Intel® RAID Expander Card RES2SV240

Tested Hardware and Operating System List (THOL)

Revision 7.1

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Enterprise Platforms and Services Division

Revision History

Date	Revision Number	Modifications
August 2010	1.0	Initial release
December 2010	2.0	Added section 4.
August 2011	3.0	Updated section 3.
October 2011	4.0	Updated section 4.
March 2012	5.0	Updated section 3.
July 2012	6.0	Updated section 3.
October 2012	7.0	Updated section 3.
May 2013	7.1	Added RCS25ZB040 and RCS25ZB040LX.

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1. Introduction

This document provides users of the Intel® RAID Expander Card RES2SV240 with a guide to the RAID controllers and modules that Intel tested for use with this RAID expander card.

This document will be updated as additional testing is performed, or until the Intel® RAID Expander Card RES2SV240 is no longer in production. Each new release of the document will include the information from previous releases.

Intel will only provide support for this RAID expander card when it is installed in a system configured with the specified RAID controllers with the tested expander card firmware. Refer to the RAID controllers *Tested Hardware and Operating System List* for other compatible components such as server board, server chassis and physical drive.

This RAID expander card was thoroughly tested with Intel® RAID Controllers in this document. However, it is not practical to test the RAID expander card in every possible combination of RAID controllers or RAID modules, server board, drive enclosure, hard drive, and peripheral device. Sample combinations have been tested to gain confidence in their compatibility, and the devices listed were tested in one or more configurations.

1.1 Test Overview

Testing performed on the Intel® RAID Expander Card RES2SV240 is classified under two categories:

- Compatibility Testing
- Stress Testing

1.1.1 Basic Compatibility Testing

Compatibility testing is performed with each supported operating system. Basic installation testing validates that the RAID expander card together with the compatible RAID controller can be used to install the operating system and that the base hardware feature set is functional. A small set of peripherals are used for installation purposes only. Additional add-in cards are not tested.

Note: The latest version of an operating system signifies the latest supported version at the time of testing. New releases of this document may include a newly supported release of an operating system. Previous releases of a supported operating system may not be tested beyond the basic compatibility test process.

1.1.1.1 Support Commitment for Basic Installation Testing

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

- Intel will provide tested operating system drivers for each of the integrated controllers on the server board, provided the controller vendor has a driver available. Intel does not require vendors 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 provide support to customers who experience issues with the integrated controllers due to the installation or functionality of an operating system only if a driver is available.

- Intel does not provide support for issues related to the use of add-in adapters or peripherals installed in the server system with an operating system that received only basic installation testing.

- Support is defined as assistance provided to a customer in root causing an issue and determining an acceptable resolution to the operating system problem. The resolution may include, but is not limited to, on-board controller driver updates, engaging the vendor, BIOS changes, firmware changes, or determining an acceptable workaround for the issue with the customer.

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 available at the time of testing. The Adapter / Peripheral Compatibility and Stress testing process consists of three areas:

- **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. CV testing does not include heavy stressing of the systems or the cards.

- **Stress Testing**: This test sequence uses configurations with add-in adapters installed in all available slots (depending on the chassis used), and runs for a minimum of 72 hours (three days) without injecting errors. Each configuration passes an installation test, a network/disk stress test, and tape backup test. Any fatal errors require a restart of the test.

1.1.2.1 Support Commitment for Adapter / Peripheral Compatibility and Stress Testing

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

- Intel will provide support to customers who experience issues with tested operating systems involving the installation or functionality of the server board with or without the adapters and peripherals listed in this document as having been tested under the operating system.

- Support is defined as assistance provided to a customer in root causing an issue and determining an acceptable resolution to the problem. The resolution may include, but is not limited to, on-board controller driver updates, engaging the vendor, BIOS changes, firmware changes, or determining a workaround for the issue.

- Intel provides and tests operating system drivers for each on-board video, network, and storage controller.

- Intel enables 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 encounter problems. The actual certification is the responsibility of the customer.

Note: *Intel does not provide a support commitment for operating systems, adapter cards, and peripherals not listed in this document. Intel will consider requests for support 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 with particular characteristics are 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 the client to the server and back match the original without error.
  - Clients remain connected to the server system.
  - Industry-standard test suites run to completion without error.

2.   Firmware Configurations

The following table lists the tested controller and firmware configurations. This document will be updated with additional configurations as new revisions of the Intel® RAID Expander Card RES2SV240 or firmware versions for that controller are released. Each configuration is assigned an identifier number which is referenced in the tables throughout this document.

Note: Intel only provides support for adapters and peripherals in the configuration with which they were tested.

Base System Identifier #	Product Code	Part Number	Firmware Revision
1	RES2SV240	908137	Factory Default

3. Supported Intel® RAID Controllers and Modules

3.1 Intel® RAID Controllers and Modules

Below list includes the Intel® RAID Controllers that were configured with at the time of testing. Refer to *Tested Hardware and Operating System List* of below Intel® RAID Controllers to get more detailed lists of compatible operating systems, server boards, external/internal enclosures, physical drives and other peripherals.

Intel® RAID Controllers and Modules
The On-board SATA/SAS Capable Controller (also called Storage Controller Unit – SCU) on the Intel® C600 chipset based server boards.*
Intel® Integrated RAID Module RMS25PB080, RMS25PB040, RMT3PB080,
Intel® Integrated RAID Module RMS2MH080
Intel® Integrated RAID Module RMS2AF080 and RMS2AF040
Intel® Integrated RAID Module RMS2LL080 and RMS2LL040
Intel® RAID Controller RS2BL080, RS2BL040, and RS2BL080DE
Intel® RAID Controller RS2MB044
Intel® RAID Controller RS2PI008
Intel® RAID Controller RS2SG244
Intel® RAID Controller RS25FB044
Intel® RAID Controller RS2VB040 and RS2VB080
Intel® RAID Controller RS2WG160
Intel® RAID Controller RS2WC080 and RS2WC040
Intel® Integrated RAID Module SROMBSASMR
Intel® RAID Controller RS2VB080, RS2VB040
Intel® RAID Controller RT3WB080
Intel® RAID Controller RS25DB080
Intel® RAID Controller RS25AB080
Intel® RAID Controller RS25NB008
Intel® RAID Controller RS25SB008
Intel® RAID Controller RMS25CB040, RMS25CB080 and RMS25CB080N
Intel® RAID Controller RMS25JB040, RMS25JB080
Intel® RAID Controller RMS25KB040, RMS25KB080
Intel® RAID Controller RMS25PB040, RMS25PB080 and RMS25PB080N
Intel® RAID SSD Cache Controller RCS25ZB040 and RCS25ZB040LX

Note *: When the On-board SATA/SAS Capable Controller (also called Storage Controller Unit – SCU) is in Intel® RSTe mode, any drives connected through Intel® RAID Expander Card RES2SV240 to the SCU cannot act as boot drives. But, they still can be recognized under operating systems, if system boots from other devices and RSTe driver is loaded under operating system.   When the On-board SATA/SAS Capable Controller (also called Storage Controller Unit – SCU) is in Intel® ESRT2 mode, there is no such limitation.

3.2 3rd Party RAID Controllers

Some 3rd party RAID controllers tested with this expander card are:

LSI* 9285CV-8e, 9266-8i, 9285-8e, 9265-8i, 9280-24i4e, 9260-16i, 9280-8e, 9260-8i, 9260DE-8i, 9260-4i, 9280-4i4e, 9260CV-4i, 9240-8i, 9240-4i, 9261-8i, 9240-8i, 9240-4i, 9280-16i4e, 9280-4e, 9217-4i4e.

4.   Enclosures, PCI Adapters, and Peripherals

The testing of enclosures, add-in cards, and peripherals was performed on the Intel® RAID Expander Card RES2SV240 by Intel labs, independent test labs, or the vendor. Compatibility and stress testing was performed with the latest version of an operating system available at the time of testing.

Although a large sample of configurations were tested, not all devices were tested under all operating systems, and not all possible combinations or configurations of third-party devices were tested for inter-compatibility due to the large number of possible configurations. To verify compatibility, use the Server Configurator Tool available at http://serverconfigurator.intel.com/default.aspx.

Add-in adapter card and peripheral compatibility and stress testing is performed with the latest version of an operating system available at the time of testing. 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: *All adapter cards and peripherals were not tested under all operating systems.*

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, they are referenced in the following table. If the installation guidelines are not noted in the following table, then the adapter installed and functioned as expected using the manufacturer's installation instructions or Intel's best-known methods.

Note: *Adapter cards are normally tested with unused add-in adapters and on-board controller expansion ROMs disabled in the 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.*

4.1   External Storage

None.

4.2   Internal Storage

Note: *The enclosures are listed only if they were attached to the Intel® RAID Expander Card RES2SV240 during testing.*

Manufacturer	Model Name	Model Number	Interface	Comments
Intel	Intel® Backplane AXX6DRV3GEXP	AXX6DRV3GEXP	SAS/SATA	3Gb/s only
Intel	Intel® Backplane AXX6DRV3GR	AXX6DRV3GR	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane AXX6DRV3G	AXX6DRV3G	SAS/SATA	3Gb/s only
Intel	Intel® Backplane AXX4DRV3GEXP	AXX4DRV3GEXP	SAS/SATA	3Gb/s only
Intel	Intel® Backplane AXX4DRV3GR	AXX4DRV3GR	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane AXX4DRV3G	AXX4DRV3G	SAS/SATA	3Gb/s only
Intel	Intel® Backplane F2U8X35HSBP	F2U8X35HSBP	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane F2U12X35HSBP	F2U12X35HSBP	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane F1U8X25HSBP	F1U8X25HSBP	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane FXX8X25HSBP	FXX8X25HSBP	SAS/SATA	Up to 6Gb/s
Intel	Intel® Backplane FUP8X35HSBP	FUP8X35HSBP	SAS/SATA	Up to 6Gb/s