

Intel® Rapid Storage Technology (Intel® RST) 18.1.6.1039 Production Version – Release

March 2021

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Supported Operating Systems

Microsoft Windows 10 Redstone 20H2 x64*

Revision History

Date	Driver Revision	Build Number
March 2021	18.1.6.1039 PV release	1039

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. New features/platforms for this release
 - Support added for 11th Gen Intel Core S-series platform
 - PCIe* Gen4 Drive Support
 - Displaying Error Messages under Windows* notification center
 - Adding ErrorCode and EventID to Windows* Event Log
3. The RAID UEFI version recommended for this release is 18.1.1.5201(VMD)/18.31.1.5256(non-VMD), the driver version is 18.1.6.1039 (VMD) / 18.31.6.1039 (non VMD) and Intel® Optane™ Memory and Storage Management (HSA) driver version 18.1.1015.0. For Intel® RST Premium features/Intel® VMD 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 enabled.

Resolved Issues

Resolved Issues in 18.1.6.1039– Release			
ID	Title	Operating System	Component
18014063292	rstclipro returns error with "-l -v" parameter if the system doesn't have Intel® Optane™ Memory or RAID volume	windows.20h2_vibranium.x64	Driver
18013638364	BSOD(7E) occurred intermittently when enabling Intel® Optane™ Memory H10 volume via CLI w/ DVDRW on ICL platform	windows.20h2_vibranium.x64	Driver
18013713200	BSOD seen with idle during Modern standby when HDD idle timer is set to less than 30 sec and D3 is supported	windows.20h1_vibranium.x64	Driver
18013809909	BSOD(0x50) seen when remove and re-connect the original disk (that is a member of a RAID volume) and power on system.	windows.20h1_vibranium.x64	Driver
18013983826	[Brazil]Sentence translation incorrect during driver installation process.	windows.20h1_vibranium.x64	HSA
18011179191	Intel® RST Middleware reported Intel® Optane™ Memory volume disable error 0xA0070027	windows.20h1_vibranium.x64	HSA
18012111695	BSOD during S3StatePwrTest & S4StatePwrTest on RAID matrix	windows.20h1_vibranium.x64	Driver
18013772954	No warning pops up in the system tray when unplug the device from RAID volume with the system off (Notifications settings is Enabled).	windows.20h1_vibranium.x64	Driver

18013728605	Black screen then five minutes later BSOD occurred during system restart if remove one HDD/SSD on SATA RAID1 config.	windows.20h1_vibranium.x64	Driver
18013772662	Device drivers does not show platform name	windows.20h1_vibranium.x64	Driver
18012667970	System hangs while running DVD stress test intermittently with Intel® Optane™ MemoryH10 volume	windows.20h1_vibranium.x64	Driver
18013442238	FC BSOD issue seen intermittently by the driver	windows.20h1_vibranium.x64	Driver
16011777819	[HSA] Unable to enable Intel® Optane™ Memory with prior HSA Version to 18.1 if Legacy (RST or Optane Memory) application is previously installed and removed. Toast pops up 0xA0070020	NA	HSA
18013454210	Intel® Optane™ Memory SSD show offline in Intel® Optane™ Memory and Storage Management GUI.	windows.20h1_vibranium.x64	HSA
18013192052	Pop you must restart your computer after click 'Link Power Management' disable button via HSA with NVMe drives	windows.20h1_vibranium.x64	HSA
18012858837	BSOD 0XD1 when run Modern standby stress test with SSD/RAID	windows.20h1_vibranium.x64	Driver
18012952464	No warning pops up in the system tray when unplug the device from RAID volume with the system up and running (Notifications settings is Enabled).	windows.20h1_vibranium.x64	Driver
18012849010	Intermittent BSOD D1 seen with Intel® Optane™ Memory volume during I/O stress test	windows.20h1_vibranium.x64	Driver
18012731189	Smart data not available on SATA raid0	windows.20h1_vibranium.x64	Driver
18011985110	"Error Code: 0x20000001" happens if click [Reboot] button for twice or more times.	windows.20h1_vibranium.x64	HSA
18012803862	Pinning files size are not the same in Intel® Optane™ Memory and Storage Management and file explorer	windows.20h1_vibranium.x64	HSA
18012254779	Wrong notification order during Intel® Optane™ Memory volume rebuild	windows.20h1_vibranium.x64	HSA
18011912187	Files disappear after pin the DUP driver to the Intel® Optane™ Memory in IRST UI.	windows.20h1_vibranium.x64	HSA

Known Issues

Known Issues in 18.1.6.1039– Release		
ID	Title	Operating System
18013267674	[WHQL][20H1] C4 BSOD from " module during HLK tests for Intel NVMe Controller (Ronin)	windows.20h1_vibranium.x64
18013639181	" Intel® Optane™ Memory and Storage Management" doesn't full screen after rotating	windows.20h2_vibranium.x64
18014061843	click HSA " Change type" item under Recovery mode system, results in HSA UI crash	windows.20h1_vibranium.x64
18014175425	BSOD(code:09f) occurred during resuming from MS intermittently with Intel® Optane™ Memory volume	windows.20h2_vibranium.x64
18014283796	F6 driver cause system crash when you hot-plug SATA device	windows.20h2_vibranium.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 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.
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 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 (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 ⁴ bytes
UEFI	UEFI pre-OS driver
UI	User Interface
VC	Validation Candidate
ZPODD	Zero Power Optical Disk Drive