

# Intel® Rapid Storage Technology (Intel® RST) 16.5.0.1027 Production Version Release

15 June 2018

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## Supported Operating Systems<sup>#</sup>

**Microsoft Windows 10 Redstone2 x64\***  
**Microsoft Windows 10 Redstone3 x64\***  
**Microsoft Windows 10 Redstone4 x64\***  
**Microsoft Windows Server 2016 x64 Edition\***

<sup>#</sup> - The OS support list referred here is a high-level OS support list for this release. However support varies by platform. Please refer the platform POR for the respective platform OS support.

## Revision History

Date	Driver Revision	Build Number
15 June 2018	16.5.0.1027 Production Version	1027
17 May 2018	16.5.0.1022	1022
25 April 2018	16.5.0.1013 Beta	1013
20 April 2018	16.5.0.1013	1013
14 April 2018	16.5.0.1006	1006
23 March 2018	16.5.0.1001	1001

**Notes:**

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1. Known Issue is defined as a potential Intel® RST issue that has been replicated internally by the Intel® RST team but has not been root caused to be an Intel® RST defect.
2. The RAID OROM & UEFI version for this release is 16.5.0.3492, the driver and user interface version is 16.5.0.1027. For Intel® RST Premium features (e.g. RAID, Intel® Optane™ memory, CPU Attached Storage), it is recommended that both the Intel® RST pre-OS and Intel® RST OS driver components are updated. Please contact your CE for further details.
3. If RTD3 is enabled, Windows can turn off disk for very short time (e.g. 20ms). The minimum off time for some disks can be much longer (even 1s). If the disk is turned on too fast, it can hang in some undefined state. RTD3 should be disabled if the disk specification states longer minimum off time.
4. New features and updates added for this release:
  - Intel® Optane™ Memory End-User Pinning and OEM application pinning
  - Support in the Intel® RST UI to support End-user Pinning feature

For more information on these features, please refer to RST\_OEM TechGuide 16.5-rev.0.97.pdf or later.

## Supported Hardware

Initial Intel® RST Release Version		Chipset Name	Platform / PCH / (Segment)	PCH SKU Details
16.0.1, 16.0.2, 16.5		Intel® 300/240 Series Chipset Family	Cannon Lake (CNL)/Coffee Lake (CFL) PCH: Cannon Point-H (CNP-H) (DT)	- H310 <sup>(A)</sup> - H310C <sup>(A)</sup> - H370 - Z390 - Q370 - Q360 <sup>(O)</sup> - B360 <sup>(O)</sup>
			CNL/CFL PCH: CNP-H (WS)	- C246
			CNL/CFL PCH: CNP-H (HEDT)	- X399 <sup>SX</sup>
			CNL/CFL PCH: CNP-H (Mobile Halo)	- QM370 - HM370 - CM246
		9th Generation Intel® Core™ Processor Family Platform I/O SATA AHCI/RAID Controller	CNL PCH: CNP-LP (Mobile LP)	- Premium-U - Base-U <sup>(A)</sup>
N - 1				
	15.8 / 15.9	Intel® 200 Series Chipset Family	Coffee Lake (CFL-S) PCH: Kaby Point (KBP-H) (Desktop)	- Z370
		15.7	Intel® 200 Series Chipset Family	Basin Falls (w/ KBL-X, SKL-X CPU) PCH: KBP-H (HEDT)
	8th Generation Intel® Core™ Processor Family Platform I/O SATA AHCI/RAID Controller		Kaby Lake Refresh (KBL-R) PCH: SPT-LP (Mobile-LP)	- Base-U <sup>(A)</sup> - Premium-U - Premium-Y
	15.5	Intel® 100/C230 Series Chipset Family	Greenlow-Refresh (w/ KBL CPU) PCH: SPT PCH-H (WS)	- C236
		15.2	Intel® 200 Series Chipset Family	KBL PCH: KBP-H (Desktop)

					Intel® 100/C230 Series Chipset Family	(w/ KBL CPU) PCH: SPT-H (Mobile Halo)	- HM175 - QM175 - CM238
				15.0	7th Generation Intel® Core™ Processor Family Platform I/O SATA AHCI/RAID Controller	(w/ KBL CPU) PCH: SPT-LP (Mobile-LP)	- Base-U <sup>(A)</sup> - Premium-U - Premium-Y

<sup>(A)</sup> This base SKU of the chipset supports AHCI mode only

<sup>(O)</sup> This base SKU of the chipset supports both AHCI and Intel® Optane™ memory modes only (non-RAID)

<sup>SX</sup> This SKU is supported with SKL-X CPU only

#### Known Issues In 16.5.0.1027 Production Version Release

ID	Title	Operating System
1305482762	Volume label of ODD drive remain unchanged after ejected CD/DVD disc in RAID mode.	windows.10_rs3.x64
2202694004	Can't disable write caching on Optane accelerated volume	windows.10_rs3.x64
1805815700	Sporadically restart option not showing, After enabling/disabling Optane with one click UI	windows.10_rs3.x64
1805800222	[CATERR][CFL-H][CPUattached] Issue observed after restart from OS	windows.10_rs3.x64
1805464013	Error event log ID7000/ID7009 (iaStorAfsService) show up after PBR reset/refresh.	windows.10_rs2.x64

## Terminology

Common Terms and Acronyms	Definition
AEN	Asynchronous Event Notification
AHCI	Advanced Host Controller Interface
ATA	Advanced Technology Attachment
ATAPI	Advanced Technology Attachment Packet Interface
BIOS	Basic Input / Output System
BUS PROTOCOL GROUP	A bus protocol group represents a set of bus protocols with similar performance characteristics. Bus Protocol Groups are listed here in descending order of speed:  1- PCIe* 2- SATA
Chipset	A term used to define a collection of The PNHCI components required to make a PC function.

CSMI	OEM Common Storage Management Interface for reporting RAID configurations and SMP, SSP, STP pass through.
DEVSLP	Serial ATA Device Sleep
DMA	Direct Memory Access
DOS	Disk Operating System
DIPM	Device Initiated Power Management
Disk's Write Cache	A memory device within a hard drive, which is allocated for the temporary storage of data before that data is copied to its permanent storage location.
GB	Giga-byte = 1024 <sup>3</sup> bytes
HDD	Hard Disk Drive
HIPM	Host Initiated Power Management
Hot Plug	A term used to describe the removal or insertion of a SATA disk while the system is powered on.
ICH	Input / Output Controller Hub
InstantGo*	Microsoft Windows* 8.1 connected standby low-power state that features extremely low power consumption while maintaining Internet connectivity.
KB	Kilo-byte = 1024bytes
LPM	Link Power Management
M.2	Specification for internally mounted computer expansion cards and associated connectors. It replaces the mSATA standard. Formerly known as the Next Generation Form Factor (NGFF)
MB	Mega-bytes = 1024 <sup>2</sup> bytes
MEMORY GROUP	A memory group represents a set of backend storage media types with similar performance characteristics. Memory Groups are listed here in ascending order of speed: 1- Spindle Device (HDD) 2- NAND Spindle Hybrid Device 3- PCH SATA NAND Device (SSD) 4- PCIe* NAND Device (SSD) 5- PCIe* NAND Device (SXP)
mSATA	Computer bus interface that connects host bus adapters to mass storage devices such as hard disk drives and optical drives. Uses PCI Express Mini Card-like connector that is electrically SATA.
NAI	Notification Area Icon
NTFS	NT File System
NVC	Non-Volatile Cache
NVMe*	Non-Volatile Memory Express: Non-Volatile Memory Host Controller Interface Specification (NVMHCI), is a specification for accessing solid-state drives (SSDs) attached through the PCI Express (PCIe*) bus
OEM	Original Equipment Manufacturer
ODD	Optical Disk Drive
OROM	Option ROM
OS	Operating System
PCH	Platform Controller Hub
PCIe*	PCI Express (Peripheral Component Interconnect Express): is a high-speed serial computer expansion bus standard

Port	The point at which a SATA drive physically connects to the SATA controller.
PRD	Product Requirements Document
PUIS	Power Up In Standby - Drive feature that allows a spindle device to be powered up in standby mode without spinning the disk up.
RAID	Redundant Array of Independent Disks Matrix RAID: A configuration supporting two RAID levels by having two volumes in a single RAID array that use Intel® RST
RTD3	Runtime D3
RS2	Redstone2
SATA	Serial ATA
SIPM	Software Initiated Power Management
S.M.A.R.T.	Self-Monitoring, Analysis and Reporting Technology: an open standard for developing hard drives and software systems that automatically monitors a hard drive's health and reports potential problems.
SED	Self-Encrypting Drive
SRT (EOL)	Intel® Smart Response Technology. Intel® RST's premium feature to use caching technology that enables caching of a device or volume using a faster device. <b>Note: This feature has EOL'd and is no longer supported beginning with the Intel(R) RST 16.0 product line</b>
SSD	Solid State Drive – non volatile memory used as storage media
SSHD	Solid-State Hybrid Drive
TB	Tera-byte = 1024 <sup>4</sup> bytes
UEFI	UEFI pre-OS driver
UI	User Interface
VC	Validation Candidate
ZPODD	Zero Power Optical Disk Drive