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# **Intel<sup>®</sup> Server Compute Blade SBXD132**

## ***Tested Hardware and Operating System List***

**Revision 1.4**

**April, 2008**

**Enterprise Platforms and Services Division**

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## *Revision History*

<b>Date</b>	<b>Revision Number</b>	<b>Modifications</b>
June 2006	0.5	Initial Version
August 2006	1.0	SRA version, added reference sell switches, updated FW revisions.
November 2006	1.1	Updated BIOS version, WHQL information and SAS HDD.
January 2007	1.2	Updated BIOS version, added new Ethernet switches and iSCSI HBA.
February 2007	1.3	Updated WHQL information and supported OS.
April 2008	1.4	Updated supported HDD list.

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# Table of Contents

<b>1. Introduction .....</b>	<b>1</b>
1.1 Test Overview .....	1
1.1.1 Basic Installation Testing .....	1
1.1.2 Adapter / Peripheral Compatibility and Stress Testing .....	2
1.2 Pass/Fail Test Criteria .....	3
<b>2. Base System Configurations.....</b>	<b>4</b>
<b>3. Supported Operating Systems.....</b>	<b>5</b>
3.1 Operating System Certifications .....	6
<b>4. On-Board Components &amp; Expansion Options.....</b>	<b>7</b>
4.1 Intel® Server Compute Blade SBXD132 On-board Components.....	8
4.2 Intel® Server Compute Blade SBXD132 Expansion Components .....	8
<b>5. Peripherals.....</b>	<b>11</b>
5.1 Storage Enclosures – Fibre Channel and iSCSI.....	11
5.2 Storage – USB Flash .....	11
5.3 SAS Hard Drives – 2.5” .....	12
5.4 Keyboard and Mouse.....	12
5.5 Chassis FDD.....	12
5.6 Chassis CD ROM .....	12
5.7 Chassis Switches – Gb Ethernet .....	13
5.8 Chassis Switches – Fibre Channel.....	13
5.9 Chassis Pass-Thru Modules.....	14

# 1. Introduction

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This document is intended to provide users of the Intel® Server Compute Blade SBXD132 and the Intel® Server Chassis SBCE server system 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 Compute Blade SBXD132 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 Compute Blade SBXD132 and the Intel® Server Chassis SBCE server system 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.

All Intel® Server Compute Blade SBXD132 testing was performed using the Intel® Server Chassis SBCE.

## 2. Base System Configurations

The following table lists the base system configurations tested. Base system configurations will change as new revisions of the Intel® Server Compute Blade SBXD132 are released and/or new system BIOS and BMC firmware 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 Identifier #	Server Type	Part Number	BIOS Revision	CMM Firmware Revision	AMM Firmware Revision	Diag Firmware Revision	BMC
1	SBXD132	D43700-002	Ver 11A	Ver 86C	Ver 21C	Ver 08A	Ver 13A
2	SBXD132	D43700-002	Ver 12B	Ver 86C	Ver 21C	Ver 08A	Ver 13A
3	SBXD132	D43700-003	Ver 15E	Ver 86G	Ver 23A	Ver 15A	Ver 28A



### 3. Supported Operating Systems

The following table provides a list of supported operating systems for the Intel® Server Compute Blade SBXD132. Each of the listed operating systems was tested for compatibility with Intel® Server Compute Blade SBXD132 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 is 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 Suite software or LANDesk\* Server Manager software may be different than the operating systems supported by the Intel Server Compute Blade SBXD132. Please reference the Readme and User Guide documents that are included as part of each Intel Server Management Suite and LANDesk\* Server Manager distribution for operating systems that are supported by that release.

Operating System (32-Bit)	Base Configuration Tested
Microsoft Windows* 2003 R2 Enterprise Edition	R2
Red Hat Linux* Enterprise Linux 4.0 Advanced Server Update 3	Kernel 2.6.9-34.ELsmp
SUSE® LINUX Enterprise Server 9 Service Pack 3	Kernel 2.6.5-7.244-smp
Operating System (64-bit)	Base Configuration Tested
Microsoft Windows* 2003 R2 Enterprise x64 Edition	R2
Red Hat Linux* Enterprise Linux 4.0 Advanced Server Update 3	Kernel 2.6.9-34.Elsmg
SUSE® LINUX Enterprise Server 9 Service Pack 3	Kernel 2.6.5-7.244-smp

### 3.1 Operating System Certifications

Listed below are the operating systems that Intel will certify with the Intel® Server Compute Blade SBXD132. 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* Server 2003 Enterprise Edition SP1 (x86 and EM64T)	Intel® SBXD132Blade Server SID# 1234088	Note: Note: OEM must request certification by Microsoft for their specific product. <a href="http://www.windowsservercatalog.com/default.aspx">http://www.windowsservercatalog.com/default.aspx</a> (Search on SBXD132) <a href="http://developer.intel.com/design/servers/whql.htm">http://developer.intel.com/design/servers/whql.htm</a>
Microsoft Windows* Server 2003 Standard Edition and Windows Server 2003 Web Edition (x86 and EM64T)	Intel® SBXD132Blade Server SID# 1234088	Note: OEM must request certification by Microsoft for their specific product. <a href="http://www.windowsservercatalog.com/default.aspx">http://www.windowsservercatalog.com/default.aspx</a> (Search on SBXD132) <a href="http://developer.intel.com/design/servers/whql.htm">http://developer.intel.com/design/servers/whql.htm</a>
<i>Red Hat Linux*</i> <i>Enterprise Linux 4.0 Advanced Server</i> (32-bit OS)	Intel® SBXD132 Blade Server	Note: Certification TBD
<i>SUSE® LINUX</i> <i>Enterprise Server 9</i> (32-bit OS)	Intel® SBXD132 Blade Server	Note: Certification TBD
<i>Red Hat Linux*</i> <i>Enterprise Linux 4.0 Advanced Server</i> (64-bit OS)	Intel® SBXD132 Blade Server	Note: Certification TBD
<i>SUSE® LINUX</i> <i>Enterprise Server 9</i> (64-bit OS)	Intel® SBXD132 Blade Server	Note: Certification TBD

## 4. On-Board Components & Expansion Options

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.

If there is 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 Name	Model Number	Interface	Comments	Microsoft® Windows® Server 2003 Enterprise	Microsoft® Windows® Server 2003 Enterprise (x64)	Red Hat® Enterprise Linux 4.0 U2 (IA32)	Red Hat® Enterprise Linux 4.0 (x64)	SUSE® Linux Enterprise 9 SP3 (IA32)	SUSE® Linux Enterprise 9 SP3 (x64)
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#### 4.1 Intel® Server Compute Blade SBXD132 On-board Components

ATI	Radeon Mobility	RN-50	PCI 32/33	Video Controller	1	1	1	1	1	1
Broadcom	Ethernet	BCM5708S	PCI-E x4	Dual channel 1Gb Ethernet Controller	1	1	1	1	1	1
LSI	SAS	1064E	PCI-E x4	SAS Controller	1	1	1	1	1	1

#### 4.2 Intel® Server Compute Blade SBXD132 Expansion Components

Q-Logic	Intel® Blade Server Fibre Channel Expansion Card	SBFCM	PCI-X133	2Gb Fibre Channel HBA	1	1	1	1	1	1
Q-Logic	Intel® Blade Server Fibre Channel Expansion Card	SBFCM4	PCI-X133	4Gb Fibre Channel HBA	1	1	1	1	1	1
IBM	Intel® Blade Server Ethernet Expansion Card	SBEGBE	PCI-X133	Dual channel 1Gb Ethernet Controller	1	1	1	1	1	1
IBM	1Gb iSCSI Host Bus Adapter	32R1923	PCI-X 133	Two independent iSCSI ports	1	1	1	1	1	1
Intel	Intel® Blade Storage Expansion Module for Intel® Server Compute Blade SBXD132	SBESAS		Storage Expansion Module	1	1	1	1	1	1

Manufacturer	Model Name	Model Number	Interface	Comments	Microsoft® Windows® Server 2003 Enterprise	Microsoft® Windows® Server 2003 Enterprise (x64)	Red Hat® Enterprise Linux 4.0 U2 (IA32)	Red Hat® Enterprise Linux 4.0 (x64)	SUSE® Linux Enterprise 9 SP3 (IA32)	SUSE® Linux Enterprise 9 SP3 (x64)
Intel	256 MB Cache memory and battery backup for Intel® Blade Storage Expansion Module SBESAS	AB256BSE		RAID Controller	1	1	1	1	1	1
Intel	I/O and Memory Expansion for Intel® Server Compute Blade SBXD132	ABBIE		I/O and Memory Expansion Module	1	1	1	1	1	1



## 5. Peripherals

The following notation is used in the tested peripherals table below to indicate the support level that Intel provides for a particular peripheral under a particular operating system:

Number (i.e. 1)	This 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 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 peripheral has not been tested under this operating system and is not supported under this operating system.
ND	This peripheral has not been tested under this operating system due to limitations in IHV driver availability, and is not supported under this operating system.

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 configurations used to validate each device.

Note that none of these items will be fully qualified. As such, Intel cannot guarantee their functionality.

Manufacturer	Model Name	Model Number	Interface	Comments	Microsoft® Windows® Server 2003 Enterprise	Microsoft® Windows® Server 2003 Enterprise (x64)	Red Hat® Enterprise Linux 4.0 U3 (IA32)	Red Hat® Enterprise Linux 4.0 U3 (x64)	SUSE® Linux Enterprise 9 SP3 (IA32)	SUSE® Linux Enterprise 9 SP3 (x64)
<b>5.1 Storage Enclosures – Fibre Channel and iSCSI</b>										
Intel	Intel® Storage System SSR212PP	SSR212PP	iSCSI or Optional Fibre Channel		1	1	1	1	1	1
Other				See Intel® ESAA Program						
<b>5.2 Storage – USB Flash</b>										
Apacer	Handy Steno	AP-HT1001D2	USB	1 GB capacity	1	1	1	1	1	1

Manufacturer	Model Name	Model Number	Interface	Comments	Microsoft* Windows* Server 2003 Enterprise	Microsoft* Windows* Server 2003 Enterprise (x64)	Red Hat* Enterprise Linux 4.0 U3 (IA32)	Red Hat* Enterprise Linux 4.0 U3 (x64)	SUSE* Linux Enterprise 9 SP3 (IA32)	SUSE* Linux Enterprise 9 SP3 (x64)
Lexar	Jump Drive Pro 80X	JD1GB-80-231	USB	1 GB capacity	1	1	1	1	1	1
SanDisk	Cruzer Mini USB 2.0	SDCZ2-1024-A10	USB	1 GB capacity	1	1	1	1	1	1
<b>5.3 SAS Hard Drives – 2.5”</b>										
IBM		26K5777	SAS	73GB 10Krpm	1	1	1	1	1	1
IBM		42D0421	SAS	146GB 10Krpm	1	1	1	1	1	1
<b>5.4 Keyboard and Mouse</b>										
Microsoft	Natural Keyboard Elite	A11-00337	PS/2	Keyboard	1	1	1	1	1	1
Logitech	Internet Pro	967559-0403	PS/2	Keyboard	1	1	1	1	1	1
Belkin	ErgoBoard	F8E887	USB	Keyboard	1	1	1	1	1	1
Viewsonic	Viewmate 2	VSACC2793 6-1M	USB	Keyboard	1	1	1	1	1	1
Lite-on		SK-1788U	USB	Keyboard	1	1	1	1	1	1
Microsoft	Wheel Mouse Optical	D66-00029	USB	Mouse	1	1	1	1	1	1
Logitech	Wheel Mouse Optical	931144-0403	USB	Mouse	1	1	1	1	1	1
Logitech	Wheel Mouse Optical	930928-0403	USB	Mouse	1	1	1	1	1	1
<b>5.5 Chassis FDD</b>										
TEAC		FD-05UW-297	USB	USB Slim 1.44M	1	1	1	1	1	1
<b>5.6 Chassis CD ROM</b>										
QUANTA COMPUTER INC		9SDR089E0 X1S, 9SDR083S0 03S, 9SDR083E0 X1S	ATAPI	DVD-ROM,8X,ATAPI,24X,SLIM, RoHS	1	1	1	1	1	1



Manufacturer	Model Name	Model Number	Interface	Comments	Microsoft* Windows* Server 2003 Enterprise	Microsoft* Windows* Server 2003 Enterprise (x64)	Red Hat* Enterprise Linux 4.0 U3 (IA32)	Red Hat* Enterprise Linux 4.0 U3 (x64)	SUSE* Linux Enterprise 9 SP3 (IA32)	SUSE* Linux Enterprise 9 SP3 (x64)
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### 5.7 Chassis Switches – Gb Ethernet

IBM	Intel® Blade Server Ethernet Switch Module	SBCEGBES W	Gb Ethernet		1	1	1	1	1	1
Intel	Intel® Blade Server Ethernet Switch Module	IXM5414E	Gb Ethernet		1	1	1	1	1	1
IBM	Nortel Networks* Layer 2/3 Copper Gigabit Ethernet Switch Module for IBM BladeCenter	32R1860	Gb Ethernet	Layer 2/3 Ethernet Switch	1	1	1	1	1	1
IBM	Server Connectivity Module for IBM BladeCenter	39Y9324	Gb Ethernet	Layer 2 Ethernet Switch, require SBCECMM 2 advanced management module in chassis	1	1	1	1	1	1
Intel	Intel® Blade Server Ethernet Switch Module SBCEGBESW1	SBCEGBES W1	Gb Ethernet	6 external / uplink ports	1	1	1	1	1	1
Intel	Intel® Blade Server Ethernet Switch Module SBCEGBESW10	SBCEGBES W10	10Gb Ethernet and 1Gb Ethernet	6x 1GbE and 2x 10GbE external / uplink ports	1	1	1	1	1	1

### 5.8 Chassis Switches – Fibre Channel

Q-Logic	Intel® Blade Server Fibre Channel Switch Module	SBCEFCSW	2Gb Fibre Channel		1	1	1	1	1	1
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Manufacturer	Model Name	Model Number	Interface	Comments	Microsoft* Windows* Server 2003 Enterprise	Microsoft* Windows* Server 2003 Enterprise (x64)	Red Hat* Enterprise Linux 4.0 U3 (IA32)	Red Hat* Enterprise Linux 4.0 U3 (x64)	SUSE* Linux Enterprise 9 SP3 (IA32)	SUSE* Linux Enterprise 9 SP3 (x64)
Brocade	Intel® Blade Server Fibre Channel Switch Module	SBCEBFCS W and SBCEBFCE SW	2Gb Fibre Channel		1	1	1	1	1	1
Brocade	Intel® Blade Server Fibre Channel Switch Module	SBCEFCSW4	4Gb Fibre Channel		1	1	1	1	1	1
<b>5.9 Chassis Pass-Thru Modules</b>										
Intel	Intel® Blade Server Fibre Channel Switch Module	SBCEOPM		Cable Accessory – SBCEOPMS C/ SBCEOPML C	1	1	1	1	1	1
IBM	IBM eServer BladeCenter™ Copper Passthru Module	73P6100		Cable Accessory – 73P6101	1	1	1	1	1	1