



**Server WHQL Testing Services**  
**Enterprise Platforms and Services Division**

# **Intel<sup>®</sup> Server Board**

# **S5000XAL-SWRAID**

---

## **Server Test Submission (STS) Report**

### **For the Microsoft<sup>®</sup> Windows<sup>®</sup> Logo Program (WLP)**

Rev 1.0

**December 8, 2006**

This report describes the Intel<sup>®</sup> S5000XAL-SWRAID Server Platform Windows\* Logo Program test run conducted by Intel Enterprise Platforms and Services Division (EPSD). The –SWRAID designation in the product name indicates that this certification applies to a SAS SW RAID configuration, utilizing the active midplane in SW RAID mode.

#### **Purpose of this WLP Submission:**

System First Time submission for the Microsoft\* Designed for Windows Logo submission for the Intel<sup>®</sup> Server Board S5000XAL-SWRAID BIOS support for Quad-core Intel<sup>®</sup> Xeon<sup>®</sup> 5300 Series processors

<b>Submission Type:</b>	<b>Reason for test run</b>	<b>Check one</b>
First Time Submission	Initial Microsoft Designed for Windows logo submission. New product submission.	<input checked="" type="checkbox"/>
System Update	Hardware update. (For example, update submission test run with new processor speeds.)	<input type="checkbox"/>
BIOS Update	BIOS and/or Firmware update. (For example, update submission test run with new BIOS to support additional processor speeds.)	<input type="checkbox"/>
OS Update	OS update. (For example, update submission test run to add Microsoft Designed for Windows Server 2003 logo to product.)	<input type="checkbox"/>

# Revision History and Disclaimers

---

Revision History		
Revision	Date	Comments
1.0	12/8/2006	Initial version of the STS Report for Windows Server 2003 EE x86 and x64 Submission for Intel <sup>®</sup> Server Board S5000XAL-SWRAID.

THIS TEST REPORT IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

Information in this document is provided in connection with Intel<sup>®</sup> products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by the sale of Intel products. 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 retains the right to make changes to its test specifications at any time, without notice.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty.

Intel, Pentium, Itanium and Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

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

Copyright © 2004, Intel Corporation. All rights reserved.

# Contents

---

<b>Revision History and Disclaimers .....</b>	<b>2</b>
<b>Introduction .....</b>	<b>4</b>
Overview of Contents.....	4
Terms and Definitions .....	4
<b>Server Board Submission Information.....</b>	<b>5</b>
Intel Server Board Submission Report: Completion of WLP.....	5
Submission Information .....	5
Submission ID.....	5
Submission Type .....	5
Product Category .....	5
Product Detail .....	5
General Product Information.....	5
Characterization (optional).....	5
Server Board Configuration Information .....	6
Processor.....	6
System Memory .....	6
Power Management.....	6
BIOS .....	6
Bus Types .....	7
Integrated Components .....	7
Onboard Integrated Devices and Drivers.....	7
Product Data for HCL: Completion of WLP.....	8
Product Data .....	8
<b>Hardware Compatibility Tests Used.....</b>	<b>9</b>
<b>Errata and Contingencies.....</b>	<b>10</b>
Submission Readme File .....	10
Testing Exceptions for S5000XAL-SWRAID Windows Server 2000 .....	11
Testing Exceptions for S5000XAL-SWRAID Windows Server 2003 EE x86.....	11
Testing Exceptions for S5000XAL-HWRAID Windows Server 2003 EE x64.....	12
Additional Information .....	13
<b>Appendix A – Submission History.....</b>	<b>14</b>

# Introduction

---

This report provides an overview of the testing conducted on the Intel® Server Board S5000XAL-SWRAID 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
HCT	All HCT's 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: <a href="http://www.microsoft.com/windows/catalog/server/">http://www.microsoft.com/windows/catalog/server/</a>
HCT	Hardware Compatibility Tests. For latest Server HCTs visit: <a href="http://www.microsoft.com/whdc/hwtest/system/default.aspx">http://www.microsoft.com/whdc/hwtest/system/default.aspx</a>
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. <a href="http://www.microsoft.com/whdc/default.aspx">http://www.microsoft.com/whdc/default.aspx</a>
WHOS	Windows Hardware Online Service – Secure online web site used to submit products for logo qualification and review submission history. <a href="https://winqual.microsoft.com/">https://winqual.microsoft.com/</a>
WHQL	Windows* Hardware Qualification Lab. For more information visit the WHDC home page at: <a href="http://www.microsoft.com/whdc/whql/default.aspx">http://www.microsoft.com/whdc/whql/default.aspx</a>
WLP	Windows Logo Program. For further information see: <a href="http://www.microsoft.com/whdc/winlogo/default.aspx">http://www.microsoft.com/whdc/winlogo/default.aspx</a>
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	1222638	
Submission Type		
	Check Submission Type	Comments
First-Time Hardware and Driver Test Submission	<input checked="" type="checkbox"/>	
System Update Test Submission	<input type="checkbox"/>	
Product Category		
Hardware Category	PC System or Server	
Operating System family	Windows Server 2003 32-bit and 64-bit and Windows 2000 (Supported Status only for 2000) families	
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	<input checked="" type="checkbox"/>	
SQL Database Server	<input checked="" type="checkbox"/>	
File Server	<input checked="" type="checkbox"/>	

## Server Board Configuration Information

Processor	
Quantity	2 (physical processors installed)
Front Side Bus Speed	1333 MHz
Family/Model	Dual-Core Intel <sup>®</sup> Xeon <sup>®</sup> processors
Speed	1.60, 1.86, 2.00, 2.33, 2.66, 3.00, 3.20, and 3.73 GHz
System Memory	
Amount Installed	32 GB
Memory Type	FB DDR2-533 (4 GB FBDIMMs, ECC)
Power Management	
ACPI Sleep States (S1, S2, S3, S4)	S1, S4
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: D46952-801
Board Manufacturer	Intel Corporation
Board Model	Intel <sup>®</sup> Server Board S5000XAL
Northbridge* Chipset Manufacturer	Intel Corporation
Northbridge Chipset Model	Intel <sup>®</sup> 5000P Memory Controller Hub
Southbridge* Chipset Manufacturer	Intel Corporation
Southbridge Chipset Model	Intel <sup>®</sup> ESB2-E I/O Controller
BIOS	
BIOS Manufacturer	AMI*
BIOS Version	S5000.86B.04.00.0062
BIOS Date	8/21/2006
BIOS URL (For Updates)	<a href="http://support.intel.com/support/motherboards/server/S5000XAL/">http://support.intel.com/support/motherboards/server/S5000XAL/</a>

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

### 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 S5000XAL are available for download at:

<http://support.intel.com/support/motherboards/server/S5000XAL/>

Technology	OS	Version
<b>Intel® S5000/ESB2-E Chipset</b> 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.	<b>Windows Server 2003</b> <b>Windows Server 2003 – 64Bit</b>	8.1.1.1001 8.1.1.1001
<b>Embedded SATA RAID (ESB2-E) Controller</b> Enhanced (Native) mode	<b>Windows Server 2003</b> <b>Windows Server 2003 – 64Bit</b>	Embedded Embedded
<b>Intel® SR0MBSAS18E RAID Controller</b> SW RAID mode	<b>Windows Server 2003</b> <b>Windows Server 2003 – 64Bit</b>	4.24.0620.2006 4.24.0620.2006
<b>LAN</b> 2 X Intel PRO/1000-EB Server Network Connection Supports 10/100/1000 and I/O Accelerated Technology (Intel 82563GB Controller)	<b>Windows Server 2003</b> <b>Windows Server 2003 – 64Bit</b>	9.5.12.0 9.5.12.0

<b>I/O Accelerated Technology</b>	<b>Windows Server 2003</b>	1.2.52.0
	<b>Windows Server 2003 – 64Bit</b>	1.2.52.0
<b>Display</b> ATI* ES1000 SVGA PCI video controller with 16 MB of video memory	<b>Windows Server 2003</b>	8.24.3.0
	<b>Windows Server 2003 – 64Bit</b>	8.24.3.0
<b>Intel® ESG-SHV backplane</b> (Null driver)	<b>Windows Server 2003</b>	5.00.6055.2
	<b>Windows Server 2003 – 64Bit</b>	5.00.6055.2

### 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 S5000XAL-SWRAID	
Additional Product Names		
Supported Platforms		
	<b>Check Tested</b>	<b>Comments</b>
Windows 2000 Server	<input checked="" type="checkbox"/>	
Windows 2000 Advanced Server	<input checked="" type="checkbox"/>	
Windows Server 2003, Web Edition	<input checked="" type="checkbox"/>	
Windows Server 2003, Standard Edition	<input checked="" type="checkbox"/>	
Windows Server 2003, Enterprise Edition	<input checked="" type="checkbox"/>	
Windows Server 2003, Enterprise Edition 64 Bit	<input checked="" type="checkbox"/>	



# 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* 2000	HCT 12.1.01 Test Procedures for Systems, Servers and Cluster Servers (Windows 2000)  <a href="http://download.microsoft.com/download/whistler/Docs/Docs/W982KMeXP/EN-US/HCT9502_Systems.exe">http://download.microsoft.com/download/whistler/Docs/Docs/W982KMeXP/EN-US/HCT9502_Systems.exe</a>	HCT 12.1.01 Test Kit (Windows 2000) (35.4 MB)  <a href="http://download.microsoft.com/download/whistler/Tools/Tools/W98NT42KMeXP/EN-US/HCT9502UPD.EXE">http://download.microsoft.com/download/whistler/Tools/Tools/W98NT42KMeXP/EN-US/HCT9502UPD.EXE</a>
	Logo'd Components Index Full Install	Logo'd Components Index Full Install (~9.8 MB)  <a href="http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe">http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe</a>
	391 NDIS Intermediate Drivers Instructions  <a href="http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe">http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe</a>	Beta NDIS Test Update (ndt391.exe) (2MB)  <a href="http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt391.exe">http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt391.exe</a>
	386 NDIS Intermediate Drivers Instructions  <a href="http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe">http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe</a>	NDIS Test Update for Windows 98 SE, Windows Me, and Windows 2000 (ndt386.exe) (2.02MB)  <a href="http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt386.exe">http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt386.exe</a>
Windows Server 2003	HCT 12.1.01 Test Procedures and Readme files for Windows XP SP1 and Windows Server 2003 (4.95MB)  <a href="http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=725">http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=725</a>	HCT 12.1.01 (Windows XP SP1 and Windows Server 2003) Test Kit (4.95MB)  <a href="http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=724">http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=724</a>
	Logo'd Components Index Full Install	Logo'd Components Index Full Install (~9.8 MB)  <a href="http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe">http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe</a>

## Errata and Contingencies

---

Microsoft\* System HCT Errata list is available at:

<http://www.microsoft.com/whdc/hwtest/search/results.aspx?type=errata&key=system&kit=-1>

Operating System	Identification Number	Title
Windows Server 2003	772	LAN Device Wake test is not required on network devices in mobile systems, multifunction, broadband, LAN emulation, wireless LAN, server LAN, or bus-powered USB network devices
Windows Server 2003	1522	PCI Compliance Test fails when the interrupt line in the North Bridge is defined as Read Only

### 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://download.microsoft.com/download/whistler/install/1.0/w98nt42kmexp/en-us/readme.exe>

## Testing Exceptions for S5000XAL-SWRAID Windows Server 2000

As of November 1<sup>st</sup>, 2004, Windows 2000 logs are no longer required for submission. Windows will only get a "Supported" status when submitted along with Windows Server 2003.

## Testing Exceptions for S5000XAL-SWRAID Windows Server 2003 EE x86

Data in this section reflects product data and test exceptions listed in section 2 of the S5000XAL-SWRAID Readme file at time of WLP First-Time submission **ID 1222638**.

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x86	Errata	1522
<b>Failing test name</b>	PCI Compliance Test	
<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)	4C4.4C8 : DEVICE INFO : Intel(R) 5000 Series Chipset PCI Express x4 Port 3 - 25E3  4C4.4C8 : DEVICE INFO : PCI\VEN_8086&DEV_25E3&SUBSYS_00000000&REV_31\3&11583659&0&18  4C4.4C8 : +TEST+SEV2 : FAIL: 4.52.3 - If the device uses an interrupt, the Interrupt Line field must be implemented as read/write.	
<b>Additional information</b> (for example, test system in a multiple system configuration)		

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x86	Errata	772
<b>Failing test name</b>	Wake Device Server	
<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)		
<b>Additional information</b> (for example, test system in a multiple system configuration)	This test is not required for servers with Gb Ethernet devices, such as the Intel <sup>®</sup> PRO/1000 EB	

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x86	Errata	772
<b>Failing test name</b>	LAN Device Wake Up	

<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)	
<b>Additional information</b> (for example, test system in a multiple system configuration)	This test is not required for servers with Gb Ethernet devices, such as the Intel® PRO/1000 EB

### Testing Exceptions for S5000XAL-SWRAID-HWRAID Windows Server 2003 EE x64

Data in this section reflects product data and test exceptions listed in section 2 of the S5000XAL-SWRAID Readme file at time of WLP First-Time submission **ID 1222638**.

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x64	Errata	1522
<b>Failing test name</b>	PCI Compliance Test	
<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)	638.63C : DEVICE INFO : Intel(R) 5000 Series Chipset PCI Express x4 Port 3 - 25E3  638.63C : DEVICE INFO : PCI\VEN_8086&DEV_25E3&SUBSYS_00000000&REV_31\3&11583659&0&18  638.63C : +TEST+SEV2 : FAIL: 4.52.3 - If the device uses an interrupt, the Interrupt Line field must be implemented as read/write.	
<b>Additional information</b> (for example, test system in a multiple system configuration)		

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x64	Errata	772
<b>Failing test name</b>	Wake Device Server	
<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)		
<b>Additional information</b> (for example, test system in a multiple system configuration)	This test is not required for servers with Gb Ethernet devices, such as the Intel® PRO/1000 EB	

<b>Operating system</b> (Windows XP, Windows 2000, etc.)	<b>Failure type</b> (Contingency, Errata, Incident)	<b>ID number</b>
Windows Server 2003 EE x64	Errata	772
<b>Failing test name</b>	LAN Device Wake Up	
<b>Applicable error message</b> (Type <b>N/A</b> if the error message or failing text is excessive or if there is no text)		
<b>Additional information</b> (for example, test system in a multiple system configuration)	This test is not required for servers with Gb Ethernet devices, such as the Intel <sup>®</sup> PRO/1000 EB	

### Additional Information

No additional information entered in section 3 of the S5000XAL-SWRAID Readme file at time of WLP submission **ID 1222638**.

## Appendix A – Submission History

---

Microsoft “Designed for Windows\*” logo submission history for the Intel® Server S5000XAL-SWRAID:

Submission ID	Type	Date	OS Qualified	Processor Speeds	Board Revision	BIOS Version
1222638	First-Time	12/1/06	Windows 2003 EE 32-Bit & 64-bit	1.60, 1.86, 2.00, 2.33, 2.66, 3.00, 3.20, and 3.73 GHz	801	S5000.86B.05.00.70 11/17/2006