

# Intel® Rapid Storage Technology (Intel® RST) 16.7.0.1009-InstallerUpdated Production Version Release

28 September 2018

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

**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
28 September 2018	16.7.0.1009- InstallerUpdated PV	1009
3 August 2018	16.7.0.1009 PV	1009

## 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 16.7.0.3513, the driver and user interface version is 16.7.0.1009. 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:
  - a. RCRs added:
    - i. Incomplete Intel® Optane™ memory volume disks now shows under "Optane volume info" page instead of Non-RAID physical disks in the RST UEFI driver.
    - ii. Restoring APM values to SSD/HDD default APM level when resuming from Connected Standby.
5. **Issue and Workaround details:**

**Issue details:** Intel® RST 16.7 driver will prevent system from entering C10 and always in C0. The issue is caused due to Intel® Optane™ Pinning Explorer Extensions not behaving correctly.

**Workaround:** Intel® Optane™ Pinning Explorer Extensions is disabled and not installed by default with Intel® RST 16.7 installers to workaround the issue. The purpose of Intel® Optane™ Pinning Explorer Extensions is for enabling pinning in the file explorer with Intel® Optane™ Memory enabled.

**Other Scenarios:** The above issue is also seen when user upgrades from 16.5.x version to 16.7 due to Intel® Optane™ Pinning Explorer Extensions being preserved upon upgrade. To get around the issue in this scenario, it is recommended to uninstall Intel® Optane™ Pinning Explorer Extensions manually.

  - a. Go to Control Panel -> Programs and Features -> Uninstall a Program
  - b. Select Intel® Optane™ Pinning Explorer Extensions -> Uninstall
  - c. Select the option -> Do not close applications. (A reboot may be required.)
  - d. Intel® Optane™ Pinning Explorer Extensions will be uninstalled upon next reboot.

**Note:** For customers who require this feature, below is the recommendation.

  - a. To enable pinning in the file explorer, users have to manually run '*ShellPackage.msi*' from '*f6flpy-x64.zip*' after enabling Intel® Optane™ Memory for System Drive acceleration.
6. Intel® RST 16.7.0.1009-InstallerUpdated PV driver includes Optane one-click installer fix which is updated from version 16.99.0.54 to version 16.99.0.58 in order to fix following issue:

**Issue:** While installing Intel® RST driver version 16.5.1, system does not recognize PCIe disk leaving incomplete driver installation.
7. For more information on these features, please refer to Intel® RST\_OEM Tech Guide 16.7-rev.1.0.pdf or later.

## Supported Hardware

Initial Intel® RST Release Version	Chipset Name	Platform / PCH / (Segment)	PCH SKU Details
16.x	Intel® 300 Series Chipset Intel® X299 Chipset Mobile Intel® 300 Series Chipset Mobile Intel® CM246 Chipset	Desktop	Intel® H310 Chipset <sup>(A)</sup> Intel® Q370 Chipset Intel® H370 Chipset Intel® B360 Chipset <sup>(O)</sup> Intel® Z370 Chipset
		High End Desktop	Intel® X299 Chipset
		Mobile	Intel® HM370 Chipset Intel® QM370 Chipset Intel® CM246 Chipset
N - 1			
	Intel® H110 Chipset Intel® 200 Series Chipset Intel® C236 Chipset Mobile Intel® 100 Series Chipset Mobile Intel® CM238 Chipset	Desktop	Intel® H110 Chipset <sup>(A)</sup> Intel® Q250 Chipset <sup>(O)</sup> Intel® H270 Chipset Intel® B250 Chipset <sup>(O)</sup> Intel® Z270 Chipset
		Workstation	Intel® C236 Chipset
		Mobile	Intel® HM175 Chipset Intel® QM175 Chipset Intel® CM238 Chipset

<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 (nonRAID)

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

## Known Issues

Known Issues In 16.7.0.1009-InstallerUpdated PV Release		
ID	Title	Operating System
1806452642	Unexpected reboot observed during Hibernate.	
1806447579	Intel® RST installer show option "Create a Desktop Shortcut" when launch "SetupRST.exe –noservice –noIRSTGUI"	windows.10_rs4.x64
1806420500	OS DRIPS percentage is low when PSON is enabled on the system with OPTANE+HDD as boot media.	windows.10_rs4.x64
1806343993	Standby performance test result in S3 suspend violate Acer spec.	windows.10_rs4.x64
1806265299	NVMe SSD cannot be detected after installing OS w/ RAID mode ON	windows.10_rs4.x64
2205081240	System goes into Automatic repair mode when wake up from S4 after installing iRST driver 16.5	windows.10_rs4.x64
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
1805464013	Error event log ID7000/ID7009 (iaStorAfsService) show up after PBR reset/refresh.	windows.10_rs2.x64

## Terminology

<b>Common Terms and Acronyms</b>	<b>Definition</b>
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	<p>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:</p> <p>1- PCIe* 2- SATA</p>
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



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