



Specification Update

Intel® Server Board S2600WT

Intel® Server System R1000WT Product Family

Intel® Server System R2000WT Product Family

July 2016

Intel® Server Boards and Systems

Revision History

Date	Modifications
November 2014	Initial release
December 2014	Updated Errata #3, added Errata #5
January 2015	Updated Errata #5
February 2015	Updated Errata #5
March 2015	Added Errata #6 an #7
July 2015	Added Errata #8, #9, #10, #11, #12
August 2015	Added Errata #13
September 2015	Added Errata #14
December 2015	Added Errata #15, #16, #17
January 2016	Added Errata #18, #19
March 2016	Added Errata #20
April 2016	Added Errata #21
May 2016	No Errata
April 2016	No Errata
June 2016	No Errata
July 2016	No Errata

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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Monthly Specification Update

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Preface

This document is intended to communicate product errata, published specification changes, published specification clarifications, and published document changes for the following Intel Server products:

- *Intel® Server Board S2600WT*
- *Intel® Server System R1000WT Product Family*
- *Intel® Server System R2000WT Product Family*

It is intended for system integrators and software developers of applications, operating systems, or tools.

Nomenclature

1. **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.
2. **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.
3. **Documentation Changes** include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.
4. **Errata** are design defects or errors. Errata may cause the server board or system 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.

Product Scope

The following Intel product codes and Intel factory installed System Software Stack are covered by this update:

Product Code	Server Board PBA	System BIOS Revision	BMC Firmware Revision	ME Firmware Revision	FRU/SDR Revision
S2600WTT	G92187-350	01.01.0005	01.09.6976	03.00.07.114	1.00
S2600WT2	H21573-360	01.01.0005	01.09.6976	03.00.07.114	1.00
S2600WTT	G92187-350	01.01.0008	01.18.7601	03.00.07.154	1.06
S2600WT2	H21573-360	01.01.0008	01.18.7601	03.00.07.154	1.06
S2600WTT	G92187-351	01.01.0008	01.18.7601	03.00.07.154	1.06
S2600WT2	H21573-361	01.01.0008	01.18.7601	03.00.07.154	1.06
S2600WTTR	H79751-002	01.01.0014	01.33.8932	03.01.03.005	1.09
S2600WT2R	H79749-002	01.01.0014	01.33.8932	03.01.03.005	1.09

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. Product Errata Summary

No.	ID Number	Plans	Description of Errata
1	EPD100026331	No Fix	The Debug Capability Test (Logo) in Microsoft* WHQL testing may report "Kernel debugging over the network fails" if the "MMIO>4GB" option in <F2> BIOS Setup is set to "Enabled"
2	EPD100244066	No Fix	Microsoft* Windows event error (Event ID 56) may be generated under Microsoft* Windows Server 2012 R2
3	EPD100241510 EPD100241512	Fixed	Incorrect "SAS Address" and "Host Interface" information of Intel® Embedded Server RAID Technology 2 (ESRTII) is displayed in Raid Web Console Tool (version 13.08)
4	EPD100239347 EPD100238694 EPD100238412	Fix	Intel® Embedded Server RAID Technology 2 (ESRTII) is not supported under UEFI BIOS mode
5	EPD100245740	Fixed	The Intel® System Information Retrieval Utility (Sysinfo) may fail to dump RAID logs in EFI
6	EPD100026284	No Fix	The riser temp sensor's reading may be abnormal if Intel® Ethernet Server Adapter I350-T4 is installed in the Riser Card #3.
7	EPD100246655	Fix	Red Hat* Enterprise Linux 7.0 64 bit is not supported in RSTe mode
8	EPD100248715	Fix	Drive activity lights are not accurately portraying drive activity from a RAID 10 array
9	EPD100248577	No Fix	NVMe drives do not trigger the HDD global activity light
10	EPD100248719	Fix	Clone of: [x]On-board 10G NIC link speed failure issue
11	EPD100248709	Fix	Can't install Microsoft* Windows 2008 R2 to SATA DOMs
12	EPD100248713	Fix	SLES 12 UEFI mode sluggish when installed to PCIE SSD
13	EPD100247783	No Fix	NVMe max payload size being set incorrectly if drive not present at boot - system resets under Linux
14	EPD100248709	No Fix	Microsoft* Windows Server 2008 R2 cannot be installed on certain SATADOMs using RSTe driver

15	EPSD100246289	Fix	HDDs do not appear when trying to create array in EFI mode and both SCU & AHCI controllers are enabled
16	EPSD100251192	Fix	BMC Web Console is not displaying correct user privileges when is configured with sysconfig.
17	EPSD100251448	Fix	CPU information in web console may be missed by BMC FW v1.33r8932
18	EPSD100242752	No Fix	The state of RSTe RAID 10 with SLES 11 SP3 with mdadm patch, turns from "Initialize" to "Verify", if a reboot occurs above of 50% of synchronization initialized
19	EPSD100248615	Fix	Metadata error message appears when installing RHEL 6.7 snapshot 1 on EFI mode with a 3 Drives of 2TBs configured RSTe volumes and choosing Specialized Storage
20	EPSD100252220	No Fix	NVidia TeslaK80 is unable to run on graphics mode in RHEL7.2 and SLES12SP1.
21	EPSD100032021	No Fix	RHEL7.1* and RHEL7.2* hangs and reboots when a Hot add/Hot action is performed using NVMe drives with the Intel PCIE switch card.

Table 2. Documentation Changes

No.	Plans	Document Name	Description of Documentation Change
1	Publish	Intel Server Board S2600WT Family Specification Update NDA December 2015	Broadwell board SKUs added three new Errata
2	Update	Intel Server Board S2600WT Family Specification Update NDA January 2016	Added 2 new Errata, and updated status of several bugs.
3	Update	Intel Server Board S2600WT Family Specification Update NDA March 2016	Added 1 new Errata, and Updated Status of several bugs, adjusted formatting.
4	Update	Intel Server Board S2600WT Family Specification Update NDA April 2016	Added 2 new Errata and product scope table

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.

Product Errata

ID Number EPD100026331

The Debug Capability Test (Logo) in Microsoft* WHQL testing may report “Kernel debugging over the network fails” if the “MMIO>4GB” option in <F2> BIOS Setup is set to “Enabled”

Problem	During WHQL test, the Debug Capability Test (Logo) may report “Kernel debugging over the network fails” if “MMIO>4GB” option in BIOS Setup is set to Enabled
Implication	User may notice “Kernel debugging over the network fails” message during WHQL test.
Status	Will not fix.
Workaround	Set the “MMIO>4GB” option in <F2> BIOS Setup to “Disabled”

ID Number EPD100244066

Windows event error (Event ID 56) may be generated under Microsoft* Windows Server 2012 R2

Problem	During Microsoft* Windows 2012 R2 startup, an event error (Event ID 56) may be generated with the message - “The description for Event ID 56 from source Application Popup cannot be found. Either the component that raises this event is not installed on your local computer or the installation is corrupted. You can install or repair the component on the local computer.”
Implication	User may notice event error (Event ID 56) during Windows 2012 R2 startup.
Status	Will not fix.
Workaround	According to Microsoft KB2955164, this event can be safely ignored. Please refer to http://support.microsoft.com/kb/2955164 for more information.

ID Number EPD100241510 / EPD100241512

Incorrect “SAS Address” and “Host Interface” information of Intel® Embedded Server RAID Technology 2 (ESRTII) is displayed in Raid Web Console Tool (version 13.08)

Problem	If the system is configured with Intel® Embedded Server RAID Technology 2 (ESRTII), the “SAS Address” may be displayed as “FFFF” and “Host Interface” may be displayed as “PCIX” under Raid Web Console Tool (version 13.08) incorrectly
Implication	User may notice incorrect ESRTII information in Raid Web Console Tool.
Status	This issue is fixed in Raid Web Console Tool 14.11.01.00 and later versions.

Workaround N/A

ID Number EPSD100239347 / EPSD100238694 / EPSD100238412

Intel® Embedded Server RAID Technology 2 (ESRTII) is not supported under UEFI BIOS mode

Problem If the system is configured with Intel® Embedded Server RAID Technology 2 (ESRTII) under UEFI BIOS mode, the ESRTII console may not function during system boot.

Implication ESRTII is not supported under UEFI BIOS mode.

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

Workaround N/A

ID Number EPSD100245740

The Intel® System Information Retrieval Utility (Sysinfo) may fail to dump RAID logs in EFI

Problem The Intel® System Information Retrieval Utility (Sysinfo) may fail to dump RAID logs because of the limitation of the third party tool “StorCLI”.

Implication Users may find there is no information of “RAID settings and RAID log” in Sysinfo dumped files when “EFI optimized Boot” is enabled in BIOS Setup. This is because that the third party tool “StorCLI” has limitation in supporting RAID information dumping.

Status This issue is fixed in Sysinfo Utility V13.1 Build 5 and later versions.

Workaround None

ID Number EPSD100026284

The riser temp sensor's reading may be abnormal if Intel® Ethernet Server Adapter I350-T4 is installed in the Riser Card #3

Problem The riser temp sensor's reading may be abnormal and “Critical” event logs may be generated if Intel® Ethernet Server Adapter I350-T4 is installed in the Riser Card #3.

Implication Users may notice system status LED in Amber and some “Critical” SEL events related to the riser temp sensors.

Status It is due to the I2C address conflict and no plan to fix the issue.

Workaround Users may install the Intel® Ethernet Server Adapter I350-T4 in Riser Card #1 and #2.

ID Number EPSD100246655**Red Hat* Enterprise Linux 7.0 64 bit is not supported in RSTe mode**

Problem	Red Hat* Enterprise Linux 7.0 64 bit is not supported in RSTe mode since the following issues may occur: 1) The RSTe RAID may fail to initialize and degrade; 2) The RSTe RAID rebuild may not start up automatically under OS; 3) The drive status LED on backplane may not function to indicate errors such as drive fault or RAID rebuild.
Implication	Users should not install Red Hat* Enterprise Linux 7.0 64 bit in RSTe mode.
Status	This issue may be fixed in future Red Hat* Enterprise Linux operating system release.
Workaround	None.

ID Number EPSD100248715**Drive activity lights are not accurately portraying drive activity from a RAID 10 array**

Problem	When running a read only workload to a non-partitioned 4-drive RAID 10 array, only 2 out of the 4 drive lights will indicate drive activity. The active lights will "shift" around to other drives in the array during the workload, but no more than 2 of the lights will be active at a time.
Implication	Minimal customer impact. Customer may become confused with the drives inactivity when in reality those drives are being accessed
Status	This issue may be fixed in future.
Workaround	Root cause has not been identified yet. No workaround.

ID Number EPSD100248577**NVMe drives do not trigger the HDD global activity light**

Problem	NVMe drive activity does not trigger the global HDD activity light.
Implication	If the user only uses global activity light to determine if the system is "Busy", could be misled by lack of illumination when only PCIe SFF devices are being accessed.
Status	This is an architectural limitation.
Workaround	None

ID Number EPSD100248719

On-board 10G NIC link speed failure issue

Problem NIC speed degrades from 10G to 100M.

Implication User may experience a degraded link speed.

Status Fix is coming on later BMC release

Workaround None

ID Number EPSD100248709

Can't install Windows 2008 R2 to SATA DOMs

Problem Microsoft* Windows server 2008 R2 cannot be installed on RAID RSTe on ports 4 and 5 which are used with SATADOMs.

Implication When installing Microsoft* Windows Server 2008 R2 SP1 OS to RSTe Raid array using Innodisk SATA DOMs the installation fails with a BSOD

Status Future release.

Workaround Use Microsoft* Windows server 2012 R2 or use ESRT2 with Windows* server 2008 R2

ID Number EPSD100248713

SLES 12 UEFI mode sluggish when installed to PCIE SSD

Problem SLES 12 installed in UEFI mode to an Intel SSDPEDMD800G4 SSD DC P3700, the OS shows sluggish response to normal functionality.
Kernel issue on SLES*12

Implication User may experience bad performance in the specific configuration.

Status Fix will be likely in the next SLES* release (Kernel driver issue).
Unsupported configuration.

Workaround Use SATA for boot. Do not install SLES*12 on NVMe drive.

ID Number EPSD100247783**NVMe max payload size is set incorrectly if drive if not present at boot**

Problem	NVMe max payload size being set incorrectly if drive is not present at boot - system resets under Linux.
Implication	When using NVMe drive present at boot, the device max payload size is correctly set to 256 bytes. If NVMe drive is installed on a slot that was empty during boot, the payload size is incorrectly set to 128 bytes. This issue appears in all Linux Distributions.
Status	This is a bug in the Linux PCIe bus driver and will require a Kernel change and it will be fixed in the future release.
Workaround	Shut down system before adding NVMe drive to empty slot to avoid unplanned reboot.

ID Number EPSD100248709**RSTe driver compatibility issue was found with certain SATADOMs**

Implication	Users cannot install Microsoft* Windows Server 2008 R2 operating system on specific models of Serial ATA Disk Modules (SATADOM) when they are connected to SATA ports configured for RSTe RAID mode. The models that demonstrate such anomaly are: <ul style="list-style-type: none">• Innodisk DESSL-64GD07RCADCF-B02 - FW version S140714.• Innodisk DESNV-64GD06SCAQYF-B02 - FW version S141002C.• Innodisk DESMV-64GD06SC1QYF-B02 - FW version S130710.
Status	Intel is investigating the root cause.
Workaround	Use Microsoft* Windows Server 2012 R2 operating system or use ESRT2 for Microsoft* Windows 2008 R2. Operating system.

ID Number EPSD100246289**HDDs are not available for storage array in EFI mode and both SCU & AHCI controllers are enabled.**

Problem	When the system with RSTe driver version 4.1.0.1026. Is in the UEFI mode and both SCU and AHCI controllers are enabled, all HDDs are displayed on initial screen. But during creation of any storage array the HDDs do not appear.
Implication	A user is not able to create storage array in UEFI mode for both SCU & AHCI controllers due to inability to select the HDDs.

Status The issue will be resolved in RSTe driver version 4.5

Workaround None.

ID Number EPSD100251192

BMC Web Console is not displaying correct user privileges configured with sysconfig utility.

Problem After configuring User privileges with Sysconfig there can be a mismatching between what is shown in the BMC Web Console and the actual configuration. The reason for such anomaly is the BMC Web Console displays user privilege information only for IPMI channel number 1, while the Sysconfig utility can set up user privileges for all three IPMI channels.

Implication This may cause confusion when configuring user privileges with Sysconfig, due to the mismatching of what is shown in the BMC Web Console and the actual access privileges.

Status Fix

Workaround When setting up user privileges from sysconfig, make sure the user is enabled on the three channels and the user privileges command is active on the three IPMI channels.

ID Number EPSD100251448

Web Console of BMC FW v1.33r8932 does not show CPU information

Problem CPU information is not available on the BMC Web Console if the system has BMC FW v1.33r8932 and BIOS version R01.01.0013 or R01.01.0014.

Implication System with BMC FW v1.33r8932 and BIOS version R01.01.0013 or R01.01.0014 does not show CPU information on the BMC Web Console.

Status Fix

Workaround None

ID Number EPSD100242752

If a reboot occurs above the 50% of synchronization initialized the state of RSTe RAID 10 with SLES* 11 SP3 and the mdadm patch installed turns from "Initialize" to "Verify"

Problem Above the 50% of the synchronization of the installed "mdadm" patch in Linux SLES* 11 SP3 and a reboot occurs the RSTe state turns from "Initialize" to "Verify". It happens with an RSTe RAID 10 with SLES* 11 SP3 and the mdadm patch installed

Implication	User may notice that the RSTe RAID 10 array state does not turn to "Normal" after a reboot occurs during the synchronization of the "mdadm".
Status	Will not fix.
Workaround	No Workaround. User can stop the daemon "mdom" prior to rebooting.

ID Number EPSD100248615**Metadata error message appears when installing RHEL* 6.7 snapshot 1 on EFI mode with 3 drives of 2TBs configured with RSTe volumes and choosing Specialized Storage**

Problem	When installing RHEL* 6.7 snapshot 1 on WCP EFI mode with 3 SATA drives of 2TB or bigger with a configuration of RSTe volumes and choosing Specialized Storage, a metadata error message appears.
Implication	User is not able to choose which volume to install RHEL* 6.7 snapshot 1 with EFI mode enabled if user selects specialized storage and they are using 3 SATA drives of 2TB or bigger on an RSTe array.
Status	Fix.
Workaround	A patch will be provided to the user to resolve the issue

ID Number EPSD100252220**NVidia TeslaK80 is not supported for RHEL7.2 and SLES12SP1, unable to run graphics mode.**

Problem	The NVidia TeslaK80 GPU is not recognized as a GPU accelerator, even after installing drivers published by NVidia on RHEL7.2 or SLES12 sp1, it fails to enter into graphics mode due to incompatibilities in the Driver with the Linux Kernel.
Implication	User will not be able to use NVidia TeslaK80 GPU with RHEL7.2 or SLES12 sp1 due to incompatibilities on drivers with Linux Kernel.
Status	This bug will require collaboration from NVidia to get a compatible driver for the Linux kernel, NO FIX yet.
Workaround	Use another OS, the NVidia TeslaK80 GPU works fine under Windows Server 2012R2

ID Number EPSD100032021

RHEL7.1* and RHEL7.2* may hangs and reboots when doing a Hot add or Hot remove using NVMe drives with the Intel PCIE switch card installed.

Problem	When a user performs a Hot add or Hot remove of NVMe drives and the Intel PCIe switch card installed on a system that has installed RHEL7.1* or RHEL7.2*, the system may hangs and reboots. The rate that this this issue may occurs is ~10%.
Implication	When a user performs a Hot add or Hot remove of NVMe drives and an Intel PCIe switch card installed on a system that is operating with RHEL7.1* or RHEL7.2*, the system may hangs and reboots. The rate that this issue may occurs is ~10%.
Status	Under investigation.
Workaround	Use Windows* Server 2012.

Documentation Changes

N/A