Intel® Rapid Storage Technology (Intel® RST) 18.0.3.1148 – Release

25 September 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.

Supported Operating Systems
 Microsoft Windows 10 Redstone 20H1 x64*
 Microsoft Windows Server 2016 x64 Edition*

Revision History

Date	Driver Revision	Build Number
25 September 2020	18.0.3.1148 release	1148
14 September 2020	18.0.3.1144 release	1144
14 August 2020	18.0.1.1138 release	1138
7 August 2020	18.0.0.1135 PV release	1135
25 July 2020	18.0.0.1135 release	1135
17 July 2020	18.0.0.1132 release	1132
26 June 2020	18.0.0.1122 release	1122
14 June 2020	18.0.0.1119 release	1119
24 May 2020	18.0.0.1111 release	1111
6 May 2020	18.0.0.1105 release	1105
28 April 2020	18.0.0.1102 release	1102
21 April 2020	18.0.0.1090 release	1090
13 March 2020	18.0.0.1089 release	1089
05 March 2020	18.0.0.1084 release	1084
06 February 2020	18.0.0.1059 release	1059
01 November 2019	18.0.0.1037 release	1037
18 October 2019	18.0.0.1021 release	1021
22 August 2019	18.0.0.1015 release	1015
03 July 2019	18.91.0.1007 release	1007

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 18.0.3.5032 (VMD)/18.30.0.4890(non-VMD), the driver and user interface version is 18.0.3.1148(VMD)/18.30.3.1148(non-VMD) and Intel® Optane™ Memory and Storage Management (HSA) driver version 18.0.1017.0. 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.

3. **New features and updates added:**

    1. Volume Management Device (VMD) Support
        a) ZPODD not supported with VMD
    2. HSA UI Updates –
        a) Windows Narrator Support
        b) UI changes for pinning interface
    3. Intel® RST driver package Updates –
        a) Separate driver package for VMD and non-VMD platforms

b) Added new extension files for HSA (ExtensionHSA) and Pinning (ExtensionPinning) to meet DCH compliance requirements.

   I. Shellpackage.msi will no longer be provided and the same functionality will be provided through extension inf (ExtensionPinning).
   II. iaStorHsa_Ext.inf, iaStorHsa_Ext.cat, iaStorHsaComponent.inf, iaStorHsaComponent.cat: Required for HSA installation through driver inf and the same extension is used by installer to invoke HSA installation.

4. Installer package update – New SetupRST.exe installer will detect if the platform is VMD enabled or Legacy platform and install the appropriate Intel® RST driver in the system. During the installation process,

   a) 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.

   b) 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.

4. For more information on these features and supported platform details, please refer to RST_OEM TechGuide_RST18.0._rev0.8.1pdf or later on CDI doc#617171

Resolved Issues

Resolved Issues in 18.0.3.1148 – Release

ID	Title	Operating System
18011912187	Files disappear after pin the DUP driver to the Optane memory in IRST UI.	windows.20h1_vibranium.x64
18012820152	After RST installation, driver injection removes NoDefaultDriveLetter GPT attribute	windows.20h1_vibranium.x64
18011293154	Intel Optane Memory Enabled: information is cut in HSA UI	windows.20h1_vibranium.x64
18011664936	Manage: RAID enabled - the "Modify Cache Mode" option is cut off in Greek Language	windows.20h1_vibranium.x64
18011440555	The button function is working but the edge is bigger than the picture on HSA	windows.20h1_vibranium.x64
18011381106	HSA UI is selecting both Radio buttons in "Create Raid Volume" tab on going back b/w forms during Raid creation operation	windows.20h1_vibranium.x64
18012823326	After waking from S3 observing system Hung and Sporadically SUT asking for password in RAID 1	windows.20h1_vibranium.x64
18012239088	BIOS cannot send identify command successfully by gEdkiiPeiNvmExpressPassThruPpiGuid which is installed by RST PEIM.	18012240263

Resolved Issues in 18.0.3.1144 – Release

ID	Title	Operating System
18012490317	System cannot boot up due to restart loop by RstVmdPeim.efi	windows.20h1_vibranium.x64
18012304911	OS freeze / Black screen and unexpected shutdown event during creating files to fill Optane volume	windows.20h1_vibranium.x64
18012823111	BSOD 0x50 occurred intermittently when resume from S4.	windows.20h1_vibranium.x64
18012822016	Enable RAID0 Trim support for VMD platforms.	windows.20h1_vibranium.x64
18012564279	BSOD DRIVER_IRQL_NOT_LESS_OR_EQUAL (d1) in idle state observed sporadically	windows.20h1_vibranium.x64
18012667962	Middleware services crash in the disk C when running the OS Aging-WB/CB test	windows.20h1_vibranium.x64
18012723447	NVMe SSD is disappear in disk list of diskpart after creating RAID 0 volume under WinPE with Intel® RST 18.30.0.1135	windows.20h1_vibranium.x64

Resolved Issues in 18.0.1.1138 – Release

ID	Title	Operating System
18012147233	[Non-VMD] System gives black screen with BSOD 0x139 dump sporadically during reboot stress testing.	windows.19h1.x64
18012474251	BSOD 0x133 seen during warm boot stress testing with Intel® Optane™ Memory H10 (improvement for 7B issue fix in 18.0.0.1135)	windows.19h1.x64
1307810132	Run CrystalDiskinfo tool, the unsafe shutdown value of NVMe SSD will be increased after system normally resumed from S4 or cold boot.	windows.20h1_vibranium.x64
18012001361	Sequential read performance fluctuations observed in CDM6 vs CDM7	N/A
1809333099	BSOD D1 observed sporadically during s4 reliability tests with Intel® Optane™ Memory H10	windows.19h2_vanadium.x64
18012345422	BSOD DRIVER_IRQL_NOT_LESS_OR_EQUAL (d1) observed sporadically during MS	windows.20h1_vibranium.x64
18012385881	Optane on Intel® Optane™ Memory H10 is not properly detected due to wrong LBA read by PEIM driver	N/A

Resolved Issues in 18.0.0.1135 – Release

ID	Title	Operating System
22010634523	[TGL-U] BSOD INACCESSIBLE_BOOT_DEVICE (7b) observed intermittently during MS session with Optane on Intel® Optane™ Memory H10(workaround for TG issue)	N/A
18012225106	Disk error observed sporadically with Intel® Optane™ Memory H10	N/A

ID	Title	Operating System
18011690107	Intel® RST driver UI change size/position during installation	N/A

Resolved Issues in 18.0.0.1132 – Release

ID	Title	Operating System
18012243654	Unable to load Optane™ DLL files	N/A
18011332230	20H1 HKL - Connect Standby IO Stress test failed on SATA SSD	windows.19h1.x64
14011788997	BSOD after booting into Windows with D3Cold enabled in BIOS and idling for ~ 24 hours	N/A
18012084918	NVMe Deallocate Test (LOGO) failed for Intel NVME Controller	windows.20h1_vibranium.x64
18012109390	System cannot enter S4 normally after update VMD driver 1119, disable secure boot seems OK	windows.20h1_vibranium.x64
18011984387	Enable Optane™ fail with Win10 20H1 build19041.264	windows.20h1_vibranium.x64
18011977699	OS become unresponsive sporadically while running HLK test when system is configured with Intel® Optane™ memory	windows.20h1_vibranium.x64
18011676973	The SATA ODD connected to SATA0 can't be detected in OS when enable SATA0 and disable remaining SATA ports.	windows.19h1.x64
18011846480	Unable to get Driver version from CLI	windows.20h1_vibranium.x64
18011975466	D3hot supporting base on BIOS white paper implementation.	windows.20h1_vibranium.x64

Resolved Issues in 18.0.0.1122 – Release

ID	Title	Operating System
18011270694	[HSA] Manage "Mark as spare" option. Button overlaps the link to the website.	N/A
18011753788	File mismatch after S4 in DPMO scenario	windows.20h1_vibranium.x64
18011915855	WU update cause missing pinning extension file.	NA
18011842941	System will occur black screen(0xE6) during run Connected Standby IO Stress Test.	windows.19h1.x64
18011907306	System hang observed sporadically during benchmark workload	windows.19h2_vanadium.x64

ID	Title	
1809575911	Intel® Optane™ Memory H10 with SSD (Teton Glacier) CDMv6 Seq Write performance can't meet spec.	windows.19h1.x64,windows.19h2_vanadium.x64

Resolved Issues in 18.0.0.1119 – Release

ID	Title	Operating System
18011332230	20H1 HKL - Connect Standby IO Stress test failed on SATA SSD	windows.20h1_vibranium.x64
18011754349	Black screen observed intermittently with warm reboot test	windows.20h_vibranium.x64
18011665943	HDD unsafe shutdown during Hibernate on VMD mode.	windows.20h1_vibranium.x64
18011757579	[TGL-U B1][TG] BSOD(EF) intermittently observed during S3	windows.20h1_vibranium.x64
1307539381	Disk Vendor information is wrong in MW	windows.19h1.x64
18011529076	Driver power state set incorrectly for another driver when non-OS drive disappears	windows.20h1_vibranium.x64
1809517117	After deleting Matrix Raid0 volume using 18.30 driver, error occurs	NA
18011664973	Incorrect Port Multiplier Port value set in device path.	NA

Resolved Issues in 18.0.0.1111 – Release

ID	Title	Operating System
18011456191	[TGL] Intermittent A0 BSOD seen upon resume from S4 power cycle with D3 set for device targets	windows.20h1_vibranium.x64
1307534368	[HSA] Sporadically disabling Optane hangs on 0%	N/A
18011439931	L1 SS PM not enabled under VMD control for certain devices	windows.20h1_vibranium.x64
18011375138	[WHQL][TGL] RAID1 volume connected as data drive from two NVMe drives disappears during resume from S4	windows.20h1_vibranium.x64
1807733920	System might intermittently observe A0 BSOD while enabling/disabling Intel® Optane Memory Volume	windows.19h1.x64
18011380949	[ICL]The error message pops up when choose "Responsiveness mode" to enable Intel Optane Memory.(TG)	windows.20h1_vibranium.x64
18011385598	[CLI] Normal switch does not reset SMART event (SMART action to --normal switch added (-M -F))	windows.20h1_vibranium.x64

1809303495	BSOD 0x7B observed intermittently when FW is updated and Sx cycles performed	windows.20h1_vibranium.x64
18011373435	BSOD D1 seen during S4 after creating Optane volume on GCF platform with Sw remapped device	N/A
18011397447	[Non-VMD] BSOD 7E intermittently observed during S3 with TG on the system	windows.20h1_vibranium.x64
18011538029	[TGL][UP3][B1][PEG] BSOD (Critical Process Died) with Neptune Harbor drive connected to PEG	N/A
18011426885	[BSOD][TGL-U][S3] BSOD EF intermittently seen during S3 with discrete optane enabled	windows.20h1_vibranium.x64
18011529286	File cache is being created by default on hybrid drive when enabling Optane	
18011183564	Intermittent BSOD observed during Modern Standby with discrete optane	windows.20h1_vibranium.x64
18010700600	System hang on logo at first boot after install IRST Driver with certain NVMe	windows.19h1.x64
1807780584	[PreOS] Display hybrid controller name in TPV EFI menu based on the device type.	N/A
18011505350	Missing second controller of Teton Glacier drive under VMD at PEI phase.	N/A
14011536515	SUT hang with postcode 0A7F while waking from S3 using SATA SSD with VMD settings	N/A
18011517867	Get EFI_UNSUPPORTED(0x3) return code with EfiDiskInfoProtocol->WhichIDE	N/A
18011616537	DiskInfo->Identify can get success return, but the content in the data buffer is insufficient. - AHCI only	N/A

Resolved Issues in 18.0.0.1105 – Release

ID	Title	Operating System
18011267368	WHQL tests not starting for Ronin/CPUattached configurations due to hangs during diskpart operations	windows.20h1_vibranium.x64
18010421554	After enabling Optane™ on platform - volume disappears after performing S3/S4	N/A

18011310530	System is gating Package C2 while assign SATA controller to VMD but plug nothing in SATA ports	windows.20h1_vibranium.x64
1809332203	Invalid information in Optane™ and Pinning tab with Optane™ enabled in Performance mode	N/A
18011342849	Enable Intel® Optane™ Memory Status fail with older Intel® RST driver/HSA UI	windows.19h1.x64
1307410586	Intermittent BSOD DRIVER_POWER_STATE_FAILURE (9f) observed during S4	windows.20h1_vibranium.x64
18011047809	Intel® RST driver backward compatibility should be limited in all INF driver files since RS2 OS (15063 build) version	N/A

Resolved Issues in 18.0.0.1102 – Release

ID	Title	Operating System
18011263173	Unable to set password for second NVMe after configuring RAID 1	N/A
1809969227	DevicePath of SSCP drive has different type value than DevicePath of BlockIo for the same drive.	N/A
1809628901	Optane™ Volume Name is not populated into CSMI_SAS_RAID_CONFIG.bResered[20] field	N/A
18010214776	Minidump file creation failed during CrashDump Support Test (Logo)	windows.20h1_vibranium.x64
1808240368	Unable to get SMART when passthrough disk is in D3cold	
1809903982	A0 BSOD seen intermittently during S3 stress combined with I/O	windows.19h2_vanadium.x64
1307393392	Sporadic BSOD 0x133 observed when handling Link State Power Management change (Windows power option)	
18011024287	SLCAP.PSN data from rstcli64.exe is wrong	windows.19h2_vanadium.x64
18010932182	Disabling Optane™ hangs on 100%	N/A
18010996658	Volport sends internal requests right before Adapter D3 call	N/A
18010936973	Intermittent BSOD 0x133 observed with MS	windows.20h1_vibranium.x64
1307410586	BSOD DRIVER_POWER_STATE_FAILURE (9f) during S4 observed sporadically	windows.20h1_vibranium.x64
1809849461	Windows failed to resume from hibernate with error status 0xC000007B with Optane™ (SATA+PCie) and MS enabled	windows.20h1_vibranium.x64

18010357875	3rd party SATA SSD Info "Hardware Ids" is Not correct in Device manager properties Disk drives\Details.	windows.19h1.x64
18010473480	RcfgSata tool return wrong status when use wrong parameter for /SP /DS command	windows.19h1.x64
18011040992	ApiValidator show RstMwService is not universal	N/A
18010459544	Platforms stuck in recovery during DPMO(S3) test	N/A
18011153128	Intermittent BSOD DRIVER_IRQL_NOT_LESS_OR_EQUAL (d1) seen during Modern Standby	windows.20h1_vibranium.x64
18011111666	BSOD observed sporadically while booting from VMD enabled NVME drive	windows.20h1_vibranium.x64
18011172799	Not observed PMCS config write "D3 hot enabled" via Intel® RST driver log & PCIe trace	windows.20h1_vibranium.x64
1809899718	Intermittent BSOD after Optane™ creation (using CLI) in OS interrupted by connected standby	windows.20h1_vibranium.x64
18011193244	Intermittent BSOD, CRITICAL_PROCESS_DIED (ef) during S3 cycle	windows.20h1_vibranium.x64
18010991009	Intel® VMD Controller show red in Intel® PEP Checker log when VMD enabled and device is not under it. 20H1 Auto PeP constrain disabled.	windows.19h2_vanadium.x64
1808311593	DPC_WATCHDOG_VIOLATION (133) observed sporadically	windows.19h2_vanadium.x64
1809788339	Intel® Data Volume instead of Intel® Optane Volume is shown in Boot Manager Menu	N/A

Resolved Issues in 18.0.0.1090 – Release

ID	Title	Operating System
18010013827	[PreOS] [VMD] Incorrect sub class code value for SATA controller mapped under VMD controller.	N/A
1809788339	Intel Data_Volume instead of Intel Optane_Volume in Boot Manager Menu	N/A
1809359291	[VMD PEIM] RstVmdPeim module cannot recognize RAID0 volumes.	N/A
1809851336	[ZPODD] Zpodd is not waking up from sleep	N/A
1809900221	[BSOD][BAT][TGL-U][S3][S4] intermittent BSOD occurred as system failed to wake up from S3 with error code 161	windows.20h1_vibranium.x64

ID	Title	Operating System
1809972460	[WHQL]sporadic BSOD DRIVER VERIFIER DETECTED VIOLATION (c4) during WHQL tests with S3/S4 power cycles	windows.20h1_vibranium.x64

Resolved Issues in 18.0.0.1089 – Release

ID	Title	Operating System
18010714269	Configuring ASPM/L1substates on rootport and devices mapped under VMD	N/A
18010460261	NVMe SCSI Compliance Test (LOGO) failed cause the Temperature Log Page format is in ASCII (it shall be set to binary)	windows.20h1_vibranium.x64
18010429963	"VERSION" section in INF file should specify PnpLockDown flag with value "1"	windows.20h1_vibranium.x64
18010459963	NVMe SCSI Compliance Test (LOGO) failed cause the SCSI target device does not use the hierarchical addressing model (HISUP bit has "0" value)	windows.20h1_vibranium.x64
14010882886	Do not switch PMCSR to D3 during hibernation in VMD configuration	N/A
18010357263	BIOS recovery fails with TG on certain BIOS due to specific GPT partition alignment status	N/A
18010049009	[MW] Shrinking issue when source disk has MBR partition while creating RAID	N/A
1809582184	[VMD] Incorrect LPM registry keys names (Controller hard coded to 0)	N/A
18010373269	[WHQL][20H1] NVMe SCSI Compliance Test (LOGO) failed on START STOP UNIT test scenario for Intel NVMe Controller device	windows.20h1_vibranium.x64
1507710493	HIPM registry configuration not working when it is configured to disabled	N/A
18010281878	BSOD, DRIVER_IRQL_NOT_LESS_OR_EQUAL (d1) seen intermittently upon resume from S4 with TG	N/A
18010130293	Activate/idle is not getting correctly called for SATA devices	N/A
1808766918	Enabling Optane fails with error 0xA0070015 intermittently when multiple storage devices are on the system	N/A

Resolved Issues in 18.0.0.1084 – Release

ID	Title	Operating System
1809335256	Disk not switched to PS4 during power handling	N/A
1809542188	Intermittent spinning donut issue after resume from s3 or s4	windows.20h1_vibranium.x64
1809887138	Intermittent BSOD D1 seen with L1 -states enabled and VMD Workaround added to disable L1 sub-sates	N/A
1307199242	RAId0 in failed state after S3 (Sleep) during RAID migration	N/A
14010866510	Enable F1 for configurations with disabled Modern Standby features	N/A
14010866956	Disable adapter D3 if unit is in D0/F1	N/A
1809083529	Intel Optane Memory and Storage Management cannot recognize certain ODD (non-VMD).	windows.19h1.x64
1809270656	SW drips is 0% and HW drip not generated on TG SKU	N/A

Resolved Issues in 18.0.0.1059 – Release

ID	Title	Operating System
1608128202	Observing failure while running RCmpSata.efi in EFI shell	windows.10_rs5.x64
1808735302	VMD UEFI driver return wrong status when enabling VMD without any storage devices under VMD controller.	N/A
1809359290	[VMD PEIM] RstVmdPeim module should use 32-bit architecture instead of 64-bit.	N/A
1809359291	[VMD PEIM] RstVmdPeim module cannot recognize RAID0 volumes.	N/A
1306864079	Unable to create RAID& Recovery volumes with SATA devices using RstVmdConfig tool	N/A
1808702599	Incorrect success message during Optane™ enabling using RCfgSATA.efi tool	N/A
1808615160	Exception thrown from RstVmdInfo.efi tool.	N/A
1808514161	Unexpected Intel® RST VMD Driver ROM file name changed after IFWI stitching	N/A
1809175676	[Legacy PreOS] Improper HwRemapTable contents	N/A
1809161480	[Legacy PreOS] RaidDriverSmm.inf not present	N/A
1808473999	Status FAILED_DISK should not be applied to Optane™	N/A
1808610455	Problem with moving in menu Intel® Rapid Storage Technology (should be impossible over empty rows and non-menu items) and Non-Grayed items in Physical disk Info	N/A

1809281359	Mapped NVMe controller under VMD is not visible in TPV EFI Menu	N/A
1809410143	[Legacy PreOS] [CPU Attached] Neptune Harbor in PEG port reports as TG	N/A
1809083529	Intel® Optane Memory and Storage Management cannot recognize ODD serial number.	windows.19h1.x64
1809026336	Intermittent 0xBE BSOD observed with SW remapped drives	windows.19h1.x64
1809506543	Incorrect driver version shown with CsmiGetDriverInfo	N/A
1307163226	Unable to switch off APST	windows.20h1_vibr anium.x64
1809240276	Lower NVMe performance after enabling VMD for SATA controller	N/A
1809628901	Optane Volume Name is not populated into CSMI_SAS_RAID_CONFIG.bResered[20] field	N/A
1809321732	BSOD dump can't be generated (0% always) with passthru NVMe mapped under VMD	windows.10_rs5.x64
1809543219	[BSOD] UNEXPECTED_STORE_EXCEPTION (154) observed when S3 cycle is performed	windows.19h2_vana dium.x64
1809115523	Necessary update of INF files for Intel® RST 18.0 drivers according to SKU matrix support	N/A
1809364885	Boot hang with Optane™ enabled in DC mode	N/A
2209596961	Intel® RST driver should fully support Declarative INF ("D") requirement for Modern Servicing	windows.19h1.x64, windows.19h2_vana dium.x64
1809134640	PAGE FAULT IN NONPAGED AREA BSOD when upgrading from inbox driver	N/A
1809138035	Intermittent DRIVER_POWER_STATE_FAILURE (9f) BSOD	windows.19h2_vana dium.x64
1808950070	[BSOD] DRIVER_POWER_STATE_FAILURE (9f) during S3/S4 with Optane enabled	N/A
1808450221	Intermittent BSOD9F observed upon Sx with NVMe device	windows.19h1.x64
1808940473	Non-remapped NVMe drive with nvmemp.sys installed works very slow if only 1 IO Queue created	N/A
1808938622	Infinite Loop at Windows Boot Logo When Enabling RAID Mode and PCIe Remapping for PCIe AHCI Storage Device.	windows.19h1.x64
1808557224	Incorrect Optane™ information when VMD and AHCI controllers present	N/A

| 1808648378 | System hangs during boot to OS when ZPODD is connected to the system | windows.19h1.x64 |
| 1808512216 | SATA RAID1 performance drop in PC Mark Vantage and PC Mark 8 | windows.19h1.x64 |

Resolved Issues in 18.0.0.1037 – Release

ID	Title	Operating System
1808734107	Invalid system state received from ISI.	windows.19h1.x64
1808734696	Remove assert that check NumberOfBuses returned by remapport	N/A
1808639931	D3hot does not occur on disk	windows.19h1.x64
1808658675	[RstCli64] error DeviceStateInvalid seen after disabling Optane™	N/A
1808556170	Error trying to get NV cache policy statistics on TGL platform using rstcli	N/A
1808525610	Low performance with enable remap on VMD Controller	windows.19h1.x64
1808551551	Sending Ioctl flood to Nvme Raid0 volume causes BSOD: SYSTEM_THREAD_EXCEPTION_NOT_HANDLED (7e)	windows.19h1.x64
1808523108	DRIVER_VERIFIER_DETECTED_VIOLATION (c4) during platform reboot	windows.19h1.x64
1808456420	Disks have 0 GB size displayed in UI	windows.19h1.x64
1306751083	[CLI] Controller information print output not correct	N/A

Resolved Issues in 18.0.0.1021 – Release

ID	Title	Operating System
1808437106	WHEA_UNCORRECTABLE_ERROR (124) during S4/S3	N/A
1808387769	DevSlpRegEdit registry key is missing	N/A
1808388151	UI adds regkeys to iaStorAC instead of iaStorVD	N/A
1808350230	SYSTEM_THREAD_EXCEPTION_NOT_HANDLED (7e) and KMODE_EXCEPTION_NOT_HANDLED (1e)	N/A
1808246095	BSOD observed for asserted Optane™ disks	windows.19h1.x64
1808231249	CRITICAL_PROCESS_DIED (ef) during S3	windows.19h1.x64
1808747130	Incorrect details displayed in the Narrator	N/A

1808689626	HSA UI license interface show English on Norwegian language system.	windows.19h1.x64
1808668699	[HSA] Missing header files	N/A
1808514252	[HSA] No name and automationId in 'What's new window' toggle switch in the HSA UI	N/A
1807544459	An unknown error occurred while an operation was in progress. The operation could not be completed.	N/A
1808160582	[HSA] Adding refresh click for buffered events	N/A
2208294818	No name and wrong automationId of write-cache buffer flush toggle switch	N/A

ID	Title	Operating System
1808151910	System hang at Windows booting when a Data SATA HDD drive is added under VMD control	N/A
1808147750	SrbExtensionSize is not properly calculated for Slave/Ronin configurations	N/A
1808156943	DRIVER_POWER_STATE_FAILURE (9f) during S3-S4 power cycles	N/A

Known Issues

Known Issues in 18.0.3.1148 – Release

ID	Title	Operating System
14012030157	HLK tests Modern Standby Basic Requirement Test on AC-power Source and Modern Standby Basic Requirement Test on DC-power Source fail with VMD+RST configs using D3 cold/D3 hot for storage	windows.20h1_vibranium.x64
18012858837	BSOD 0XD1 when run Modern standby long run test on non-TG system	windows.20h1_vibranium.x64
22011241144	SOCWatch 2020.3 MS cycle run triggers Teton Glacier drop	windows.20h1_vibranium.x64
18012720300	Black screen without backlit occurred when resume from S4/S5.	windows.20h1_vibranium.x64
14012253582	After pressing the restart button SUT not getting Event 41 "Critical containing Rebooted without cleanly shutting down" Critical error from Event Viewer	windows.20h1_vibranium.x64

18012085773	INTERNAL_POWER_ERROR (a0) BSOD observed sporadically with S4 during Optane™ volume migration	windows.20h1_vibranium.x64
1805874759	After trying to recover SATA RAID1 volume from failed to normal state, volume is still failed when it should be in normal or rebuilding state	N/A
18011985110	"Error Code: 0x20000001" happens if click [Reboot] button for twice or more times.	windows.20h1_vibranium.x64
18011267680	Performance regression in M.2 PCH and M.2 CPU slots with discrete Optane™ (performance BKM to be updated to Disable ASPM per VMD Root Port for VMD platforms)	windows.19h2_vanadium.x64
18011440130	Cpu attached SSD get opal device status time Out under Intel® RST mode	windows.19h2_vanadium.x64
1807748617	[CPU Attached] NVMe is not listed in Boot Manager when disable CPU Attached feature in BCFS	N/A
1809670725	Optane™ broken after G3 during disabling in EFI shell	windows.19h1.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 = 1024^4bytes
UEFI	UEFI pre-OS driver
UI	User Interface
VC	Validation Candidate
ZPODD	Zero Power Optical Disk Drive