BROADCOM Release Notes: MR8.7 GIT HII ver 08.07.09.00 for X64 and AARCH64 (Signed)

ReleaseOrder ID: *DCSG01580678*
Headline: *MR8.7 GIT HII ver 08.07.09.00 for X64 and AARCH64 (Signed)*
Release Version: *08.07.09.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*
UCM Stream:
Release Type: *GCA*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-GCA-08.07.09.00-2023-10-11-18-25-05*
Release Date: *2023-10-11 12:42:42.000000*
Date Generated: *Nov 06, 2023*

GCA Release Advisory

- **Release Advisory From ReleaseOrder DCSG01580678 (MR8.7 GIT HII ver 08.07.09.00 for X64 and AARCH64 (Signed)):**

Release History

- DCSG01574383 - MR8.7 GIT HII ver 08.07.09.00 for X64 and AARCH64
- DCSG01571550 - MR8.7 GIT HII ver 08.07.08.00 for X64 and AARCH64
- DCSG01562679 - MR8.7 GIT HII ver 08.07.07.00 for X64 and AARCH64
- DCSG01540686 - MR8.7 GIT HII ver 08.07.06.00 for X64 and AARCH64
- DCSG01535587 - MR8.7 GIT HII ver 08.07.05.00 for X64 and AARCH64
- DCSG01526185 - MR8.7 GIT X64 HII ver 08.07.04.00; AARCH64 HII ver 08.07.03.00
- DCSG01521963 - MR8.7 GIT HII ver 08.07.03.00 for X64 and AARCH64
- DCSG01519843 - MR8.7 GIT HII ver 08.07.02.00 for X64 and AARCH64
- DCSG01507064 - MR8.7 GIT HII ver 08.07.01.00 for X64 and AARCH64
- DCSG01490656 - MR8.7 GIT HII ver 08.07.00.00 for X64 and AARCH64

ReleaseOrder ID: *DCSG01574383* Open In CQWeb
Headline: *MR8.7 GIT HII ver 08.07.09.00 for X64 and AARCH64*
Release Version: *08.07.09.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*
UCM Stream:
Release Type: *ReleaseCandidate*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-ReleaseCandidate-08.07.09.00-2023-10-05-22-10-53*
Release Date: *2023-10-05 16:33:15.000000*
Date Generated: *Nov 06, 2023*

Enhancements Implemented (1):

ID: DCSG01573914 (Port Of EnhancementRequest DCSG01571669)
Headline: MR8 HII: RouteConfig to return NULL terminated string for *Progress when Progress is ! NULL and run SCT test with this change
Description Of Change: 1. Return progress as L""
2. Add code to check the variable name, if it is found, return success. Otherwise, return not found

ReleaseOrder ID: *DCSG01571550* Open In CQWeb
Headline: *MR8.7 GIT HII ver 08.07.08.00 for X64 and AARCH64*
Release Version: *08.07.08.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*
UCM Stream:
Release Type: *ReleaseCandidate*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-ReleaseCandidate-08.07.08.00-2023 -09-29-00-13-37*
Release Date: *2023-09-28 18:15:29.000000*
Date Generated: *Nov 06, 2023*

Defects Fixed (1):

ID: DCSG01518091
Headline: HII reports corrupted controller, enclosure, and drive slot info on a H365i Adapter after foreign drives were inserted
Description Of Change: Root Cause: One function checks \r and replace that with \0 for the success message. This will cause out of range byte corruption
Details: The issue got introduced when we implemented ER DCSG01376774 in MR8.5.
Per ER DCSG01376774, when user performs controller level drive operations (e.g., perform cryptographic erase, perform Start/Spin-Up Drive, Make JBOD etc.,), if the operation succeeds for certain Drives and fails for certain others, HII need to display failed drive information one after another with failure reason. For this HII has a buffer where it adds the failure Drives information; each failure string will end with \r. There is a function that checks \r and replaces that with \0 in order to display the failure Drive information one after another. This function had a bug; that is it was not checking the string length and it was assuming that this buffer will have the failure drive information and it searches for \r and wherever it finds L\r (the search will go on until it finds \r; this search can go out of the boundary as it didnt have the boundary check), it replaces L\r with L\0 causing byte corruption; this function gets executed whenever HII needs to display success message to the user (e.g., when user creates Virtual Drive or performs Controller/drive/Virtual Drive operation or sets Controller/drive/Virtual Drive properties etc.,).

Fix: Add the length check in that function to avoid byte replacement out of range.

Issue Description: In a system, I have 2 Adapter with SAS drives.
On the 1st Adapter, drives were spun down.
On the 2nd Front, from HII, I created 4 partial R10 virtual drive on 4 SAS HDDS with various size and write policies.
Also, I created a R0 virtual drive on a SAS SSD drive on the same 2nd controller.
After verifying the virtual drive info, I exited out of 2nd HII and entered 1st Adapter.
Then, I removed 5 drives (1 UBad drive and 4 UGood drives) from slots 11 to 15 and inserted 5 drives from the 2nd Front.
When I navigated to the physical drives HII menu and the controller management menu, some information reported by HII were corrupted.
Steps To Reproduce: 1. Have a RAID controller (1st) and a EVP (2nd) controllers in the same system.
2. Attach drives through available UBM BP.
3. Create more than 4 partial virtual drives from HII of the RAID controller.
4. Enter the HII of EVP controller.
5. Replace the existing drives on the EVP controller and replace them with configured drives from the RAID controller.
6. Check for drives, foreign config, and controller info.

ReleaseOrder ID: *DCSG01562679* Open In CQWeb
Headline: *MR8.7 GIT HII ver 08.07.07.00 for X64 and AARCH64*
Release Version: *08.07.07.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*

UCM Stream:
Release Type: *Beta*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-Beta-08.07.07.00-2023-09-14-2 1-46-17*
Release Date: *2023-09-14 16:02:24.000000*
Date Generated: *Nov 06, 2023*

Defects Fixed (4):

ID: DCSG01558447
Headline: EVP UBM 16Bay Hii 2 of same drive from the same slot show up when some bad drive inserted to the backplane
Description Of Change: Root Cause: In some cases, FW might assign auCount=0 for UB drives, and fail the PD_AU_INFO_GET call. HII cannot assume PD_AU_INFO_GET will be always successful when PD_INFO_GET works
Fix: In the enclosure page, list attached drives as Unknown when auCount is 0 for some drives
Issue Description: HII shows 2 duplicate drives in the enclosure page
Steps To Reproduce: - EVP controller loaded with FW Package
- Verified all 16 PD detected
- Reboot the system to boot into Hii
- remove all PD
- verified all PD were removed in HII
- Insert multiple PD and some UBAD and bad phy PD to the backplane

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ID: DCSG01562320
Headline: Change the task rates help message
Description Of Change: Root cause: String modification
Fix: Change the task rates help message from:
"Displays and allows you to modify the percentage of system resources allotted for various operations like BGI, Rebuild etc."

To:
"Displays and allows you to modify the percentage of controller resources allotted for various operations like BGI, Rebuild etc."
Issue Description: Change the task rates help message from:
"Displays and allows you to modify the percentage of system resources allotted for various operations like BGI, Rebuild etc."

To:
"Displays and allows you to modify the percentage of controller resources allotted for various operations like BGI, Rebuild etc."
Steps To Reproduce: Go to HII and to advanced controller properties
Check help message for task rates; it says system resources; it should be controller resources

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ID: DCSG01562448 (Port Of Defect DCSG01559794)
Headline: HII: No warning message seen while moving drive from online to offline
Description Of Change: Root Cause: We did not have the warning messages for the cases of Make Offline, Make Failed, Make Online, and Force Online
Fix: Added the warning messages as below:

Make Offline: Make sure you back up data before changing the drive state to offline.
Are you sure you want to change the state of the drive?

Make Failed: Make sure you back up data before changing the drive state to failed.
Are you sure you want to change the state of the drive?

Make Online: Changing the drive state from offline to online will result in changing the virtual drive state. The selected drive will immediately start participating in the virtual drive operations and might lead to data corruption.
Are you sure you want to change the state of the drive?

Force Online: Forcing an offline drive to online will result in changing the virtual drive state. The selected drive will immediately start participating in the virtual drive operations and might lead to data corruption.
Are you sure you want to change the state of the drive?
Issue Description: No warning message seen while moving drive from online to offline
Steps To Reproduce: 1. Flash the latest firmware
2. Boot to HII
3. Create a Drive Group of any raid level Ex. R1 with 2 drives
4. Now move one online drive to offline
5. Observed no warning message seen while moving drive from online state to Offline

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ID: DCSG01562451 (Port Of Defect DCSG01546455)
Headline: Remove help message for bad slot
Description Of Change: Root Cause: Using the regular help string even for the Bad drives
Fix: Use the empty help string in that case
Issue Description: It appears like today HII displays STR_FORM_HF022_PD_HELP for "Bad (Device not linked up)". This is not correct; lets fix it with this activity (that is populate empty help message; similar to what we do for subtitle).
Steps To Reproduce: For bad slot HII is displaying "Displays the basic drive properties and allows performing operations that are allowed by the controller. You can also view additional properties using the Advanced link."

ReleaseOrder ID: *DCSG01540686* Open In CQWeb
Headline: *MR8.7 GIT HII ver 08.07.06.00 for X64 and AARCH64*
Release Version: *08.07.06.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*
UCM Stream:
Release Type: *Beta*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-Alpha-08.07.06.00-2023-08-04-04-28-29*
Release Date: *2023-08-03 22:51:12.000000*
Date Generated: *Nov 06, 2023*

Defects Fixed (1):

ID: DCSG01540517
Headline: Free the memory allocated for foreign scan in shf036ClearImport()
Description Of Change: Root cause: In shf036ClearImport() HII is calling foreign scan after firing clear or import DCMD and the memory for this is not freed.
Fix: Free this memory.
Issue Description: In shf036ClearImport() HII is calling foreign scan after firing clear or import DCMD and the memory for this is not freed. Free this memory.
Steps To Reproduce: N/A

ReleaseOrder ID: *DCSG01535587* Open In CQWeb
Headline: *MR8.7 GIT HII ver 08.07.05.00 for X64 and AARCH64*
Release Version: *08.07.05.00*
UCM Project: *UEFI_HII_GEN4_GIT*
Sub UCM Project: *UEFI_HII_GEN4_MR8.7_GIT*
UCM Stream:
Release Type: *Alpha*
State: *Released*
Release Baseline: *Rel-UEFI_HII_GEN4_MR8.7_GIT-Alpha-08.07.05.00-2023-07-26-01-22-09*
Release Date: *2023-07-25 19:47:06.000000*
Date Generated: *Nov 06, 2023*

Defects Fixed (2):

ID: DCSG01522897
Headline: MR 8.7 HII AV1: HII is allowing to import the Foreign drives even though maximum number of VDs are already present and later fails with HII error and Extended status code

Description Of Change: Root Cause: Possible data corruption while dereference NULL pointer
Fix: Check the pointer before dereferencing

Issue Description: MR 8.7 HII AV1: HII is allowing to import the Foreign drives even though maximum number of VDs are already present and later fails with HII error and Extended status code

Steps To Reproduce: 1. Flash the latest firmware package on the controller (9620-16i card- FW version: 8.7.0.100-00000-00014)
2. Boot to HII
3. Create maximum VDs (Ex. R0 with 4VDs)
4. Now Power off and Power on the enclosure
5. Observe Foreign configuration found
6. Create one more VD of raid level Ex.R0
7. Now go to Main menu>Configuration management >Manage Foreign configuration.
8. Clear the Foreign configuration
9. Observed HII provides an option to Import Foreign drives after clearing the Foreign configuration and also with maximum VDs are already Present
10. Upon importing Foreign drives, HII shows No Foreign Configuration detected error with extended status.

ID: DCSG01532214

Headline: Add "Stopped" speed code in help string of Fan Speed under Enclosure Status screen.

Description Of Change: Root Cause: Stopped was not added in the string
Fix: Add Stopped in the string

Issue Description: The help string for "STR_FORM_HF122_SC_TITLE" is follows.
"Speed code denotes the speed code of fan. The possible values are: \"Lowest speed\", \"Second Lowest Speed\", \"Third Lowest Speed\", \"Intermediate Speed\", \"Third Highest Speed\", \"Second Highest Speed\" and \"Highest Speed \"."

This must be appended with one more code "Stopped".

Steps To Reproduce: - Flash latest HII image and navigate to Enclosure Status.
- Check for the help string of "Speed Code' This does not have a mention if "Stopped". However Stopped" is also a possible code.

ReleaseOrder ID: ***DCSG01526185*** Open In CQWeb
Headline: ***MR8.7 GIT X64 HII ver 08.07.04.00; AARCH64 HII ver 08.07.03.00***
Release Version: ***08.07.04.00***
UCM Project: ***UEFI_HII_GEN4_GIT***
Sub UCM Project: ***UEFI_HII_GEN4_MR8.7_GIT***
UCM Stream:
Release Type: ***Alpha***
State: ***Released***
Release Baseline: ***Rel-UEFI_HII_GEN4_MR8.7_GIT-Alpha-08.07.04.00-2023-07-13-00-58-30***
Release Date: ***2023-07-12 18:08:59.000000***
Date Generated: ***Nov 06, 2023***

Defects Fixed (1):

ID: DCSG01516106

Headline: Hii Replace Missing Drive Option prompted with Extended Status code: 0x19 0x00 0xFF 0xFF 0x8E 0x00

Description Of Change: Check supportReplaceMissing bit before deciding whether the user chosen Unconfigured good drive can be a candidate for replace missing

Issue Description:
Problem = OEM EVP - Hii Replace Missing Drive Option prompted with Extended Status code: 0x19 0x00 0xFF 0xFF 0x8E 0x00

Error= The requested operation cannot be performed because the operation is currently disabled. The status code 0xB; the extended status code: 0x19 0x00 0xFF 0xFF 0x8E 0x00 0x00.

NOTE: Firmware Feature is Disabled. Hii Replace Missing option should be suppressed.

Basics :
======
Product Name = H365i Front
Board Name = H365i Front
Board Assembly = 654TK
Board Tracer Number = 1V000ZX
Board Revision = X10
Chip Name = SAS4016
Chip Revision = B0
Board Mfg Date(yyyy/mm/dd) = 2023/01/14
Board Rework Date(yyyy/mm/dd) = 2023/01/14
Custom Serial Number = Unavailable
SAS Address = 0x5f4ee0805324cb00
Serial Number = 1V000ZX
Controller Time(LocalTime yyyy/mm/dd hh:mm:sec) = 2023/06/21 15:41:16
System Time(LocalTime yyyy/mm/dd hh:mm:sec) = 2023/06/21 15:41:16

SubOEMID = 1
PCI Slot Number = Embedded

Version :
=======
Package Version = 8.7.0.0.15-4
Firmware Version = 8.7.0.100-00018-00003
Firmware Security Version Number = 00.00.00.00
FMC Version = 8.7.0.100-00018-00003
FMC Security Version Number = 00.00.00.00
BSP Version = 8.7.0.100-00018-00003
BSP Security Version Number = 00.00.00.00
BIOS Version = 0x08070100
BIOS Security Version Number = 00.00.00.00
HIIM Version = 08.07.01.00
HIIM Security Version Number = 00.00.00.00
HIIA Version = 08.07.01.00
HIIA Security Version Number = 00.00.00.00
OEM Version = CPLD:00.01
OEM Security Version Number = 00.00.00.00
NVDATA Version = 07.03.00.60
Driver Name = mpi3drv.sys
Driver Version = 8.07.02.00
SL8 Library Version = 08.0702.0000

Steps To Reproduce: - created 2 Drive r0 and 2 Drive r1
- remove 1 Drive from each Virtual Drive
- reboot system and Enter Hii
- Hii\devices\select drop down menu from unconfigured Drive

ReleaseOrder ID: ***DCSG01521963*** Open In CQWeb
Headline: ***MR8.7 GIT HII ver 08.07.03.00 for X64 and AARCH64***
Release Version: ***08.07.03.00***
UCM Project: ***UEFI_HII_GEN4_GIT***
Sub UCM Project: ***UEFI_HII_GEN4_MR8.7_GIT***
UCM Stream:
Release Type: ***Pre-Alpha-2***
State: ***Released***
Release Baseline: ***Rel-UEFI_HII_GEN4_MR8.7_GIT-Pre-Alpha-2-08.07.03.00-2023-07-05-22-11-57***
Release Date: ***2023-07-05 12:29:48.000000***
Date Generated: ***Nov 06, 2023***

Defects Fixed (2):

ID: DCSG01517817

Headline: HII: HII Critical message pops-up in Manage Foreign configuration and View Foreign configuration page.

Description Of Change: Root cause: The exceeding situation path returns EFI_OUT_OF_RESOURCES and cause browser to show the popup
Fix: Return efiStatus for exceeding situation and enable all the possible operations

Issue Description: HII Critical message pops-up in Manage Foreign configuration and View Foreign configuration page.

Steps To Reproduce: 1. Flash the latest firmware package on the controller in EVP mode
2. Boot to HII
3. Create maximum Virtual Drives (Ex. R0 with 4 Virtual Drives)
4. Now Power off and Power on the enclosure
5. Observe Foreign configuration found
6. Create one more Virtual Drive of raid level Ex.R0

7. Now go to Main menu>Configuration management >Manage Foreign configuration
8. Observed HII critical message pops-up with message "Invalid value is entered. Restored to Previous value"
9. Pop-up is also observed in "View Foreign configuration" in Dashboard view

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ID: DCSG01521352
Headline: HII: fix issues found by the code analysis tool
Description Of Change: Root cause: NULL was not checked and one variable was used in wrong place
Fix: Check NULL pointers and change the variable name in one place
Issue Description: 1. Check NULL pointers
2. FreePool correct buffers
Steps To Reproduce: N/A

ReleaseOrder ID: ***DCSG01519843*** Open In CQWeb
Headline: ***MR8.7 GIT HII ver 08.07.02.00 for X64 and AARCH64***
Release Version: ***08.07.02.00***
UCM Project: ***UEFI_HII_GEN4_GIT***
Sub UCM Project: ***UEFI_HII_GEN4_MR8.7_GIT***
UCM Stream:
Release Type: ***Pre-Alpha-2***
State: ***Released***
Release Baseline: ***Rel-UEFI_HII_GEN4_MR8.7_GIT-Beta-08.07.02.00-2023-06-28-22-56-54***
Release Date: ***2023-06-28 17:24:47.000000***
Date Generated: ***Nov 06, 2023***

Defects Fixed (3):

ID: DCSG01515199
Headline: Hf181 Apply change needs to be supressed instead of Greyout when laneMapping count is only 1.
Description Of Change: Root cause: In the design, it is a suppressif condition while in the implementation it became grayoutif
Fix: Changed the grayoutif condition to suppressif condition
Issue Description: Hf181 Apply change needs to be supressed instead of Greyout when laneMapping count is only 1.

```
if (count > 1)
{
sHf181.GrayoutApplyChange = VALUE_SWITCH_NO;
}
```

Steps To Reproduce: N/A

ID: DCSG01516550
Headline: MR 8.7 HII: Warning message about data loss is seen in HII when converting PD from UGood to JBOD via Configuration Management menu
Description Of Change: Root cause: The warning message was there for Unconfigured Good to JBOD in the controller level, but not in the drive level
Fix: Decision is to remove the warning message from the controller level
Issue Description: MR 8.7 HII: Warning message about data loss is seen in HII when converting PD from Ugood to JBOD via Configuration Management menu
Steps To Reproduce: 1. Flash the latest firmware on the card
2. Boot to HII
3. Go to Configuration Management> Convert to JBOD
3. Select UGOOD PD to Convert to JBOD
4. Observe HII warns user If you have any existing data in the drive, the data will be lost. Are you sure you want to proceed

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ID: DCSG01518492
Headline: HII: Not able to enable LKM from HII
Description Of Change: Root cause: For OEM, EKM was selected as default but suppressed. Thus LKM is grayed out and cannot be chosen.
Fix: For OEM, LKM will be selected by default
Issue Description: HII has logic to check whether EKM is supported and whether BA or EKMC is present; if this is true then HII selects EKM as a default option (when EKM and LKM is supported user can override the default by selecting LKM). Since OEM has requested to not allow user to enable EKM via HII, HII should not select EKM by default for OEM (that is select LKM). For channel keep the existing behavior as it is.
Steps To Reproduce: 1. Go to advanced controller management and click on Enable Security
2. HII lists only "Local Key Management (LKM)" and it is grayed out

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Enhancements Implemented (3):

ID: DCSG01468496
Headline: Add profile management support
Description Of Change: -- add new form called Manage profile.
-- add new fields in Manage profile form and allow user to modify the profile.

ID: DCSG01515284
Headline: MR8 HII: Look for ways to improve HII performance
Description Of Change: Implements New Functionality
Change Type:
HII had implemented DCMD buffer cache (refer DCSG01199287) to avoid issuing the same DCMD with same buffers more than once in a given traversal path. This seems broken because the buffer 3 of MR8_DCMD_PD_AU_INFO_GET (0x02020000) was treated as set (due to this HII has disabled/cleared the DCMD buffer caching logic). Now treat that buffer specially as not set

For specific DCMDs, HII tries to avoid issuing DCMD two times; use 1024Byte (or larger) in the first issuing to cover most needs of buffer. Just in case this first big buffer is not sufficient enough, the 2nd issuing will occur (with lower probability now)

ID: DCSG01517453
Headline: Update profile management support with Primary and Secondary Range information
Description Of Change: -- Currently we are displaying primary range information
-- Add new Sub title primitive for Primary Range and Secondary Range
-- Display Secondary Range only when it's non zero
-- Hide Primary Range title as well when secondary Range is zero

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ReleaseOrder ID: ***DCSG01507064*** Open In CQWeb
Headline: ***MR8.7 GIT HII ver 08.07.01.00 for X64 and AARCH64***
Release Version: ***08.07.01.00***
UCM Project: ***UEFI_HII_GEN4_GIT***
Sub UCM Project: ***UEFI_HII_GEN4_MR8.7_GIT***
UCM Stream:
Release Type: ***Pre-Alpha-2***
State: ***Released***
Release Baseline: ***Rel-UEFI_HII_GEN4_MR8.7_GIT-Pre-Alpha-2-08.07.01.00-2023-06-08-20-47-21***
Release Date: ***2023-06-08 12:28:27.000000***
Date Generated: ***Nov 06, 2023***

Defects Fixed (5):

ID: DCSG01497109
Headline: MR AV1 8.7 HII: HII does not show warning about Virtual Drive has OS/FS while erasing Virtual Drive whereas it shows warning about OS/FS during Virtual Drive delete and Full initialization
Description Of Change: Root cause: The HII design does not include this feature
Fix: Add the warning message for OS/FS while erasing the virtual drive and OS/FS is there

Issue Description: MR AV1 8.7 HII: HII does not show warning about Virtual Drive has OS/FS while erasing Virtual Drive whereas it shows warning about OS/FS during Virtual Drive delete and Full initialization

Steps To Reproduce:
1. Flash the latest firmware package on the controller
2. Create a Drive Group of any raid level Ex. R0
3. Install OS on the Virtual Drive created
4. Now boot to HII
5. Go to Virtual Drive Management> Select the Virtual Drive which has OS/FS> Delete Virtual drive, HII shows warning message Virtual Drive has OS/FS
6. Go to Virtual Drive Management> Select the Virtual Drive which has OS/FS>Full Initialisation, HII shows warning message Virtual Drive has OS/FS
7. Go to Virtual Drive Management> Select the Virtual Drive which has OS/FS> Virtual Drive Erase, Observe HII does not show warning message saying Virtual Drive has OS/FS

ID: DCSG01498071

Headline: HII critical error message pops up when file name is too long when trying to save events

Description Of Change: Root Cause: The MAX length for the file name was set to 255. It seems that UEFI environment does not support such max length.
Fix: Changed the max of file name length to 64

Issue Description: Entered HII and navigated to Save Persistent Events menu under Advanced Controller Management.

For the file name for saved event log file, entered as many characters as the menu allows. Then, when tried to save a event log to a sub directory of a USB flash memory stick, a critical error message pops up.

If I choose to save the event log to the root directory, the operation succeeds without an error.

Steps To Reproduce:
1. Boot with a USB flash memory stick.
2. Enter HII and navigate to Save Persistent Events menu.
3. For the Select File System, select the USB memory stick.
4. For the Select Directory, select a sub directory in the USB memory stick.
5. For the Enter Filename, add as many characters to the default suggested name as the form allows.
6. Press Save Events

ID: DCSG01500115

Headline: HII: RSOD occured when too many 0s are added to VD size while creating VD in HII

Description Of Change: Root Cause: When too many digits are there for the fraction part of "Logical Drive Size", the UINTN variable will overflow.
Fix: Limit the fraction part to be the first 3 digits

Issue Description: The controller has security key enabled. In a Virtual Drive creation menu, I selected a 2.92TB security capable drive in the drive selection sub menu, and entered as many 0 to the default Virtual Drive size prefilled by HII. Then, I clicked on GiB from TiB when I saw RSOD screen.

Steps To Reproduce: Enter HII.
Enable security.
Enter Virtual Drive creation menu.
Select a security capable drive that is greater than 1TB for secure Virtual Drive.
Add as many 0s the "Virtual Disk Size" box allows.
Switch between GiB and TiB under "Virtual Disk Size Unit".

ID: DCSG01503074

Headline: HII: "Delete After erase" option is not available in HII

Description Of Change: Root Cause: The option "Delete After Erase" was not added to the program
Fix: Add the option "Delete After Erase", and enable the bit to inform Firmware to delete the virtual drive after erase if that option was set

Note: When "Delete After Erase" operation completes or any device operation gets interrupted due to device going missing, HII doesn't refresh the page. When user clicks on any control present in this form (e.g., advanced property) then HII will display the generic message "Unable to obtain and display the information. Go back and retry."

Issue Description: MR 8.7 AV1 HII: "Delete After Erase" option is not available in HII

Steps To Reproduce:
1. Flash the latest firmware package on the controller
2. Create a DG of any raid level Ex. R0
3. Go to Virtual Drive Management>Select the VD created in step2>Virtual Drive Erase
4. Can see an option to select erase type . Select any of the erase type
5. Observe no option available to "Delete after Erase" in HII

ID: DCSG01503445

Headline: AV1: HII to check Firmware supported patterns and fill the pattern accordingly for virtual drive erase

Description Of Change: Root Cause: It seems to be a miss for the pattern check and filling for virtual drive erase
Fix: Add the pattern check and filling for virtual drive erase

Issue Description: In HII when user chooses drive erase, HII checks what patterns firmware supports and fills the pattern

For virtual drive erase, HII is not checking this; add the logic for virtual drive

Steps To Reproduce: N/A

Enhancements Implemented (4):

ID: DCSG01437656

Headline: Preboot_Utils: Addition of controller property to set the device reporting order.

Description Of Change: Add two new fields in Advanced Controller Properties page after "Drive Coercion Mode"

First Device : None, Virtual Drives and JBODs
Help message: Displays and/or allows you to choose the first device for the controller; this is used by the OS driver for reporting the device to the OS. Note: This choice takes higher precedence over the device reporting order, where applicable.

When firstDevicePerdId is not in the list but it represents an existing Virtual Drives/JBODS, add that to the option list. If not, add one option "Persistent ID 0x%x"

Device Reporting Order: Present it to user as long as it is populated (regardless of whether it has single choice or multiple choices)
Help message: Displays and/or allows you to choose the device reporting order.

ID: DCSG01467239

Headline: Preboot_Utils: MR8 : Safe Store enhancement to indicate drive AUTHORITY_LOCKED_OUT state

Description Of Change: In manage foreign config under non-importable drive section display "The drive is in an authority locked out state and power cycle is required." if authLockedOut is 1. Note: GUI Apps should not present this drive in "Enter Security Key For Locked Drives" page.

After soft reset (e.g., user performed online firmware update), the firmware might lose track of this bit (that is authLockedOut) and it might be set to 0. In such case user may see incorrect error message while attempting to unlock the drive via MR8_DCMD_DRIVE_LOCK_KEY_APPLY ("The security key entered is incorrect. Verify your security key and try again."). In essence, there is no way for firmware to identify whether the drive has gone to authority locked out state due to user providing wrong key now (assuming user provided wrong key in Enter Security Key For Locked Drives page) or it was already in authority locked out state (in such case regardless of user providing correct or wrong security key, firmware will return MR8_DCMD_STAT_INCORRECT_LOCK_KEY). Note: When firmware attempts to unlock the drive, the drive will indicate that it is in authority locked out sate by setting specific bit thus when firmware returns error code for MR8_DCMD_DRIVE_LOCK_KEY_APPLY it will set the authLockedOut bit; when user lands back to Manage Foreign Configuration page HII should refresh the content and show the correct reason string.

When user is in Enter Security For Locked Drives page and after user enters the key and if firmware returns MR8_DCMD_STAT_INCORRECT_LOCK_KEY, HII to display the error message ("The security key entered is incorrect. Verify your security key and try again.") and when user clicks on Ok, refresh the Enter Security Key for Locked Drives form (that is issue MR8_DCMD_LIST_QUERY with query type MR8_QUERY_TYPE_PD_SECURITY_KEY_TYPE and get the list of locked drives and filter drives that are locked with Enterprise Key Manager and/or authLockedOut bit set) and land in Enter Security Key for Locked Drives form; if the filtered list is empty (e.g., all are in authority locked out state) then display the generic message "There is nothing to display in the Enter Security Key for Locked Drives form." with Continue button (same as what we do for Imported Drives case); when user clicks on Continue refresh the Manage Foreign Configuration form and land there.

ID: DCSG01495294

Headline: MR8.7 HII: handle the new add-on in MR8 API5.56: isFormatCorrupt and MR8_DCMD_STAT_EXT_DRIVE_FORMAT_CORRUPT

Description Of Change: Add a property in adv Drive prop page, "Media Format Corrupted" after "ATA Security Enabled"
Help message: Indicates whether the drive media format is corrupted.

Display this property only if it is populated.

Add human readable string for error code MR8_DCMD_STAT_EXT_DRIVE_FORMAT_CORRUPT:
The requested operation is not possible because the drive media format is corrupted.

ID: DCSG01504971

Headline: MR8.7 HII: Graceful handling when Drive/Virtual Drive operation gets interrupted or when delete Virtual Drive after erase completes

Description Of Change: Today when Drive or Virtual Drive operation is in progress and if user hot removes a drive, HII doesn't handle it gracefully. If Drive or Virtual Drive progress is in x%, it will be stuck at that %. Only when user clicks on certain goto (e.g., advanced properties), HII will know that the Drive or Virtual Drive no longer exist and in such case HII displays "Unable to obtain and display the information. Go back and retry." message.

Using this activity improve the behavior. By design Progress has refresh interval such that HII can update the progress when user stays in this form; when browser calls our function in 3 seconds interval (e.g., extract config), if HII determines the Drive or Virtual Drive no longer exists then HII to suppress all the controls and display "The operation has either been interrupted or completed."

The reason for adding the above generic message is to cover the following cases:
case 1: When Virtual Drive or Drive op is in progress user hot removing a Drive (due to this the Drive or Virtual Drive go to non-existent)
case 2: When user initiates delete Virtual Drive after erase operation and when Virtual Drive erase completes, firmware will delete the Virtual Drive

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ReleaseOrder ID: ***DCSG01490656*** Open In CQWeb
Headline: ***MR8.7 GIT HII ver 08.07.00.00 for X64 and AARCH64***
Release Version: ***08.07.00.00***
UCM Project: ***UEFI_HII_GEN4_GIT***
Sub UCM Project: ***UEFI_HII_GEN4_MR8.7_GIT***
UCM Stream:
Release Type: ***Pre-Alpha-1***
State: ***Released***
Release Baseline: ***Rel-UEFI_HII_GEN4_MR8.7_GIT-Pre-Alpha-1-08.07.00.00-2023-05-12-21-15-31***
Release Date: ***2023-05-12 15:30:58.000000***
Date Generated: ***Nov 06, 2023***

Enhancements Implemented (5):

ID: DCSG01443997
Headline: Preboot_Utils: MR8 Foreign preview enhancement
Description Of Change: Add code to support buffer[12] from preview data. When buffer[12] is available, get nonimportable drives from it.

ID: DCSG01470764
Headline: Preboot_Utils: Add HII foreign import non importable reason for Local Key Management drive when External Key Management key exchange failed
Description Of Change: User bringing Local Key Management locked drive (i.e., needsExternalKeyManagement is 0) to External Key Management setup where the External Key Management key exchange has failed (that is lockKeyFailed is 1):
If the controller is configured for External Key Management (ctrlLockKey.lockKey.lockKeyBinding == MR8_CTRL_LOCK_KEY_BINDING_EXTERNAL) and if adapterStatus.lockKeyFailed is 1 and if security.needsExternalKeyManagement is 0 then display "Locked with an Local Key Management security key. Cannot import secured drives because the External Key Management key exchange failed.".

ID: DCSG01471139
Headline: MR8.7 HII: Code refactor + cleanup unused UNI strings + Doxygen style code documentation for function declrations
Description Of Change: 1. break large function into sub functions for better readability/maintainability
2. clean up unused UNI string
3. Add doxygen style code documentation for function declarations present in HiiInclude.h
4. Taken care of the following by adding the strings in customization table:
1> In Create Virtual Drive page help message is not displayed for "Select RAID Level"
2> In Enable Security On JBOD page, help message is not displayed for "Check All"

ID: DCSG01480966
Headline: Preboot_Utils: add 6 hdparm & sg_sanitize & sg_format commands support
Description Of Change: Add "ATA Security Commands on JBOD" with options Enabled/Disabled after "SMART/Temperature Poll Interval for External Drives" in adv ctrl prop page
Help message: Indicates whether the controller firmware allows ATA security commands on JBOD.

Drive state:
If MR8_PD_STATE_FORMAT_MASK is set then append "- Format" to the Drive state (similar to what we do for Shielded, Sanitize)

Add "ATA Security Enabled" with options Yes/No after "Number of Connections" in Adv Drive prop page
Help message: Indicates whether ATA security is enabled on the drive.

MR8_DCMD_STAT_EXT_DRIVE_WRONG_ATA_SECURITY_STATE
The requested operation is not possible because ATA security is enabled on the drive.

ID: DCSG01485062
Headline: Enhance the logic for MR8_DCMD_PD_LOCK_KEY_APPLY (Enter Security Key for Locked Drives)
Description Of Change: If firmware returns MR8_DCMD_STAT_OK for MR8_DCMD_PD_LOCK_KEY_APPLY and if Buffer4 is subset of buffer1 then display "One or more drives are unlocked." (this means firmware hasnt unlocked all).
Note: If all the drives are unlocked then display the existing message "All locked drives have been unlocked."
