0 and C-0 processors and BIOS R0094 may cause erratic system behavior such as operating systems failing to load or install.

Status This erratum was fixed in BIOS R0096 and later version.

Workaround None.

39. S5000VSA cannot boot from SATA CD/DVD ROM using a “bootable” Microsoft* DOS CD/DVD when RAID (or AHCI) is Enabled in the BIOS setup

Problem Users cannot boot S5000VSA from SATA CD/DVD ROM using a “bootable” MSDOS based CD/DVD when RAID (or AHCI) is enabled in the BIOS Setup.

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

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

Workaround None.

40. 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	User 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>) will result in a subsequent successful completion of POST.

41. Windows* Server 2003 may hang when logging in to Intel® Raid Web Console2 version 3.04-05 with ESRTII Raid enabled

Problem	When using windows* server 2003 with onboard ESRTII raid enabled, user may experience system to hang when trying to log in to Intel® Raid Web Console2, BSOD (Blue Screen of Death) and either of the following messages are displayed: - BAD_POOL_HEADER Error code: STOP 0x00000019 - IRQL_NOT_LESS_OR_EQUAL Error code: STOP 0x000000D1
Implication	This issue is caused by a minor bug in Intel® Raid Web Console2 software code.
Status	This erratum may be fixed in a future Intel® Raid Web Console2 revision.
Workaround	Downgrade the Intel® Raid Web Console2 version to v2.92-01.

42. System would only boot to 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 (with RMM2 installed) boot failure when there is no bootable media in CD/DVD drive.
Status	This issue will be fixed in a future BIOS revision.
Workaround	No.

Documentation Changes

1. Memory mirroring feature is not supported on 5000VSA all SKUs

Problem: Memory mirroring feature is not supported on Intel® Server Board S5000VSA all SKUs.

Implication: This is a typo.

Work Around: None.

Status: Corrections incorporated into version 1.2 of the *Intel® Server Board S5000VSA Technical Product Specification* that “memory mirroring feature is not supported on Intel® Server Board 5000VSA (all versions).”