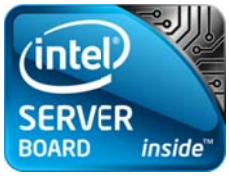
Monthly Specification Update

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



Intel Order Number G64830-005

May, 2013

Enterprise Platforms and Services Marketing

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
October, 2012	Update errata 2,18, add errata 27
January, 2013	Update errata 5, 8, 26, 27
March, 2013	Update errata 4,8,18, add errata 28
May, 2013	Update errata 5, add errata 29

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.

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel®'s Terms and Conditions of Sale for such products, Intel® assumes no liability whatsoever, and Intel® disclaims any express or implied warranty, relating to sale and/or use of Intel® products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel® products are not intended for use in medical, life saving, or life sustaining applications. Intel® may make changes to specifications and product descriptions at any time, without notice.

Contact your local Intel® sales office or your distributor to obtain the latest specifications and before placing your product order.

Intel, Itanium, Pentium, and Xeon are trademarks or registered trademarks of Intel Corporation.

*Other brands and names may be claimed as the property of others.

Contents

<This page is intentionally left blank.>

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	ME Revision	BMC Revision	FRU/SDR Revision
S2600WP	G48583-202	R01.06.0002	02.01.05.107	R1.16.4010	1.06
S2600WPQ	G38670-205	R01.06.0002	02.01.05.107	R1.16.4010	1.06
S2600WPF	G48605-201	R01.06.0002	02.01.05.107	R1.16.4010	1.06

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.	Fixed	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.	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	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.	Fixed	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 for Intel® Gigabit ET Dual Port Server Adapter E1G42ET and Intel® Gigabit ET Quad Port Server Adapter E1G44ET
17.	Fixed	Power Supply Sensors may not be available after power cycle.
18.	Fixed	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	Intel® LAN driver installation failure on Windows* 7
22.	Fixed	Exit Air Temp reading mis-match when using IPMI command under Linux
23.	Fixed	Intel® RAID C600 Upgrade Key replacement Issue
24.	Fix	Integrated BMC Web Console – Sensor Readings Page – Memory Throttling sensor status will stay “Critical” once triggered
25.	Fix	WOL (Wake on LAN) may not function under Red Hat* Linux 6.2 64bit OS
26.	Fix	System can’t report “Full Redundancy Lost” when one PSU is plugged out for the second time
27.	Fix	System BIOS may reports POST error code 0146 with Intel® Xeon PhiTM Coprocessor installed

No.	Plans	Description of Errata
28.	Fix	Intel® FDR InfiniBand* ConnectX* -3 I/O Module may not comply with FCC and Industry Canada regulations
29.	Fix	Intel® I/O module or Intel® Xeon™ Phi cannot be detected by during FRUSDR update

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
6.	Fixed	*S2600WP board TPS rev 1.3*	• Updated InfiniBand* diagnostic LED information. • Updated InfiniBand* Recommendation. • Updated Node Manager IPMI Integrated Sensors.
7.	Fixed	*H2000WP system configuration guide*	• Rev 1.4 – Adding AXX10GBTWLHW and Intel(R) Server Continuity Suit SKUs
8.	Fixed	*H2000WP system configuration guide*	• Rev 1.6 – Adding Hadoop Products
9.	Fixed	*H2000WP system service guide*	• Rev 1.2 – Adding server board replacement guide

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 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 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 is fixed in RSTe driver Rev 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 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 by RAID driver in future.

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 may be fixed in future RSTe driver release

Workaround Microsoft Windows Server 2003* x64 can be installed under the same configuration as alternative solution.

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 and later 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 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 was fixed in BMC release 1.10 and later release.

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 was fixed in BMC release 1.10 and later 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.

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 was fixed in ESRT2 driver release v15.00.0528.2012

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 for Intel® Gigabit ET Dual Port Server Adapter E1G42ET and Intel® Gigabit ET QuAD Port Server Adapter E1G44ET

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 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.

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.

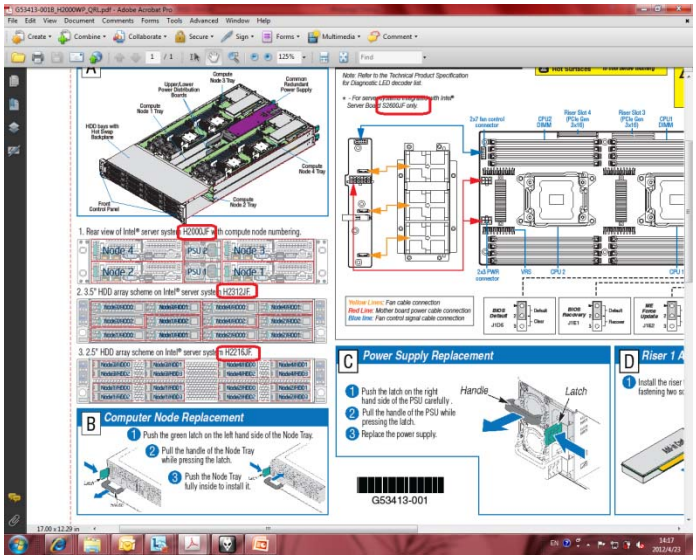
Status This issue is fixed in all 1600W system SKUs.

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

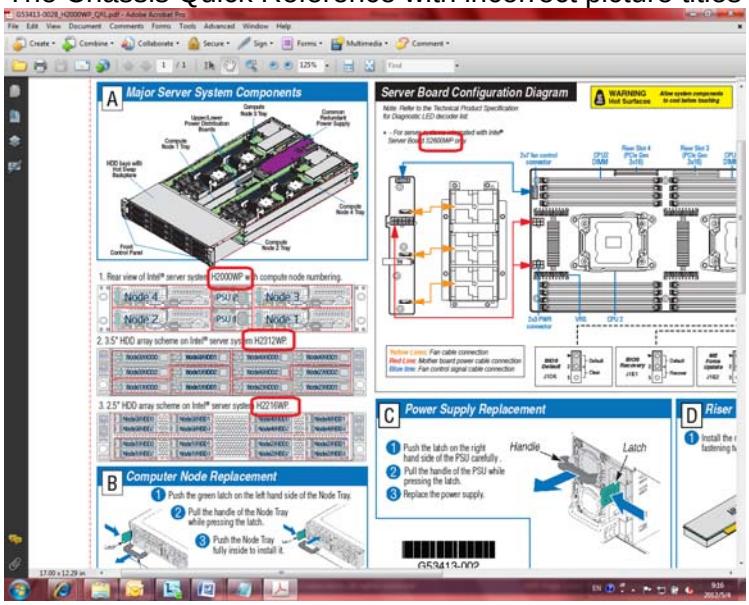
19. Incorrect picture titles in Chassis Quick Reference

Problem The Intel® Server System H2000WP family Chassis Quick Reference(document ID G53413-001) has 4 incorrect picture titles as shown 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. 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.

22. 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 was fixed in BMC 1.10 release

Workaround The error reading may be gone by the next system reboot.

23. 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.

24. 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.

25. 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.

26. System can't report "Full Redundancy Lost" when one PSU is plugged out for the second time

Problem When one PSU is plugged out from system, SEL will report "Full Redundancy Lost". Plug in the PSU will get SEL reported "Full Redundancy Regained". If the PSU is plugged out for second time, SEL will not report "Full Redundancy Lost".

Implication SEL will not report "Full Redundancy Lost" if PSU is plugged out for more than one time

Status The issue may be fix in future BMC release

Workaround Performing AC power cycle can manually rearm the sensor.

27. System BIOS may reports POST error code 0146 with Intel® Xeon PhiTM Coprocessor installed

Problem System BIOS may report POST error code 0146 “PCI out of resource error” when one or more Intel® PhiTM Coprocessors are installed with BIOS default setting

Implication The Intel® Xeon Phi™ Coprocessor might not be recongnized using default BIOS setting as it requires more PCI space

Status The issue may be fix in future BIOS release

Workaround Press F2 during POST to enter BIOS setup interface, change **Advanced -> PCI Configuration -> Memory Mapped I/O Size to 16G or lager**. The value also depends on your system PCI configuration.

28. 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 may be fixed by hardware improvement in the future.

Workaround This product must be used with optical cables in the United States of America and Canada to comply with FCC and Industry Canada regulations

29. Intel® I/O module or Intel® Xeon™ Phi cannot be detected by BMC

Problem Intel® I/O module or Xeon™ Phi cannot be detected during FRUSDR update. They are not accessible by IPMI command “Read FRU Data”

Implication Thermal sensor of I/O module or Xeon™ Phi is not accessible

Status This issue will be fixed in next BMC FW release

Workaround Use IPMI command to access the thermal sensors.

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

5. Intel® Server Board S2600WP Series Technical Product Specification has been updated to rev 1.3

6. Intel® Server System H2000WP Family configuration guide has been updated to v1.6 to add Hadoop* product

7. Intel® Server System H2000WP Service Guide has been updated to v1.2 to add the steps of server board renewal.