Server WHQL Testing Services

Enterprise Platforms and Services Division

Intel® Server Board S5520UR

Intel® Server System SR2600URLX

Intel® Server System SR2625URLX

Server Test Submission (STS) Report

For the Microsoft® Windows® Logo Program (WLP)

Rev 1.0

March 27, 2009

This report describes the Intel® Server Board S5520UR Windows* Logo Program test run conducted by Intel Enterprise Platforms and Services Division (EPSD).

Purpose of this WLP Submission:

System First Time submission for the Microsoft* Designed for Windows Logo submission for the Intel® Server Board S5520UR in an active SAS Mid-plane configuration.

Submission Logo ID: 1323041

Submission Type:	Reason for test run	Check one
First Time Submission	Initial Microsoft Designed for Windows logo submission. New product submission.	☑
System Update	Hardware update. (For example, update submission test run with new processor speeds.)	☐
BIOS Update	BIOS and/or Firmware update. (For example, update submission test run with new BIOS to support additional processor speeds.)	☐
OS Update	OS update. (For example, update submission test run to add Microsoft Designed for Windows Server 2008 logo to product.)	☐

Revision History and Disclaimers

Revision History		
Revision	**Date**	**Comments**
1.0	3/27/2008	Internal draft of the STS Report for Windows Server 2008 Submission for Intel® Server Board S5520UR configured in SAS Integrated RAID (IR) mode

Contents

Introduction

This report provides an overview of the testing conducted on the Intel® Server Board S5520UR by Intel EPSD and provides details about this testing run.

Overview of Contents

Section	Content
Introduction	Brief descriptions of the sections in the report. Table listing terms and definitions.
Server Product Submission Information	Submission information, ID # and final server board configuration upon completion of WLP including HW, Driver version, BIOS version, and Board AA number
DTM	All DTM tests used during testing
Errata and Contingencies	All Microsoft* errata or contingencies used during testing

Terms and Definitions

Term	Definitions
EPSD	Enterprise Platforms and Services Division
HCL	Windows Hardware Compatibility List. Changed to Windows Server Catalogue. You can view the catalogue at: http://www.microsoft.com/windows/catalog/server/
DTM	Driver Test manager. For latest Server DTM tests visit: http://www.microsoft.com/whdc/hwtest/system/default.mspx
STS	Server Test Submission Report published by EPSD
WHDC	Windows* Hardware and Driver Central. Provides technical information, development and testing kits, newsletters and support information. http://www.microsoft.com/whdc/default.mspx
WHOS	Windows Hardware Online Service – Secure online web site used to submit products for logo qualification and review submission history. https://winqual.microsoft.com/
WHQL	Windows* Hardware Qualification Lab. For more information visit the WHDC home page at: http://www.microsoft.com/whdc/whql/default.mspx
WLP	Windows Logo Program. For further information see: http://www.microsoft.com/whdc/winlogo/default.mspx
WTS	Workstation Test Submission Report published by EPSD

Server Board Submission Information

Intel Server Board Submission Report: Completion of WLP

Data in this section reflects system submission information at the time of WLP Update submission.

Submission Information

Submission ID		
Submission ID / Master ID	**1323041**	
Submission Type		
	Check Submission Type	**Comments**
First-Time Hardware and Driver Test Submission	☑	
System Update Test Submission	☐	
Product Category		
Hardware Category	PC System or Server	
Operating System family	Windows Server 2008 family	
Product Detail		
General Product Information		
Equipment Type	Server	
Primary Target Market	Business/Corporate	
Compliance	All applicable requirements	
Characterization (optional)		
	Check appropriate options	**Comments**
Web Server	☑	
SQL Database Server	☑	
File Server	☑	

Server Board Configuration Information

Processor	
Quantity	2 (physical processors installed)
Front Side Bus Speed	6.40 GT/s
Family/Model	Intel® Xeon Quad-core Processor 5500 series
Speed	1.86, 2.00, 2.13, 2.26, 2.53, 2.66, 2.80, and 2.93 GHz
System Memory	
Amount Installed	96 GB
Memory Type	DDR3
Power Management	
ACPI Sleep States (S1, S2, S3, S4)	S1
Server Board Product	
System uses logo'd motherboard	NO (Server boards are <u>NOT</u> eligible for logo under the Microsoft* Motherboard logo program)
Board AA #/Fab	PBA: E22554-601
Board Manufacturer	Intel Corporation
Board Model	Intel® Server Board S5520UR
Northbridge* Chipset Manufacturer	Intel Corporation
Northbridge Chipset Model	Intel® 5520 IOH
Southbridge* Chipset Manufacturer	Intel Corporation
Southbridge Chipset Model	Intel® ICHIOR I/O Controller
BIOS	
BIOS Manufacturer	AMI*
BIOS Version	S5500.86B.01.00.0033.03062009
BIOS Date	3/6/2009
BIOS URL (For Updates)	http://support.intel.com/support/motherboards/server/s5520ur

Bus Types				
	Check all that Apply			**Check all that Apply**
PS/2	☑	AGP*		☐
1394	☐	PCCard* (16-bit)		☐
CF (Compact Flash)	☐	CardBus* (32-bit)		☐
PCI	☑	USB		☐
Mini-PCI	☐	USB 2.0		☑
AMR	☐	InfiniBand*		☐
ACR	☐	Bluetooth*		☐
COM (Serial)	☑	PCI Express		☑
Integrated Components				
	Check all that Apply			**Check all that Apply**
Audio	☐	Display		☑
IDE	☑	Networking		☑
SCSI	☑	RAID		☑
Modem	☐	Bluetooth*		☐

Onboard Integrated Devices and Drivers

Data in this section reflects system configuration at the time of WLP submission. The latest drivers for the Intel® Server Board S5520UR are available for download at:

http://support.intel.com/support/motherboards/server/s5520ur

Technology	OS	Version
Intel® S5000/ESB2-E Chipset The chipset contains two main components: the Memory Controller Hub (MCH) for the host bridge and the I/O controller hub for the I/O sub-system. The chipset uses the Enterprise South Bridge (ESB2-E) for the I/O controller hub.	**Windows Server 2008** **Windows Server 2008 – 64Bit**	9.1.0.1012 9.1.0.1012
Embedded SROMBSASMP2 (LSI 1078) Controller Integrated RAID (IR) mode	**Windows Server 2008** **Windows Server 2008 – 64Bit**	1.29.03.00 1.29.03.00
LAN 2 X Intel 82575EB Server Network Connection Supports 10/100/1000 and I/O Accelerated Technology (Intel 82563GB Controller)	**Windows Server 2008** **Windows Server 2008 – 64Bit**	9.12.16.0 (Pkg 13.5) 9.12.16.0 (Pkg 13.5)
Display Server Engine iBMC video controller	**Windows Server 2008** **Windows Server 2008 – 64Bit**	WDM20080228.1996-R4 WDM20080228.1996-R4

Product Data for HCL: Completion of WLP

Data in this section reflects product data for HCL at time of WLP submission.

Product Data	
Product Name	Intel® Server Board S5520UR
Additional Product Names	Intel® Server System SR1625URSAS
	Intel® Server System SR2600URLX
	Intel® Server System SR2625URLX
Supported Platforms	

	Check Tested	Comments
Windows Server 2003 family	☐	
Windows Server 2003 x64 family	☐	
Windows Server 2008 family	☑	
Windows Server 2008 x64 family	☑	

Hardware Compatibility Tests Used

Microsoft* Windows Hardware Driver Central Server Testing Home Page:
http://www.microsoft.com/whdc/hwtest/system/default.mspx.

Please check this website regularly for test kit updates.

Operating Systems	Notes	Hardware Compatibility Tests (HCT)
Windows Server 2003	DTM 1.2 Test Procedures for Systems, Servers and Cluster Servers (Windows 2000) http://download.microsoft.com/download/whistler/ Docs/Docs/W982KMeXP/EN-US/HCT9502_Systems.exe	DTM 1.2 Test Kit (Windows 2000) (35.4 MB) http://download.microsoft.com/download/whistler/Tools /Tools/W98NT42KMeXP/EN-US/HCT9502UPD.EXE
	Logo'd Components Index Full Install	Logo'd Components Index Full Install (~9.8 MB) http://download.microsoft.com/download/whistler/Instal l/20.0/W982KMeXP/EN-US/logoidx.exe
	391 NDIS Intermediate Drivers Instructions http://download.microsoft.com/download/whistler/ Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe	Beta NDIS Test Update (ndt391.exe) (2MB) http://download.microsoft.com/download/whistler/Instal l/12.2/W982KMeXP/EN-US/ndt391.exe
	386 NDIS Intermediate Drivers Instructions http://download.microsoft.com/download/whistler/ Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe	NDIS Test Update for Windows 98 SE, Windows Me, and Windows 2000 (ndt386.exe) (2.02MB) http://download.microsoft.com/download/whistler/Instal l/12.2/W982KMeXP/EN-US/ndt386.exe
Windows Server 2008	DTM 1.2 Test Procedures and Readme files for Windows Server 2003 and Windows Server 2008 (4.95MB) http://www.microsoft.com/whdc/hwtest/search/de tails.aspx?ID=725	DTM 1.2 Test Kit (4.95MB) http://www.microsoft.com/whdc/hwtest/search/details.a spx?ID=724
	Logo'd Components Index Full Install	Logo'd Components Index Full Install (~9.8 MB) http://download.microsoft.com/download/whistler/Instal l/20.0/W982KMeXP/EN-US/logoidx.exe

Errata and Contingencies

Microsoft* System DTM Errata list is available at:

https://winqual.microsoft.com/EC/

Operating System	Identification Number	Title
Windows Server 2008		*See Testing Exceptions section below*

Submission Readme File

Effective May 1, 2002, the new Microsoft standardized Readme form will be required for all hardware submissions that include any of the following testing exceptions:

- Test failures
- Tests not run
- Missing test logs
- Inconclusive test results

All testing exceptions must be identified with a valid Errata ID, Incident ID, or Contingency ID provided by WHQL. The new Microsoft standardized Readme file is available for download at:

http://www.microsoft.com/whdc/winlogo/WLK/default.mspx

Testing Exceptions for S5520UR-SAS-IR Windows Server 2008

Data in this section reflects product data and test exceptions listed in section 2 of the S5520UR-SAS-IR Readme file at time of WLP First-Time submission ID Number **1323041**.

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number
Windows Server 2008	Errata	1078
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	The Bit 5 (Surprise Down Error Severity) in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 1 if the Bit 5 (Surprise Down Error Mask) in the Uncorrectable Error Mask Register in the Advanced Errror Reporting Capability table is not implemented	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number
Windows Server 2008	Errata	997
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Error Reporting Capable bits 4:0 of the Device Control Register in the PCI Express capability aren't tested correctly. 1) Assertion 47C39833-84AD-44EA-9723-0695202ADDEA: FAILED. Bit 0 (Correctable Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 2) Assertion 5CBA2A63-A48E-4443-85FA-A7DCD8EA47BC: FAILED. Bit 1 (Non-Fatal Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 3) Assertion 0AB06F7C-59CB-4F9A-8363-B51B1ACAB54F: FAILED. Bit 2 (Fatal Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 4) Assertion E3834E4A-A7BD-410C-9A61-FA91770D2A71: FAILED. Bit 3 (Unsupported Request Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable.	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number

Windows Server 2008	Errata	1051
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Bit range 9:4 (Negotiated Link Width)in the Link Status register (offset 12h) in the PCI Express Capability table is 1h. It cannot be in the set of values {0x1, 0x2} for PCI Express display controllers. Assertion 7229E848-31C2-482A-88F2-73ADA2C32B79.	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	**Failure type** (Contingency, Errata, Incident)	**ID number**
Windows Server 2008	Errata	1098
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Assertion FAE18121-9177-4FB2-A081-0D04C285EFF2 Bit range 15:0 (Extended Capability ID)in the Enhanced Capability Header register (offset 0h) in the Unrecognized Enhanced Capability ID 13 table is Dh. It must be in the range [0x0 - 0xB] as all other Capability IDs are reserved.	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	**Failure type** (Contingency, Errata, Incident)	**ID number**
Windows Server 2008	Errata	1150
Failing test name	PCI Harware Compliance Test for Systems Running Windows Vista (PCIHCT)	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Assertion 3CDD17AF-215E-4921-894F-C99434A3B3CA Bit range 31:21 (Reserved_3)in the Uncorrectable Error Mask register (offset 8h) in the Advanced Error Reporting Capability table must be read-only and always return 0 . Assertion FF8BC1A1-79B5-480A-9439-BF81AEDF4183 Bit 13 (Flow Control Protocol Error Severity) in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 1 . It was found to return 0. Assertion 461CA4DE-9266-4420-9B5F-F33622A5D02B Bit range 31:21 (Reserved_3)in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 0.	
Additional information (for example, test system in a multiple system configuration)		

Testing Exceptions for S5520UR-SAS-IR Windows Server 2008 64 Bit

Data in this section reflects product data and test exceptions listed in section 2 of the S5520UR-SAS-IR Readme file at time of WLP First-Time submission ID Number **1323041**.

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number
Windows Server 2008 x64	Errata	1078

Failing test name	PCI Hardware Compliance Test
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	The Bit 5 (Surprise Down Error Severity) in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 1 if the Bit 5 (Surprise Down Error Mask) in the Uncorrectable Error Mask Register in the Advanced Errror Reporting Capability table is not implemented
Additional information (for example, test system in a multiple system configuration)	

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number
Windows Server 2008 x64	Errata	997

Failing test name	PCI Hardware Compliance Test
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Error Reporting Capable bits 4:0 of the Device Control Register in the PCI Express capability aren't tested correctly. 1) Assertion 47C39833-84AD-44EA-9723-0695202ADDEA: FAILED. Bit 0 (Correctable Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 2) Assertion 5CBA2A63-A48E-4443-85FA-A7DCD8EA47BC: FAILED. Bit 1 (Non-Fatal Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 3) Assertion 0AB06F7C-59CB-4F9A-8363-B51B1ACAB54F: FAILED. Bit 2 (Fatal Error Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable. 4) Assertion E3834E4A-A7BD-410C-9A61-FA91770D2A71: FAILED. Bit 3 (Unsupported Request Reporting Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-writable.
Additional information (for example, test system in a multiple system configuration)	

Operating system (Windows XP, Windows 2000, etc.)	Failure type (Contingency, Errata, Incident)	ID number

Windows Server 2008 x64	Errata	1051
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Bit range 9:4 (Negotiated Link Width)in the Link Status register (offset 12h) in the PCI Express Capability table is 1h. It cannot be in the set of values {0x1, 0x2} for PCI Express display controllers. Assertion 7229E848-31C2-482A-88F2-73ADA2C32B79.	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	**Failure type** (Contingency, Errata, Incident)	**ID number**
Windows Server 2008 x64	Errata	1098
Failing test name	PCI Hardware Compliance Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Assertion FAE18121-9177-4FB2-A081-0D04C285EFF2 Bit range 15:0 (Extended Capability ID)in the Enhanced Capability Header register (offset 0h) in the Unrecognized Enhanced Capability ID 13 table is Dh. It must be in the range [0x0 - 0xB] as all other Capability IDs are reserved.	
Additional information (for example, test system in a multiple system configuration)		

Operating system (Windows XP, Windows 2000, etc.)	**Failure type** (Contingency, Errata, Incident)	**ID number**
Windows Server 2008 x64	Errata	1150
Failing test name	PCI Harware Compliance Test for Systems Running Windows Vista (PCIHCT)	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	Assertion 3CDD17AF-215E-4921-894F-C99434A3B3CA Bit range 31:21 (Reserved_3)in the Uncorrectable Error Mask register (offset 8h) in the Advanced Error Reporting Capability table must be read-only and always return 0 . Assertion FF8BC1A1-79B5-480A-9439-BF81AEDF4183 Bit 13 (Flow Control Protocol Error Severity) in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 1 . It was found to return 0. Assertion 461CA4DE-9266-4420-9B5F-F33622A5D02B Bit range 31:21 (Reserved_3)in the Uncorrectable Error Severity register (offset Ch) in the Advanced Error Reporting Capability table must be read-only and always return 0.	
Additional information (for example, test system in a multiple system configuration)		
Operating system	**Failure type** (Contingency, Errata, Incident)	**ID number**

(Windows XP, Windows 2000, etc.)		
Windows Server 2008 x64	Errata	1284, 1285, 1286
Failing test name	Virtualization – Virtual machine Detect Test	
Applicable error message (Type **N/A** if the error message or failing text is excessive or if there is no text)	The Virtualization - Virtual Machine Detect Test is incorrectly available to run in the Server category for non virtualization featured servers.	
Additional information (for example, test system in a multiple system configuration)		

Additional Information

No additional information entered in section 3 of the S5520UR-SAS-IR Submission Readme file at time of WLP submission ID 1323041.

Appendix A – Submission History

Microsoft "Designed for Windows*" logo submission history for the Intel® Server Board S5520UR-SAS-IR

Submission ID	Type	Date	OS Qualified	Processor Speeds	Board Revision	BIOS Version
1323041	First-Time	3/27/09	Windows Server 2008 - 32 & 64 Bit	1.86, 2.00, 2.13, 2.26, 2.53, 2.66, 2.80, and 2.93 GHz	601	S5500.86B.01.00.33 3/6/2009
1323044	First-Time	3/27/09	Windows Server 2003 - 32 & 64 Bit	" "	601	S5500.86B.01.00.33 3/6/2009