Monthly Specification Update

Intel® Server Boards S2600WP Family
Intel® Server Systems H2000WP Family

Revision History

Date	Modifications
March, 2012	Initial release.
May, 2012	Add errata 18,19, update errata 1, 17
June, 2012	Add errata 20,21,22.
July， 2012	Add errata 23, 24, Update errata 16,18,21,22
August, 2012	No updates
September, 2012	Update errata 4,7,8,9,11,12,14, add Errata 25,26

Disclaimers

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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Contents

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Preface

This document is an update to the specifications contained in the *Intel® Server Board S2600WP and Intel® Server System H2000WP 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
S2600WP	G48583-201	R01.01.002	00R2612	1.00
S2600WPQ	G38670-204	R01.01.002	00R2612	1.00
S2600WP	G48583-202	R01.03.0002	R1.10.3650	1.05
S2600WPQ	G38670-205	R01.03.0002	R1.10.3650	1.05
HNS2600WP	NA	NA	NA	NA
H2312WPQJR	NA	NA	NA	NA
H2216WPJR	NA	NA	NA	NA
S2600WPF	G48605-201	R01.03.0002	R1.10.3650	1.05
HNS2600WPF	NA	NA	NA	NA
H2312WPFJR	NA	NA	NA	NA
H2216WPFJR	NA	NA	NA	NA
HNS2600WPQ	NA	NA	NA	NA

H2312WPJR	NA	NA	NA	NA
H2216WPQJR	NA	NA	NA	NA

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.	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	BIOS hangs if EFI Optimized Boot and Memory Mapped I/O Above 4GB both are enabled.
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.	Fix	Integrated BMC Web Console – Power Statistics page – Minimum wattage reads as zero.
12.	Fix	Integrated BMC Web Console – Power Control page – Perform Action button not functional.
13.	Fixed	System may continuously report a faulty or assert/deassert log when having blank HDD carriers or un-configured HDDs.
14.	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.
15.	Fix	BMC continuously sends HDD assert/de-assert event during HDD RAID rebuild under ESRT2 mode of the SCU controller.
16.	Fixed	High CPU utilization may occur when installing or running Microsoft Windows Server 2008* R2 or Microsoft Windows 7* with default NIC driver.
17.	Fixed	Power Supply Sensors may not be available after power cycle.
18.	Fix	Chassis sag to 2.0 mm when fully loaded in rack
19.	Fixed	Incorrect picture titles in Chassis Quick Reference
20.	Fix	System may halt under specific BIOS configurations
21.	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
22.	Fixed	Intel® LAN driver installation failure on Windows* 7
23.	Fixed	Exit Air Temp reading mis-match when using IPMI command under Linux

No.	Plans	Description of Errata
24.	Fixed	Intel® RAID C600 Upgrade Key replacement Issue
25.	Fix	Integrated BMC Web Console – Sensor Readings Page – Memory Throttling sensor status will stay "Critical" once triggered
26.	Fix	WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1.	Fixed	*S2600WP Board TPS Rev 1.1*	• Updated storage specification for all block diagrams. • Added BMC Core Sensor list. • Updated Shock (Unpackaged) data for *Server Board Design Specifications*. • Updated Chassis Intrusion Information. • Updated DDIO support information. • Updated BIOS "shutdown policy" information.
2.	Fixed	*H2000WP system TPS Rev 1.1*	Add power management feature and environmental data.
3.	Fixed	*S2600WP Board TPS Rev 1.2*	• Added FDR Infiniband* board information. • Added NTB support in BIOS. • Updated *Design Specifications* and *ASHRAE Specification*.
4.	Fixed	*H2000WP system TPS Rev 1.2*	• Updated environmental specifications with ASHRAE specification. • Updated Processor TDP to conditional support 135W. • Added new bridge board for 6G SAS support. • Added riser support for non-transparent bridge.
5.	Fixed	*H2000WP system TPS Rev 1.3*	• Added System behavior with one Power Supply AC lost or failed

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 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 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* Server 2008 R2 SP1 under UEFI with the below configuration:

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 be able to install UEFI Windows* Server 2008 R2 SP1 on Intel® C600 Series Chipset based Server Boards with the above 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 RSTe RAID driver Rev 3.2.

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 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.

6.   BMC continuously sends RAID volume rebuild events 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 update 2012.02.03.

Workaround   None.

7.   BIOS hangs if EFI Optimized Boot and Memory Mapped I/O Above 4GB are both enabled

Problem   Once "EFI Optimized Boot" and "Memory Mapped I/O Above 4GB" are both enabled, system may hang during the system POST.

Implication   Enable both options in BIOS may hang the system boot.

Status   This issue is fixed in BIOS release R01.03.0002.

Workaround   None.

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

Problem   Microsoft* Windows* 2003 x 86 installations onto SCU RSTe pass-through mode fail.

Implication   Blue screen will appear during Windows* 2003 x86 installation

Status   This issue is fixed in RSTe RAID driver Rev 3.0.0.3020-3 or later.

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. User should use SATA drives only if no RAID key is installed.

Status   This issue is fixed in BIOS release R01.02.0003.

Workaround   None.

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

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

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

Status   This issue was fixed in BMC 1.04.2896.

Workaround   None.

11.   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.

Workaround   None.

12.   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   The Action buttons are greyed out.

Status   This issue is fixed in BMC release 1.10.

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.

13.   System may continuously report a HDD fault or a HDD assert/de-assert log when having blank HDD carriers or un-configured HDDs

Problem   With ESRT2 SATA RAID 5 configured with three HDDs, put the fourth HDD in drive carrier and set it to either unconfigured or global hot spare. The system event log may be flooded with HDD fault entries.

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

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

Status   This issue was fixed in BMC 1.04.2896.

Workaround   None.

14.   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 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.

15.   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 frequently during RAID rebuild under ESRT2.

Implication   During HDD ESRT2 RAID rebuild, there's a flood of 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.

16.   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 a 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   Fixed with Intel® Netwrok Driver Rev 16.8 and later versions.

Workaround   None.

17.   Power Supply Sensors may not be available after power cycle

Problem   Some PSU sensors may not be available by IPMI command or reading through integrated BMC web console after serveral AC power cycles.

Implication   PSU sensor readings are not available from Node 3 and Node 4.

Status   Fixed in BMC release 1.06 and later.

Workaround   None.

18.   Chassis sag to 2.0 mm when fully loaded in rack

Problem   Chassis fully loaded (34kg) will sag about 2.0 mm when installing in rack

Implication   The max sag (~2.0mm) will happen at the rear of the chassis.

Status   This issue may be fixed in future chassis build.

Workaround   leave 1U space under H2000WP chassis when install in the rack or load system device shorter than 21" under H2000WP chassis adjacently.


19.   Incorrect picture titles in Chassis Quick Reference

Problem   The Intel® Server System H2000WP family Chassis Quick
                   Reference(document ID G53413-001) has 4 incorrect picture titles as showen
                   below. The correct title name should be "H2000WP", "H2312WP" "H2216WP"
                   and "S2600WP". All schemes and configuration diagrams are correct for
                   H2000WP. The impacted servers systems are listed below. The updated
                   Chassis Quick Reference (document ID G53413-002) has fixed this problem.
                   The impacted server systems are list in the table

	Impacted Product name	Impacted Serial numbers
1	H2312WPQJR	AZB22130201 – AZB22130300
		AZB22140001 – AZB22140100
2	H2312WPJR	AZB22140101 – AZB22140300
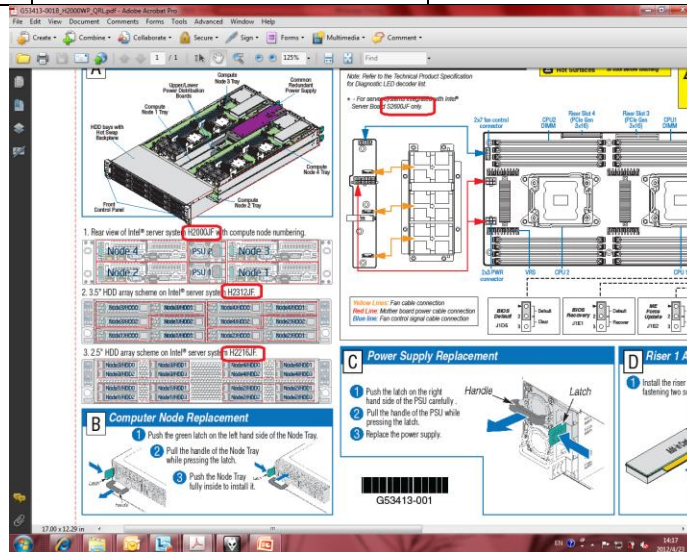
The Chassis Quick Reference with incorrect picture titles
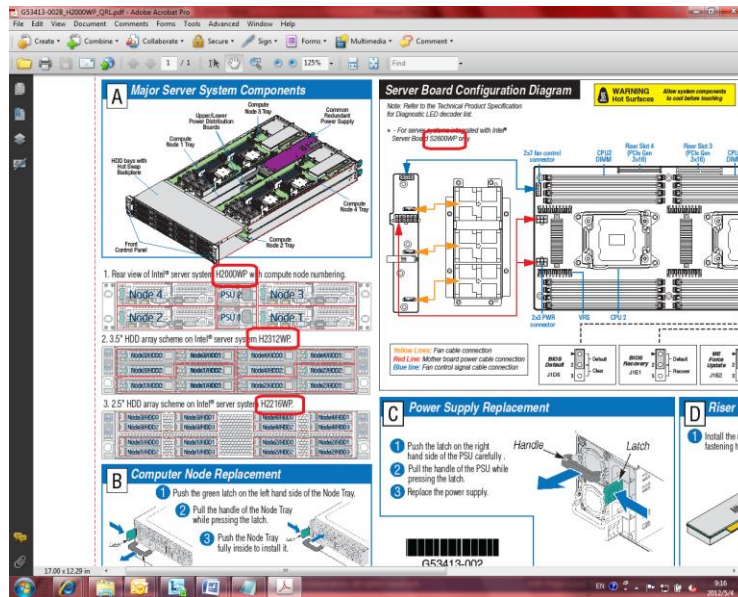
The Chassis Quick Reference with updated picture titles

Implication　　　　The picture tiles do not match the pictures.

Status　　　　　　 This issue was fixed with G53413-002.

Workaround　　　None.

20.　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.

21.　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   Fixed with Intel® Netwrok Driver Rev 16.8 and later versions.

Workaround   None.

22.   Intel® LAN driver installation failure on Windows* 7

Problem   The Intel® LAN driver version 16.8 and below may not be installed sucessfully on Windowns* 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 17.1

Workaround   Two workarounds are availalbe:

                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.

23.   Exit Air Temp reading mis-match when using IPMI command under Linux

Problem   When using IPMI command "IPMI sensor list", normal sensor reading is:

                Exit Air Temp | 38.000 | degrees C | ok | na | 5.000 | 10.000 | 80.000 | 85.000 | na

If sending IPMI command "IPMITOOL BMC reset cold", the below error may happen:

Exit Air Temp | 41.000 | degrees C | cr | na | 0.000 | 0.000 | 0.000 | 0.000 | na

Implication	This will generate CRITICAL entry in System Event Log.
Status	The issue is fixed in BMC 1.10 release
Workaround	The error reading may be gone by the next system reboot.

24. Intel® RAID C600 Upgrade Key Replacement Issue

Problem	With Management Engineer (ME) firmware 02.01.05.069, the server may detact the incorrect Storage Control Unit (SCU) Redundant Array of Inexpensive /Independend Disks(RAID) informaion after installing or replacing the RAID upgrade key. The board or systme may still show the previous RAID information even if you replace the key with a new one.
Implication	With the ME firmware 02.01.05.069, they system may not detect the new RAID activation key during the first time AC power on.
Status	The issue is fixed with ME firmware 02.01.05.107 and later versions.
Workaround	Do a second AC power cycle to the system after the RAID upgrade key has been installed or replaced to ensure the corrrect type of key is identified.

25. 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 may be fixed in a future ME release.
Workaround	Need a AC cycle or reset ME through IPMI to reset the MTT sensor status.

26.   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 may be fixed in a future LAN driver release.

Workaround   None.

Documentation Changes

1. Intel® Server Board S2600WP Series Technical Product Specification has been updated to rev 1.1.

2. Intel® Server System H2000WP Family Technical Product Specification has been updated to rev 1.1.

3. Intel® Server Board S2600WP Series Technical Product Specification has been updated to rev 1.2.

4. Intel® Server System H2000WP Family Technical Product Specification has been updated to rev 1.3