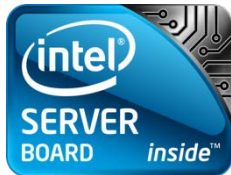


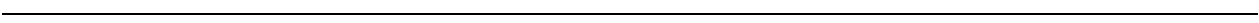
Monthly Specification Update

Intel® Server Board S1400FP Family



August, 2013

Enterprise Platforms and Services Marketing



Revision History

Date	Modifications
July, 2012	Initial release.
August, 2012	No Update.
Sept, 2012	Update errata #4, #6 and #12.
Oct, 2012	Update errata #2, #7, #8, #9, #10, #11, #13 and #14. Add one errata #23
Nov,2012	Update errata #2
Dec,2012	Update errata #5,#17,#22
Jan, 2013	No Update.
Feb,2013	No Update
Mar,2013	Update errata #23. Add one errata #24
August, 2013	Update errata #21

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 S1400FP 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
S1400FP2	G51107-203	01.03.0002	01.10.3560	D.03	02.01.05.107
S1400FP4	G49708-203	01.03.0002	01.10.3560	D.03	02.01.05.107

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.	Fixed	UEFI Microsoft 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.	Fixed	HDD status LEDs do not function under specific configuration
5.	Fixed	RSTe GUI installation may fail if there are no devices attached to any onboard AHCI ports
6.	Fixed	System may halt under specific BIOS configurations
7.	Fixed	Microsoft Windows 2003* x86 installation failure under Pass-through mode of SCU controller
8.	Fixed	System may halt under unsupported configuration in ESRT2 mode
9.	Fixed	Integrated BMC Web Console – Power Statistics page – Minimum wattage reads as zero.
10.	Fixed	Integrated BMC Web Console – Power Control page – Perform Action button not functional.
11.	Fixed	IPMI Get Chassis Status command returns incorrect Chassis Identify State.
12.	Fixed	The BIOS and ME Firmware can't be updated successfully using Intel® One Boot Flash Update Utility (OFU) under SuSE* Linux Enterprise Server 11 (64-bit) with SP2
13.	Fixed	BMC continuously sends HDD assert/de-assert event during HDD RAID rebuild under ESRT2 mode of the SCU controller
14.	Fixed	High CPU utilization may occur when installing or running Microsoft Windows Server 2008* R2 or Microsoft Windows* 7 with default NIC driver for Intel® Gigabit ET Dual Port Server Adapter E1G42ET and Intel® Gigabit ET Quad Port Server Adapter E1G44ET
15.	Fixed	Intel® LAN driver installation failure on Microsoft Windows* 7
16.	Fix	Hard drives connected through SAS expander can't be detected in legacy mode
17.	Fixed	On-board VGA cannot be set to the highest resolution (1920x1080 and higher)
18.	Fix	Hard drive locate LED may not instantly respond to the locate command if backplane is connected through SAS expander to a RAID controller
19.	Fix	Some log names in SEL are displayed incorrectly after pressing the power button to shut down Microsoft Windows 2008* R2 64bit
20.	Fix	Fault LED on 4x3.5" hot swap HDD cage may not function normally during RAID rebuilding with AHCI ESRTII RAID configuration
21.	Fixed	Integrated BMC Web Console – Sensor Readings Page – Memory Throttling sensor status will stay "Critical" once triggered

No.	Plans	Description of Errata
22.	Fixed	WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS
23.	Fixed	System only reports the first occurrence of power redundancy loss
24.	Fix	BMC will generate event log until it full and send PEF continually

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.			

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

Problem	System may encounter blue screen when installing Microsoft Windows Sever 2008* R2 SP1 under UEFI with below configurations: <ol style="list-style-type: none">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 Microsoft Windows Server 2008* R2 SP1 on Intel® C600 Series Chipset based Server Boards with mentioned configuration.
Status	This issue is fixed in BIOS R01.04.1001 or later version
Workaround	None.

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

Problem	UEFI OS installation of Microsoft 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 was fixed in RSTe driver 3.2.0.1134 and later version.
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 Microsoft 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 was fixed in BIOS release R1.03.0002.
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. 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 selected, system may halt during the system POST.
Implication	User may see system hang with mentioned configuration.
Status	This issue is fixed in Bios release R01.03.0002.
Workaround	None.

7. 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.
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Implication	User may not able to install Microsoft Windows Server 2003* x86 on mentined BIOS configuration.
Status	This issue is fixed in RSTe driver release 3.0.0.3020-3 and later version
Workaround	None.

8. 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 is fixed in BIOS 1.3.0002 or later.
Workaround	None.

9. 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 is fixed in BMC release 1.10.r3560 and later version
Workaround	None.

10. 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 is fixed in BMC release 1.10.r3560 and later version
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.

11. 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 is fixed in BMC release 1.10.r3560 and later version
Workaround	None.

12. The BIOS and ME Firmware can't be updated successfully using 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 is fixed in OFU Version 11.0 Build 8.
Workaround	Update System Firmware Update Package(SFUP) from EFI environment using iFlash32, FWPIAUpdate and FRUSDR Utility.

13. 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 is fixed in ESRT2 driver release 15.00.0528.2012
Workaround	None.

14. High CPU utilization may occur when installing or running Microsoft Windows Server 2008* R2 or Microsoft Windows* 7 with default NIC driver for Intel® Gigabit ET Dual Port Server Adapter E1G42ET and Intel® Gigabit ET Quad Port Server Adapter E1G44ET

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 for Intel® Gigabit ET Dual Port Server Adapter E1G42ET and Intel® Gigabit ET Quad Port Server Adapter E1G44ET.
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 is fixed in NIC driver 16.8 release and later version.
Workaround	None.

15. Intel® LAN driver installation failure on Microsoft Windows* 7

Problem	The Intel® LAN driver version 16.8 and below may not be installed successfully on Microsoft Windows 7* with the .bat installation scripts in the driver package.
Implication	The LAN driver can not be installed by the .bat installation scripts in the driver package.
Status	The issue is fixed in Intel® LAN driver version 17.1
Workaround	Two workarounds are available: <ol style="list-style-type: none">1. The LAN driver can be manually installed.2. User can lower the "User Account Control" to "Never Notify", then the driver can be installed with the .bat installation scripts.

16. Hard drives connected through SAS expander can't be detected in legacy mode

Problem	If hard drives are connected through expander to SCU ports and configured under RSTe mode, the hard drives can't be detected by system in legacy mode (default BIOS setting).
Implication	Users can't use the hard drives connected through expander as boot device to install OS. But users can install OS to other hard drives which are not connected through expander and load RSTe driver to make the hard drives connected through expander visible to OS. Or users can change Boot Options > EFI Optimized Boot to "Enabled" in BIOS Setup so that hard drives connected through expander can be detected by the system.

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

Workaround None.

17. 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 was fixed in BMC release 1.16.4010.

Workaround None

18. 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.

19. Some log names in SEL are displayed incorrectly after pressing the power button to shut down Microsoft Windows 2008* R2 64bit

Problem If pressing power button to shut down Microsoft Windows 2008* R2 64bit, some SEL log names are displayed as "unknown" or "N/A".

Implication No function impact to system, only some redundant SEL logs.

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

Workaround None.

20. Fault LED on 4x3.5" hot swap HDD cage may not function normally during RAID rebuilding with AHCI ESRTII RAID configuration

Problem	If system is configured as AHCI ESRTII RAID, HDD Fault LED may display "Off" during RAID HDD rebuilding.
Implication	You may observe HDD Fault LED steady off during rebuilding. No function impact.
Status	This issue may be fixed in a future ESRTII driver release.
Workaround	None.

21. Integrated BMC Web Console - Sensor Readings Page - Memory Throttling sensor status will stay "Critical" once triggered

Problem	When Memory Throttling is triggered, the Memory "P1 MTT and/or P2 MTT" sensor status will stay at "Critical" status in the Integrated BMC Web Console even after throttling has stopped.
Implication	You may observe Memory "P1 MTT and/or P2 MTT" status as "Critical" even when there is no throttling. No functional impact to the system.
Status	This issue will be fixed in a ME 03.00.02.203 and later release.
Workaround	Need a AC cycle or reset ME through IPMI to reset the MTT sensor status.

22. WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS

Problem	With Intel® LAN driver version 17.1, WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS.
Implication	You may not be able to wake system through onboard NIC port.
Status	This issue will be fixed in Intel® LAN driver version 17.4 and later release.
Workaround	None.

23. System only reports the first occurrence of power redundancy lost events

Problem	The integrated platform management subsystem will only report the first occurrence of a power redundancy lost event. Any additional power redundancy lost events that may occur after the initial event, will not be reported unless an AC cycle of the server is performed.
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Implication With the first power redundancy lost event detected, the system status LED will change the state to flashing Green and the system event log will display the event as shown below.

Power Unit, Pwr Unit Redund (#0x2) Informational event: Pwr Unit Redund reports full redundancy has been lost. Integrated BMC - LUN#0 (Channel#0)

After hot swapping the faulty power supply, which would change the state of the system back to normal (system status LED goes back to solid Green), the system will NOT report any further power redundancy lost events, until an AC cycle of the server is performed.

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

24. BMC will generate flood event log and send PEF continuously

Problem

- Use IPMI tool to set a PEF (6 commands)


```
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x04 0x12 0x01 0x01
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x04 0x12 0x02 0x01
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x04 0x12 0x09 0x14 0xa8
0x1f 0x0
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x04 0x12 0x06 0x14 0x80
0x1 0xa 0x10 0xff 0xff 0xff 0xff 0xff 0xff 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x0c 0x01 0x1 0x12 0xf
0x80 0x5 0x7
ipmitool -H xxx.xxx.xxx.xxx -U xxx -P xxxxxx raw 0x0c 0x01 0x1 0x13 0xf 0x0
0x0 0xa 0x24 0x71 0x7b 0x0 0x0 0x0 0x0 0x0
```
- Go to BMC web console and go to configurations=>alert, check all alert and must set destination IP to remote console =>Save
- Try to generate an event (unplug power), you can see there are a lot of event in event log and make event log full.
- Even when restore the PSU, the SEL is continuing to grow w/o PSU redundancy regain.

Implication The flood even log will fulfill the SEL in several minutes

Status The issue may be fix in future BMC release

Workaround Restore the system and uncheck all alerts in BMC web console.

Documentation Changes

N/A