	Type	Instructions	Doc.	BIOS&FW. R&D	No.	XX/XXXX/XX
	Version	1.1			Release Date	20191009
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BIOS Update Tools User Guide

1. Purpose

Introduce the method to use BIOS Update Tools.

2. Precautions

Applicable products: Inspur server NF5280M5\NF5180M5 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.

For details on the range of preserve BIOS option parameters, please refer to the "IPMI Change BIOS items manual V1.2.pdf" document.

3. Tool Catalog and Content

OS	Catalog	Include content
Linux	Linux	afu\lnx_32\afu\lnx_64\updateLnx.sh
Windows	Windows	updateWin.bat\ipmitool.exe\libeay32.dll\AFUWIN.EXE\AFUWINGUI.EXE\amifldr32.sys\AFUWINGUIx64.EXE\AFUWINx64.EXE\amifldr64.sys
	Others	Afu_Tools.zip、DMIEDIT.zip、SCE_Tools.zip
	Firmware Update Menu	Firmware Update Manual V1_1.zip

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	BIOS.bin	param1	param2

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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 NF5280M5_BIOS_4.1.9_20190708.bin to the directory where the BIOS Update Tools is located.

```
[root@localhost tools]# ls
afulnx_32  afulnx_64  NF5280M5_BIOS_4.1.9_standard_20190708.bin  updateLnx.sh
```

- (3) Execute the updateLnx.sh command, enter the following command, and press Enter
#./updateLnx.sh, as shown below:


```
[root@localhost tools]# ./updateLnx.sh
updateLnx.sh 1.2.8
*****
Usage:./updateLnx.sh <BIOS.bin> [param]! [...]
command:
-----
|   updateLnx.sh   |   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
*****
```

- (4) #./updateLnx.sh NF5280M5_BIOS_4.1.9_20190708.bin.

```
[root@localhost Linux]# ./updateLnx.sh NF5280M5_BIOS_4.1.9_standard_20190708.bin
```

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(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 Linux) # ./updateLnx.sh NF5280M5_BIOS_4.1.9_standard_20190708.bin
Afu_Tools 64 NF5280M5_BIOS_4.1.9_standard_20190708.bin
00
Preserve BIOS Setup
/b /p /n /k /l /x /me

-----+
|          AMI Firmware Update Utility v5.12.02.2020          |
| Copyright (c) 1985-2019, American Megatrends International LLC. |
| All rights reserved. Subject to AMI licensing agreement.      |
|-----+
Reading flash ..... done
- ME Data Size checking . ok
- Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... ok
- Check RomLayout ..... ok.
Loading capsule to secure memory buffer ... 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
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
- Upload the ME image data to BIOS ME module..... done
- Update success for FDR
- Update success for GBER
- Update success for DER
- Update success for GBEA
- PTT is locked, skip updating.
- Successful Update Recovery Loader to OPRx!!
- Successful Update MFSB
- Successful Update FTFR!!
- Successful Update MFS, IUB1 and IUB2!!
- Successful Update FLOG and UTOK!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!

Process completed.
0
WARNING : The changes of PHY take effect, System must AC power-off!!!
```

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 NF5280M5_BIOS_4.1.9_20190708.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

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Update Tools is located, as shown in the following figure.

```
C:\Users\Administrator\Desktop\Windows>dir
驱动器 C 中的卷没有标签。
卷的序列号是 A2CD-2E78

C:\Users\Administrator\Desktop\Windows 的目录
2019/06/08  21:33    <DIR>          .
2019/06/08  21:33    <DIR>          ..
2019/08/14  11:46             541,296 AFUVIN.EXE
2019/08/14  11:45             2,365,552 AFUWINGUI.EXE
2019/08/14  11:44             3,184,240 AFUWINGUIx64.EXE
2019/08/14  11:40             632,432 AFUVINx64.EXE
2019/07/23  16:03              10,240 amifldr32.sys
2019/08/14  01:06              29,776 amifldr64.sys
2019/06/08  21:30    <DIR>          drivers
2018/08/24  16:36              114 install.bat
2013/02/25  15:14             585,728 ipmitool.exe
2007/09/13  17:26             1,093,632 libeay32.dll
2019/07/08  09:25             33,554,432 NF5280M5_BIOS_4.1.9_standard_20190708.bin
2018/10/23  18:58              2,993 updateWin.bat
               11 个文件      42,000,435 字节
               3 个目录  420,185,939,968 可用字节
```

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

```
C:\Users\Administrator\Desktop\Windows>. \updateWin.bat NF5280M5_BIOS_4.1.9_standard_20190708.bin
```

(6) 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 v5.12.03.2045
      Copyright (c) 1985-2019, American Megatrends International LLC.
          All rights reserved. Subject to AMI licensing agreement.
-----+
Reading flash ..... done
- ME Data Size checking . ok
- Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... ok
- Check RomLayout ..... ok.
Loading capsule to secure memory buffer ... 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
- Upload the ME image data to BIOS ME module..... done
- Update success for FDR
- Update success for GBER
- Update success for DER
- Update success for GBEA
```