

# Intel® Rapid Storage Technology (Intel® RST) 17.9.0.1007 – Production version Release

12 May 2020

**Intel Confidential**

---

**DISCLAIMER:** Information in this document is provided in connection with Intel products. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty relating to sale and/or use of Intel products, including liability or warranties relating to fitness for a particular purpose, merchantability or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, lifesaving, or life-sustaining applications.

Intel may make changes to specifications and product descriptions at any time, without notice.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

\* Other names and brands may be claimed as the property of others.  
Copyright © Intel Corporation 2000-2020

---

## Supported Operating Systems

**Microsoft Windows 10 20H1 x64\***

### Revision History

Date	Driver Revision	Build Number
12 May 2020	17.9.0.1007	1007
31 March 2020	17.9.0.1004	1004

## Notes:

- 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.
- The RAID OROM & UEFI version for this release is 17.8.0.4507, the driver and user interface version are 17.9.0.1007 and Intel® Optane™ Memory and Storage Management App version is 17.9.1006.0. 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.
- New features and updates:
  - 1.20H1 OS support
  - 2.End-of-Life of Intel® RST User Interface (UI) and Intel® Optane™ Memory UI
  - 3.Intel® Optane™ Memory and Storage Management Application Improvement –
    - a) Windows\* Narrator Support
    - b) Enhancing Visual Presentation of Intel® Hybrid SSD
  - 4.Intel® RST driver package Updates –
    - a) Added new extension files for HSA (ExtensionHSA) and Pinning (ExtensionPinning) to meet DCH compliance requirements.
      - a. Shellpackage.msi will no longer be provided and the same functionality will be provided through extension inf (ExtensionPinning).
      - b. *iaStorHsa\_Ext.inf*, *iaStorHsa\_Ext.cat*, *iaStorHsaComponent.inf*, *iaStorHsaComponent.inf* : Required for HSA installation through driver inf and the same extension is used by installer to invoke HSA installation.
    - b) Installer package update – New SetupRST.exe installer will install the appropriate Intel® RST driver in the system and the Intel® Optane™ Memory and Storage Management application . During the installation process,
      1. If the end-user chooses to install the Intel® Optane™ Memory and Storage Management application, the installer will initiate the request for Windows\* Store to install the application at the next system reboot.
      2. If the end-user chooses NOT to install the Intel® Optane™ Memory and Storage Management application, they can still directly go to Windows\* Store and install the application later.
- For more information on these features, please refer to RST\_OEM TechGuide\_17.xx\_Rev1.3.11\_RST17.9/or later or the latest RST MoM CDI#571459 .

## Resolved Issues

Resolved Issues In 17.9.0.1007 – Release		
ID	Title	Operating System
18010932182	Disabling Optane™ hangs on 100%	N/A
18010860708	No license for Microsoft Windows-universal-samples	N/A
1809303495	BSOD 0x7B observed intermittently when FW is updated and Sx cycles performed	N/A

Resolved Issues In 17.9.0.1004 – Release		
ID	Title	Operating System
1809270656	SW drips is 0% and HW drip not generated on TG SKU)	windows.10_rs5.x64
1807733920	System might intermittently observe A0 BSOD while enabling/disabling Intel® Optane Memory Volume	windows.19h2.x64
1507710493	Host still sent PMREQ_S in Modern Standby entry even host is configured HIPM disabled	windows.19h1.x64
1809657160	Intel® Optane™ memory drives disappeared in diskpart and RSTCLI64.exe shows "Unknown disk usage" after drvload Intel® RST 17.8 driver version under Pure WinPE environment	windows.10_rs5.x64
1809083529	Intel Optane Memory and Storage Management" cannot recognize certain ODD's serial number.	windows.19h1.x64
18010049009	[RST MW] Error occurred while creating RAID1 volume, auto-shrinking failed intermittently.	Windows.19h1.x64
1809657160	TG SB2 disappeared in diskpart and RSTCLI64.exe shows TG SB2 as "Unknown disk usage" after drvload 17.8 driver under Pure WinPE environment	Windows.19h1.x64

## Known Issues

Known Issues In 17.9.0.1007 – Release		
ID	Title	Operating System
1809575911	Intel Optane Memory H10 with SSD(Teton Glacier) CDMv6 Seq Write performance fluctuating	N/A
18011439481	DO_VERIFY_VOLUME -- when ODD returned 0x02, system doesn't send write command to 0040h	windows.19h1.x64
18010989925	CrystalDiskInfo - SSD Unsafe shutdown count will increase after S4 or S5.	windows.19h1.x64
1807707264	Intermittent BSOD 0xA0 observed during separation	windows.19h1.x64

1809264606	Intel® RST PreOS Is Not Showing All devices in BIOS Page When Plugged H10 device.	windows.19h1.x64
2209998548	BIOS Recovery failure when SATA mode is set to RST and the recovery image size is more than 32MB.	N/A
1808766918	Enabling Optane™ fails with error 0xA0070015 when system has a drive connected in Ronin mode	N/A
1808631115	Less bandwidth on TG disk after updating Intel® RST driver to 17.8.0.1022 and later with PCMark8*	N/A
1808882565	System configured with TG - unable to boot or stuck in a boot loop/report bad system config very sporadically, while performing dirty shutdown during extensive IO stress tests. ( <b>workaround:</b> Doing a cold reboot will recover the system in case the system is stuck in boot loop)	N/A
1808580383	Intel® RSTCLI returned incorrect code. Expected: Success Actual: InvalidParameters	windows.10_rs5.x64
1807748617	NVMe is not listed in Boot Manager when disable CPU Attached feature in BCFS	N/A
1805874759	Volume failed to go into Normal or Rebuilding state after trying to recover from failed volume state	N/A
1807684084	CLI shows Roaming Supported when feature is disabled in the driver	N/A

## 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.
HSA	Hardware Supported App
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	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
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