

Aptio 5.x AFU Release Notes

AMI SOFTWARE UTILITY USER GUIDE

REVISION 1.35 – APRIL 15, 2024

NDA REQUIRED

Revision History

Date	Revision	Description
2018-02-09	1.00	Initial draft created and using one format for Release Notes.
2018-02-12	1.01	Update for AFU v5.10.00.1615 release.
2018-03-29	1.02	Update for AFU v5.10.01.1648 release.
2018-04-23	1.03	Update for AFU v5.10.01.1670 release.
2018-05-31	1.04	Update for AFU v5.10.02.1690 release.
2018-06-28	1.05	Update for AFU v5.11.00.1727 release.
2018-07-19	1.06	Update for AFU v5.11.01.1745 release.
2018-08-09	1.07	Update for AFU v5.11.02.1762 release.
2018-08-28	1.08	Update for AFU v5.11.02.1769 release.
2018-08-31	1.09	Update for AFU v5.11.03.1778 release.
2018-10-05	1.10	Update for AFU v5.11.04.1806 release.
2018-11-06	1.11	Update for AFU v5.11.05.1840 release.
2018-11-28	1.12	Update for AFU v5.11.06.1854 release.
2019-01-21	1.13	Update for AFU v5.12.00.1904 release.
2019-03-06	1.14	Update for AFU v5.12.00.1939 release.
2019-04-22	1.15	Update for AFU v5.12.01.1977 release.
2019-07-05	1.16	Update for AFU v5.12.02.2028 release.
2019-08-14	1.17	Update for AFU v5.12.03.2045 release.
2019-11-15	1.18	Update for AFU v5.12.03.2074 release.
2020-01-15	1.19	Update for AFU v5.12.04.2099 release.
2020-04-01	1.20	Update for AFU v5.12.05.2125 release.
2020-07-09	1.21	Update for AFU v5.13.00.05 release.
2020-09-17	1.22	Update for AFU v5.14.00.0006 release.
2020-12-09	1.23	Update for AFU v5.14.01.0015 release.
2021-02-18	1.24	Update for AFU v5.14.02.0026 release.
2021-05-20	1.25	Update for AFU v5.14.03.0039 release.
2021-08-06	1.26	Update for AFU v5.14.04.0048 release.
2021-10-15	1.27	Update for AFU v5.15.00.0064 release.
2021-12-21	1.28	Update for AFU v5.15.01.0075 release.
2022-03-04	1.29	Update for AFU v5.15.02.0078 release.
2022-10-06	1.30	Update for AFU v5.15.03.0081 release.
2022-11-24	1.31	Update for AFU v5.15.04.0098 release.
2022-12-08	1.32	Update for AFU v5.16.00.0101 release.
2023-03-22	1.33	Update for AFU v5.16.01.0109 release.
2023-10-18	1.34	Update for AFU v5.16.02.0111 release.
2024-03-08	1.35	Update for AFU v5.16.03.0120 release.

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Description

This document provides release information of AptioV AFU tool.

Chapter 1 Introduction

Overview

AFU (AMI Firmware Update) is a package of utilities used to update the system BIOS under various operating systems. AFU only works for APTIO with SMI FLASH support.

Requirements

BIOS Requirements

- Aptio 5 or later.
- Requires that the currently installed firmware has SMI flashing support enabled.

Supported Operation System

- AFUWIN (AFUWIN.EXE/ AFUWINx64.EXE/ AFUWINGUI.EXE/ AFUWINGUIx64.EXE) are supported in Windows 8/8.1/10/Server 2016/Server 2019/Server 2022/PE.
- AFUEFI (AFUEFI.EFI/ AFUEFIx64.EFI) are supported in EFI Shell.
- AFULNX (afulnx_32/ afulnx_64) are supported in Linux operation system.

Source Control Location

Windows

SS: AptioV;$/AptioV/RomUtils/Afu/AfuWin/64;

SS: AptioV;$/AptioV/RomUtils/Afu/AfuWin/32;

Linux

SS: AptioV;$/AptioV/RomUtils/Afu/AfuLnx/64;

SS: AptioV;$/AptioV/RomUtils/Afu/AfuLnx/32;

EFI Shell

SS: AptioV;$/AptioV/RomUtils/Afu/AfuEFI/64;

SS: AptioV;$/AptioV/RomUtils/Afu/AfuEFI/32;

Limitations

- None

Chapter 2 Release Version

Latest Release

Ver. 5.16.03.0120 2024-03-08

New Features

- Added support for 3K sign BIOS Guard on Luna Lake.
- Added support FMP Capsule update.[EIP765076]

Issues Fixed

- Fixed the issue of PLDM control process.[EIP789683]

Rule Changes

- Changed Copyright to 2024

Version History

Ver. 5.16.02.0111 2023-10-18

New Features

- Added support for Flash 32-component NCBs.[EIP 754512]

Issues Fixed

- Fixed the issue of displaying flash process error when using multiple Kn commnad. [EIP 753014]

GDK Module

- Upgraded GDK module to 1.08.20.

PLDM Library Update List

- Upgrade PLDM library and synchronize version to SCE v5.05.08.0009.

Ver. 5.16.01.0109 2023-03-22

New Features

- Added supported RSA 3072 key.[EIP724309]
- Added supported /PW: command with BIOS guard enabled.[EIP325630]

Rule Changes

- Changed Copyright to 2023
- Changed the report string from "fail" to "change" when AFU checks RomLayout on BIOS update.[EIP730204]
- Changed the conditions for obtaining PLDM data.[EIP717453]

GDK Module

- Upgraded GDK module to 1.08.18.
- Fixed an issue when changing BIOS options, that caused the EFI shell version AFU to crash.[EIP732280]
- Upgrade Windows driver version to 5.6, Add support for the SMI port.[EIP726329]Upgrade Windows driver version to 5.4 to Windows Driver Kernel Privilege Escalation. [EIP697112]
- Only support SMM Communication Interface, physical memory allocate is no logner supported.

PLDM Library Update List

- Upgrade PLDM library and synchronize version to SCE v5.05.06.0007.[EIP722717]

Ver. 5.16.00.0101 2022-12-08

New Features

- Added support BIOS Guard change Io Trap to SwSmi. [EIP713229]
- Added support for BIOS Guard skip command feature.

Ver. 5.15.04.0098 2022-11-24

New Features

- Added support /X command in use to skip ROM ID checking during AFU PFR update.[EIP706169]

Issues Fixed

- Fixed an issue when AFUWIN execution will be interrupted when using command /p /b /n with PLDM enable [EIP 689572]
- Fixed an issue when UCP Tool can't set AFUWIN version execut file.
- Fixed an issue when no secure flash BIOS flash to secure flash enabled BIOS, AFU will show error.[EIP 710715 711813]

Rule Changes

- Changed rule that Afu BIOS Update fail with ME enabled. [EIP 698505 699792]

GDK Module

- Upgraded GDK module to 1.08.16.
- Upgrade Windows driver version to 5.4 to Windows Driver Kernel Privilege Escalation. [EIP697112]

Ver. 5.15.03.0081 2022-05-12

New Features

- Fixed an issue when BIOS is enabled with x-UEFI-AMI but warning appears in UEFI Shell. [EIP 675478]
- Fixed an issue when BGT mode flash error code check issue. [EIP 677152]
- Fixed an issue where AFUWINGUI would fail when doing a disabled security flash capsule. [EIP 680011]

GDK Module

- Upgraded GDK module to 1.08.12.[EIP 677580]
- Upgrade Windows driver version to 5.3 to remove the issue causing privileged escalations. [EIP668933]

Ver. 5.15.02.0078 2022-03-04

New Features

- Add support for secure flash disable that can use capsule and recovery update. [EIP 608731]

Issues Fixed

- Fixed an issue when after ROM layout changed, to downgrade the original BIOS that can't power on. [EIP 655172]

GDK Module

- Upgraded GDK module to 1.08.9.

Ver. 5.15.01.0075 2021-12-21

New Features

- Add support for PSPFlash use /FAB commands in the released AFU. [EIP 646468]
- Add support block traditional parameters on PFR provisioned system. [EIP 629380 & 645635 & 624966]

Issues Fixed

- Fixed an issue when loading the ME data string, display is error. [EIP 646016]
- Fixed an issue when using BIOS Guard command /BIOSALL, it will cause flash fail. [EIP646263]
- Fixed an issue where AFU would not check passwords when using /capsule command update when BIOS Guard was enabled. [EIP649214]
- Fixed an issue when using the /A: command on GeminiLake platforms always return error 0xB6. [EIP 647749]
- Fixed an issue when the update fails, a flash retry will cause a flash progress error to be displayed. [EIP 650069]

Rule Changes

- Changed Copyright to 2022.

Ver. 5.15.00.0064 2021-10-21

New Features

- Added to support BIOS Guard function to AFU. [EIP 626064]

Issues Fixed

- Fixed an issue when use OFBD SMI delay can't enabled. [EIP 591655 & 642342]
- Fixed an issue when under Windows the platform of LAN ports is more than 7, AFU will crash. [EIP 617770]

PLDM Library Update List

- UefiLib 32:
AmiSetuplibEfi.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibEfi;AmiSetupLibEfi_1.09
- UefiLib 64:
AmiSetuplibEfiX64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibEfi;AmiSetupLibEfi_1.09
- WinLib 32:
AmiSetupLibWin.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibWin;AmiSetupLibWin_1.10
- WinLib 64:
AmiSetupLibWinX64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibWin;AmiSetupLibWin_1.10
- LnxLib 32:
AmiSetupLibLnx.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibLnx;AmiSetupLibLnx_1.09
- LnxLib 64:
AmiSetupLibLnxX64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSetupLib/AmiSetupLibLnx;AmiSetupLibLnx_1.09

Ver. 5.14.04.0048 2021-08-06

New Features

- Added to support check ROM ID after PFR provisioned.[EIP615202]
- Added to support sign with PFR function.[EIP602261]
- Added to support default access to administration permissions in Windows AFU

Issues Fixed

- Fixed an issue when use the /A command, AFU would report incorrect error message.[EIP618907]
- Fixed an issue when BIOS changing the TSE_ROMHOLE_SUPPORT token, AFU would flash failure.[EIP610799]
- Fixed an issue when PLDM was executed, some platforms do not work properly.[EIP594660]

Rule Changes

- Changed the execution position of the delay time setting.[EIP591655]

Ver. 5.14.03.0039 2021-05-20

New Features

- Added to support OFBD flash delay when AFU flash BIOS.[EIP596445]
- Added to support the preservation of the complete mapping language.[EIP594660]

Issues Fixed

- Fixed issue when AFU linux uses the /gendrv command, that the driver cannot be generated.
- Fixed issue when BIOS setting enalbed VDM support, in Alder Lake, AFU Linux version will not run.[EIP605146][EIP604457]
- Fixed issue when using comamnd /me /recovery is failed.[608325]
- Fixed an issue when using command/ATR and enabling BIOS OfbdDefCfg module, which caused the /A command to be triggered incorrectly.[EIP604861]

GDK Module

- Upgrade GDK module to 1.08.7.

Ver. 5.14.02.0026 2021-02-18

New Features

- Added support ComboAM4 project ACAU version 0x200.[EIP577545]

Issues Fixed

- Fixed issue where BIOS setting enabled VDM support, in Whitley, AFU will not run.[EIP582618][EIP586227]
- Fixed issue where use signature ME the ROM is larger than 32M, the AFU progress will show messy message.[EIP581548]
- Fixed issue Where use the /PFRU command, AFU will update the rom failure.[EIP591885] [EIP596264]
- Fixed issue Where use the /MLANG command to display Not Support Warning message under linux OS.[EIP581375]

- Fixed issue Where use the /MLANG command it will crash fail under windows OS.[EIP596267]

Updated Module

- Upgraded AFU flash progress display method.[EIP570211]
- Updated PLDM SCE Library version

Rule Changes

- Changed Copyright to 2021.

PLDM Library List

- UefiLib 32:
SceEfiLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceEfi/Ia32;(INT)SceEfi32_5_04_1140.01
- UefiLib 64:
SceEfiLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceEfi/X64;(INT)SceEfi64_5_04_1140.01
- WinLib 32:
SceWinLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceWin/Ia32;(INT)SceWin32_5_04_1144.01
- WinLib 64:
SceWinLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceWin/X64;(INT)SceWin64_5_04_1144.01
- LnxLib 32:
SceLnxLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceLnx/Ia32;(INT)SceLnx32_5_04_1143.01
- LnxLib 64:
SceLnxLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceLnx/X64;(INT)SceLnx64_5_04_1143.01

GDK Module

- Upgrade GDK module to 1.08.5.
- Support Linux Kernel 5.9.

Ver. 5.14.01.0015 2020-12-09

New Features

- Added a new command /PFRU:CPLD. [EIP562541]
- Added a new command /RLC:J. [EIP565403]
- Added a new command /K:<GUID>. [EIP537655]

Issues Fixed

- Fixed issue where AFU is unable to load driver after AFU driver is packaged by UCP. [EIP576102]
- Fixed issue where progress percentage calculation error while AFU executes command /MEUL /capsule. [EIP575701]
- Fixed issue where AFU cannot display error message from OFBD module while AFU is checking OFBD module version. [EIP572373]

Rule Changes

- Changed rule that AFU will check ROM ID while AFU executes command /ME. [EIP559331]

GDK Module

- Upgraded Windows driver version to 5.1 for supporting UP TO 4GB physical memory address. [EIP565914]
- Upgrade GDK module.

Ver. 5.14.00.0006 2020-09-17

Issues Fixed

- Fixed issue where file cannot be opened for BIOS flash in Linux OS.[EIP561008]
- Fixed issue where Windows GUI version cannot flash BIOS.[EIP560040]
- Fixed issue where tool is unable to check secure boot whether or not is enabled.
- Fixed issue where tool cannot flash BIOS in Apollo Lake.
- Fixed issue where PLDM will be crashed in specific platforms.[EIP560546][EIP557115]
- Fixed issue where in tool mounts file which results in PLDM being lost while users reboot Linux OS.[EIP555685]
- Fixed issue where stack smashing detected error.

GDK Module

- Upgraded to Windows driver version 5.0.
- Upgrade GDK module.

Ver. 5.13.00.05 2020-07-09

New Features

- Upgraded AFU structure to ETA2.
- Updated PLDM SCE Library version to 5.04.1139.
- Updated PFR behavior where AFU removes to enable the command bit of BIT7. [EIP541490]

Issues Fixed

- Fixed issue where AFU is unable to close normally in Windows 7 32bit. [EIP550858]

Ucore2 Module

- Updated Windows driver 4.1.

Ver. 5.12.05.2125 2020-04-01

New Features

- Added to support PFR implementation.[EIP506347]
- Added to support command /mlang: for PLDM module.[EIP525342]

Issues Fixed

- Fixed string is not organized correctly.[EIP527919]

Ver. 5.12.04.2099 2020-01-30

New Features

- Added To support another usage /RLC:M for BIOS and ME update in one time.[EIP509838]

Issues Fixed

- Fixed issue where AFU can’t allocate physical memory in Debian x86 version.[EIP523294]

Rule Changes

- Update Copyright to 2020.[EIP519084]

Improvement

- Improved AFUWINGUI to show OS information by WMI.[EIP512741]
- Improved secure patch FV module. [EIP505866]

Ver. 5.12.03.2074 2019-11-15

New Features

- Added AFU can support top swap feature.[EIP499381][EIP482630]
- Added a feature when AFUGUI has a driver error, it will display a warning message.

Issues Fixed

- Fixed issue where AFU cannot get the ACPI DSTD table in RHEL 7.6.

Improvement

- Improved error message when users use ROM in 'Non bios guard BIOS image' and in 'Not existing BIOS image file case'. [EIP499382].
- Improved the length of AFU display messages.
- Improved secure patch FV module.[REF-51370][EIP501535]
- Modified the command /RLC: description.

Ucore2 Module

- Updated Ucore2 Module to Trunk2069

Ver. 5.12.03.2045 2019-08-14

Ucore2 Module

- Updated Windows driver.

Ver. 5.12.02.2028 2019-07-05

New Features

- Added AFULNX Linux driver control mechanism.
- Added error check on command /GENDRV

Issues Fixed

- Fixed issue where using command /A /PW: together will not execute command /A.

- Fixed issue where AFU will show 0XA0 error when APL and GML platforms update firmware.
- Fixed issue where command /ATR description from “Auto user” to “Auto use”.
- Fixed issue where the parsing method of OEM CFG will be allowed by only recognizing a portion of cmd string input.
- Fixed issue where AFU EFI x32 will show 0X46 error when shell 32 platforms update firmware.

Update Module

- Updated ME data string as “Upload the firmware image data to BIOS” when platform is APL or GML.
- Updated the help information of Secure flash capsule mode as " System is going to shut down and will restart automatically. Are you ready? (Y/N)..."

Ucore2 Module

- Updated Ucore2 Module to Trunk2026.

Ver. 5.12.01.1977 2019-04-22

New Features

- Added AFU can support SSB command by AMD Combo AM4 platform.
- Added AFU checks OFBD ROM ID error message.

Issues Fixed

- Fixed an issue where AFU Linux failed to load the driver on the PenDrive.
- Fixed an issue where AFU display help menu does not display ME region commands.[EIP458269]
- Fixed an issue where secure flash is disabled, AFU does not force a check write-once rule.[EIP454946]
- Fixed an issue where NonBIOS_Validation token enabled, need can support backward compatibility.

Update Module

- Updated that AFU will ensure the ACAU (AMD Combo AM4 Update) whether or not is 0x101.
- Updated that the sequence of command /ssb to optimize BIOS flash memory.
- Updated the version of supporting Faster Deployment of Security Patches feature to REF-51368-SourceChange V3.[EIP459963]

Ucore2 Module

- Updated Ucore2 Module to Trunk1981.

Ver. 5.12.00.1939 2019-03-06

New Features

- Added AFU can support ME to push data retry.

Update Module

- Updated the version of supporting Faster Deployment of Security Patches feature to V6_2 [EIP436131]
- Updated Windows driver.

- Updated PLDM SCE Library.

PLDM Library List

- UefiLib 32:
SceEfiLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceEfi/Ia32;(INT)SceEfi32_5_03_1125
- UefiLib 64:
SceEfiLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceEfi/X64;(INT)SceEfi64_5_03_1125
- WinLib 32:
SceWinLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceWin/Ia32;(INT)SceWin32_5_03_1125
- WinLib 64:
SceWinLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceWin/X64;(INT)SceWin64_5_03_1125
- LnxLib 32:
SceLnxLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceLnx/Ia32;(INT)SceLnx32_5_03_1125.2
- LnxLib 64:
SceLnxLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceLnx/X64;(INT)SceLnx64_5_03_1125.2

Ucore2 Module

- Updated Ucore2 Module to Trunk1938.

Ver. 5.12.00.1904 2019-01-28

New Features

- Added AFU can support ME to push data retry.

Update Module

- Updated the version of supporting Faster Deployment of Security Patches feature to V6_2. [EIP436131]
- Updated Windows driver.
- Updated PLDM SCE Library.

PLDM Library List

- UefiLib 32:
SceEfiLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceEfi/Ia32;(INT)SceEfi32_5_03_1125
- UefiLib 64:
SceEfiLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceEfi/X64;(INT)SceEfi64_5_03_1125
- WinLib 32:
SceWinLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceWin/Ia32;(INT)SceWin32_5_03_1125
- WinLib 64:
SceWinLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceWin/X64;(INT)SceWin64_5_03_1125
- LnxLib 32:

SceLnxLib32.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceLnx/Ia32;(INT)SceLnx32_5_03_1125.2

- LnxLib 64:

SceLnxLib64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/AmisceAfu/SceLnx/X64;(INT)SceLnx64_5_03_1125.2

Ucore2 Module

- Updated Ucore2 Module to Trunk1901.

Ver. 5.11.06.1854 2018-11-28

New Features

- Added AFU can support OEM ME region.[EIP437754]

Issues Fixed

- Fixed issue where the user uses/ME command in not support signature ME platform, but the signature ME function uploaded the ROM file.
- Fixed issue where the user uses/MEUL:<BIN> /capsule for capsule update, AFU will show 0x58 error.

Ver. 5.11.05.1840 2018-11-06

New Features

- Added AFU can support AMD 32MB Rom File.[EIP432032]

Issues Fixed

- Fixed issue where PLDM feature doesn't work when user uses command /q for capsule update in EFI Shell environment.[EIP440501]
- Fixed issue where the user did not use the /ME related command, but the signature ME function uploaded the ROM file.

Update Module

- Updated the version of supporting Faster Deployment of Security Patches feature to V6. [EIP436131]

Ver. 5.11.04.1806 2018-10-05

New Features

- Added 2 AFU commands for capsule and recovery with Intel BIOS Guard Technology. [EIP433668]
- Added AFU can support signed ME firmware update under Run Time state. [EIP402390]

Rule Changes

- Changed command /pw which will not check the returned password length from BIOS.

Update Module

- Updated the version of supporting Faster Deployment of Security Patches feature to V5 [EIP436131]

Ver. 5.11.03.1778 2018-08-31

Issues Fixed

- Fixed issue where AFU flash use command /p /b will show verify fail error.

Ver. 5.11.02.1769 2018-08-28

Issues Fixed

- Fixed issue where AFU show version.

Ver. 5.11.02.1762 2018-08-09

Issues Fixed

- Fixed issue where PLDM feature doesn't work when ROM layout change with which users select option (F). [EIP420604]
- Fixed issue where AFU cannot look for ROMHOLE when the position of ROMHOLE in different FV. [EIP424921]

Rule Changes

- Changed to support that PLDM feature will not work when ROM layout change with which users select option (E).
- Changed to support new ME check process. [EIP422582]
- Changed Faster Deployment of Security Patches feature.
- Changed to support command /meuf.

Ver. 5.11.01.1745 2018-07-19

New Features

- Added a feature to support command /pw: on Gemini Lake and Apollo Lake platforms. [EIP414545]
- Added a feature to support command /e on Gemini Lake and Apollo Lake platforms. [EIP411848]
- Added Faster Deployment of Security Patches copy tool integration. [EIP406350]

Issues Fixed

- Fixed issue where AFU will result in system hang up after reading process has done on Gemini Lake platform. [EIP416683]
- Fixed issue where AFU will show "map warning" message if BIOS supports WSMT but Linux environment does not have Linux kernel source. [EIP415782]

Feature Enhancement

- Enhanced the mechanism where PLDM feature cannot be used by AFU Linux on OEM Purley platform. [EIP403785]

Ver. 5.11.00.1727 2018-06-28

New Features

- Added OACU module support.[EIP380410]
- Added AFUWINGUI window can't be closed during flash via touch device.[EIP413403]

Ver. 5.10.02.1690 2018-05-31

New Features

- Added command "/RLC:"[EIP412153]
- Added OFBD AFU log module.[EIP398221]
- Added a new support that DMI data can be saved in non-boot block or main block. [EIP408706][EIP412149]

Issues Fixed

- Fixed issue where users input command usage ”/me /s”, AFU will not flash ME region. [EIP411273]

Rule Changes

- Changed to enable \CLNEVNLOG command.
- Changed that when flashing BIOS to remove OA key via disabling Secure flash, tool will not use the solution of write once to execute. [EIP404259]

Ver. 5.10.01.1670 2018-04-23

New Features

- Added EFI_FIRMWARE_FILE_SYSTEM3_GUID condition to support check ROM FV.

Issues Fixed

- Fixed issue where check BIOS + ME BIN file in Coffee Lake.

Rule Changes

- [LNX]Modified the order of Linux check ACPI table.

Ver. 5.10.01.1648 2018-03-29

Issues Fixed

- Fixed issue where PS2 keyboard/mouse cannot be used normally under EFI Shell.
- Fixed issue where ROM Layout Change option list will not be displayed when commands are /capsule, /recovery, and /D.
- Fixed issue where AFU will not inspect ROM Layout Change if ROM file or on-board BIOS cannot be got ROM Layout FFS data. [EIP394360]

Rule Changes

- Changed title when ROM Layout Change, the title would become as following:
    - Press \"E\" - This option will update the entire ROM and exit.
    - Press \"A\" - This option will be no ROM update.
    - Press \"F\" - This option will be forced to follow the command by user provided.

- Modified to inspect the mechanism of BIN file of ME + BIOS. [EIP381008]
- [LNX]Modified the order of Linux loading driver. [EIP398938]

Ver. 5.10.00.1615 2018-02-12

Issues Fixed

- Fixed issue OAD command can't delete OA Key.

Ver. 5.10.00.1610 2018-02-09

New Features

- Added a mechanism that tool will provide 3 options, “(F)Force, (E)Exit, (A)All” when ROM layout change. [EIP353462]
- Added a scenario that is while performing APL and FTF EMMC mode, tool only can use /p /n /e /a.
- Added 2 error messages in APL EMMC mode.
  - Error: EMMC Mode cannot be used runtime flash command, please use capsule or recovery to update BIOS.
  - Error: Capsule and Recovery command cannot be used together.
- Added OFBD OAKEY Statue Flag.
- Added OFBD OAKEY Func Flag.
- Added a mechanism that tool cannot use command /p /b /n to update BIOS in runtime flash if the system is EMMC.
- Added command /a in Fault Tolerance Flash EMMC mode. [EIP373363]
- Added command /OAD in Fault Tolerance Flash EMMC mode. [EIP373363]
- Added a retry mechanism for ME Flash. [EIP375769]
- Added to use Fault Tolerance Flash when Secure Flash is disabled. [EIP382585]
- Added a mechanism to detect BIN file size of “BIOS+ME”. [EIP381008]
- Added command /pw: to general command list.
- Added more detailed descriptions of error message if parameter only has command /Recovery or /Capsule. [EIP353002]
- Added a string which is “Process completed” when a process has done successfully. [EIP385941]

Driver Updates

- [LNX] Added that tool supports Linux kernel 4.13. [EIP369928, EIP370558, EIP372572, EIP377663]

Rule Changes

- Changed Copyright to 2018.
- Removed command “/caf”, “/clnevnlog”, and “/meuf”.
- Changed the flash process of command /a. When OA is OA Block in single BIN file, the tool will skip the behavior of Reading Flash. [EIP350874]
- Changed the process of OA OFBD update under Fault Tolerance Flash EMMC mode. [EIP373363]
- Changed that AFU will not read SPI ROM data when the tool does ME flash individually.
- Changed command /A to /A:.
- [LNX] Changed that using Linux Driver to map ACPI table. [EIP379929]

Issues Fixed

- Fixed issue where using Flash Lib Read API ROM cannot retry. [EIP375769]
- Fixed issue where JBC cannot be used before adjusting the order of module.
- Fixed issue where reading NCB will cause the accumulation problem.
- [LNX] Fixed issue where UCP will show error message of UAF when users are loading AFU Linux.

Ver. 5.09.04.1540 2017-12-01

New Features

- [WIN] Added to support retry mechanism for ME flash.

Ver. 5.09.04.1503 2017-10-16

New Features

- Added to support Coffee Lake ME flash.

Rule Changes

- Changed if using command /p /n, AFU will do Flash All for APL platform.

Issues Fixed

- [WINGUI] Fixed issue where WINGUI ROM file ID and ROM file Path shows garbled.

Update Library

- Updated PLDM SCE Library

[PLDM Library List]

- UefiLib 32:
NvramImageLibEfi.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibEfi/Ia32;(INT)NvramLibEfi_STDLIB-1.0.2_9
SceEfiLib32.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceEfi/Ia32;
(INT)SceEfi_5_03_1112
- UefiLib 64:
NvramImageLibEfiX64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibEfi/X64;(INT)NvramLibEfi_STDLIB-1.0.2_9
SceEfiLib64.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceEfi/X64;
(INT)SceEfi_5_03_1112
- WinLib 32:
NVRAMImageLibWin.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibWin/Ia32; (INT)NvramLibWin-1.0.2_8
SceWinLib32.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceWin/Ia32;
(INT)SceWin_5_03_1112
- WinLib 64:
NVRAMImageLibWinX64.lib =>
$/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibWin/X64; (INT)NvramLibWin-1.0.2_8
SceWinLib64.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceWin/X64;
(INT)SceWin_5_03_1112

- LnxLib 32:

NvramLibLnx.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibLnx/Ia32;
(INT)NvramLibLnx-1.0.2_8
SceLnxLib32.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceLnx/Ia32;
(INT)SceLnx_5_03_1112

- LnxLib 64:

NvramLibLnxX64.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/NvramLib/NvramLibLnx/X64;
(INT)NvramLibLnx-1.0.2_8
SceLnxLib64.lib => $/AptioV/RomUtils/Eta2/Binary/Modules/AmiSce/SceLnx/X64;
((INT)SceLnx_5_03_1112

Ver. 5.09.03.1470 2017-09-11

New Features

- [WINGUI] Added support ApolloLake platform flash.[EIP352902]

Ver. 5.09.03.1466 2017-09-04

Issues Fixed

- Fixed issue where tool will have a chance to search scope which is over than original setting and will be crashed when using command /r or /rn.[EIP353984].
- [WINGUI] Fixed issue where entering password will cause system feedback incorrect issue.[EIP351719]

Ver. 5.09.03.1456 2017-08-17

Rule Changes

- Changed that the system will not look for ACPI table whether is support or not before using WSMT.[EIP354442, EIP346731]

Ver. 5.09.03.1452 2017-08-02

Issues Fixed

- [LNX] Fixed AFU run in Linux, copy driver will need copy driver's file permissions.

Ver. 5.09.03.1448 2017-07-28

New Features

- Fixed issue where FaultToleranceFlash will be flashed to the wrong block.

Rule Changes

- Changed that command /CAF removed to write back _FVH command /caf.

Ver. 5.09.03.1445 2017-07-20

New Features

- Added OEMCMD command.[EIP334724]

- Added that PLDM will not generate a PldmData.bin when the platform does not support BCP (BiosConfigPreserve) module.[EIP346731]
- Added that PLDM will not generate a PldmData.bin when platform supports BCP (BiosConfigPreserve) module and Token ENABLE_FV_BCP_SUPPORT = 1.
- [LNX] Added that Linux Kernel CONFIG_IO_STRICT_DEVMEM is enabled for which AFU can do the mapping. [EIP340357]

Rule Changes

- Changed AFU will not calculate FID again when OA key in NCB. [EIP325353]
- Changed only GetPattern can be enabled in the block of BIOS flash. [EIP326007]
- Changed that AFU can support Block size is over 64KB with above 32MB BIOS by structure of sROMInfoEX. [EIP340328]
- Changed that the system will look for ACPI table whether is support or not before using WSMT.
- Changed that cannot use SMI for updating OA to ACPI table directly under WSMT state. [EIP333352, EIP340049]
- Changed that PLDM fail error message.
- Changed that it is no function for command /reboot or /shutdown when combines /capsule or/recovery together.

Issues Fixed

- Fixed issue where an error of ME detection on APL platform.
- Fixed issue where when FaultToleranceFlash is enabled in APL which will execute the process of FaultToleranceFlash.

Ver. 5.09.02.1396 2017-05-25

Rule Changes

- [LNX] Updated 'cp -f ./amifldrv_mod.o ./amifldrv_mod' change to 'cp -f --preserve=all ./amifldrv_mod.o ./amifldrv_mod'.Issues Fixed.

Ver. 5.09.02.1384 2017-05-05

New Features

- Added 64 MB ROM support but need to have new version of SMIFlash module. [EIP308819, EIP314202, EIP297537, EIP297539]
- Added when detect multi-ROM ID, AFU will only adopt the ROM ID data of boot block.
- Added Apollo Lake Normal Flash and Fault Tolerance Flash. [EIP314749]

Rule Changes

- Changed the error message of ROM layout change.
- Update ROM layout checking rule if the FFS header is not matched, which will continue to compare with FFS data. [EIP327457]
- Modified the description of error code 0xB6 0xB7 0xBF.

Issues Fixed

- Fixed issue where cannot inspect smaller block size of every flash during verification phase. [EIP306554].
- Fixed issue where command /r and /rn cannot preserve data. [EIP327552]
- Fixed issue where flashing NCB will not be ended when have error.
- Fixed issue where PLDM cannot be workable for some RC related options. [EIP314849]

- Fixed issue where cannot update OA3 when the /A is an optional command. [EIP331115]

Ver. 5.09.01.1319 2017-01-13

Issues Fixed

- [LNX] Fixed issue AFU driver can't remove.

Ver. 5.09.01.1317 2017-01-13

New Features

- Added WSMT support.
- [LNX] Added PLDM support into Linux.

Rule Changes

- Changed NCB /K /Kn for which when detecting to use a BIOS, AFU will flash the BIOS by using secure flash to upload the verification.
- Changed RomHole /R /Rn for which when detecting to use a BIOS, AFU will flash the BIOS by using secure flash to upload the verification.

Issues Fixed

- Fixed issue where using AFU types file name without any command, AFU will automatically use command /p as the default setting but will not execute getpattern.
- Fixed Kn issue where when the size of bin file is bigger than Block size, AFU will only flash the data of bin file which equals the data of block size. Others will be ignored.
- Fixed PLDM issue where AFU cannot execute when system cannot look for smi variable.

Functions Improved

- Improved the solution of search cap header. [EIP304238]

Ver. 5.09.00.1284 2016-11-01

New Features

- Added get pattern check function.[EIP250565]
- Added DPC command which can skip A4 and A5 check.[EIP273186]
- Added COPY ROM TO ESP DISK function.[EIP247139]
- Added secure boot error ID.[EIP247139]
- [WIN]Added PLDM module into AFU.[EIP277472]
- [WINGUI] Added multi-language, Traditional Chinese, Simplified Chinese, and Korean, for AFUWINGUI.[EIP253971][EIP259139]
- [LNX]Added flash support when Linux secure boot enable.[EIP248314]

Rule Changes

- Changed Help menu to added /makedrv and /gendrv.

Issues Fixed

- Fixed issue where system has FFS check sum error when insufficient size of FV.[EIP268717]
- Fixed issue where /caf command has to add _FVH.[EIP271440]

Ver. 5.08.02.1189 2017-04-27

New Features

- Added support more ME region.[EIP256965].

Rule Changes

- Changed the file size of modifying MEUL as the size of default memory of MEUL.

Issues Fixed

- Fixed issue where MEUL CAPSULE does not execute normally.
- Fixed issue where when BIOS does not include SLP Key, the function of checking SLP will inspect the size, which results in AFU crash. [EIP258017][EIP258384][EIP258901][EIP257903]
- Fixed issue where AFU cannot write verify when Block size is 64KB. [EIP242783]
- Fixed issue where always displays Error of 0x4A when using /hole:<GUID>. [EIP259374]
- Fixed issue where cannot Write and Verify when inspect Data is Aligment.
- [WINGUI] Fixed issue where AFUWINGUI cannot get Core Version, Project Version, Firmware ID, and Firmware GUID.
- [WINGUI] Fixed issue where the boundary of right side interface in Windows 10 by AFUWINGUI.
- [WINGUI] Fixed issue where AFUWINGUI Copyright is 2016.
- [LNX] Fixed issue where the error of Linux when using /makedrv and /gendrv.

Ver. 5.08.01.1167 2017-04-27

Issues Fixed

- Fixed issue where /hole:<SLP GUID> always replies to an error of 0x4B Error: SLP key is not empty at all. [EIP254169]
- Fixed issue where GetPattern will not display the error message.
- Fixed issue where tool cannot update MSDN immediately when OA3.0 using FID location. [EIP253279]
- [WINGUI]Fixed issue where AFUWIN using /A will result in system crash issue. [EIP253279].

Ver. 5.08.01 2016-02-26

New Features

- Added ETA_BUILD Usage head which can add a string of "Manufacture".
- Added error message of write-once. [EIP243432]
- Added SKL platform which can use PS2 keyboard to input password in EFI.
- Added /A and /OAD which add 2+2mode.
- [LNX] Added to support ubuntu 15.10 which can generate a flash driver. [EIP247183]
- [WINGUI]Added AFUWINGUI can identify windows 10.

Rule Changes

- Changed Usage head from 2015 to 2016.
- Changed /l /ln /hole:<guid> /a command which adds feature of write-once. [EIP243432]
- Changed search solution of SMBIOS DATA from originally searching Main block and Boot block to expanding to search all of ROM DATA. [EIP234657].

Issues Fixed

- Fixed issue where /p /b detect SLP Data whether is NULL or not.
- Fixed issue where sending twice smi0x20/0x24 when recovery and capsule. [EIP248734]
- Fixed issue where AFU results in memory overloading by ME DATA Check when ROM file is less than FLASH_PAGE_SIZE. [EIP225601]
- Fixed issue where simultaneously Buffering will make the wrong size simultaneously which results in wrong data of Flash buffer. [EIP232707]
- Fixed issue where Verify module cannot show ROM size fail.
- Fixed issue where 2+2Mode cannot pass through verification of Secure flash.
- Fixed issue where system cannot stop when GetPatternrom finds out errors.
- [LNX] Fixed issue where Get ACPI TABLE cannot find out the error of DSTD TABLE during LINUX UEFI BOOT. [EIP233270]
- [EFI] Fixed issue where getting the wrong size due to free memory in advance when EFI in Get ACPI Table. [EIP238562]
- [WINGUI]Fixed issue where system will not do "Exit button Disable" during WINGUI auto run.

Ver. 5.08.00 2015-06-26

New Features

- Add support Check ACPI Table "BIMC" would run 2x2 mode.[EIP179199]
- Add support SmiFlash_17;[EIP204308]
- Add supports ME capsule update function.[EIP205035]
- Add support OFBD MFG control.

Rule Changes

- Changed more condition to identify the SLP2.0 key is empty or not.[EIP215239].

Issues Fixed

- Fixed OFBD Get Pattern of Rom File would show other error message.[EIP204355]
- Fixed /cmd:{xxx} command can't use issue.[EIP215444]

Ver. 5.07.01 2015-02-03

New Features

- Add error message for OEM CMD Checking module.
- Add support SMBIOS data in FV_DATA.
- Add support /cmd: command.
- Add support watchdog value restore.[EIP197706]

Rule Changes

- Changed command: "/OAD", remove upload bin file to BIOS verify step.[[MY6] AFU tool /OAD fail]

Issues Fixed

- Fix oemcmd and cmd together use have crash issue.
- Fix oem get pattern of rom file debug message have not disabled.
- Fix Windows driver.

Ver. 5.07.00 2014-11-18

New Features

- Add new's command /JBC.[EIP174535].
- Add new's command /MEUL.[EIP174535].
- Add new's feature /Recovery:<Path>, AFU will copy rom file to specified directory.(Rom file can't auto delete.)
- Add new's OFBD module Get Pattern Module.[EIP159961]
- Add new's capsule:0, AFU run capsule mode will enable shutdown step.
- Add support Android OS AFU Linux Version.[EIP159621]
- Add new hide command /b2.[EIP164320]

Rule Changes

- Changed disable all hide commands.
- Changed command:"/d", show capsule header check string, form "ok/fail" to "Enable/Disable"
- Changed printf flash message way, reduce the frequency of use of printf function.
- Changed init platform step, AFU will priority use "Runtime memory hole".
- [WIN] Changed add check driver version function.
- [WIN] Changed AFU only delete windows driver made by UCP produced, it will not delete all driver.

Issues Fixed

- Fix Aptio5 rom file have many _FVH string, it will cause AFU check FFS error.
- Fix AFU can't show OFBD_CFG BIOS report error.
- Fix update SLP key AFU will modify ffs attribute issue, this issue will cause secure flash verify fail.[EIP162159]
- Fix rom file check sum will cause AFU execute crash.
- Fix hide command "/cmd:" /Axxx.bin + /cmd:{xxx} issue.
- Fix hide command "/oemcmd:" /Axxx.bin + /oemcmd:xxx issue.
- [WIN] Fix when use UCP add driver into AFU. From another directory call AFU, It will decompress into wrong directory, cause AFU can't find driver.
- [WINGUI] Fix AFUWINGUI use command /LR will show error message issue.
- [WINGUI] Fix AFUWINGUI have add rom file and add command. In command line, input command run AFUWINGUI, it will show Unknown command message box.

Ver. 5.06.01 2014-04-25

New Features

- Add check Aptio platform's feature.
- Add new egm command sfmdt:n1:n2.[EIP151370]
- Add new egm command preset:n.
- Add new command /MEUL.

Rule Changes

- Changed After flash error, afu will add blank line continue print error message.

Issues Fixed

- Fix Alignment RomHole block issue brings SLP2.0 offset calculate error.
- [WIN] Fix when use UCP adding windows driver to AFU inside, afu will decompress to error path.

New Message

- Error: Using the wrong AFU version, please use Aptio 4 AFU.
- Error: Using the wrong AFU version, please use Aptio 5 AFU.

Ver. 5.06.00 2014-03-24

Rule Changes

- Changed Copyright to 2014.
- Changed when use command /ln, AFU check platform have not rom hole, AFU will show, "Error: Rom Hole not exist.

Issues Fixed

- Fix ECX erase size issue.[EIP105071].
- Fix UCP insert ROM file AFU can't open issue.
- Fix command /OAD can't flash issue, when secure flash enable.
- Fix, AFU can't find FID OA key issue, when ROM data have many _FVH string.
- Fix When NVRAM is full, and SMBIOS data in NVRAM, AFU can't preserve this data.
- Fix When flash /p /b /n add /me command, AFU will not preserve need preserve data.
- Fix When ROM Hole size exceed two block size, /holeout bin file is not right data.
- Fix When new rom Rom Hole offset different old rom rom hole offset, use /p /b /n /ln, ln rom hole data will be update to old rom offset.[EIP157284]

Change Message

- "Error: OA Data invalid." to "Error: OA key data is invalid."
- "Error: OA key is not NULL at all. And OA Key is the same as Bin File in system." to "Error: OA key is not empty at all. And OA Key is the same as Bin File in system."
- "Error: OA key is NULL at all already." to "Error: OA key is empty at all already."
- "Error: OA key is not NULL at all. And OA Key is no the same as Bin File in system." to "Error: OA key is not empty at all. And OA Key is no the same as Bin File in system."
- "Error: Unable to start a Secure Flash session." to "Error: Secure Flash Rom Verify fail."

Ver. 5.05.04 2014-01-24

Issues Fixed

- Fix SMBIOS Data can't restore, when SMBIOS Data in NVRAM and NVRAM is full. [EIP145538], [EIP145305]

Ver. 5.05.03 2013-11-12

Rule Changes

- Change Version 3.05.02 to 5.05.03.

Issues Fixed

- Fix check EC bin file header data return result error.
- Fix Rom Hole does not Alignment block error.[EIP143348]
- [WINGUI] Fix WINGUI Show OFBD ROM ID Check dialog issue.[ECR191374]
- [WINGUI]Fix WINGUI Show OFBD EC dialog issue.