

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

11 June 2018

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Supported Operating Systems[#]

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

[#] - 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 |
|---------------|--------------------------------|--------------|
| 11 June 2018 | 16.5.0.1027 Production Version | 1027 |
| 28 May 2018 | 16.5.0.1027 | 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 |

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Notes:

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 ^(A) - H310C ^(A) - H370 - Z390 - Q370 - Q360 ^(O) - B360 ^(O) |
| | | | CNL/CFL PCH: CNP-H (WS) | - C246 |
| | | | CNL/CFL PCH: CNP-H (HEDT) | - X399 ^{SX} |
| | | | 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 ^(A) |
| N - 1 | | | | |
| | 15.8 / 15.9 | Intel® 200 Series Chipset Family | Coffee Lake (CFL-S) PCH: Kaby Point (KBP-H) (Desktop) | - Z370 |
| | | Intel® 200 Series Chipset Family | Basin Falls (w/ KBL-X, SKL-X CPU) PCH: KBP-H (HEDT) | - X299 |
| | 15.7 | 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 ^(A) - Premium-U - Premium-Y |
| | | 15.5 | Intel® 100/C230 Series Chipset Family | Greenlow-Refresh (w/ KBL CPU) PCH: SPT PCH-H (WS) |

| | | | | | | | |
|--|--|--|--|------|--|---|--|
| | | | | 15.2 | Intel® 200 Series Chipset Family | KBL PCH: KBP-H (Desktop) | - Q250 ^(O) - B250 ^(O) - Z270 - H270 - Q270 |
| | | | | | 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 ^(A) - Premium-U - Premium-Y |

^(A) This base SKU of the chipset supports AHCI mode only

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

^{SX} 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: |

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| | |
|--------------------|--|
| | 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 ³ 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 ² 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 (NVMeHIC), 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. Note: This feature has EOL'd and is no longer supported beginning with the Intel(R) RST 16.0 product line |
| SSD | Solid State Drive – non volatile memory used as storage media |
| SSHD | Solid-State Hybrid Drive |
| TB | Tera-byte = 1024 ⁴ bytes |
| UEFI | UEFI pre-OS driver |
| UI | User Interface |
| VC | Validation Candidate |
| ZPODD | Zero Power Optical Disk Drive |