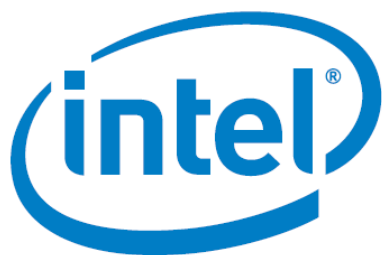# Intel® Rapid Storage Technology enterprise (RSTe) 4.3.0.1386 NVMe Beta

Customer Release Notes

April, 2015

Revision 1.0

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Document Revision History

Date	Version	Description
April 2015	1.0	Initial Beta release for RSTe with NVMe Support

1 Overview

Intel® RSTe 4.3.0.1386 NVMe Beta release package contains the Beta release version of the Windows* drivers, and utilities to support NVMe storage technology using Intel NVMe SSDs.

RSTe does not provide support for booting from an NVMe RAID Volume. As such, this Beta package does not contain the RSTe PreOS complement.

2 System Requirements

- Intel® C610 series chipset
    - o 1 Advanced Host Controller Interface (AHCI)/SATA
    - o 1 secondary Advanced Host Controller Interface (AHCI)/SATA

- **Server Platform Services ROM (SPSR) enabled in platform BIOS**
    - o RSTe NVMe installation requires Device ID 0x8D7C must be exposed. Most platforms already have this available. (Please reference Intel External Design Specification (EDS) for the platform used for further details).
    - o The use of this Device ID is temporary and is for testing purposes ONLY.

NOTE: The production version of RSTe 4.3 will remove support for Device ID 0x8D7C will only support the production Device ID TBD. Documentation that outlines this Device ID and the BIOS requirements for exposing it will be available soon.

This document covers the package contents, supported hardware configurations, credits, support, known issues and resolved issues.

3 Microsoft* OS Support

Intel® RSTe will support both 32 and 64 bit versions of the following Microsoft* OSs:
- Windows* 7
- Windows* Server 2008 R2 (64 bit only)
- Windows* Server 2012
- Windows* 8.1
- Windows* Server 2012 R2

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4 Support on Internet

Support for Intel® RSTe 4.3.0.1386 NVMe Beta release is provided via the Intel® Validation Internet Portal https://platformsw.intel.com/.

For answers to your Intel® C610series chipsets questions and to obtain other technical collateral, please contact your local Intel FAE.

5 Package Components and Versions

Intel® RSTe 4.3.0.1386 NVMe Beta release is the Beta release package to support the NVMe drives in a C610series chipset based platforms. It is available on Intel® Validation Internet Portal as a kit. The contents of this kit include the following components:

- Rapid Storage Technology enterprise Installation
  - RSTe 4.3.0.1386 Release Notes
  - RSTe_43.0.1386_Install.zip Install package includes NVMe drivers and user applications (GUI) for all supported OS's
    - IATA_CD.exe
    - IATA_ENU.exe
    - IATA_ALL.zip
    - IATA_CD.zip
    - IATA_ENG.zip
- RSTe f6 Drivers (drivers and utilities)
  - RSTe_4.3.0.1386_F6-Drivers.zip
  - Intel® RSTe 4.3.0.1386 F6 Win7 OS NVMe Installation Drivers
    - iaNVMe.free.win7.32bit 4.3.0.1386
    - iaNVMe.free.win7.64bit 4.3.0.1386
  - Intel® RSTe 4.3.0.1386 F6 Windows* 8.1/Server 2012 (2012 R2) OS NVMe Installation Drivers
    - iaNVMe.free.win8.32bit 4.2.0.1136
    - iaNVMe.free.win8.64bit 4.2.0.1136
- RSTe CLI Staging
  - RSTe CLI Specifications.pdf
  - RSTe_4.3.0.1386_CLI.zip
    - Win32\Rstcli.exe (32-bit version)
    - X64\Rstcli64.exe

5.1 Supported Configurations

5.1.1 Intel® C610 series chipsets Silicon Stepping

All productions SKUs supported.

6 Supported Platforms

This Intel® RSTe 4.3.0.1386 NVMe Beta release package is intended to be used on customer platforms that are based off

- Intel® C610 series chipset

Please contact your Intel FAE for up to date information related to Romley platform components.

6.1 Intel® RSTe 4.3.0.1386 NVMe Beta Release Documentation

It is strongly recommended that all documentation provided with this release package be reviewed prior to installing the Intel® RSTe 4.3.0.1386 Windows[*] driver package.

6.2 Support

With this release, Intel will accept and process issues reported by customers. Intel makes no commitment to provide a driver update prior to the next scheduled release.

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

7 General Notes: RSTe 4.3.0.1386 Beta Release Package

7.1 New Features Introduced in this Release

The release of RSTe 4.3.0.1386 NVMe Beta Release introduces support for creating RSTe RAID volumes on Intel NVMe drives. Included in this release are F6 drivers for installing one of the supported OSs to a single pass through NVMe drive.

7.2 Features/Configuration Restrictions

The following configurations and test scenarios are not supported in this release. As such, any issues reported against these configurations will not be accepted:

- MPIO Load Balancing in RAID Mode is unsupported
- Booting from an NVMe RAID volume (Pass through only)
- Installing RSTe 4.3.0.1386 is incompatible with Microsoft Inbox RAID drivers. Prior to installing RSTe 4.3.0.1386, please download and install the latest RSTe driver onto the SATA/sSATA Controllers.
- Intel® C600 series chipset is not supported

7.3 Additional Chipset Configuration Information

The RAID PCI Device IDs supported are as follows:

- Intel® C610 series chipset
  - 1 Advanced Host Controller Interface (AHCI)/SATA – 0x2826
  - 1 secondary Advanced Host Controller Interface (AHCI)/sSATA – 0x2827
- RSTe NVMe Beta
  - Server Platform Services ROM (SPSR) Device ID 8D7C must enabled in platform BIOS

8 Specific Known Issues

This section outlines the known issues with the Intel® RSTe 4.3.0.1386.

Note: This is neither a complete nor comprehensive list.

The known issues are broken down into two sub sections. The first outlines those issues that are being worked on or are planned to be corrected in a future release. The second outlines those issues that are considered permanent erratum.

KEY:

Title	Brief description of the issue to assist in identifying whether it affects the reader's application or no
Reference #	Used to reference Intel's internal database for further follow-up on inquiry
Product	Identifies which products are affected by this issue
Version	Identified which release set versions area affected by this issue
Operating System	Where applicable, identifies which operations systems are affected by this issue
Problem Description	Additional information to help the reader determine if this issue affects their application
Resolution/Status	Provides either the current status of the issue or the targeted release for a fix

8.1 Errata

The following is a list of issues that RSTe has no current plans for resolving.

8.2 Known Issues Being Worked

The following issues are being actively worked.

Title#	RSTe NVMe Verify and Repair May Encounter an Unknown Error
Reference	45441
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows
Problem Description	When attempting to run Verify and Repair on an RSTe NVMe RAID volume, the RSTe GUI may encounter an Unknown Error.
Resolution	Issue to be resolved in a future release.

Title#	RSTe UI May Show The Wrong Information Balloon
Reference	49336
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When attempting to perform a RSTe NVMe RAID Volume initialization the RSTe GUI may display the wrong information balloon. It may sow the RAID volume rebuilding instead of initializing.
Resolution	Issue to be resolved in a future release.

Title#	The RSTe GUI May Show an Empty RAID Array
Reference	49619
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When running in a configuration where the RAID Arrays/Volumes on frequently changed (added, deleted, recreated, etc.), the RSTe GUI may not properly display the RAID Array information. In some cases, the RAID array may be empty but the GUI may retain the information from the previous configuration.
Resolution	Issue to be resolved in a future release.

Title#	TRIM Functionality May Not Be Working Properly
Reference	49979
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*

Problem Description	TRIM commands to the NVMe devices may not be processed properly.
Resolution	Issue to be resolved in a future release.

Title#	**Changing RAID Volume May Result in an "Unknown Error"**
Reference	51296
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When attempting to change the RAID Volume type or increasing the Volume size may result in an "Unknown Error"
Resolution	Issue to be resolved in a future release.

Title#	**Platform May Not Wake from S3 Power State**
Reference	51358
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When running in a configuration with the system OS installed on a drive connected to the SATA (or sSATA) Controller (in RAID mode) along with multiple NVMe drives connected, attempting to resume from an S3 power state may fail.
Resolution	Issue to be resolved in a future release.

Title#	**Attempting to Create an MBR Partition on an RSTe NVMe RAID Volume May Not Be Successful**
Reference	43582
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows 7

Problem Description	When running on Windows 7 and attempting to create an MBR partition on an RSTe NVMe RAID Volume may result in the Disk Manager becoming unresponsive.
Resolution	Issue to be resolved in a future release.

Title#	**RSTe May Not Be Able to Properly Add an NVMe Drive to a RAID Volume**
Reference	51732
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When attempting to add an NVMe drive to an RSTe RAID Volume, an "Unknown Error" message may be displayed.
Resolution	Issue to be resolved in a future release.

Title#	**Expand RAID Volume May Result in a System Becoming Unresponsive**
Reference	55349
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	Attempting to expand the size if an existing RAID Volume may result in the system becoming unresponsive or possibly crash.
Resolution	Issue to be resolved in a future release.

Title#	**Expand RAID Volume May Result in a System Becoming Unresponsive**
Reference	55510
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*

Problem Description	Attempting to expand the size if an existing RAID Volume may result in the system becoming unresponsive or possibly crash.
Resolution	Issue to be resolved in a future release.

Title#	**Using RSTe F6 Driver to Install the OS onto an NVMe Device May Result in a System Crash**
Reference	55942
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	Attempting to install an OS onto the NVMe device using the RSTe F6 driver may result in a system crash.
Resolution	Issue to be resolved in a future release.

Title#	**The Create of a Disk Partition May Not Complete Properly**
Reference	55942
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When attempting to create an MBR/GPT disk partition on a RAID volume, the create process may fail and the RAID volume may be marked as failed.
Resolution	Issue to be resolved in a future release.

Title#	**RSTe NVMe Driver May Not Be Properly Signed For Windows 7 and Windows Server 2012 R2.**
Reference	55998
Product	Intel® RSTe NVMe
Version	4.3.0.1386

Operating System	Windows*
Problem Description	When attempting to install RSTe NVMe driver on Windows 7 or Windows Server 2012 R2 may be seen as "Not digitally signed".
Resolution	Issue to be resolved in a future release.

Title#	**Installing an OS using the RSTe NVMe F6 driver May Not Install Properly on an MBR Partition.**
Reference	56003
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	Attempting to install an OS onto an NVMe drive using the RSTe NVMe F6 driver may not install properly on an MBR partition.
Resolution	Issue to be resolved in a future release.

Title#	**The RSTe GUI May Show an Empty RAID Array**
Reference	56895
Product	Intel® RSTe NVMe
Version	4.3.0.1386
Operating System	Windows*
Problem Description	When running in a configuration where the RAID Arrays/Volumes on frequently changed (added, deleted, recreated, etc.), the RSTe GUI may not properly display the RAID Array information. In some cases, the RAID array may be empty but the GUI may retain the information from the previous configuration.
Resolution	Issue to be resolved in a future release.

8.3 Reference Documentation

Please refer to the following documentation for additional information:

TBD	Reserved for future use.

9 Copyright Notice