Monthly Specification Update

Intel® Server Board S2400SC Family, Intel® Server System P4000SC Family
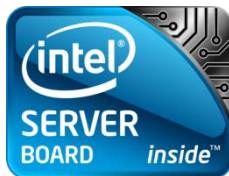
Revision History

Date	Modifications
May, 2012	Initial release.
June, 2012	Added erratum 18; Updated erratum 6, 10
July, 2012	Added erratum 19

Disclaimers

This Monthly Specification Update of the Server System 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 S2400SC Family and Intel ® Server System P4000SC Family Technical Product Specification*. 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.

1. 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.

2. Product Scope

The following specific boards, BIOS and components are covered by this update:

Product Code	Baseboard PBA Revision	BIOS Revision	BMC Revision	FRU/SDR Revision	ME Revision
S2400SC2	G18552-402	01.02.2005	1.022608	24	02.01.05.091

Summary Tables of Changes

The following tables provide an overview of known errata and known document changes that apply to the specified Intel Server Products. The tables use the following notations:

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

Fix: Intel intends to fix this erratum in the future.

Fixed: This erratum has been previously fixed.

No Fix: 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.	Fix	Linux Operating Systems are not supported on RSTe mode
2.	Fix	UEFI Windows Server 2008* R2 SP1 installation on SCU ports may fail under RSTe RAID mode
3.	Fix	UEFI Operating System installation is not supported on ESRT2 mode
4.	Fix	HDD status LEDs do not function under specific configuration
5.	Fix	RSTe GUI installation may fail if there are no devices attached to any onboard AHCI ports
6.	Fixed	BMC continuously sends RAID volume rebuild event in RSTe mode of the SCU controller
7.	Fix	System may halt under specific BIOS configurations
8.	Fix	Microsoft Windows 2003* x86 installation failure under Pass-through mode of SCU controller
9.	Fix	System may halt under unsupported configuration in ESRT2 mode
10.	Fixed	Extra events may be seen in the System Event Log (SEL) during system global reset
11.	Fixed	System may continuously report a faulty or assert/deassert log when having blank HDD carriers or un-configured HDDs
12.	Fix	Integrated BMC Web Console – Power Statistics page – Minimum wattage reads as zero
13.	Fix	Integrated BMC Web Console – Power Control page – Perform Action button not functional.
14.	Fix	IPMI Get Chassis Status command returns incorrect Chassis Identify State
15.	Fix	The BIOS and ME Firmware can't be updated successfully via Intel® One Boot Flash Update Utility(OFU) under SuSE Linux Enterprise Server 11* (64-bit) with SP2
16.	Fix	BMC continuously sends HDD assert/de-assert event during HDD RAID rebuild under ESRT2 mode of the SCU controller
17.	Fix	High CPU utilization may occur when installing or running Microsoft* Windows* Server 2008 R2 or Microsoft* Windows* 7 with default NIC driver
18.	Fix	On-board VGA cannot be set to the highest resolution (1920x1080 and higher)
19.	Fix	Hard drive located LED may not instantly respond to the locate command if backplane is connected through SAS expander to a RAID controller

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.			

2.			

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

Errata

1. Linux* Operating Systems are not supported on RSTe mode

Problem   Intel® RSTe mode is not supported on Red Hat* Linux and SUSE* Linux.

Implication   User may not able to install Red Hat* Linux and SUSE* Linux on Intel® C600 Series Chipset based Server Boards under Intel® RSTe mode

Status   This issue may be fixed in future driver or BIOS releases.

Workaround   None.

2. UEFI Windows Server 2008* R2 SP1 installation on SCU ports may fail under RSTe RAID mode

Problem   System may encounter blue screen when installing Windows Sever 2008* R2 SP1 under UEFI with below configurations:

                       1. Intel® C600 RAID Upgrade Key is installed and SAS HDDs are used on SCU ports.

                       2. BIOS options "EFI Optimized Boot" and "Use Legacy Video for EFI OS" are enabled.

                       3. Under RSTe RAID mode.

Implication   User may not able to install UEFI Windows Server 2008* R2 SP1 on Intel® C600 Series Chipset based Server Boards with mentioned configuration.

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

Workaround   None.

3. UEFI Operating System installation is not supported on ESRT2 mode

Problem   UEFI OS installation of Windows*, Red Hat* Linux or SUSE* Linux may fail on AHCI or SCU controller when "EFI Optimized Boot" and "Use Legacy Video for EFI OS" are both enabled.

Implication   User may not be able to install UEFI OS under ESRT2 mode on Intel® C600 Series Chipset based Server Boards

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

Workaround   None.

4.   HDD status LEDs do not function under specific configuration

Problem   If drives are connected through expander to SCU ports and configured under RSTe mode, the HDD status LEDs may not function properly.

Implication   HDD status LED may not show the HDD locate, HDD fault or RAID rebuild message.

Status   This issue may be fixed in a future RAID driver.

Workaround   None.

5.   RSTe GUI installation may fail if there are no devices attached to any onboard AHCI ports

Problem   When Microsoft Windows 2008* R2 is installed on SCU ports, the installation of RSTe drivers and the Graphic User Interface (GUI) in Windows 2008* R2 will fail, if the AHCI controller is enabled while no device is attached to the AHCI SATA ports.

Implication   User may not be able to install RSTe GUI under mentioned configuration when the AHCI controller is enabled and no devices are attached to the AHCI SATA ports.

Status   This issue may be fixed in a future RAID driver.

Workaround   The workaround is to either plug a SATA device into one of the AHCI SATA ports, or disable the onboard AHCI controller in BIOS.

6.   BMC continuously sends RAID volume rebuild event in RSTe mode of the SCU controller

Problem   When RSTe RAID is in degraded mode and a drive is inserted to start the RAID rebuild, System Event Log (SEL) records drive plug and rebuild events and then continuously sends a rebuild event message.

Implication   User may see the SEL flooded with RAID volume rebuild event entries.

Status   This issue was fixed in latest RSTe driver ver 3.0.0.3020 upd 2012.02.03.

Workaround   None.

7.   System may halt under specific BIOS configurations

Problem   Once BIOS options "EFI Optimized Boot" and "Memory Mapped I/O Above 4GB" are both enabled, and RSTe mode is selcted, system may halt during the system POST.

Implication   User may see system hang with mentioned configuration.

Status   This issue may be fixed in a future RSTe UEFI driver release.

Workaround   None.

8.   Microsoft Windows 2003* x86 installation failure under Pass-through mode of SCU controller

Problem   Microsoft Windows Server 2003* x86 installations on SCU RSTe pass-through mode fail.

Implication   User may not able to install Microsoft Windows Server 2003* x86 on mentined BIOS configuration.

Status   This issue may be fixed in a future RSTe driver release.

Workaround   None.

9.   System may halt under unsupported configuration in ESRT2 mode

Problem   If no Intel® C600 RAID upgrade key (any of RKSAS4, RKSAS4R5, RKSAS8, RKSAS8R5) is installed to enable SAS support capablity under ESRT2 mode while SAS drivers are used, the system may halt at the boot stage.

Implication   User may see a system halt with no RAID keys installed with SAS drivers used and ESRT2 enabled.

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

Workaround   None.

10.   Extra events may be seen in the System Event Log (SEL) during system global reset

Problem   The BMC may sporadically log extra reset event during a system DC reset (global reset). These events may appear as there is an extra reset during BIOS POST.

                   The following SEL entries indicate two resets in a POST process:

                   Informational event: Pwr Unit Status reports the power unit is powered off or being powered down.

                   Informational event: Pwr Unit Status reports the power unit is powered off or being powered down.

Implication   The SEL log may indicate that system has an occasional reset in a normal
                  POST during DC cycle test (global reset).

Status   This issue was fixed in BMC 1.04.

Workaround   None.

11.   System may continuously report a faulty or assert/deassert log when having blank HDD carriers or un-configured HDDs

Problem   With ESRT2 SATA RAID 5 config with 3 HDDs, put the 4th HDD in drive carrier
                  and set it to either unconfigured or global hot spare. System event log may be
                  flooded with HDD faulty entries.

                  With ESRT2 SAS RAID 1 with 2 HDDs, put 3rd HDD and set to unconfigured or
                  global hot spare. System event log may be flooded flood with HDD faulty
                  entries.

Implication   User may see the SEL flooded with HDD faulty entries when either of the two
                  scenarios above are used.

Status   This issue was fixed in BMC 1.04.

Workaround   None.

12.   Integrated BMC Web Console – Power Statistics page – Minimum wattage reads as zero.

Problem   On some systems the Integrated BMC Web Console Power Statistic page may
                  display the Minimun wattage as zero (0W) after the system has been powered.
                  This reading will stay at zero until the next power cycle of the system.

Implication   This is an incorrect reading only and does not affect operation.

Status   This issue may be fixed in a future BMC release

Workaround   None.

13.   Integrated BMC Web Console – Power Control page – Perform Action button not functional.

Problem   After performing a Graceful shutdown from the Integrated BMC Web Console
                  Power Control page the Perform Action button gets grayed out and cannot be
                  pressed to request another action.

Implication   You cannot perform a power on of the system.

Status   This issue may be fixed in a future BMC release

Workaround   Select another page in the Integrated BMC Web Console and then return to the
                     Power Control Page. The Perform Action button will then be available.

14.   IPMI Get Chassis Status command returns incorrect Chassis Identify State.

Problem   When a Get Chassis Status command is issued, after the Chassis Identify LED
                     has been forced on, the status of off (00b) is returned for Chassis Identify State
                     (response data byte 4 – bits [5:4]).

Implication   Unable to correctly read when the Chassis Identify LED is on.

Status   This issue may be fixed in a future BMC release

Workaround   None.

15.   The BIOS and ME Firmware can't be updated successfully via Intel® One Boot Flash Update Utility(OFU) under SuSE Linux Enterprise Server 11* (64-bit) with SP2

Problem   OFU will fail to update BIOS & ME under SuSE Linux Enterprise Server 11*
                     (64-bit) with SP2 Operating System.

Implication   If the system is running SuSE Linux Enterprise Server 11* (64-bit) with SP2
                     Operating System, using OFU to update System Firmware Update
                     Package(SFUP) will fail.

Status   This issue may be fixed in a future OFU version.

Workaround   Update System Firmware Update Package(SFUP) from EFI environment using
                     iFlash32, FWPIAUpdate and FRUSDR Utility

16.   BMC continuously sends HDD assert/de-assert event during HDD RAID rebuild under ESRT2 mode of the SCU controller

Problem   HDD fault will keep asserting and de-asserting frequent during RAID rebuild
                     under ESRT2

Implication   During HDD ESRT2 RAID rebuild, there's flood HDD fault assert/deassert(SAS
                     RAID) or Rebuild/remap (SATA RAID) logs into SEL.

Status   This issue may be fixed in a future BIOS release

Workaround   None.

17. High CPU utilization may occur when installing or running Microsoft* Windows* Server 2008 R2 or Microsoft* Windows* 7 with default NIC driver

Problem   There has been high CPU load observed when installing or running Microsoft
                     Windows Server 2008 R2 or Microsoft Windows 7 with default NIC (Network
                     Interface Card) driver.

Implication   When the ports are not electrically "linked" and the embedded driver is loaded
                     the DPC rate steadily increases until the system slows to the point where it is
                     essentially unusable.

Status   This issue may be fixed in a future driver release.

Workaround   None.

18. On-board VGA cannot be set to the highest resolution (1920x1080 and higher)

Problem   The Graphics ID register in the on-board video controller is getting set
                     incorrectly.

Implication   The video cannot be set to the highest resolutions listed here:
                     • [1920x1080,High 256 Color, 60 Hertz]
                     • [1920x1200,High 256 Color, 60 Hertz]
                     • [1920x1080,High Color(16bit), 60 Hertz]
                     • [1920x1200,High Color(16bit), 60 Hertz]

Status   This issue may be fixed in a future BMC release.

Workaround   None.

19. Hard drive locate LED may not instantly respond to the locate command if backplane is connected through SAS expander to a RAID controller

Problem   If backplane is connected through SAS expander to a RAID controller, the hard
                 drive locate LED may not instantly respond to the locate command from the
                 RAID controller. The LED may blink after up to 2 minutes.

Implication   The symptom doesn't happen if backplane is directly connected to the RAID
                 controller. Root cause has been identified in the motherboard BMC.
Status   This issue may be fixed in a future BMC release.

Workaround   None.

Documentation Changes

N/A