Intel® Carrier Grade Server TIGI2U & Intel® IP Network Server NSI2U

Tested Hardware and Operating System List

Revision 1.3

September, 2006

Enterprise Platforms and Services Marketing

Revision History

Date	Revision Number	Modifications
September 2005	1.0	Initial Release
Q106	1.1	RoHS Updates
Q206	1.2	Supported OS Updates and Certifications
September 2006	1.3	Addition of Suse 9.x SP3 support

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1. Introduction

This document is intended to provide users of the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** with a list of the operating systems, adapter cards, and peripherals tested by Intel on this server platform. The Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** are both integrated using the Intel® Server Board **SE7520JR2**.

This document will continue to be updated as new adapters, peripherals, and operating systems are tested or until the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** are no longer in production. Each new release of the document will present updated information as well as continue to provide the information from previous releases.

The adapters and peripherals specified in this document may or may not have been tested on all available board/riser combinations that make up the TIGI2U and NSI2U product family. Intel will provide support for the adapters and peripherals listed when used within this family of products.

The Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** product families consists of the following server building blocks and integrated systems:

Product Code	Product Description
TLIA0201	Intel® Carrier Grade Server TIGI2U, Server Board SE7520JR2 - Onboard SCSI + DDR2 – 400 MHz + Two PCI Risers + 20 inch Chassis Depth + CDR-RW/DVD-ROM + Two SCSI HDD Support + AC Power
TLID0201	Intel® Carrier Grade Server TIGI2U, Server Board SE7520JR2 - Onboard SCSI + DDR2 – 400 MHz + Two PCI Risers + 20 inch Chassis Depth + CDR-RW/DVD-ROM + Two SCSI HDD Support + DC Power + NEBS + ETSI
NSIA0100	Intel® IP Network Server NSI2U, Server Board SE7520JR2 - Onboard SATA + DDR2 – 400 MHz + Two PCI Risers + 20 inch Chassis Depth + Two SATA HDD Support + AC Power + Eight Ports Front NIC Support

1.1 Test Overview

Testing performed on the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** is divided under two separate categories:

- Basic Operating System Installation Testing
- Adapter / Peripheral Compatibility testing, and System Stress Testing.

1.1.1 Basic Installation Testing

Basic installation testing is performed with each supported operating system. Basic installation testing validates that the server board can install the operating system and that the base hardware feature set is functional. A small set of peripherals is used for installation purposes only. No add-in adapter cards are tested. Testing includes network connectivity and running of proprietary and industry standard test suites.

The latest version of an operating system signifies the latest supported version at the time of the actual test run. Each new release of this document may have a newly supported release of a given operating system. Previous releases of a supported operating system may not be tested beyond the basic installation test process.

1.1.1.1 Support Commitment for Basic Installation Testing

Intel commits to provide the following level of customer support for operating systems that receive only basic installation testing:

- Intel will provide and test operating system drivers for each of the server board's integrated controllers, provided that the controller vendor has a driver available upon request. Vendors will not be required by Intel to develop drivers for operating systems that they do not already support. This may limit the functionality of certain server board integrated controllers.
- Intel will support customer issues that involve installation and/or functionality of operating system with the server board's integrated controllers only if a driver has been made available.
- Intel will NOT provide support for issues related to use of any add-in adapters or peripherals installed in the server system when an operating system that received basic installation testing only is in use.
- Support is defined as assistance in root causing issues, and determining a customer acceptable resolution to the issue associated with the operating system. The resolution may include, but is not limited to, on-board controller driver changes, engaging the vendor for resolution, BIOS changes, firmware changes, or determining a customer acceptable workaround for the issue.

1.1.2 Adapter / Peripheral Compatibility and Stress Testing

Adapter / Peripheral Compatibility and Stress testing is performed only on the most current release of a supported operating system at the time of a given validation run. The Adapter / Peripheral Compatibility and Stress testing process consists of three areas: Base Platform, Adapter Compatibility, and Stress.

Base Platform: Each base platform will successfully install a given operating system, successfully run a disk stress test, and successfully run a network stress test.

Adapter Compatibility: Adapter compatibility validation (CV) testing uses test suites to gain an accurate view of how the server performs with a wide variety of adapters under the primary supported operating systems. These tests are designed to show hardware compatibility between the add-in cards and the server platform and include functional testing only. No heavy stressing of the systems or the cards is performed for CV testing.

Stress Testing: This test sequence uses configurations that include add-in adapters in all available PCI slots for a minimum 72-hour test run without injecting errors. Each configuration passes an installation test, a Network/Disk Stress test, and tape backup test. Any fatal errors that occur will require a complete test restart.

1.1.2.1 Support Commitment for Adapter / Peripheral Compatibility and Stress Testing

Intel commits to provide the following level of customer support for operating systems that receive Adapter / Peripheral Compatibility and Stress testing:

- Intel will provide support for customer issues with these operating systems involving installation and/or functionality of the server board with or without the adapters and peripherals listed in this document as having been tested under the particular operating system.
- Support is defined as assistance in root causing issues, and determining a customer acceptable resolution to the issue associated with the operating system. The resolution may include, but is not limited to, on-board controller driver changes, engaging the vendor for resolution, BIOS changes, firmware changes, or determining a customer acceptable workaround for the issue.
- Intel will provide and test operating system drivers for each onboard video, network, and storage controller.
- Intel will enable vendors to provide driver support for add-in adapters using these operating systems.
- Intel will go through some of the steps to achieve certification to ensure its customers do not run across any problems, but the actual certification is the responsibility of the individual customer.

For operating systems, adapter cards, and peripherals not listed in this document, there is no support commitment. Intel will consider support requests on a case-by-case basis.

1.2 Pass/Fail Test Criteria

For each operating system, adapter, and peripheral configuration, a test passes if specific criteria are met. Specific configurations may have had particular characteristics that were addressed on a case-by-case basis. In general, a configuration passes testing if the following conditions are met:

- The operating system installed without error.
- Manufacturer's installation instructions or Intel's best-known methods were used for the operating system installation.
- No extraordinary workarounds were required during the operating system installation.
- The server system behaved as expected during and after the operating system installation.
- Application software installed and executed normally.
- Hardware compatibility tests ran to completion without error.
- Test software suites executed successfully
- Test and data files were created in the correct directories without error.
- Files copied from client to server and back compare to the original with zero errors reported.
- Clients remain connected to the server system.
- Industry standard test suites run to completion with zero errors reported.

2. Base System Definitions

The following table lists the base system configurations tested for a given validation test run. Each specific product/system software combination tested is assigned a Base System Identifier Number. These numbers are used in the lists of supported adapters and peripherals referenced in the following sections.

The adapters and peripherals specified in this document may or may not have been tested on all available board/riser combinations that make up the TIGI2U and the NSI2U product family. However, Intel will provide support for the adapters and peripherals listed when used within this family of products

This table is updated when a new test run is performed and a new product/system software combination was used.

Intel will only provide support for adapters and peripherals under the specified operating systems versions with which they were tested.

Base System Configuration Identifier #	Product Family	BIOS Revision	mBMC/BMC Firmware Revision	HSC Firmware Revision
1	Intel® Server Board SE7520JR2 in Intel® Chassis SR1400/SR2400	Production Release P07.x	mBMC FW2.40 IMM BMC FW 32	SCS1 1.06 SATA 1.08
2	Intel® Server Board SE7520JR2 in Intel® Chassis SR1400/SR2400	Production Release P08.x	mBMC FW2.40 IMM BMC FW 46	SCS1 1.06 SATA 1.08
3	Intel® Carrier Grade Server TIGI2U	Production Release P08.10	mBMC FW2.40 IMM BMC FW 48	SCSI 1.01
4	Intel® Carrier Grade Server TIGI2U	Production Release P10	mBMC FW2.40 IMM BMC FW 48	SCSI 1.01

3. Supported Operating Systems

The following table provides a list of supported operating systems for the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U***. Each of the listed operating systems was tested for compatibility with the Intel® Server Board ***SE7520JR2*** in the base system configurations listed in section 2 of this document. Operating systems are supported only with the specified base system configuration(s) with which they were tested.

The following table also indicates whether each operating system received Basic Installation testing, or Adapter / Peripheral Compatibility and Stress testing. For information on the support commitments for Basic Installation Testing vs. Adapter / Peripheral Compatibility and Stress Testing, please reference Section 1 of this document.

Any variations to the standard operating system installation process are documented in the Installation Guidelines section of this document. If there are no installation guidelines noted in the following table, then the operating system installed as expected using manufacturer's installation instructions or Intel's best-known methods.

Operating systems supported by Intel® Server Management software or LANDesk* Client Manager software may be different than the operating systems supported by the Intel® Server Board SE7520JR2. Please reference the Readme and User Guide documents that are included as part of each Intel Server Management and LANDesk* Client Manager distribution for operating systems that are supported by that release.

Operating System	Base System Configuration Tested & Type of Testing	Notes
Microsoft Windows Server 2003*, Enterprise Edition	Base Config # - 1 Compatibility & Stress	
Microsoft Windows Server 2003, Enterprise Edition, Service Pack 1	Base Config # - 2 Compatibility & Stress	
Microsoft Windows Server 2003, Enterprise x64 Edition, Service Pack 1	Base Config # - 2 Compatibility & Stress	
Red Hat* Enterprise Linux 3.0, Update 3	Base Config # - 1, 2 Compatibility & Stress	
Red Hat Enterprise Linux 3.0, Update 3 (Intel® EM64T Edition)	Base Config # - 1, 2 Compatibility & Stress	
Microsoft Windows Server2003, Enterprise Edition, Service Pack 1	Base Config # - 3 Compatibility & Stress	
Microsoft Windows Server2003, Enterprise x64 Edition	Base Config # - 3 Compatibility	
Red Hat Enterprise Linux 3.0, Update 4	Base Config # - 3 Compatibility & Stress	
Red Hat Enterprise Linux 3.0, Update 4 (Intel® EM64T Edition)	Base Config # - 3 Compatibility	
Red Hat Enterprise Linux* 4.0 w/Update 1	Base Config # - 4	

Supported Operating Systems

Operating System	Base System Configuration Tested & Type of Testing	Notes
	Compatibility & Stress	
SuSE* Linux Enterprise Server 9, Service Pack 1	Base Config # - 4 Compatibility & Stress	
SuSE* Linux Enterprise Server 9, Service Pack 2	Base Config # - 4 Compatibility & Stress	
SuSE* Linux Enterprise Server 9, Service Pack 3	Base Config # - 4 Compatibility & Stress	

3.1 Operating Systems Supported but not Tested With THOL HW

Listed below are the operating systems that Intel has tested only to install and boot properly on the platform. No testing has been done with any of the hardware contained within this Tested Hardware and Operating System document.

Operating System	Version	Comments
Microsoft* Windows* 2000 Advanced Server	Service Pack 4 (SP4)	The SE7520JR2 Team Tested the OS on the Board and Limited Testing has been done on the system.
SCO Open Unix	6.0	In process
SCO UnixWare	7.1.3	Complete
SCO UnixWare	7.1.4	Complete
Monta Vista	4.0 (64-bit)	Complete

3.2 Operating System Certifications

Listed below are the operating systems that Intel will certify with the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U***. 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 Intel's testing. See the "Comments" section next to each operating system in the table below for additional information. Intel's certifications, 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 2003*, Enterprise Edition		OEM must request certification by Microsoft for their specific product. URL - TBD
Microsoft Windows 2003, Enterprise x64 Edition		OEM must request certification by Microsoft for their specific product. URL - TBD
Red Hat* Enterprise Linux 3.0		Red Hat checks Intel's results, certifies (if appropriate), and posts the certificate on their web site. Customer can leverage the Intel certification, if customer product meets the operating system vendor standard. URL - TBD

Operating System	Certification Listing	Comments
Red Hat* Enterprise Linux 4.0		SE7520JR2 Board http://bugzilla.redhat.com/hwcert/show.cgi?id=164844 TIGI2U Server http://bugzilla.redhat.com/hwcert/show.cgi?id=180263
SuSE* Linux Enterprise Server 9, Service Pack 1		
SuSE* Linux Enterprise Server 9, Service Pack 2		
SCO Unixware 7.1.4		http://wdb1.sco.com/chwp/owa/hch_model_cert_page?f_model_id=98382&f_release_id=600&f_vendor_search_corp_id=

4. Adapters and Peripherals

Add-in adapter card and peripheral compatibility and stress testing will only be performed with the latest version of an operating system at the time the validation testing occurred. The following table shows the operating system and base system configurations used to validate each device. The adapters are divided into categories based on their functionality. All integrated on-board devices are tested by default and are therefore not included in the following tables.

Note that not all adapter cards were tested under all operating systems. The following notations are used in the tested adapters and peripherals table below to indicate the support level that Intel provides for a particular adapter under a particular operating system:

Number (i.e. 1)	This adapter or peripheral has been tested and is supported under the specific configuration identified in the Base System Configurations Table in Section 2 of this document.
Number in brackets (i.e. [1])	This adapter or peripheral has been tested, but is NOT supported under the specific configuration identified in the Base System Configurations Table in Section 2 of this document.
NT	This adapter or peripheral has not been tested under this operating system and is not supported under this operating system.
ND	This adapter or peripheral has not been tested under this operating system due to limitations in IHV driver availability, and is not suported under this operating system.
SA (Similar Adapter) Referenced in the "Comments" column for each adapter that is supported but not tested.	This adapter is supported, but not tested. This adapter model has not been tested with this server board, but Intel will support it based on successful testing of a similar adapter from the same adapter family. Intel has high confidence that this adapter will function correctly with the server board. This adapter uses the same firmware and drivers, and has a nearly identical system interface to another adapter of the same family that has been successfully tested with this server board. In addition, Intel has secured IHV commitment to support the similar adapters equally. Customers should always test adapters as part of the final system configuration prior to deployment. All installation guidelines for the tested adapter also apply to the similar adapter.
IHVT (IHV Tested)	This adapter or peripheral was tested according to Intel-approved guidelines and test procedures by the Independent Hardware Vendor (IHV) that manufactured this adapter or peripheral. Intel provides the same level of support for all the adapters or peripherals listed in this document, regardless of whether this adapter or peripheral was tested in an Intel lab or not. IHV test reports remain the property of the IHV (Intel cannot provide copies of these reports).

Any variations to the standard adapter installation process or to expected adapter functionality are documented in the Installation Guidelines section 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 are no installation guidelines noted in the following table, then the adapter installed and functioned as expected using manufacturer's installation instructions or Intel's best-known methods.

Testing of adapters cards normally is performed with unused add-in adapters and onboard controller expansion ROMs disabled in BIOS Setup. Intel 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.

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
4.1 PCI SCSI RAID												
Adaptec*	ASR-2200S	ASR-2200S	PCI-64/66	FW **4.20-7439**	1,2	2	2	2				
Adaptec	ASR-2120S	ASR-2120S	PCI-64/66	Similar Adapter ASR-2200S	SA	SA	SA	SA				
ICP* vortex	GDT8514RZ	GDT8514RZ	PCI-64/66	BIOS:7.0.5.D FW:2.44.02-RC7B	1,2	2	1,2	1,2				
ICP vortex	GDT8524RZ	GDT8524RZ	PCI-64/66	BOS:7.05b FW:2.44.02-RC7B	1,2	2	1,2	1,2				
Intel	SRCU41L	SRCU41L	PCI-64/66	BIOS: G401 FW:314G	1,2	2	1,2	1,2				
Intel	SRCU42E	Rumley	PCI-E x8	BIOS:H423 FW:514F	2	2	2	2				
Intel	SRCU42L	SRCU42L	PCI-64/66	BIOS:7.05C FW:2.42.02-R07A	2,3	2,3	2,3	2,3				
Intel	SRCU42X	SRCU42X	PCI-X133	BIOS:H424 FW:413Z	1,2,3	2,3	2,3	2,3				
LSI Logic*	MegaRAID 320-2 (518)	MegaRAID SCSI 320-2	PCI-64/66	BIOS:G119 FW:1L37	1,2	2	1,2	1,2				
LSI Logic	MegaRAID 320-1 (520-1)	MegaRAID SCSI 320-1	PCI-64/66	Similar Adapter MegaRAID 320-2 (518)	SA	SA	SA	SA				
LSI Logic	MegaRAID SCSI 320-2E	MegaRAID SCSI 320-2E	PCI-E x8	BIOS:H423 FW:514F	[1],2	2	1,2	1,2				
LSI Logic	MegaRAID SCSI 320-2x	MegaRAID SCSI 320-2x	PCI-X133	BIOS:H424 FW:413Z	1,2,3	2,3	1,2,3	1,2,3				
LSI Logic	MegaRAID SCSI 320-4x	MegaRAID SCSI 320-4x	PCI-X133	Similar Adapter MegaRAID SCSI 320-2x	SA	SA	SA	SA				
4.2 PCI SATA RAID												
Adaptec	AAR2410SA	AAR2410SA	PCI-64/66	BIOS:4.20 FW:7348	1,2,3	2,3	1,2,3	1,2,3				
AMCC*/3ware*	9500S-8	9500S-8	PCIX-66	BIOS:BE9X2.03.0 FW:FE9X2.06.0	2	ND	ND	1,2				
AMCC/3ware	9500S-12	9500S-12	PCI-X66	SA 9500S-8	SA	SA	SA	SA				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
AMCC/3ware	9500S-12ML	9500S-12ML	PCI-X66	SA 9500S-8	SA	SA	SA	SA				
AMCC/3ware	9500S-4LP	9500S-4LP	PCI-X66	SA 9500S-8	SA	SA	SA	SA				
AMCC/3ware	9500S-8ML	9500S-8ML	PCI-X66	SA 9500S-8	SA	SA	SA	SA				
ICP Vortex	GDT8586RZ	GDT8586RZ	PCI-64/66	BIOS:7.05D FW:2.44.02-RC7B	2	2	2	2				
Intel	SRCS14L	SRCS14L	PCI-64/66	BIOS:7.05C FW:2.42.02-R07A	1,2	2	1,2	1,2				
Intel	SRCS16	SRCS16	PCI-64/66	BIOS:G401 FW:713N	2	2	1,2	1,2				
Intel	SRCS28X	SRCS28X	PCI-X133	BIOS:H425 FW:813G	2	2	2	2				
LSI Logic	MegaRAID SATA 150-6	MegaRAID SATA 150-6	PCI-64/66	BIOS:G119 FW:713N	2,3	2,3	2,3	2,3				
LSI Logic	MegaRAID SATA 150-4	MegaRAID SATA 150-4	PCI-64/66	Similar Adapter MegaRAID SATA 150-6	SA	SA	SA	SA				
Promise*	FastTrak S150 TX4	FastTrak S150 TX4	PCI-32/66	FW 1.00.0.30	1		[1]	1				
D-Link	DGE-550T	GigaExpress DGE-550T	PCI -66		1		1	1				
4.3 PCI SCSI												
Adaptec[(1)]	ASC-29160	ASC-29160	PCI-64/66	BIOS:3.10.0	1,2	2	1,2	1,2				
Adaptec	ASC-29160LP	ASC-29160LP	PCI-64/66	Similar Adapter ASC-29160	SA	SA	SA	SA				
Adaptec	ASC-29160N	ASC-29160N	PCI-64/66	Similar Adapter ASC-29160	SA	SA	SA	SA				
Adaptec	ASC-39160	ASC-39160	PCI-64/66	BIOS:3.10.0	1,2,3	2,3	2,3	2,3				
Adaptec	ASC-39320-A	ASC-39320-A	PCI-X133	BIOS:4.25.0	2,3	2,3	1,2,3	1,2,3				
Adaptec	ASC-39320D-R	ASC-39320D-R	PCI-X133	Similar Adapter ASC-39320-A	SA	SA	SA	SA				
Adaptec	ASC-39320-R	ASC-39320-R	PCI-X133	Similar Adapter ASC-39320-A	SA	SA	SA	SA				
Adaptec	ASC-29320ALP	ASC-29320ALP	PCI-X133	BIOS:4.30.0	1,2	2	1,2	1,2				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
Adaptec	ASC-29320A	ASC-29320A	PCI-X133	Similar Adapter ASC-29320ALP	SA	SA	SA	SA				
Adaptec	ASC-29320LP-R	ASC-29320LP-R	PCI-X133	Similar Adapter ASC-29320ALP	SA	SA	SA	SA				
Adaptec	ASC-29320-R	ASC-29320-R	PCI-X133	Similar Adapter ASC-29320ALP	SA	SA	SA	SA				
LSI Logic	LSI20160	LSI20160	PCI-32/33	BIOS:4.19	1,2	2	1,2	1,2				
LSI Logic	LSI20160L	LSI20160L	PCI-32/33		SA	SA	SA	SA				
LSI Logic	LSI22320-R	LSI22320-R	PCI-X133	BIOS:5.10.03 FW:1.3.39	1,2,3	2,3	1,2,3	1,2,3				
LSI Logic	LSI20320-R	LSI20320-R	PCI-X133	Similar Adapter LSI22320-R	SA	SA	SA	SA				
LSI Logic	LSI22320E-R	LSI22320E-R	PCI Express		1		1	1				
4.4 PCI MROMB												
Intel	SRCZCRX	Palo Verde	PCI-X133	BIOS:H424 FW:413Z	1,2	2	1,2	1,2				
LSI Logic	MegaRAID SCSI 320-0 (520-0)	MegaRAID SCSI 320-0	PCI-64/66	BIOS:G119 FW:1Z37	1,2	2	2	2				
4.5 PCI Fibre Channel												
Emulex*	LP10000DC	LP10000DC	PCI-X133	BIOS:1.70A1 FW:190A4	1,2,3	2,3	1,2,3	1,2,3				
Emulex	LP10000	LP10000	PCI-X133	Similar Adapter LP10000DC	SA	SA	SA	SA				
Emulex	LP1050	LP1050	PCI-X133	Similar Adapter LP10000DC	SA	SA	SA	SA				
Emulex	LP1050DC	LP1050DC	PCI-X133	Similar Adapter LP10000DC	SA	SA	SA	SA				
Emulex	LP10000ExDC	LP10000ExDC-M2	PCI-E x4	BIOS:1.70A1 FW:TS1.90A4	1,2	2	1,2	1,2				
Emulex	LP1050Ex	LP1050Ex-F2	PCI-E x4	Similar Adapter LP10000ExDC	SA	SA	SA	SA				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
Emulex	LP9002L	LP9002L	PCI-64/66	BIOS:CB1.70A1 FW: CS3.92A2	1,2	2	2	2				
Emulex	LP952L	LP952L	PCI-64/66	Similar Adapter LP9002L	SA	SA	SA	SA				
Emulex	LP9802DC	LP9802DC	PCI-X133	BIOS:HB1.70A1 FW:HS1.90A4	1,2,3	2,3	2,3	2,3				
Emulex	LP9802	LP9802	PCI-X133	Similar Adapter LP9802DC	SA	SA	SA	SA				
Emulex	LP982	LP982-F2	PCI-X133	Similar Adapter LP9802DC	SA	SA	SA	SA				
LSI Logic	LSI7202XP-LC	LSI7202XP-LC	PCI-X133	BIOS:2.02.00 FW:1.02.02	2	2	2	2				
LSI Logic	LSI7102XP-LC	LSI7102XP-LC	PCI-X133	Similar Adapter LSI7202XP-LC	SA	SA	SA	SA				
LSI Logic	LSI7402XP-LC	LSI7402XP-LC	PCI-X133	Similar Adapter LSI7202XP-LC	SA	SA	SA	SA				
QLogic*	QLA2200/66	QLA2200/66	PCI-64/66	Similar Adapter LSI7202XP-LC	SA	SA	SA	SA				
QLogic	QLA2342	QLA2342	PCI-X133	BIOS:1.43 FW:3.02.28	1,2,3	2,3	1,2,3	1,2,3				
QLogic	QLA2340	QLA2340	PCI-X133	Similar Adapter QLA2342	SA	SA	SA	SA				
QLogic	QLE2362	QLE2362	PCI-E x4	BIOS:1.05 FW:3.03.07	2	2	2	2				
QLogic	QLE2360	QLE2360	PCI-E x4	Similar Adapter QLE2362	SA	SA	SA	SA				
4.6 PCI NIC												
3COM*	3C905C-TX-M	EtherLink 10/100 PCI	PCI 32/33		1,2	ND	1,2	1,2				
3COM	3C980C-TXM	EtherLink Server 10/100 PCI Managed	PCI-32/33		1,2	ND	1,2	1,2				
Intel	PILA8470D3	PRO/100+ S Server	PCI-32/33		2,3	2,3	2,3	2,3				
Intel(1)	PILA8470C3	PRO/100+ S Server	PCI-32/33	Similar Adapter PILA8470D3	SA	SA	SA	SA				
Intel	PILA8472C3	PRO/100+ Dual Port	PCI-64/66		2	2	1,2	1,2				
Intel	PWLA8490MT	PRO/1000MT Gigabit Server Adapter	PCI-X133		1,2	2	2	2				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
Intel	PWLA8490MF	PRO/1000MF Gigabit Server Adapter	PCI-X133	Similar Adapter PWLA8490MT	SA	SA	SA	SA				
Intel	PWLA8490XT	PRO/1000XT Gigabit Server Adapter	PCI-X133		1,2,3	2,3	2,3	2,3				
Intel	PWLA8490XF	PRO/1000XF Gigabit Server Adapter	PCI-X133	Similar Adapter PWLA8490XT	SA	SA	SA	SA				
Intel	PWLA8490XFL	PRO/1000XFL Gigabit Server Adapter	PCI-X133	Similar Adapter PWLA8490XT	SA	SA	SA	SA				
Intel	PWLA8490XTL	PRO/1000XTL Gigabit Server Adapter	PCI-X133	Similar Adapter PWLA8490XT	SA	SA	SA	SA				
Intel	PWLA8492MT	PRO/1000MT Dual Port Gigabit Server Adapter	PCI-X133		2,3	2,3	1,2,3	1,2,3				
Intel	PWLA8492MF	PRO/1000MF Dual Port Gigabit Server Adapter	PCI-X133	Similar Adapter PWLA8492MT	SA	SA	SA	SA				
Intel(1)	PWLA8494MT	PRO/1000 MT Quad Port Server Adapter	PCI-X133		1,2,3	2,3	1,2,3	1,2,3				
Syskonnect*	SK-9E21	SK-9E21	PCI-E x1		2	2	2	2				
Syskonnect	SK-9E21D	SK-9E21D	PCI-E x1		1,2	2	1,2	1,2				
Syskonnect	SK-9E22	SK-9E22	PCI-E x4		2	2	2	2				
4.7 Modems												
3COM	3CP3453B (= 3CP3453)	V.Everything 56K Analog Corporate Modem	RS-232		1,2	2	1,2	1,2				
3COM	USR5610B	56K V.92 Performance Pro	PCI-32/33		1,2	NT	1	1,2				
4.8 Keyboard/Mouse												
Keytronic*	E06101USB-C	E06101USB-C	USB	Keyboard with 2 port USB hub	1,2	2	1,2	1,2				
Keytronic	PRO Pilot	PRO Pilot	PS/2	Keyboard	1,2	2	1,2	1,2				
Microsoft*	Intellimouse Optical	Intellimouse Optical	PS/2 and USB	Mouse	1,2	2	1,2	1,2				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
Rainbow*	SRB10741/ERB01221	Sentinel Duo Hardware Key	USB	USB Security Key	1,2	2	ND	ND				
LOGITECH*	930582-0121	Optical mouse	PS/2 and USB	Mouse	1,2	2	1,2	1,2				
LOGITECH	930582-0403	Optical mouse	PS/2 and USB	Similar Adapter 930582-0403	SA	SA	SA	SA				
LOGITECH	967233-0121	Internet Navigator	PS/2 and USB	Keyboard	1,2	2	1,2	1,2				
LOGITECH	967233-0403	Internet Navigator	PS/2 and USB	Similar Adapter 967233-0121	SA	SA	SA	SA				
4.9 CDROM Drives												
IBM*	22P6991	24x10x24	IDE/Slimline	CD-RW / DVD-ROM combo	1,2	2	1,2	1,2				
LiteOn*	SOSC-2483K	SOSC-2483K	IDE/Slimline	DVD±R/RW CD-R/RW	1,2	NT	1	1,2				
Mitsumi*(1)	SR244W1	SR244W1	IDE/Slimline		1,2	2	1,2	1,2				
Panasonic*	UJDA750	UJDA750	IDE/Slimline	CD-RW / DVD-ROM combo	2	2	2	2				
Plextor*	PlexWriter/ Premium-U - 52/32/52	PlexWriter/ Premium-U	USB		1,2	2	1,2	1,2				
Plextor	PX-W4012TU	PlexWriter 40/12/40S	USB		1	NT	1	1				
Samsung*	SN-324B	24x10x24	IDE/Slimline	CD-RW / DVD-ROM combo	1,2	NT	1	1,2				
Sony*	CRX-835E	CRX-835E	ATA	CD-RW / DVD-ROM combo	3	3	3	3				
TEAC*	CDW540E/KIT/USB2	CDW540E/KIT/USB2	USB		1,2	2	1,2	1,2				
Toshiba*	SD-R6112	SD-R6112	ATAPI/Slimline (ATA packet interface)	CD-RW / DVD-ROM combo	1,2	2	1,2	1,2				

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
4.10 DVD and Combo Drives												
Panasonic	CW-8123B	CW-8123B	ATA		1	NT	1	1				
PIONEER*	DVR-S606	DVR-S606	USB2.0		1,2	NT	1	1,2				
Sony	DRX-510UL	DRX-510UL	USB2.0		1	NT	1	1				
Sony	CRX835-L1	CRX835-L1	ATA33									
Teac	DV-28E-BP3	DV-28E-BP3	ATA33		1,2	2	1,2	1,2				
Teac	DW-224E-C98	DW-28E-C98	ATA33		3, 4							
Teac	DV-W28EA-593	DV-W28EA-593	ATA33		3, 4							
4.11 Tape Drives												
Certance*	STD2401LW-S	SCORPION 40 DDS4 DAT	SCSI-2U		1,2	2	1,2	1,2				
Sony	SDX-700C/BM	AIT-3 Desktop	SCSI-U160		1,2	2	1,2	1,2				
Quantum*	BH2AA-YF	DLT, VS160	SCSI-U2		3	3	3	3				
4.12 Removable Drives												
Iomega*	32324	ZIP 750MB USB 2.0	USB 2.0		1,2	2	1,2	1,2				
Iomega	SKU 33105	Micro Mini™ 512MB Drive	USB 2.0		2	2	2	2				
Mitsumi	D353F3	D353F3	USB	Floppy	1,2	2	1,2	1,2				
Lexar*	JD1GB-80-231	1GB USB Flash Drive	USB 2.0		2	2	2	2				
Sony	PCGA-UFD5	VAIO External USB floppy	USB		1,2	2	1,2	1,2				
Sandisk*	SDCZ2-256	Mini Cruzer Data Storage	USB		1	NT	[1]	[1]				
Teac	FDO5PUB	FDO5PUB	USB	Floppy	1,2	NT	1	1,2				

Note: Blue shading indicates that the adapter or peripheral is either available or will be available in a lead-free version.

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows 2003* EE / SBS 2003	Microsoft Windows 2003* EM64T Edition	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	Red Hat* Enterprise Linux 3.0	Red Hat* Enterprise Linux 4.0	Red Hat* Enterprise Linux 3.0 (Intel® EM64T Edition)	SuSE* Linux Enterprise Server 9,	SuSE* Linux Enterprise Server 9,
4.13 KVM												
Avocent*	1160ES	1160ES	PS/2		1,2	2	1,2	1,2				
Belkin*	F1DA108T	Omniview PRO2 Series	PS/2		1,2	2	[1],2	[1],2				

Note: *Blue shading indicates that the adapter or peripheral is either available or will be available in a lead-free version.*

(1)Non-orderable End of Life (EOL) device, however still supported in platform.

5. Hard Disk Drives

The hard drives listed in the following table have been tested with the server board integrated into the Intel® Carrier Grade Server ***TIGI2U*** and the Intel® IP Network Server ***NSI2U*** by Intel in its validation labs and/or by individual drive vendors. The following operating system identifiers are used in the table to specify which OS each drive was tested under.

Identifier number / Base Configuration	Operating System
1	Microsoft Windows Server 2003*, Enterprise Edition
2	Microsoft Windows Server 2003, Enterprise x64 Edition
3	Red Hat* Enterprise Linux 3.0
4	Red Hat Enterprise Linux 3.0 (Intel® EM64T Edition)
5-3	Microsoft Windows Server 2003, Enterprise Edition, Service Pack 1
6-3	Microsoft Windows Server2003, Enterprise x64 Edition
7-3	Red Hat Enterprise Linux 3.0, Update 4
8-3	Red Hat Enterprise Linux 3.0, Update 4 (Intel® EM64T Edition)

Note: For the definition of the *Base Configuration* number see the table describing the *Base System Configuration Identifier #* in section two of this document.

Note that not all hard drives were tested under all operating systems. The following notation is used in the tested hard drives table below to indicate the support level that Intel provides for a particular hard drive with a particular operating system:

Number (i.e. 1)	This hard drive has been tested and is supported under the operating system identified by the operating system identification number.
Number in brackets (i.e. [1])	This hard drive has been tested, but is NOT supported under the operating system identified by the operating system identification number.
SD (Similar Drive)	The hard disk drive is supported, but not tested. This hard drive model/capacity has not been tested with this server board, but Intel will support it based on successful testing of a larger capacity hard drive from the same hard drive family. Intel has high confidence that this hard drive will function correctly with the server board. This drive uses the exact same firmware and drivers as a larger capacity hard drive that has been successfully tested with this server board. The only difference between this drive and the one that was used in testing is the storage capacity. Intel provides the same level of support for all hard drives listed in this document, regardless of whether the drive was tested or not. Customers should always test hard drives as part of the final system configuration prior to deployment. Given the fact that a larger capacity hard drive from the same drive family has successfully completed testing on this server board, this particular hard drive capacity point will not be tested.
IHVT (IHV Tested)	The hard disk drive was tested according to Intel-approved guidelines and test procedures by the Independent Hardware Vendor (IHV) that manufactured the drive. Intel provides the same level of support for all hard drives listed in this document, regardless of whether the drive was tested in an Intel lab or not. IHV test reports remain the property of the IHV (Intel cannot provide copies of these reports).

Manufacturer	Model Number	Product Family	Interface	RPM	Drive size (GB)	Tested Operating Systems	Notes
SCSI Hard Drives							
Fujitsu*	MAP3147NC	MAP	SCSI/U320	10,000	147GB	1,3	
Fujitsu	MAP3367NC	MAP	SCSI/U320	10,000	36GB	SD	
Fujitsu	MAP3735NC	MAP	SCSI/U320	10,000	73GB	SD	
Fujitsu	MAS3735NC	MAS	SCSI/U320	15,000	73GB	1,3	
Fujitsu	MAS3367NC	MAS	SCSI/U320	10,000	36GB	SD	
Fujitsu	MAS3184NC	MAS	SCSI/U320	10,000	18GB	SD	
Fujitsu	MAT3073NC	AL-9LE	SCSI/U320	10,000	73GB	1,3	
Fujitsu	MAT3147NC	AL-9LE	SCSI/U320	10,000	147GB	1,3	
Fujitsu	MAT3300NC	AL-9LE	SCSI/U320	10,000	300GB	1,3	
Fujitsu	MAU3036NC	AL-9LX	SCSI/U320	15,000	36GB	1,3	
Fujitsu	MAU3073NC	AL-9LX	SCSI/U320	15,000	73GB	1,3	
Fujitsu	MAU3147NC	AL-9LX	SCSI/U320	15,000	147GB	1,3	
Hitachi*	DK32EJ-14	DK32EJ	SCSI/U320	10,000	147GB	1,3	
Hitachi	DK32EJ-36	DK32EJ	SCSI/U320	10,000	35GB	SD	
Hitachi	DK32EJ-72	DK32EJ	SCSI/U320	10,000	72GB	SD	
Hitachi	HUS103030EL3800	Ultrastar 10K300	SCSI/U320	10,000	300GB	1,3	
Hitachi	HUS103014EL3800	Ultrastar 10K300	SCSI/U320	10,000	147GB	1,3	
Hitachi	HUS103073EL3800	Ultrastar 10K300	SCSI/U320	10,000	73GB	1,3	
Hitachi	HUS103036EL3800	Ultrastar 10K300	SCSI/U320	10,000	36GB	1,3	
Hitachi	HUS157373EL3800	Ultrastar 15K73	SCSI/U320 SCA	15,000	73GB	1,3,4	
Hitachi	HUS157373EL3600	Ultrastar 15K73	SCSI/U320 68pin	15,000	73GB	SD	
Hitachi	HUS157336EL3800	Ultrastar 15K73	SCSI/U320 SCA	15,000	36GB	SD	
Hitachi	HUS157336EL3600	Ultrastar 15K73	SCSI/U320 68pin	15,000	36GB	SD	
Hitachi	HUS151473VL3800	Ultrastar 15K146	SCSI/U320 SCA	15,000	73GB	1,3	
Hitachi	HUS151473VL3600	Ultrastar 15K146	SCSI/U320 68pin	15,000	73GB	SD	
Hitachi	HUS151414VL3800	Ultrastar 15K146	SCSI/U320 SCA	15,000	146GB	SD	
Hitachi	HUS151414VL3600	Ultrastar 15K146	SCSI/U320 68pin	15,000	146GB	SD	
Hitachi	HUS151436VL3800	Ultrastar 15K146	SCSI/U320 SCA	15,000	36GB	SD	
Hitachi	HUS151436VL3600	Ultrastar 15K146	SCSI/U320 68pin	15,000	36GB	SD	
Maxtor*	8B146J0	Atlas 10K IV	SCSI/U320	10,000	146GB	1,3,4	
Maxtor	8B074J0	Atlas 10K IV	SCSI/U320	10,000	73GB	SD	
Maxtor	8B036J0	Atlas 10K IV	SCSI/U320	10,000	36GB	SD	
Maxtor	8E147J0	Atlas 10K V	SCSI /U320	10,000	300GB	1,3	RSJNZ3
Maxtor	8D300J0	Atlas 10K V	SCSI /U320	10,000	300GB	1,2,3,4	

Hard Disk Drives

Manufacturer	Model Number	Product Family	Interface	RPM	Drive size (GB)	Tested Operating Systems	Notes
Maxtor	8D073J0	Atlas 10K V	SCSI /U320	10,000	73GB	SD	
Maxtor	8D147J0	Atlas 10K V	SCSI /U320	10,000	147GB	SD	
Maxtor	8C073J0	Atlas 15K	SCSI/U320	15,000	73GB	1,3	QSJNZ3
Maxtor	8C036J0	Atlas 15K	SCSI/U320	15,000	36GB	SD	
Maxtor	8C018J0	Atlas 15K	SCSI/U320	15,000	18GB	SD	
Maxtor	8E147J0	Atlas 15K II	SCSI /U320	15,000	147GB	1,3	RSJNZ3
Seagate*	ST3146807LC	Cheetah 10K.6	SCSI/U320	10,000	147GB	1,3,4	
Seagate	ST336607LC	Cheetah 10K.6	SCSI/U320	10,000	36GB	SD	
Seagate	ST373307LC	Cheetah 10K.6	SCSI/U320	10,000	73GB	SD	
Seagate	ST3300007LC	Cheeta 10K.7	SCSI/U320	10,000	300GB	1,2,3, 4	
Seagate	ST373207LC	Cheeta 10K.7	SCSI/U320	10,000	73GB	SD	
Seagate	ST346707LC	Cheeta 10K.7	SCSI/U320	10,000	147GB	SD	
Seagate	ST373453LC	Cheetah 15K.3	U320/SCA	15,000	73GB	1,3,4,	
Seagate	ST336753LC	Cheetah 15K.3	U320/SCA	15,000	36GB	5-3, 7-3, SD	
Seagate	ST318453LC	Cheetah 15K.3	U320/SCA	15,000	18GB	5-3, 7-3, SD	
Seagate	ST373454LC	Cheeta 15K.4	SCSI/U320	15,000	73GB	1,2,3,4	
Seagate	ST336754LC	Cheeta 15K.4	SCSI/U320	15,000	36GB	5-3, 7-3, SD	
Seagate	ST3146854LC	Cheeta 15K.4	SCSI/U320	15,000	146GB	SD	
Serial ATA (SATA) Hard Drives							
Hitachi	HDS722525VLSA80	Deskstar 7K250	SATA/150	7200	250GB	1,2,3,4	
Hitachi	HDS722516VLSA80	Deskstar 7K250	SATA/150	7200	160GB	SD	
Hitachi	HDS722512VLSA80	Deskstar 7K250	SATA/150	7200	120GB	SD	
Hitachi	HDS722580VLSA80	Deskstar 7K250	SATA/150	7200	80GB	SD	
Maxtor	6Y120M0	DiamondMax Plus 9	SATA/150	7200	120GB	1,2,3,4	
Maxtor	6Y060M0	DiamondMax Plus 9	SATA/150	7200	60GB	SD	
Maxtor	6Y080M0	DiamondMax Plus 9	SATA/150	7200	80GB	SD	
Maxtor	6Y160M0	DiamondMax Plus 9	SATA/150	7200	160GB	SD	
Maxtor	6Y200M0	DiamondMax Plus 9	SATA/150	7200	200GB	SD	
Maxtor	7B300S0/7L300S0	Maxline III	SATA/150	7,200	300GB	1,2,3,4	
Maxtor	7B250S0/7L250S0	Maxline III	SATA/150	7,200	250GB	SD	
Seagate	ST3160023AS	Barracuda 7200.7	SATA/150	7200	160GB	1,3,4	
Seagate	ST3120023AS	Barracuda 7200.7	SATA/150	7200	120GB	SD	
Seagate	ST3200822AS	Barracuda 7200.7	SATA/150	7200	200GB	SD	
Seagate	ST380013AS	Barracuda 7200.7	SATA/150	7200	80GB	5-3, 7-3, SD	
Seagate	ST380817AS	Barracuda 7200.7	SATA/150	7200	80GB	5-3, 7-3	
Western Digital*	WD740GD	WD Raptor	SATA/150	10,000	74GB	1,2,3,4	

Manufacturer	Model Number	Product Family	Interface	RPM	Drive size (GB)	Tested Operating Systems	Notes
Western Digital	WD360GD	WD Raptor	SATA/150	10,000	36GB	SD	

Note: *Blue shading indicates that the adapter or peripheral is either available or will be available in a lead-free version*

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Installation Guidelines & Test Notes

5.1 LSI* Add-in RAID Card Option ROM Utility Access Issue

Issue: The system will hang when the BIOS assigns PMM segment 2FE00 and the user tries to enter into the Ctrl-M RAID configuration utility.

Implication: A user may be unable to access the option ROM utility (Ctrl-M) for the following LSI adapters: MegaRAID* 320-2, MegaRAID 320-1, MegaRAID 320-0, MegaRAID SATA 150-6, MegaRAID SATA 150-4 and older U160 SCSI MegaRAID adapters.

Guideline: BIOS P07.20 or later releases have corrected this issue, allowing users to access the Option ROM utility for the above mentioned LSI add-in adapters.

Status: LSI add-in MegaRAID 320-2, MegaRAID 320-1, MegaRAID 320-0, MegaRAID SATA 150-6, MegaRAID SATA 150-4 and older U160 SCSI MegaRAID adapters are only supported when using BIOS P07.20 or later releases.