BIOS Update Tools User Guide

1. Purpose

Introduce the method to use BIOS Update Tools.

2. Precautions

Applicable products: Whitley/CedarIsland & EagleStream & AMD & BirchStream platform products.
Applicable operating system: Linux, Windows, and ensure that the IPMI service is available under the OS. If the IPMI service is unavailable, the BIOS parameter preserve function will not be available.

3. Tool Catalog and Content

OS	Catalog	Include content
Linux	\Afu \AfuLnx64	afulnx_64 readme.txt updateLnx_BirchStream.sh updateLnx_EagleStream.sh updateLnx_Genoa.sh updateLnx_Milan.sh updateLnx_Turin.sh updateLnx_Whitely.sh updateLnx tools user guide.txt updateLnx 工具使用说明.txt
Windows	\Afu \AfuWin64	drivers\ AFUWINGUIx64.EXE AFUWINx64.exe amigendrv64.sys install.bat wtc.bat ipmitool.exe libeay32.dll readme.txt updateWin_EagleStream.bat updateWin_BirchStream.bat updateWin_Genoa.bat updateWin_Milan.bat updateWin_Turin.bat updateWin_Whitley.bat updateWin tools user guide.txt updateWin 工具使用说明.txt

4. Tool instructions

The BIOS Update Tool has Linux and Windows version, when using the tool select the appropriate version according to the environment.

4.1 Function

The BIOS Update Tool is used to implement full flashing of the native BIOS on the server. Here the update function is introduced.

4.2 Command format

Command	File	Parameter	Parameter
updateXXX.sh or updateWin.bat	BIOS.bin	param1	param2

Parameter Description:

/P: Preserve the BIOS SETUP parameter;

/ME: Refresh the ME FW area;

/NP: Does not preserve the BIOS SETUP parameter;

/NOME: Does not refresh the ME FW area;

4.3 Operating procedures

1) The Operation flow of BIOS Update Tools tool in Linux environment:

(1) Copy the BIOS Update Tools to the Linux OS.

(2) Copy the BIOS bin file to the directory where the BIOS Update Tools is located.

```
[root@localhost AfuLnx64]# ls
afulnx_64  BIOS.bin  updateLnx.sh  updateLnx tools user guide.txt  updateLnx??????.txt
```

(3) Execute the updateLnx.sh command, enter the following command, and press Enter

#./updateLnx.sh, as shown below:

```
[root@localhost AfuLnx64]# ./updateLnx.sh
1.0.0
*****************************************************************************
       Usage:./updateLnx.sh  <BIOS.bin> [param]¦[...]
   command:
   ------------------------------------------------------------
       ¦    Afu_Tools    ¦    BIOS.bin    ¦    param1  ¦    param2  ¦
       ------------------------------------------------------------


       param1:/P:Preserve BIOS Setup; /NP: Not Preserve BIOS Setup
       param2:/ME:refresh ME; /NOME:None refresh ME

       eg:
       1.AFU Preserve BIOS Setup, refresh ME
       ./updateLnx.sh  BIOS.bin /P /ME
       2.AFU Preserve BIOS Setup, None refresh ME
       ./updateLnx.sh  BIOS.bin /P /NOME
       3.AFU Not Preserve BIOS Setup, refresh ME
       ./updateLnx.sh  BIOS.bin /NP /ME
       4.AFU Not Preserve BIOS Setup, None refresh ME
       ./updateLnx.sh  BIOS.bin /NP /NOME
       5.The same instruct as 1. :
       ./updateLnx.sh  BIOS.bin
       6.The same instruct as 2. :
       ./updateLnx.sh  BIOS.bin /NOME
       7.The same instruct as 3. :
       ./updateLnx.sh  BIOS.bin /NP


  Note: -h¦--help for this help.
*****************************************************************************
```

(4) #./updateLnx.sh BIOS.bin.

```
[root@localhost AfuLnx64]# ./updateLnx.sh BIOS.bin
```

(5) The update completion flag is as follows, after the upgrade is complete, you need to restart the OS to make the new BIOS take effect. If containing PHY card, the PHY FW refresh must AC power off before it can take effect.

```
[root@localhost AfuLnx64]# ./updateLnx.sh BIOS.bin
Afu_Tools
64 BIOS.bin
preserve  01
/b /p /n /k /l /x /ME
+-------------------------------------------------------------------------------+
|                 AMI Firmware Update Utility v5.14.02.0026                     |
|      Copyright (c) 1985-2021, American Megatrends International LLC.         |
|         All rights reserved. Subject to AMI licensing agreement.              |
+-------------------------------------------------------------------------------+
 Reading flash ..................... Done
 - ME Data Size Checking ........... Pass
 - System Secure Flash ............. Enabled
 - FFS Checksums ................... Pass
 - Check RomLayout ................. Pass
 Loading File To Verify Memory ..... Done
 Erasing Boot Block ................ Done
 Updating Boot Block ............... Done
 Verifying Boot Block .............. Done
 Erasing Main Block ................ Done
 Updating Main Block ............... Done
 Verifying Main Block .............. Done
 Erasing NVRAM Block ............... Done
 Updating NVRAM Block .............. Done
 Verifying NVRAM Block ............. Done
 Erasing NCB Block ................. Done
 Updating NCB Block ................ Done
 Verifying NCB Block ............... Done
 Erasing RomHole Block ............. Done
 Updating RomHole Block ............ Done
 Verifying RomHole Block ........... Done
 Loading The ME Data To BIOS ....... Done
 - Update success for FDR
 - PTT is locked, skip updating. Or trying assert HDA_SDO pin.
 - Successful Update Recovery Loader to OPRx!!
 - Successful Update MFSB
 - Successful update factory data
 - ME Entire Image update success !!
 WARNING !!
  System must power-off to have the changes which take effect!

 Process completed.
0
```

2) The operation flow of the BIOS Update Tools in the Windows environment:

(1) Copy the BIOS Update Tools to a Windows system.

(2) Copy the BIOS bin file BIOS.bin to the directory where the BIOS Update Tools is located.

(3) Under Windows system, select “Command Prompt” under “Accessories”, or enter CMD at the program search to enter the command prompt interface.

(4) At the command prompt interface, use the cd command to enter the directory where BIOS Update Tools is located, as shown in the following figure.

```
C:\Users\Administrator\Desktop\AfuWin64>dir
 Volume in drive C has no label.
 Volume Serial Number is 9C23-00C8

 Directory of C:\Users\Administrator\Desktop\AfuWin64

10/30/2099  09:23 PM    <DIR>          .
10/30/2099  09:23 PM    <DIR>          ..
02/19/2021  06:39 PM         1,065,584 AFUWINx64.EXE
08/14/2019  01:06 AM            29,776 amifldrv64.sys
01/12/2021  05:28 PM        33,554,432 BIOS.bin
11/02/2020  07:11 PM    <DIR>          drivers
06/13/2015  04:13 PM               112 install.bat
02/25/2013  03:14 PM           585,728 ipmitool.exe
09/13/2007  05:26 PM         1,093,632 libeay32.dll
08/06/2018  03:28 PM             1,157 updateWin tools user guide.txt
09/02/2019  07:39 PM             2,501 updateWin.bat
08/06/2018  03:24 PM             1,189 updateWin□ □ □ □ □ □ .txt
               9 File(s)     36,334,111 bytes
               3 Dir(s)  943,250,780,160 bytes free
```

(5)Execute the install.bat and install the Intel IMB Driver.

```
C:\Users\Administrator\Desktop\AfuWin64>.\install.bat
Scanning for new hardware.
Scanning completed.

Installing IMB driver...

"MSIPMI Driver detected. Skipping IMBDRV installation"
Done!

Installation Successful
```

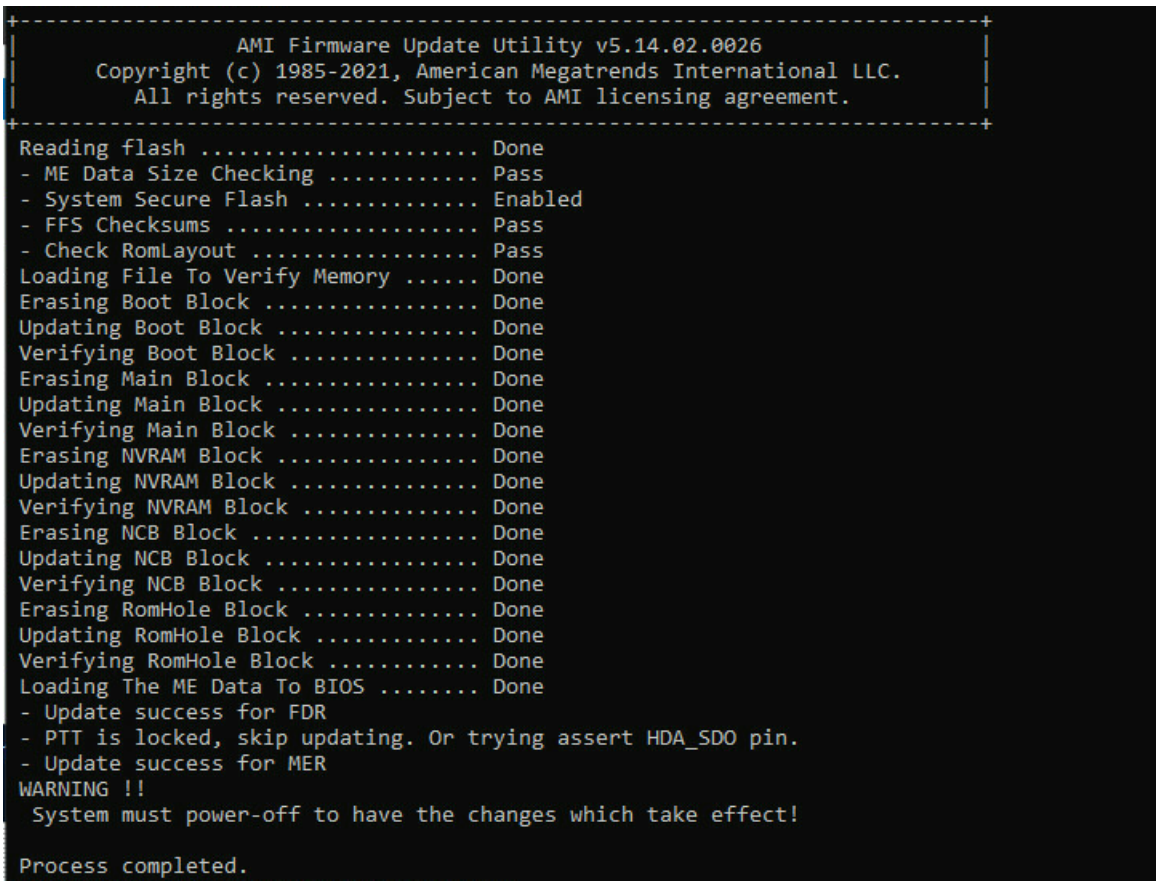
(6) Execute ipmitool.exe –vvv, make sure the ipmitool is working properly.

```
C:\Users\Administrator\Desktop\AfuWin64>ipmitool.exe -vvv
```

(7) Execute the BIOS Update Tools command, enter the following command, and press Enter.

```
C:\Users\Administrator\Desktop\AfuWin64>.\updateWin.bat BIOS.bin
```

(8) After the upgrade is complete, you need to restart the OS to make the new BIOS take effect. If containing PHY card, the PHY FW refresh must AC power off before it can take effect.


AMI Firmware Update Utility v5.14.02.0026
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Reading flash ..... Done
- ME Data Size Checking ..... Pass
- System Secure Flash ..... Enabled
- FFS Checksums ..... Pass
- Check RomLayout ..... Pass
Loading File To Verify Memory ..... Done
Erasing Boot Block ..... Done
Updating Boot Block ..... Done
Verifying Boot Block ..... Done
Erasing Main Block ..... Done
Updating Main Block ..... Done
Verifying Main Block ..... Done
Erasing NVRAM Block ..... Done
Updating NVRAM Block ..... Done
Verifying NVRAM Block ..... Done
Erasing NCB Block ..... Done
Updating NCB Block ..... Done
Verifying NCB Block ..... Done
Erasing RomHole Block ..... Done
Updating RomHole Block ..... Done
Verifying RomHole Block ..... Done
Loading The ME Data To BIOS ..... Done
- Update success for FDR
- PTT is locked, skip updating. Or trying assert HDA_SDO pin.
- Update success for MER
WARNING !!
System must power-off to have the changes which take effect!
Process completed.