

Monthly Specification Update

Intel® Server Board S1600JP and Intel® Server System R1000JP Family



Intel Order Number G85064-008

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Revision History

Date	Modifications
November, 2012	Initial release.
January, 2013	Add errata 6, 11, 12, 13, and 14.
March 2013	Add errata 15, 16, and 17.
May 2013	Update errata 16 and 17; add errata 18.
September, 2013	Add errata 19; update errata 2, 4, 7, 13, 14 and 15. Add documentation changes 1, 2, 3, and 4.
November, 2013	Add errata 20; update documentation changes 3 and 4
January, 2014	Update errata 4 and documentation change 3.
February, 2014	Add errata 21; update documentation change 2.

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The Monthly Specification Update 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 S1600JP 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
S1600JP2	G60336-203	01.06.0001	01.16.4010	1.0	02.01.05.107
S1600JP4	G42643-203	01.06.0001	01.16.4010	0.7	02.01.05.107
S1600JP2	G60336-204	01.08.0003	01.17.4151	1.0	02.01.07.112
S1600JP4	G42643-204	01.08.0003	01.17.4151	1.0	02.01.07.112

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 SCU ports under RSTe mode.
2.	No Fix	UEFI Operating System installation is not supported on ESRT2 mode.
3.	Fix	RSTe GUI installation may fail if there are no devices attached to any onboard AHCI ports.
4.	Fixed	Integrated BMC Web Console – Sensor Readings Page – Memory Throttling sensor status will stay “Critical” once triggered.
5.	Fix	WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS.
6.	Fix	System only reports the first occurrence of power redundancy lost events
7.	Fixed	The MAC address of Dual Port Intel® X540 10GbE I/O Module (AXX10GBTWLIOM and AXX10GBTWLHW) in BIOS displays as all zero.
8.	No Fix	SAS 6G module interferes with internal type-A USB port.
9.	No Fix	WOL from S1 state is not supported with Add-on LAN Card.
10.	Fix	Wake up from S3 status is not supported under ESRT2 Raid Mode.
11.	No Fix	Server board may be damaged if insert the PSU 12v DC output (2X4 pin) power connector to board main power connector 1 (2X5 pin) by mistake
12.	Fix	BMC will generate flood event log and send PEF continuously
13.	Fixed	System BIOS may report POST error code 0x146 with the Intel® Xeon Phi™ Coprocessor installed
14.	Fixed	Intel® FDR InfiniBand* ConnectX* -3 I/O Module may not comply with FCC and Industry Canada regulations
15.	Fixed	The Intel® Xeon Phi™ Coprocessor PCI Express* Card Status Sensor may show "Unknown"
16.	Fix	BMC May Report BB +5.0v STBY Sensor Lower Non-Critical Log after AC Cycle
17.	Fixed	BMC May Report PSU Predictive Failure on R1208JP4OC and R1304JP4OC
18.	Fix	When install chipset driver the installer may report “unknown error” on Windows 2003 32bit if AHCI mode is enabled on SATA port in BIOS
19.	Fix	Reported processor frequency is lower than expected when the BIOS setup option EIST is disabled and the system is also in idle mode.
20.	Fix	The BMC may become unresponsive intermittently when reconnecting power or performing power cycling; status LED will be solid amber.
21.	Fixed	VMware ESXi* installation failure when detecting Network Adapters.

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.	Publish	<i>R1000JP System Service Guide Rev 1.3</i>	Added E5-2600 and E5-1600 v2 CPU support.
2.	Publish	<i>S1600JP Board and R1000JP System Configuration Guide Rev 1.3</i>	Updated the MM, UPC, and EAN numbers for FXX1304HSBP.
3.	Publish	<i>S1600JP Board TPS Rev 1.7</i>	Updated new BIOS menu.
4.	Publish	<i>R1000JP System TPS Rev 1.5</i>	Updated chassis air flow specification

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 SCU ports under RSTe mode

Problem	Intel® RSTe mode of SCU ports is not supported on Red Hat* Linux and SUSE* Linux.
Implication	User may not be able to install Red Hat* Linux and SUSE* Linux through SCU ports on Intel® C600 Series Chipset based Server Boards under Intel® RSTe mode.
Status	This issue may be fixed in the future driver or BIOS releases.
Workaround	None.

2. 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 will not be fixed.
Workaround	None.

3. 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 the above 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.

4. 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	User 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 is fixed in ME 03.00.02.203 and later release.
Workaround	Need a AC cycle or reset ME through IPMI to reset the MTT sensor status.

5. 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	User may not be able to wake system through onboard NIC port.
Status	This issue may be fixed in a future LAN driver release.
Workaround	None.

6. 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.
Implication	<p>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.</p> <p>Power Unit, Pwr Unit Redund (#0x2) Informational event: Pwr Unit Redund reports full redundancy has been lost. Integrated BMC - LUN#0 (Channel#0)</p> <p>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.</p>
Status	This issue will be fixed in a future BMC release.
Workaround	None.

7. The MAC address of Dual Port Intel® X540 10GbE I/O Module (AXX10GBTWLIOM and AXX10GBTWLHW) in BIOS displays as all zero

Problem	With BIOS R01.06.0001, the MAC address of Dual Port Intel® X540 10GbE I/O Module (AXX10GBTWLIOM and AXX10GBTWLHW) in BIOS displays as all zero.
Implication	User may not able to check the MAC address of Dual Port Intel® X540 10GbE I/O Module (AXX10GBTWLIOM and AXX10GBTWLHW) in BIOS.
Status	The issue is fixed in BIOS release 02.01.0002 and later release.
Workaround	None.

8. SAS 6G module interferes with internal type-A USB port

Problem	SAS 6G module has the mechanical interference with internal type A USB port. The U-disk can be inserted into the port, but still has interference with the SAS module. The USB cable is not able to be plugged into the port.
Implication	User may not able to use SAS 6G module and internal type A USB port together.
Status	The issue will not be fixed.
Workaround	None.

9. WOL (Wake on LAN) from S1 state is not supported with Add-on LAN Card

Problem	Fail to Wake on LAN from S1 state with Add-on LAN Card.
Implication	User may not able to Wake on LAN from S1 state with Add-on LAN Card.
Status	The issue will not be fixed.
Workaround	None.

10. Wake up from S3 status is not supported under ESRT2 Raid Mode

Problem	Fail to wake up from S3 status under ESRT2 Raid Mode.
Implication	User may not able to wake up from S3 state under ESRT2 Raid Mode.
Status	The issue will not be fixed.
Workaround	None.

11. Server board may be damaged if insert the PSU 12v DC output (2X4 pin) power connector to board main power connector 1(2X5 pin) by mistake

Problem	Some 3.3v components on server board may be damaged insert the PSU 12v DC output (2X4 pin) power connector to board main power connector 1(2X5 pin) by mistake.
Implication	PSU 2X4 pin power connector is 12v DC output, which should be inserted into 2X4 pin main power connector 2 on server board. Some 3.3v components on server board may be damaged if insert the PSU 2X4 pin power connector to board 2X5 pin main power connector 1 by mistake. This kind of mistake usually will not happen as the PSU and PDB are fixed on chassis and the length of PSU 12v DC output cable is short and cannot reach the main power connector 1 on server board.
Status	The issue will not be fixed.
Workaround	None.

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

Problem	<ol style="list-style-type: none"> 1. Use IPMI tool to set a PEF (6 commands) <ul style="list-style-type: none"> 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 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 0x0 2. Go to BMC web console and go to configurations=>alert, check all alert and must set destination IP to remote console =>Save 3. Try to generate an event (unplug power), you can see there are a lot of event in event log and make event log full. 4. 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.

13. System BIOS may report POST error code 0x146 with the Intel® Xeon Phi™ Coprocessor installed

- Problem** System BIOS may report POST error code 0x146 “PCI out of resource error” when one or more Intel® Xeon Phi™ Coprocessors are installed with the BIOS default setting.
- Implication** The Intel® Xeon Phi™ Coprocessor might not be recognized using the default BIOS setting as it requires more PCI space.
- Status** This issue is fixed in BIOS release 02.01.0002.
- Workaround** Press F2 to enter BIOS Setup, change Advanced -> PCI Configuration -> Memory Mapped I/O Size to 256G or larger. The value also depends on your system PCI configuration.

14. Intel® FDR InfiniBand* ConnectX* -3 I/O Module may not comply with FCC and Industry Canada regulations

- Problem** Intel® FDR InfiniBand* ConnectX* -3 I/O Module AXX1FDRIBIOM and AXX2FDRIBIOM may not comply with Part 15 of the Federal Communications Commission (FCC) and Industry Canada regulations when used with copper InfiniBand* cables.
- Implication** Except for not complying with FCC and Industry Canada regulations when used with copper InfiniBand* cables, no other functionality impact. And except for the United States of America and Canada where the regulations apply, no other countries are impacted.
- Status** This issue is fixed by Mellanox* InfiniBand* ConnectX*-3 firmware 2.11.1308 and later releases. Refer to the following website for downloading:
http://www.mellanox.com/page/firmware_table_Intel..
- Workaround** None.

15. The Intel® Xeon Phi™ Coprocessor PCI Express* Card Status Sensor may show “Unknown”

- Problem** When only one Intel® Xeon Phi™ Coprocessor PCI Express* Card (MIC card) is installed in the server system, the card status sensor “MIC 1 Status” or “MIC 2 Status” may show “Unknown” in Intel® Integrated BMC Web Console.
- Implication** Users may not get the correct MIC status in Intel® Integrated BMC Web Console. There is no function impact to the server system. This issue doesn't happen when two Intel® Xeon Phi™ Coprocessor PCI Express* Cards are installed.
- Status** This issue was fixed in BMC 01.19.4926 and later release.

Workaround None.

16. BMC May Report BB +5.0v STBY Sensor Lower Non-Critical Log after AC Cycle

Problem BMC may report a event of BB +5.0v STBY sensor detect low voltage non-critical after some times AC cycle.

Implication This event only happen when system AC input power start to lost, and server board +5.0v standby input power voltage start to drop at the same time but the 3.3v AUX power which supports the BMC power still can maintain its voltage for longer time per the VR design on S1600JP. BMC has 5% rate to receive the BB +5.0 STBY voltage sensor report and generate the low voltage non-critical event. This event just reflect the actual voltage drop during AC lost.

Status This issue will be fixed by FRUSDR 1.04

Workaround None

17. BMC May Report PSU Predictive Failure on R1208JP40C and R1304JP40C

Problem BMC may report some events of power supply predictive failure on R1208JP40C and R1304JP40C

Implication Based on current research, Intel believes those predictive failure events are caused by power supply F/W bug. We didn't find power supply real HW failure or functionality abnormal at present.

Status This issue has been fixed by updated PSU FW

Workaround None

18. When install chipset driver the installer may report "unknown error" on Windows 2003 32bit if AHCI mode is enabled on SATA port in BIOS

Problem When Intel® chipset driver on Windows 2003 32 bit OS on S1600JP, it may report "Unknown Error" if AHCI mode is enabled on SATA port in BIOS

Implication Chipset driver cannot be installed well

Status This issue may be fix by chipset driver update

Workaround Change BIOS -> Advanced -> Mass Storage Controller Configuration -> SATA Controller from "AHCI" to any other options.

19. Reported processor frequency is lower than expected when the BIOS setup option EIST is disabled and the system is also in idle mode.

Problem	When the system is in idle mode during OS runtime and EIST is disabled in BIOS setup, the reported processor speed may report a lower than expected frequency.
Implication	EIST may function incorrectly.
Status	This issue may be fixed in a future BIOS update.
Workaround	N/A.

20. The BMC may become unresponsive intermittently when reconnecting power or performing power cycling; status LED will be solid amber.

Problem	When performing a power cycle or reconnecting system power, the system may become unresponsive (no response by pressing the power button), the status LED turning amber with a non-recover state due to a Power Fault. The BWC\EWS virtual front panel also shows the power light as green, while the system is powered off, and the power LED on the server is not illuminated. In the BWC\EWS reports "there has been a soft power control failure" with a Critical warning and SEL entry is generated.
Implication	The shared NIC PHY is reset when the system powers on and boots. This is expected behavior of the NIC PHY. Current BMC has no method to avoid this reset.
Status	This issue may be fixed in future BMC release.
Workaround	None.

21. VMware ESXi* installation failure when detecting Network Adapters

Problem	The system may encounter a failure when installing VMware ESXi* OS, and the error messages could be "No Network Adapters".
Implication	Users may not be able to successfully install the VMware ESXi* (all versions).
Status	VMware does not support Memory Mapped I/O above 4GB. This issue can be fixed by disabling this BIOS option.
Workaround	"Memory Mapped I/O above 4GB" is enabled by default in the latest BIOS. Customers have to disable this option to make VMware ESXi* (all versions) installation successful.

Documentation Changes

1. **Intel® Server System R1000JP Family Service Guide has been updated to rev 1.3**
2. **Intel® Server Board S1600JP Series and Intel® Server System R1000JP Family Configuration Guide has been updated to rev 1.3**
3. **Intel® Server Board S1600JP Series Technical Product Specification has been updated to rev 1.7**
4. **Intel® Server System R1000JP Family Technical Product Specification has been updated to rev 1.5**