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# Flash BIOS User Guide

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## Purpose

This document provides information to use the AFU tools and BMC Web Interface to update the system BIOS on the Inspur Grantley platform.

## Introduction

AFU (AMI Firmware Update) is a package of utilities used to update the system BIOS under various operating systems.

BMC(Baseboard Management Controller) Web Interface provides a out of band method to update the system BIOS.

## Supported Operating System

AFU Tools is supported by the following operating systems:

EFI Shell

DOS

Linux OS

Windows OS

## Operation

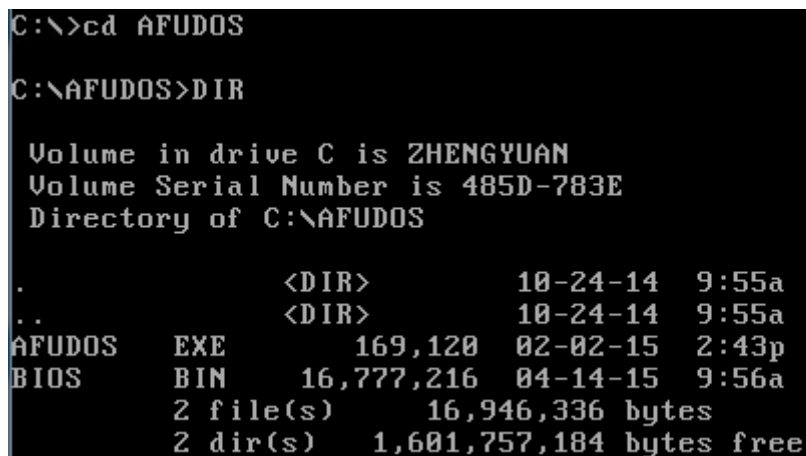
Introduce AFU Tools used in DOS and EFI Shell, and how to update BIOS in BMC web interface.

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## AFUDOS

AFUDOS is used in DOS.

1. Start the System, and boot to DOS.
2. Move to AFUDOS directory. An example is shown below. BIOS.bin is the image to be flashing.



```
C:\>cd AFUDOS

C:\AFUDOS>DIR

Volume in drive C is ZHENGYUAN
Volume Serial Number is 485D-783E
Directory of C:\AFUDOS

.                <DIR>                10-24-14  9:55a
..               <DIR>                10-24-14  9:55a
AFUDOS    EXE           169,120   02-02-15  2:43p
BIOS      BIN      16,777,216   04-14-15  9:56a
          2 file(s)         16,946,336 bytes
          2 dir(s)    1,601,757,184 bytes free
```

3. If no ME update, executing the command is shown below to update the BIOS.

Optional parameters

- /B     Program Boot Block
- /P     Program main bios image
- /N     Program NVRAM
- /X     Do not check ROM ID
- /K     Program all non-critical blocks
- /L     Program all ROM Holes

```

C:\AFUDOS>afudos BIOS.bin /b /p /n /x /k /l
+-----+
|                AMI Firmware Update Utility  v5.07.01                |
|      Copyright (C)2014 American Megatrends Inc. All Rights Reserved.      |
+-----+
Reading flash ..... done
- ME Data Size checking . ok
Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... 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

```

4 If ME Changed, executing the command is shown below to update the BIOS and ME.

```

C:\AFUDOS>afudos BIOS.bin /b /p /n /x /k /l /me
+-----+
|                AMI Firmware Update Utility  v5.07.01                |
|      Copyright (C)2014 American Megatrends Inc. All Rights Reserved.      |
+-----+
Reading flash ..... done
- ME Data Size checking . ok
Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... 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
- Update success for /FDT!!
- Successful Update Recovery Loader to OPRx!!
- Successful Update FPT, MFSB, FTPR and MFS!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!

```

---

## Optional parameters

- /ME      Program ME Entire Firmware Block.

**WARNING:** System must power-off to have the changes take effect!

## AFUEFI64

AFUEFI64 is used in EFI Shell.

1. Start the System, and boot to EFI Shell.

When the system boot to the Inspur Logo, You will see “Press <DEL> to SETUP or <TAB> to POST or <F11> to Boot Menu or <F12> to PXE Boot.” at the bottom of the logo. Then press the F11 key to Boot Menu, Choose the “UEFI: Built-in EFI Shell” and press Enter.



2. Move to AfuEfi64 directory. An example is shown below. BIOS.bin is the image to be flashing.

```

fs0:\> cd afuefi64

fs0:\afuefi64> dir
Directory of: fs0:\afuefi64

10/24/14  09:34a <DIR>          4,096  .
10/24/14  09:34a <DIR>           0  ..
04/14/15  09:56a             16,777,216  BIOS.bin
02/02/15  02:58p             405,104  AfuEfix64.efi
          2 File(s)  17,182,320 bytes
          2 Dir(s)

```

3. If no ME update, executing the command is shown below to update the BIOS.

```

fs0:\afuefi64> AfuEfix64.efi BIOS.bin /b /p /n /x /k /l
+-----+
|               AMI Firmware Update Utility  v5.07.01               |
|      Copyright (C)2014 American Megatrends Inc. All Rights Reserved.      |
+-----+
Reading flash ..... done
- ME Data Size checking . ok
Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... 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

```

4. If ME Changed, executing the command is shown below to update the BIOS and ME.

```
fs0:\afuefi64> AfuEfix64.efi BIOS.bin /b /p /n /x /k /l /me
```

```
+-----+
|               AMI Firmware Update Utility   v5.07.01               |
|      Copyright (C)2014 American Megatrends Inc. All Rights Reserved.      |
+-----+

Reading flash ..... done
- ME Data Size checking . ok
Secure Flash enabled, recalculate ROM size with signature... Enable.
- FFS checksums ..... 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
- Update success for /FDT!!
- Successful Update Recovery Loader to OPRx!!
- Successful Update FPT, MFSB, FTPR and MFS!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
```

WARNING: System must power-off to have the changes take effect!

## Update BIOS in BMC Web Interface

1. Get the BMC Web IP.

Start the System, when the screen appears Inspur Logo, and press <Del> to BIOS Setup. Move to “Server Mgmt” Interface, Choose “BMC network configuration”. And press <Enter>. The “Station IP address” will show the BMC Web IP.

Server Mgmt	
BMC network configuration	
Sharelink Network	[Enabled]
BMC Sharelink Management Channel	
Get BMC Sharelink Parameters	[Do Nothing]
Current Configuration Address source	DynamicAddressBmcDhcp
Station IP address	0.0.0.0
Subnet mask	0.0.0.0
Station MAC address	6c-92-bf-0c-33-02
Router IP address	0.0.0.0
Router MAC address	00-00-00-00-00-00
BMC Dedicated Management Channel	
Get BMC Dedicated Parameters	[Do Nothing]
Current Configuration Address source	DynamicAddressBmcDhcp
Station IP address	10.53.11.83
Subnet mask	255.255.255.0
Station MAC address	6c-92-bf-0c-33-03
Router IP address	10.53.11.254
Router MAC address	00-00-00-00-00-00

## 2. Log in BMC Web

Start IE, type the BMC IP in the address bar, and Type the user name and password (admin/admin). The BMC Web interface is shown below.

**inspur Management System** admin(Administrator) General Information Refresh Language ? Help Logout

- System Information
- Remote Control
- Power and Fan
- BMC Settings
- Logs
- Fault Diagnosis
- System Maintenance
  - BMC FW Update
  - BIOS FW Update
  - Restore Factory Defaults
  - System Administrator

**General Information**

System Running State	
Current Power Status	● [More]
CPU	✓ [More]
Memory	✓ [More]
Fan	✗ [More]
Power Supply Units	✗ [More]
Chassis Intrusion	✓ (Chassis is closed)

BMC Information	
Lan Interface	<input type="radio"/> Shared <input checked="" type="radio"/> Dedicated
MAC Address	8C:92:BF:07:8D:99
Network Mode	DHCP

Quick Launch Tasks	
Console Redirection	Power Control
Users	
Network	Hardware Monitor
Firmware Update	

FW Version Information	
BMC Revision	4.2.0(Feb 9 2015 09:35:28 CST)
BIOS Revision	4.0.3(02/04/2015)
ME Revision	3.0.7.145

## 3. BIOS FW Update



Choose “BIOS FW Update” in the “System Maintenance” on the left menu of the BMC Web.

#### ■ BIOS Firmware Update

Please note:

- (1) **Power Off** the system if you want to do BIOS Update.
- (2) BIOS NVRAM will be cleared and BIOS will become default after BIOS flashed.
- (3) After BIOS flashed, we recommend to **AC Power Off and On** to enable NEW BIOS.

##### 1. Please click the button to enter firmware update mode.

Current Power Status

☐ OFF

BIOS Bin File Type

BIOS+ME



Enter Firmware Update Mode

Please note:

- (1) Power off the system if you want to do BIOS Update.
- (2) BIOS NVRAM will be cleared and BIOS will become default after BIOS flashed.
- (3) After BIOS flashed, We recommend to AC Power off and On to enable New BIOS.

##### 1. Please click the button to enter firmware update mode.

Current Power Status

☐ OFF

BIOS Bin File Type

BIOS Only



Enter Firmware Update Mode

##### 2. Please select the Image file, click the button to upload and verify.

Select Bin File

E:\GBIOS\Zhenzhu403\4

浏览...

Upload

Cancel

##### 3. Verify successfully, please click the button to update firmware.

Proceed to update

Cancel

##### 4. BIOS firmware update has completed!NOTE: New BIOS will be available after AC Power Off and On!

Step 1. Please click the button to enter firmware update mode.

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if no ME change, Choose the “BIOS only” in the BIOS Bin File Type option, else Choose the “BIOS+ME”.

Step 2. Please select the Image file, click the button to upload and verify.

Step 3. Verify successfully, please click the button to update firmware.

Step 4. BIOS firmware update has completed! Note: New BIOS will be available after AC Power off and On!

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