



Intel[®] Server Board SE7230NH1-E

Tested Hardware and Operating System List

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Revision History

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1. Introduction

This document is intended to provide users of the Intel® server board SE7230NH1-E with a guide to the different operating systems, adapter cards, and peripherals tested by Intel on this platform.

This document will continue to be updated as new adapters, peripherals, and operating systems are tested or until the Intel® server board SE7230NH1-E is 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.

Intel will only provide support for those adapters and peripherals under the specified system configuration (System BIOS and Firmware revisions) and operating systems versions with which they were tested.

1.1 Test Overview

Testing performed on the Intel® server board SE7230NH1-E is classified under two separate categories: Basic Installation Testing, and Adapter / Peripheral Compatibility and 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 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 slots, (depending on chassis used) 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. Intel® Server Board SE7230NH1-E Base System Configurations

The following table lists the base system configurations tested. Base system configurations will change as new revisions of the Intel® server board SE7230NH1-E are released and/or new system BIOS are cut onto the board in the factory. Each base system configuration is assigned an identifier number that is referenced in the tables throughout this document. New base system configurations are added with each new release of this document.



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

Base System Configuration Identifier #	Board Type	PBA Number	BIOS Revision	Notes
1	SE7230NH1-E LC SKU	D18675-203	NH0497P	

3. Supported Operating Systems

The following table provides a list of supported operating systems for the Intel® server board SE7230NH1-E. Each of the listed operating systems was tested for compatibility with Intel® server board SE7230NH1-E base system configuration 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 System	Base System Configuration Tested & Type of Testing	Notes
RedHat* Enterprise Linux 4.0 UP 1	1	Update 1 Required
RedHat* Enterprise Linux 4.0 (EM64T) UP 1	1	Update 1 Required
Microsoft Windows* 2003 Enterprise Addition Server (32 bit) SP 1	1	Service Pack 1 Required
Microsoft Windows* 2003 Enterprise Addition Server (EM64T) SP1	1	Service Pack 1 Required

3.1 Operating System Certifications

Listed below are the operating systems that Intel will certify with the Intel® server board SE7230NH1-E. 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 Server	Intel® Server SE7230NH1-E SID# TBD	OEM must request certification by Microsoft for their specific product. http://www.microsoft.com/hwdq/hcl/search.asp (Search on SE7230NH1-E) http://developer.intel.com/design/servers/whql.htm

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 notation is 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 supported under this operating system.
IHVT (IHV Tested)	The 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 and devices listed in this document, regardless of whether the drive or device was tested in an Intel lab or not. IHV test reports remain the property of the IHV (Intel cannot provide copies of these reports).
SA (Similar Adapter)	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.

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 no installation guidelines are 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	Microsoft Windows* 2003 64bit	RedHat* Linux 4.0 up1	RedHat* Linux 4.0 update1 EM64T
4.1 PCI RAID								
Intel	SRCU41L	SRCU41L	PCI-64/66	1 channel, U320 RAID	1	1	1	1
LSI Logic*	MegaRAID* SCSI 320-1 (520-1)	MegaRAID SCSI 320-1	PCI-64/66	1 channel, U320 RAID	1	1	1	1
LSI Logic	MegaRAID SCSI 320-2	MegaRAID SCSI 320-2			SA	SA	SA	SA
4.2 PCIe RAID								
Intel	SRCU42E	SRCU42E	PCI Express	2 channel, U320 RAID, x8 PCI Express, 2 ext. 68, 2 int. 68 HDD, 53C1030, Dobson IOP	1	1	1	1
LSI Logic	MegaRAID SCSI 320-2E	MegaRAID SCS 320-2E	PCI Express	2 channel, U320 RAID x8 PCI Express, 2 ext. 68, 2 int. 68 HDD, 53C1030		1	1	1
4.3 PCI SCSI								
Adaptec*	ASC-29160	ASC-29160	PCI-64/66	1channel U160, 7892 chip	1	1	1	1
Adaptec	ASC-39320A	ASC-39320A	PCI-X133	2 channel U320 SCSI, 7902B0 chip 2 external / 2 internal connectors		1	1	1
LSI Logic	LSI20160	LSI20160	PCI-32/33	1 channel U160 SCSI, 1000 chip	1	1	1	1
LSI Logic	LSI22320-R	LSI22320-R	PCI-X133	2 channel U320 SCSI, 1030 chip	1	1	1	1
LSI Logic	LSI20320-R	LSI20320-R	PCI-X133	1 channel U320 SCSI	SA	SA	SA	SA
Adaptec	ASC-29320ALP	ASC-29320ALP	PCI-X133	1 channel U320 SCSI, 7901B chip 1 external / 1 internal	1		1	1

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows* 2003	Microsoft Windows* 2003 64bit	RedHat* Linux 4.0 up1	RedHat* Linux 4.0 update1 EM64T
4.4	PCI SATA RAID							
Intel	SRCS16	SRCS16	PCI-64/66	6-port	1	1	1	1
LSI Logic	MegaRAID SATA 150-6	MegaRAID SATA 150-6	PCI-64/66	6 channel, SATA RAID 1.0, RAID 0, 1, 10, 5	1	1	1	1
LSI Logic	MegaRAID SATA 300-8x	MegaRAID SATA 300-8x	PCI-64/66	8-Port, SATA RAID, SATA 2, RAID 0, 1, 5, 10	1	1	1	1
Adaptec	AAR-2410SA	AAR-2410SA	PCI-64/66	4-Port, SATA 1.0, RAID 0, 1.2x Silicon Image w/Zion	1	1	1	1
4.5	PCI NIC							
Intel	PILA8470D3	PRO/100+ S Server	PCI-32/33	10/100baseT + Security	1	1		
Intel	PILA8472C3	PRO/100+ Dual Port	PCI-64/66	10/100baseT, Dual port	1	1		
Intel	PWLA8490MT	PRO/1000M T Gigabit Server Adapter	PCI-X133	10/100/1000baseT, Copper, No bridge	1	1		
Intel	PWLA8490XT	PRO/1000XT Gigabit Server Adapter	PCI-X133	Barrow, 10/100/1000BaseT	1	1		1
Intel	PWLA8492MT	PRO/1000M T Dual Port Gigabit Server Adapter	PCI-X133	10/100/1000baseT, Dual Port, Copper, No bridge	1	1	1	1
3COM*	3C905CX-TX-M	EtherLink 10/100 PCI	PCI-32/33	10/100baseT	1		1	1
4.6	PCIe NIC							
Syskonnect*	SK-9E21	SK-9E21	PCI Express		1	1	1	1
Syskonnect	SK-9E21D	SK-9E21D	PCI Express		1	1	1	1
Syskonnect	SK-9E22	SK-9E22	PCI Express		1	1	1	1
4.7	PCI FC storage							

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows* 2003	Microsoft Windows* 2003 64bit	RedHat* Linux 4.0 up1	RedHat* Linux 4.0 update1 EM64T
4.8	PCIe FC storage							
QLogic*	QLE2360	QLE2360	PCI Express					
4.9	Modems							
3COM	USR3453B	V.Everything 56K Analog Corp. Modem	RS-232		1	1	1	1
4.10	Video							
ATI	Radeon 7000	Radeon 7000	PCI-32/33				1	1
Diamond	Stealth S80	Radeon 9200SE	PCI-32/33				1	1
4.11	USB/PS2 Devices							
Keytronic	PRO Pilot	Pro Pilot	PS/2		1	1	1	1
Logitech	930582-0121	Optical Mouse	PS/2 and USB		1	1	1	1
Microsoft		Intellimouse Optical	PS/2 and USB		1	1	1	1
Rainbow	SRB10741/ER B01221	Sentinel Duo Hardware Key	USB		1			
4.12	CDROM Drives							
Plextor	PlexWriter/ Premium-U - 52/32/52	PlexWriter/ Premium-U	USB		1	1	1	1
4.13	DVD Drives							
Pioneer	DVR-S606	DVR-S606	USB 2.0		1	1	1	1

Manufacturer	Model Number	Model Name	Interface	Comments	Microsoft Windows* 2003	Microsoft Windows* 2003 64bit	RedHat* Linux 4.0 up1	Redhat* Linux 4.0 update1 EM64T
Plextor	PX-716SA	PX-716SA	SATA		1	1		
Samsung	SD-616	SD-616	ATA33		1	1	1	1
4.14	Tape Drives							
Sony	SDX-700C	SDX-700C	SCSI		SA			
Sony	SDX-570V	SDX-570V	SATA		1			
4.15	Removable Drives							
Iomega	SKU 33105	Micro Mini™ 512 MB Drive	USB 2.0		1	1	1	1
Lexar	JD1GB-80-231	1GB USB Flash Drive	USB 2.0		1	1	1	1
Lexar	Lexar Media	Jump Drive Pro	USB		1	1	1	1
Maxtor	S01J250	5000XT	USB	250 GB USB 2.0/1/1 Firewire Hard Drive	1	1	1	1
4.16	KVM							
TBD								

5. Hard Disk Drives

The hard drives listed in the following table have been tested with the Intel® server board SE7230NH1-E 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	Operating System
1	Microsoft Windows* 2003 Enterprise Server SP1
2	Microsoft Windows* 2003 Enterprise Server 64Bit SP1
3	RedHat* Enterprise Linux 4.0 UP 1
4	RedHat* Enterprise Linux 4.0 EM64T UP1

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.

Manufacturer	Model Number	Product Family	Interface	RPM	Drive size (GB)	Notes
SCSI Hard Drives						
Fujitsu	MAU3735NC	AL9LX	SCSI-U320	10K	73	
Hitachi	HUS151473V L3800	Ultrastar 15K146	SCSI-U320	15K	73	
Seagate	ST373454LC	Cheetah 15K.4	SCSI-U320	15K	73	
Seagate	ST3300007LC	Cheetah 10K.7	SCSI-U320	10K	300	

Manufacturer	Model Number	Product Family	Interface	RPM	Drive size (GB)	Notes
Parallel ATA (PATA) Hard Drives						
Seagate	ST3400832A	Barracuda 7200.8	ATA-133	7200	400	
Western Digital	WD1600JB-00HBB0	Caviar XL80II	ATA-100	7200	160	Drive was not compatible with RedHat
Serial ATA (SATA) Hard Drives						
Maxtor	7B300S0/7L30 0S0	Maxline III	SATA-150	7200	300	
Seagate	9BJ138	Barracuda 7200.10 AS	SATA-II	7200	750	
Seagate	9BJ136	Barracuda 7200.10 AS	SATA-II	7200	650	
Seagate	9BJ134	Barracuda 7200.10 AS	SATA-II	7200	500	
Seagate	9BJ13G	Barracuda 7200.10 AS	SATA-II	7200	400	
Seagate	9BJ133	Barracuda 7200.10 AS	SATA-II	7200	320	
Seagate	9BJ13E	Barracuda 7200.10 AS	SATA-II	7200	300	
Seagate	9BJ13F	Barracuda 7200.10 AS	SATA-II	7200	250	
Seagate	9BL148	Barracuda 7200.10	SATA-150	7200	750	
Seagate	9BL146	Barracuda 7200.10	SATA-II	7200	500	
Seagate	9BL144	Barracuda 7200.10	SATA-II	7200	400	
Seagate	9BL14G	Barracuda 7200.10	SATA-II	7200	320	
Seagate	9BL14E	Barracuda 7200.10	SATA-II	7200	250	
Seagate	9BF143	Barracuda 7200.9	SATA-II	7200	250	
Seagate	9BF145	Barracuda 7200.9	SATA-150	7200	400	
Seagate	9BF148	Barracuda 7200.9	SATA-150	7200	500	
Seagate	ST3400832AS	Barracuda 7200.8	SATA-150	7200	400	
Western Digital	WD740GD	WD Raptor	SATA-150	10K	74	
Western Digital	WD SATA 2 XL80-3	WD SATA 2 XL80-3	SATA-II	7200		