Quanta Computer Inc.

Server System QSSC-S4R (Emerald Ridge)

Tested Hardware and Operating System List

Revision 1.5

Oct. 6, 2011

Cloud Computing Business Unit (CCBU)

Revision History

Date	Revision #	Modifications
January 2010	1.0	Initial Release
February 2010	1.1	Format change
May 2010	1.2	Update CV HDDs and certification results
November 2010	1.3	Add Installation Guideline 8.7& 8.8 and update some trackers.
April 2011	1.4	Add Optical Drives 2nd source ODD in 6.3, SSD in 6.4, Hard Disk Drives 2.5 in 7.0, DIMM in 8.0 and known issue for WSM-EX BIOS launch in 10.0.
Oct. 2011	1.5	Add 8pcs Hynix and 18pcs Samsung DIMM in 8.0

Changes from last version marked in blue.

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Introduction

This document is intended to provide users of the Quanta Server System QSSC-S4R (Emerald Ridge) with a guide to the different operating systems (OSes), adapter cards, and peripherals tested by Quanta on this platform.

This document will be updated as new add-in cards, peripherals, and operating systems are tested or until this server is no longer in production. Each new release of the document will provide updated information as well as the information from previous releases.

Quanta will only provide support for the add-in cards and peripherals under the specified system configuration (system firmware) and operating systems and versions with which they were tested.

1.1 Test Overview

Testing and support of hardware and software is executed at three levels, Level 1, Level 2, and Level 3 as defined in section 3 of this document. Each OS, adapter and peripheral scheduled to be tested is assigned a level. The table below shows a summary of the testing that is performed. Details of the levels, testing and support follow later in the document.

	System Stress	Compatibility Validation			Certification Testing
		Functional Validation	OS Install & Boot	PCI-E Hot Plug	
Level 1 OS	T	T	T		T
Level 2 OS			T		
Level 3 OS					
Level 1 Adapter	T	T		T	
Level 2 Adapter					
Peripherals	T				

T = Tested

1.1.1 Test Definitions

1.1.1.1 System Stress

System stress is a set of test cases used to verify the ability of the platform to function with the level 1 components (OSes, adapters and peripherals) under a significant workload for a defined time. Every level 1 OS is installed in pre-defined system configurations and demonstrated to run, without failure, for a minimum of 48 hours. During this test, special test software is used to maximize the stress of the CPU, memory, and IO buses of the platform. For example, a system may be fully loaded with storage and network adapters that are individually operating under high I/O stress.

1.1.1.2 Compatibility Validation

Compatibility validation is a set of tests focused on installation, configuration and simple use of a single component. The three test areas within compatibility validation are verification of basic functionality, OS installation and boot, and PCI-E Hot Plug.

1.1.1.2.1 Functional Validation

The intent of functional validation testing is to validate that the component does not have any immediately apparent flaws or defects, as opposed to being a test of robustness. This testing includes basic data send/receive functionality, as well as some extended capabilities (depending on the device type and level).

1.1.1.2.2 OS Install and Boot

This testing validates that the specified OS successfully installs and boots to the product. Depending on the support level of the OS, this may include installation from optical or network media, and installation to drives connected to onboard or add-in devices.

1.1.1.2.3 PCI-E Hot Plug

This testing validates that OSes, drivers, and adapters properly support the three primary Hot-Plug activities: Hot Add, and Hot Replace.

1.1.1.3 Certification Testing

Certification testing is the set of tests that a third party Operating System Vendor (OSV) provides as part of a certification process (e.g., the WHQL WLK for Microsoft Windows). All level 1 OSes will be supported to run on the product when it is launched.

1.2 Component Test and Support Levels

1.2.1 Level 1 Testing and Support

Quanta will validate the compatibility of the platform with level 1 OSes and adapters and will validate that the platform is reliable under extended stress load conditions.

1.2.1.1 Level 1 OS Testing

Each level 1 OS will be validated in the following test areas:

- OS installation and boot
- Functional validation
- System stress
- Certification testing

1.2.1.2 Level 1 Adapter Testing

Each level 1 (all on board, and a selection of add-in) adapter will be validated in one or more pre-defined configurations. Additionally, all level 1 adapters will have each level 1 OS installed to it (storage) or through it (network). In summary, each adapter listed as level 1 will be subjected to the following validation test areas:

- OS installation and boot
- Functional validation
- System stress

1.2.1.3 Level 1 OS Customer Support

Quanta provides support for customers who encounter issues while running level 1 OSes and adapters on the platform. Support is defined as assistance in root cause of issues, and determining a customer acceptable resolution to the issue associated with the OS. The resolution may include, but is not limited to, on-board controller driver changes, engaging the OSV/ISV/IHV for resolution, BIOS changes,

firmware changes, or documented process changes. Quanta will ensure certification testing can pass on every level 1 OS. Individual customers must work with the OSV to verify that pass through certification is available for their product.

1.2.1.4 Level 1 Adapter Customer Support

Quanta will provide support for customer issues encountered while using level 1 adapters on level 1 OSes and the platform.

1.2.2 Level 2 Testing and Support

Quanta will validate the compatibility of the platform with level 2 adapters, as well as peripherals.

1.2.2.1 Level 2 OS Testing

Each level 2 OS will be validated in the following test areas:

- OS installation and boot

格式化: 項目符號及編號

1.2.2.2 Level 2 Adapter Testing

Each level 2 adapter will be stressed as a data device for at least 30 minutes with each level 1 OS. This is accomplished with functional validation testing.

1.2.2.3 Level 2 Peripheral Testing

All peripherals will be tested for basic functionality during test runs.

2. Base System Configurations

The following table lists the base configurations tested. Base configurations will change as new revisions of the Quanta Server System QSSC-S4R (Emerald Ridge) are released or new system BIOS, BMC firmware are flashed onto the board in the factory. Each base configuration is assigned an identifier number that is referenced in the tables throughout this document. New base configurations are added with each new release of this document.

Base System Configuration Identifier #	Product Code	BIOS Revision	BMC Firmware Revision	FRUSDR	NIC EEPROM	Notes
1	QSSC-S4R (EMERALD RIDGE)	R0019	10	07	1.7	
2	QSSC-S4R (EMERALD RIDGE)	R0020	10	07	1.7	
3	QSSC-S4R (EMERALD RIDGE)	R0020	11	08	1.7	
4	QSSC-S4R (EMERALD RIDGE)	R0021	11	08	1.7	
5	QSSC-S4R (EMERALD RIDGE)	R0021	12	09	1.7	
6.	QSSC-S4R (EMERALD RIDGE)	R0026	17	10	1.7	
7.	QSSC-S4R (EMERALD RIDGE)	R0028	18	12	1.7	
8.	QSSC-S4R (EMERALD RIDGE)	R0029	19	12	1.7	
9.	QSSC-S4R (EMERALD RIDGE)	R0030	20	13	1.7	
10.	QSSC-S4R (EMERALD RIDGE)	R0031	21	13	1.7	

3. Supported Operating Systems

The following table provides a list of supported operating systems for the Quanta Server System QSSC-S4R (EMERALD RIDGE). Each of the listed operating systems was tested for compatibility with a base system configuration. Operating system compatibility testing verifies that the operating system will install and function with all on-board devices listed below. All level 1 operating systems were tested under fully loaded configurations (all adapter and hard drive slots populated) with significant stress.

Any variations to the standard operating system installation process are documented in the installation guidelines section of this document. If there is not an installation guideline noted in the following table, then the operating system installed as expected using the manufacturer's installation instructions or Quanta's best-known methods.

Operating System	Base System Configuration Tested & Type of Testing	Notes
Microsoft Windows Server 2003* Enterprise SP2 EM64T	Configuration 1 – OS Installation & Compatibility Configuration 2 – Compatibility Configuration 3 – OS Installation & Compatibility Configuration 4 – Compatibility & Stress Configuration 5 – Compatibility	Service Pack 2
Microsoft Windows Server 2003* Enterprise SP2 32-bit	Configuration 1 – OS Installation	
Microsoft Windows Server 2008* SP2 64-Bit	Configuration 1 – OS Installation & Compatibility Configuration 2 – Compatibility & Stress Configuration 3 – OS Installation & Compatibility Configuration 4 – Compatibility Configuration 5 – Compatibility	Service Pack 2
Microsoft Windows Server 2008* SP2 32-bit	Configuration 1 – OS Installation Configuration 3 – OS Installation	
Microsoft Windows Server 2008* SP2 64-Bit (UEFI)	Configuration 2 – OS Installation	Installation Guideline 9.1
Microsoft Windows Server 2008* R2	Configuration 1 – OS Installation & Compatibility Configuration 2 – Compatibility Configuration 3 – OS Installation & Compatibility & Stress Configuration 4 – OS Installation & Compatibility Configuration 5 – Compatibility	

Microsoft Hyper-V (Virtualization Kernel for 2008)	Configuration 4 – OS Installation	
Red Hat* Enterprise Linux 5.0 Update4 EM64T	Configuration 1 – OS Installation & Compatibility Configuration 2 – Compatibility Configuration 3 – OS Installation & Compatibility & Stress Configuration 4 – Compatibility Configuration 5 – OS Installation & Compatibility	Update 4
Red Hat* Enterprise Linux 5.0 Update4 32-bit	Configuration 2 – OS Installation	
Red Hat* Enterprise Linux 5.0 Update4 EM64T (UEFI)	Configuration 2 – OS Installation	Installation Guideline 9.3
Red Hat* Enterprise Linux 6.0 EM64T	Configuration 1 – OS Installation & Compatibility Configuration 2 – Compatibility Configuration 3 – OS Installation & Compatibility & Stress Configuration 4 – Compatibility Configuration 5 – OS Installation & Compatibility	
Red Hat* Enterprise Linux 6.0 32-bit	Configuration 2 – OS Installation	
SUSE* LINUX Enterprise Server 11 EM64T	Configuration 1 – OS Installation & Compatibility Configuration 2 – OS Installation & Compatibility Configuration 3 – OS Installation & Compatibility & Stress Configuration 4 – Compatibility & Stress Configuration 5 – Compatibility	
SUSE* LINUX Enterprise Server 11 32-bit	Configuration 1 – OS Installation Configuration 2 – OS Installation Configuration 3 – OS Installation	
SUSE* LINUX Enterprise Server 10 SP2 EM64T	Configuration 2 – OS Installation	Installation Guideline 9.2
SUSE* LINUX Enterprise Server 10 SP2 32--bit	Configuration 3 – OS Installation	
VMWare ESX 4.0 Update1	Configuration 1 – OS Installation Configuration 3 – OS Installation	
VMWare ESX 4.0i Update1	Configuration 1 – OS Installation Configuration 4 – OS Installation	

VMware ESX 4.1	OS Installation	
VMware ESX 4.1i	OS Installation	
Solaris10 Update8	Configuration 3 – OS Installation Configuration 4 – OS Installation	
Citrix Xen 5.0 U3	OS Installation	

3.1 Operating System Certifications

Listed below are the operating systems that Quanta will certify with the Quanta Server System QSSC-S4R (Emerald Ridge). However, the customer is responsible for their own certification from the individual operating system vendors. In many cases, the customer may leverage their operating system certifications from the testing completed by Quanta. See the "Comments" column next to each operating system in the following table for additional information. Quanta's certification, pre-certification, and operating system testing may help reduce some of the risk in achieving customer certifications with the operating system vendors.

Operating System	Certification Listing	Comments
Microsoft Windows Server 2008* R2 EM64T	WHQL ID: 1403144 (Value SKU) 1403886 (Enterprise SKU)	
Microsoft Windows Server 2008* EM64T	WHQL ID: 1403144 (Value SKU) 1403886 (Enterprise SKU)	
Red Hat* Enterprise Linux 5.0 Update 4 EM64T	Keyword Search: QSSC-S4R	https://hardware.redhat.com/show.cgi?id=563804
SUSE* LINUX Enterprise Server 11 EM64T		All certification test items passed. Certification submission is in processing.
VMWare ESX 4.0 Update1	Keyword Search: QSSC-S4R	http://www.vmware.com/resources/compatibility/search.php
VMWare ESX 4.0i Update1	Keyword Search: QSSC-S4R	http://www.vmware.com/resources/compatibility/search.php
VMware ESX 4.1		
VMware ESX 4.1i		
Solaris10 Update 8	Keyword Search: QSSC-S4R	http://www.sun.com/bigadmin/hcl/data/systems/details/45766.html

4. Adapter compatibility

Add-in adapter card compatibility and stress testing was performed with the latest available version of an operating system and card software (driver, BIOS, firmware, etc.) at the time the validation testing occurred. Please contact the card vendor for current available software. Note that not all adapter cards may have been tested under all operating systems.

Any variations to the standard adapter installation process or to expected adapter functionality are documented in the Installation Guidelines section at the end of this document. If there are installation guidelines affecting a particular adapter and operating system combination, these are referenced in the following table. If there is not an installation guideline noted in the following table, then the adapter installed and functioned as expected using manufacturer's installation instructions or Quanta's best-known methods.

> Adapter card testing is normally performed with unused add-in adapters and onboard controller expansion ROMs disabled in BIOS Setup. Quanta recommends that customers disable the option ROM for add-in controllers and/or the on-board controllers when not booting from the controller or needing to use its built in utilities.

The support level for each adapter in sections 4 & 5 indicate the level of testing it received. If the driver is included natively in the base OS, then it will be indicated as the table below illustrates.

L1	The adapter received full stress testing in a fully loaded configuration.
L2	The adapter received compatibility testing ensuring it worked with other adapters in a fully loaded configuration but received no stress testing.
x.yy.zz^{NAT}	The driver for this adapter is available natively (In box) in the base OS as indicated by ^{NAT}.
SD (Similar Device)	This device is supported, but not tested. This device model has not been tested with this server board, but Quanta will support it based on successful testing of a similar device from the same device family. Quanta have high confidence that this device will function correctly with the server board. This device uses the same firmware and drivers, and has a nearly identical system interface to another device of the same family that has been successfully tested with this server board. In addition, Quanta have secured IHV commitment to support the similar devices equally. Customers should always test devices as part of the final system configuration prior to deployment. The installation guidelines for the tested device also apply to the similar devices.
Not Supported	Adapter does not have driver support in the indicated OS.
Supported	The supported L2 adapter was tested by a 3rd party and driver versioning is unknown, possible native driver.
Card Slot # Compatibility Fit PASS (Full Length)	Card Slots # Compatibility Fit (Full Length): refers to Full Length (FL) cards which will only fit in Full Length Slots. Full length Slots are numbers: 1,2,5,6,7,and 8. Half Length (HL) Slots are 3,4,9, and 10 and conflict with the IOH heat sinks on the QSSC-S4R board design.

The adapters are divided into categories below based on their functionality.

Support Level	Manufacturer	Model	Interface	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines	Card Slot # Compatibility Fit PASS (Full Length)
4.1 NIC Adapters										
L2	Intel	Intel®Gigabit ET Dual Port Server Adapter E1G42ET Portville DT (Dual Copper)	PCI-Express* x4	4	4	4	4	4		PCI-E slot #1-10
L2	Intel	Intel®Gigabit ET Quad Port Server Adapter E1G44ET Portville QT (Qual Copper)	PCI-Express* x4	3	4	4	3	4		PCI-E slot #1-10
L2	Intel	Intel®Niantic - Dual 10Gb SFP+ SR E10G42BFSRG1P5	PCI-Express* x8	4	4	4	4	4		PCI-E slot #1-10
L2	Intel	Intel®PRO/1000 PT single port Server Adapter EXPI9400PT	PCI-Express* x1	3	4	4	3	3		PCI-E slot #1-10
L1	Intel	Intel®PRO/1000 PT dual port Server Adapter EXPI9402PT	PCI-Express* x4	2	2	2	2	2		PCI-E slot #1-10
L1	Intel	Intel®PRO/1000 PT quad port LP Server Adapter EXPI9404PTL	PCI-Express* x4	2	2	2	2	2		PCI-E slot #1-10
L2	Intel	Intel® 10 Gigabit AT single port Server Adapter EXPX9501AT	PCI-Express* x8	2	2	2	2	2		PCI-E slot #1-10
L2	Intel	Intel® 10 Gigabit CX4 Dual Port Server Adapter EXPX9502CX4	PCI-Express* x8	2	2	2	2	2		PCI-E slot #1-10
L2	Quanta	10Gb, Dual port SFP+ TG20	PCI-Express* x8	5 see IG 9.4	5	5	5	5	9.4	PCI-E slot #1-10

Support Level	Manufacturer	Model	Interface	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines	Card Slot # Compatibility Fit PASS (Full Length)
L2	Chelsio	Chelsio N320E Fiber dual port LP Server Adapter	PCI-Express* x8	5	5	5	5	5		PCI-E slot #1-10
4.2	**SAS RAID Adapters**									
L1	Intel	RS2BL080DE (Big Laurel) RAID Controller 2108 ROC - SAS 6GB, 8 internal ports, Big Laurel-8iDE – Prod, PCIe-2.0	PCI-Express* x8 (HL)	4	4	4	4	4		PCI-E slot #1-10, SAS riser slot
L2	Adaptec	Adaptec RAID 5805 2x4 int, SATA/SAS, PCIe x8, 1.2GHz, 512MB	PCI-Express* x8 (HL)	4	4	4	4	4		PCI-E slot #1-10
L1	Intel	RAID Controller (Black Butte) SRCSASBB8I 1078 ROC - 8 internal ports SAS 3GB, LP-MD2	PCI-Express* x8 (HL)	4	4	4	4	4		PCI-E slot #1-10
L1	LSI	LSI MegaRAID SAS9260-8i (Castor) SAS 6GB, 8 internal ports, PCIe-2.0	PCI-Express* x8 (HL)	2	2	2	2	2		PCI-E slot #1-10, SAS riser slot
L1	Intel	RAID Controller SRCSASJV 1078 ROC - 8 internal ports SAS 3GB	PCI-Express* x8 (FL)	2	2	2	2	2		PCI-E slot #1,2,5,6,7,8 (FL)
L2	LSI	LSI MegaRAID SAS 8888ELP 1078 ROC - 8port SAS 3GB - selectable 8 internal/external ports	PCI-Express* x8 (HL)	2	2	2	2	2		PCI-E slot #1,2,5,6,7,8 (FL)
L2	Promise	SuperTrak EX16650 16 channel Internal RAID 0, 1, 1E, 5, 6, 10, 50, 60 3Gb SAS/SATA	PCI-Express* x8 (HL)	2	2	2	2	2		PCI-E slot #1-10

Support Level	Manufacturer	Model	Interface	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines	Card Slot # Compatibility Fit PASS (Full Length)
4.3	**SCSI RAID Adapters**									
4.4	**SAS Adapters**									
4.5	**SATA RAID Adapters**									
4.6	**Infiniband Adapter**									
L2	Mellanox	MHGS18-XTC Infinihost III Lx Single-Port 20Gb/s InfiniBand HCA	PCI-Express* x8	4	4	4	4 See IG 9.5	4 See IG 9.5	9.5	PCI-E slot #1-10
L2	Mellanox	MNEH29-XTC ConnectX EN 10 2 port, CX4 copper, w/ powered connector - PCIe 2.0 5.0GT/s	PCI-Express* x8	4 See IG 9.6	4 See IG 9.6	4 See IG 9.6	4 See IG 9.6	4 See IG 9.6	See IG 9.6	PCI-E slot #1-10
4.7	**Fibre Channel Adapters**									
L1	Qlogic	QLE2562	PCI-Express* x8	2	2	2	2	2		PCI-E slot #1-10
L1	Qlogic	QLE2462	PCI-Express* x4	2	2	2	2	2		PCI-E slot #1-10
4.8	**Storage Adapters**									
4.9	**Video Adapters**									

Support Level	Manufacturer	Model	Interface	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines	Card Slot # Compatibility Fit PASS (Full Length)

5. Core Board Set Components

Manufacturer	Model	System BIOS/Firmware	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines
5.1 SAS Riser Controller (for Enterprise SKU)								
LSI	LSI MegaRAID SAS9260-8i (Castor)	R0021 / v12.0.1-0032	L1	L1	L1	L1	L1	
Intel	RAID Controller RS2BL080DE, 2108 ROC - SAS 6GB, 8 internal ports, Big Laurel-8iDE - Prod Q3-09,PCIe-2.0	v.1.1-33d-Rel/v.1.12.122-0393	L1	L1	L1	L1	L1	

Manufacturer	Model	System BIOS/Firmware	Microsoft Windows Server 2003* SP2 EM64T	Microsoft Windows Server 2008* SP2 EM64T	Microsoft Windows Server 2008* R2	Red Hat* Enterprise Linux 5 Update4 EM64T	SuSE* Linux Enterprise Server 11 EM64T	Installation Guidelines
5.2 IO Riser - Gigabit Ethernet Controller								
Intel	Intel® 82576 PCIe* based Ethernet controllers (Kawela)#1	R0021 / Pkg. 14.7	L1	L1	L1	L1	L1	
Intel	Intel® 82576 PCIe* based Ethernet controllers (Kawela)#2	R0021 / Pkg. 14.7	L1	L1	L1	L1	L1	
Intel	Intel® 82576 PCIe* based Ethernet controllers (Kawela)#3	R0021 / Pkg. 14.7	L1	L1	L1	L1	L1	
Intel	Intel® 82576 PCIe* based Ethernet controllers (Kawela)#4	R0021 / Pkg. 14.7	L1	L1	L1	L1	L1	
5.3 IO Riser - Video Controller								
Matrox (Server Engine)	IBMC Video (G200e)	R0021 / Oprom 20080312.38SM	L1	L1	L1	L1	L1	

6. Peripheral compatibility

Peripheral compatibility testing was performed with the latest available version of an operating system and any necessary software (driver, BIOS, firmware, etc.) at the time the validation testing occurred. Testing consisted of normal use of the devices (except for tape drives which receive specific backup and recovery testing) throughout the system validation process.

Manufacturer	Model	Interface	Support Level	Installation Guidelines
6.1 USB Keyboard & Mouse				
6.2 Tape Drives				
HP	DAT72 USB (DW027A)	USB 2.0	L2	
6.3 Optical Drives				
Sony	AD7580S DVD±R/RW Slim-line	SATA	L2	
Hitachi	DVD+/-RW/RAM GT40N AW0GT40N000	SATA	L2	
Hitachi	DVD/RW/RAM AW0GT30N014 .ALVK711	SATA	L2	
Hitachi	DVD+/-RW/RAM GT32N AW0GT32N000	SATA		
6.4 USB Flash Drives & External Drives & SSD				
Memorex	32509097 8GB Travel USB Flash Drive	USB 2.0	L2	
SanDisk	Cruzer* Mini (SDCZ2-4096) Flash Drive 4GB		L2	
DigiCube	2.5" SATAII SSD 64GB (SLC) S2SN-64GSSDCJ022-005	SATA-300 & USB	L2	
DigiCube	2.5" SATAII SSD 128GB (SLC) S2SN-A28SSDCJ002-005		L2	
Intel	2.5" SATA SSD 80GB (MLC)	SATA	L2	
DigiCube	1GB Micro SSD Z-U131 Compatible USB MOUN-01GISDCU01/FW:AS0679	USB (Zypher-like)	L2	
DigiCube	2GB Micro SSD Z-U132 Compatible USB MOUN-02GISDCU01/FW:AS0679		L2	
TEAC	FD05PUW261 USB Floppy drive	USB	L2	
Intel	2.5" SATA SSD 40GB (MLC) SSDSA2CT040G3	SATA-300	L2	
Intel	2.5" SATA SSD 80GB (MLC) SSDSA2CW080G3	SATA-300	L2	
Intel	2.5" SATA SSD 160GB (MLC) SSDSA2CW160G3	SATA-300	L2	
Intel	2.5" SATA SSD 600GB (MLC)	SATA-300	L2	

Manufacturer	Model	Interface	Support Level	Installation Guidelines
	SSDSA2CW600G3			
Intel	X25-M SATA SSD 80GB SSDSA2MH080G2	SATA-300	L2	
Intel	X25-M SATA SSD 120GB SSDSA2MH120G2	SATA-300	L2	
Intel	X25-M SATA SSD 160GB SSDSA2MH160G2	SATA-300	L2	
Intel	2.5" SATA SSD 120GB (MLC) SSDSC2MH120A2	SATA-600	L2	
Intel	2.5" SATA SSD 250GB (MLC) SSDSC2MH250A2	SATA-600	L2	
Micron	Real SSD P300 50G MTFDDAC050SAL-1N1AA	SATA-600		
Micron	Real SSD P300 100GB MTFDDAC100SAL-1N1AA	SATA-600	L2	
Micron	Real SSD P300 200GB MTFDDAC200SAL-1N1AA	SATA-600	L2	
Micron	Real SSD C300 256G MTFDDAC256MAG			
Hitachi	Ultrastar SSD400S 100G HUSSL4010ASS600	SAS-600	L2	
Hitachi	Ultrastar SSD400S 200G HUSSL4020ASS600	SAS-600	L2	
Hitachi	Ultrastar SSD400S 400G HUSSL4040ASS600	SAS-600	L2	
Intel	SSDSA2MH080G1C1 - MM#899855	SATA		
Intel	SSDSA2MH080G1C1 - MM#899854	SATA		
DigiCube	S2SN-64GSSDCJ022-005	SATA-300 & USB		
DigiCube	S2SN-A28SSDCJ002-005	SATA-300 & USB		

7. Hard Disk Drives 2.5”

The 2.5” hard drives listed in the following table have been tested with the Quanta Server System QSSC-S4R (EMERALD RIDGE), in on-site validation labs, or by individual drive vendors. The drives were tested under each level 1 OS.

Manufacturer	Product Family	Model Number	RPM	Drive size[1]	Support Level	Installation Guidelines
Seagate	Savio SAS-300	ST936751SS	15K	36GB	L1	
Seagate	Savio SAS-300	ST973402SS	10K	73GB	L1	
Fujitsu	AL10Sx SAS-300	MBC2073RC	7.2K	73GB	L1	
Seagate	Savio 10K.2 SAS-300	ST9146802SS	10K	146GB	L1	
Seagate	Savio 10K. SAS-600	ST9300603SS	10K	300GB	L1	
Hitachi	UltraStar 10K SAS-300	HUS101414CSS300	10K	147GB	L1	
Seagate	Constellation SATA-300	ST9500530NS	7.2K	500GB	L1	
Seagate	Savvio 10K.4 SAS	ST9600204SS	10K	600G	L1	
Seagate	Constellation FAT SAS	ST9500430SS	7.2K	500G	L1	
Seagate	Savvio 10k.5 SAS-600	ST9900805SS	10K	900G	L1	
Seagate	Savvio 10K.5 SAS-600	ST9300605SS	10K	300G	L1	
Seagate	Savvio 10K.5 SAS-600	ST9450405SS	10K	450G	L1	
Seagate	Savvio 10K.5 SAS-600	ST9600205SS	10K	600G	L1	
Seagate	Constellation.2 SAS-600	ST9500620SS	7.2K	500G	L1	
Seagate	Constellation.2 SAS-600	ST91000640SS	7.2K	1T	L1	
Seagate	Constellation.2 SATA-600	ST9250610NS	7.2K	250G	L1	
Seagate	Constellation.2 SATA-600	ST91000640NS	7.2K	1T	L1	
Seagate	Constellation.2 SATA-600	ST9500620NS	7.2K	500G	L1	
Hitachi	Ultrastar C10K600 SAS	HUC106060CSS600	10K	600G	L1	
Hitachi	Ultrastar C10K300 SAS	HUC103030CSS600	10K	300G	L1	
Toshiba	AL12Se SAS	MBF2600RC	10K	600G	L1	
Seagate	Savvio 10K.4	ST9600204SS	10K	600GB		
Western Digital	WD6000BLHX	WD6000BLHX	10K	600GB		

[1]Note: All hard drives within the product families listed above are supported regardless of size unless otherwise noted.

8. DIMM

The DIMMs listed in the following table have been tested with the Quanta Server System QSSC-S4R (EMERALD RIDGE) with WSM+MB2 and NHM+MB2 configuration.

Manufacturer	DRAM Speed	Part Number	Configuration					Support Level	Installation Guidelines
			Capa	Raw	Config	VDD	Type(Reg.)		
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR4A-H9	8GB	E	2Rx4	1.35V	D7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR4A-H9	8GB	E	2Rx4	1.35V	D2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR4C-H9	8GB	E	2Rx4	1.5V	D7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR4C-H9	8GB	E	2Rx4	1.5V	D2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR8A-G7	8GB	H	4Rx8	1.35V	T7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR8A-G7	8GB	H	4Rx8	1.35V	T2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR8C-G7	8GB	H	4Rx8	1.5V	T7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT31GR7BFR8C-G7	8GB	H	4Rx8	1.5V	T2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT351R7BFR4A-H9	4GB	C	1Rx4	1.35V	T7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT351R7BFR4A-H9	4GB	C	1Rx4	1.35V	T2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT351R7BFR8A-H9	4GB	B	2Rx8	1.35V	T7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT351R7BFR8A-H9	4GB	B	2Rx8	1.35V	T2(Inphi)	L1	
Hynix	PC3-8500 DDR3-1066	HMT42GR7BMR4A-G7	16GB	F	4Rx4	1.35V	D7(IDT)	L1	
Hynix	PC3-8500 DDR3-1066	HMT42GR7BMR4A-G7	16GB	F	4Rx4	1.35V	D2(Inphi)	L1	
Hynix	PC3-8500 DDR3-1066	HMT42GR7BMR4C-G7	16GB	F	4Rx4	1.5V	D7(IDT)	L1	
Hynix	PC3-8500 DDR3-1066	HMT42GR7BMR4C-G7	16GB	F	4Rx4	1.5V	D2(Inphi)	L1	
Hynix	PC3-10600 DDR3-1333	HMT325R7BFR8A-H9	2GB	A	1Rx8	1.35V	T7(IDT)	L1	
Hynix	PC3-10600 DDR3-1333	HMT325R7BFR8A-H9	2GB	A	1Rx8	1.35V	T2(Inphi)	L1	
Hynix	PC3-8500 DDR3-1066	HMT31GR7AFR4C-G7	8GB	E	2Rx4	1.5V			
Hynix	PC3-8500 DDR3-1066	HMT42GR7AMR4C-G7	16GB	F	4Rx4	1.5V			
Samsung	PC3-10600 DDR3-1333	M393B5273CH0-YH9	4GB	B	2Rx8	1.35V	D2(Inphi)	L1	
Samsung	PC3-10600 DDR3-1333	M393B5273CH0-YH9	4GB	B	2Rx8	1.35V	D7(IDT)	L1	
Samsung	PC3-10600 DDR3-1333	M393B5270CH0-YH9	4GB	C	1Rx4	1.35V	D2(Inphi)	L1	
Samsung	PC3-10600 DDR3-1333	M393B5270CH0-YH9	4GB	C	1Rx4	1.35V	D7(IDT)	L1	
Samsung	PC3-10600 DDR3-1333	M393B1K70CH0-YH9	8GB	E	2Rx4	1.35V	D2(Inphi)	L1	
Samsung	PC3-10600 DDR3-1333	M393B1K70CH0-YH9	8GB	E	2Rx4	1.35V	D7(IDT)	L1	
Samsung	PC3-8500 DDR3-1066	M393B2K70CM0-YF8	16GB	F	4Rx4	1.35V	D2(Inphi)	L1	
Samsung	PC3-8500 DDR3-1066	M393B2K70CM0-YF8	16GB	F	4Rx4	1.35V	D7(IDT)	L1	
Samsung	PC3-10600 DDR3-1333	M393B5670EH1-CH9	2GB	C	1Rx4	1.5V			
Samsung	PC3-8500 DDR3-1066	M393B5170EH1-CF800	4GB						

Samsung	PC3-10600 DDR3-1333	M393B1K70BH1-CH9	8GB	E	2Rx4	1.5V			
Kingston	PC3-8500 DDR3-1066	KVR1066D3Q8R7S/4G	4GB	H	4Rx8	1.5V			#1
Kingston	PC3-8500 DDR3-1066	KVR1066D3Q4R7S/8G	8GB	F	4Rx4	1.5V			
Micron	PC3-8500 DDR3-1066	MT9JSF12872PZ-1G1F1	1GB	C	1Rx4	1.5V			
Micron	PC3-10600 DDR3-1333	MT41J128M8JP-15E:F	1GB			1.5V			
Micron	PC3-8500 DDR3-1066	MT18JSF25672PY-1G1D1	2GB	C	1Rx4	1.5V			
Micron	PC3-10600 DDR3-1333	MT18JSF51272PDZ-1G4D1	4GB	B	2Rx8	1.5V			#2
Micron	PC3-10600 DDR3-1333	MT36JSZF51272PZ-1G4F1	4GB	E	2Rx4	1.5V			

#1 Limited testing: w/ 16 pcs DIMM in the system

#2 Limited testing: w/ 32 pcs DIMM in the system

9. Installation Guidelines

9.1 #108784: Fail to install W2K8-64 UEFI with SATA Enhanced mode

Issue: System will show blue screen after start to install W2K8-64 UEFI.

Implication: W2K8 64bit UEFI cannot install successful.

Guideline:

Status: W2k8 R2 64bit is installed successfully under EFI Optimized Boot from BIOS R0026.

9.2 #113142: Install SLES 10 SP2 with SATA enhance mode has error log in the dmesg

Issue: Install SLES10 SP2 with SATA enhance mode has error log in the dmesg

Implication: Error message displayed in dmesg

Guideline:

Status: This is a harmless error, not an issue with latest kernel/OSes. Option method/implemention is not support by BIOS, recommend closing tracker as will not fix. Waived.

9.3 #109203: Can't enter RHEL5.4-64 UEFI mode

Issue: Can't find UEFI mode option in BIOS SETUP, whether the EFI Optimized Boot is

enabled or not.

Implication: Cannot install RHEL5.4 UEFI mode successful.

Guideline:

Status: Not a defect – RHEL 5.x does NOT support Boot loader/Anaconda Portion of UEFI; RHEL 5.x does NOT support EFI OS.

9.4 #112612: While installing Quanta's TG20 10Gb LAN card, the system showed blue screen under W2K3SP2x64

Issue: While installing Quanta TG20 10Gb LAN card, the W2K3SP2x64 OS could be installed successfully. But after installing the TG20 driver (v.4.0.305), the system would blue screen under W2K3SP2x64, and couldn't boot to OS normally. Change to another PCI-E slot, the issue still occurred.

Implication: Driver could not work properly under W2K3 SP2 64bit

Guideline:

Status: Not a defect – this is a known issue and limitation of Windows 2k3 when logical number of CPU cores exceeds 32.

9.5 #112858: System fail to run setup tool for Mellanox MHGS18-XTC performance tested under RHEL 5.4 and SLES-64BitCan't Install OS SUSE 10 UP1 64bit using SW SATA RAID

Issue: The test tool for performance test can't be executed setup successfully under RHEL and SLES.

Implication: Could not test performance.

Guideline:

Status: Under investigation

9.6 #113454: System displayed nothing when Mellanox MNEH29-XTC was populated during power on post

Issue: System displayed nothing when Mellanox MNEH29-XTC was populated during power on post.

Implication: It was blocked CV test of Mellanox MNEH29-XTC.

Guideline:

Status: Test passed with FW. v.2.7.0.

9.7 #116705: Yellow exclamation mark appears on the CPU and Memory modules in device manager under W2k8 32bit

Issue: Yellow exclamation mark appears on the CPU and Memory modules in device manager under W2k8 32bit Standard Edition OS.

Implication: Reboot the server this issue will disappear.

Guideline:

Status: Known limitation and not impact the functionality. Waived

9.8 #Known Issue: Yellow exclamation mark appears on the CPU and Memory modules in device manager under W2k8 32bit when populated memory more than 4GB.

Issue: Yellow exclamation mark appears on the CPU and Memory modules in device manager under W2k8 32bit Standard Edition OS when populated memory more than 4GB.

Implication: OS limitation.

Guideline:

Status: OS limitation. Waived.

10. Known issue for WSM-EX BIOS R0030 Launch

10.1 #118207: [Westmere] There will be no uncorrectable error log when removed the 3rd jumper of the DDDC rework DIMM.

Issue: There will be no uncorrectable error log when removed the 3rd jumper of the DDDC rework DIMM.

Implication: Cannot test DDDC function

Guideline:

Status: Fixed in BIOS R0031

10.2 #118166: The OS would not hang when removed two jumpers from the SDDC reworked DIMM.

Issue: The OS would not hang when removed two jumpers from the SDDC reworked DIMM.

Implication: Cannot test SDDC function

Guideline:

Status: Fixed in BIOS R0031

10.3 #118177: [WSM- EX] It has error and no SEL event log from sensor 02h after inject memory error use ITP tool.

Issue: It has error and no SEL event log from sensor 02h after inject memory error use ITP tool.

Implication: Cannot test SDDC function

Guideline:

Status: According to Intel's feedback, this is ITP tool limitation, can pass with rework DIMM.

10.4 #118168: [WSM-EX] can not create DDDC error according to DDDC test procedure with ITP tool.

Issue: It can not create DDDC error accord to DDDC test procedure with ITP tool.

Implication: Cannot test DDDC function

Guideline:

Status: According to Intel's feedback, this is ITP tool limitation, can pass with rework DIMM.

10.5 #118125: [WSM-EX] S4R BIOS R0030 System - Sleep Stress with IO BSOD in Win2k8 R2 Pre-cert Test

Issue: System - Sleep Stress with IO BSOD in Win2k8 R2 Pre-cert Test

Implication: WHQL test for Windows 2008 R2

Guideline:

Status: Fixed in BIOS R0031

10.6 # 118110: [WSM-EX] S4R BIOS R0030 failed WHEAHCT Logo Test in Win2k8 R2 Pre-cert Test

Issue: S4R BIOS R0030 failed WHEAHCT Logo Test in Win2k8 R2 Pre-cert Test

Implication: WHQL test for Windows 2008 R2

Guideline:

Status: Fixed in BIOS R0031

10.7 Occasional Machine Check Errors

Issue: A few customers reported occasional machine check errors when running the SpecFP benchmark around 72 hours.

Implication: Intermittent MCE error

Guideline:

Status: Under Investigation and suggest not to change the BIOS default settings for CPU C-states on S4R which disables the SMIKill feature.