

SOP of GIGABYTE Easy BIOS Refresh

1. Update BIOS through BMC Web UI interface

1.1. Preparation

- [1] Get BIOS image file “image.RBU” of target system.
- [2] Make sure target system BMC is live.
- [3] Get BMC IP address of target system.

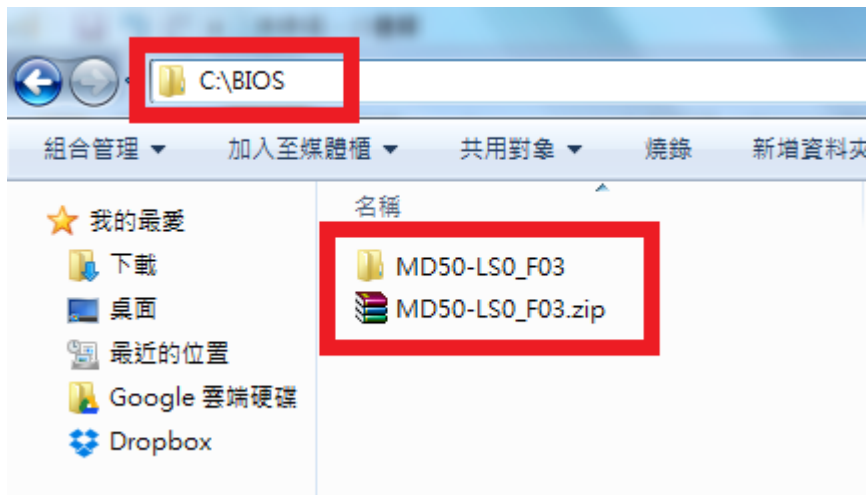
1.2. Update BIOS

- [1] Get BIOS file

Download BIOS from GIGABYTE Support & Downloads website.

Save BIOS package in C:\BIOS of client PC.

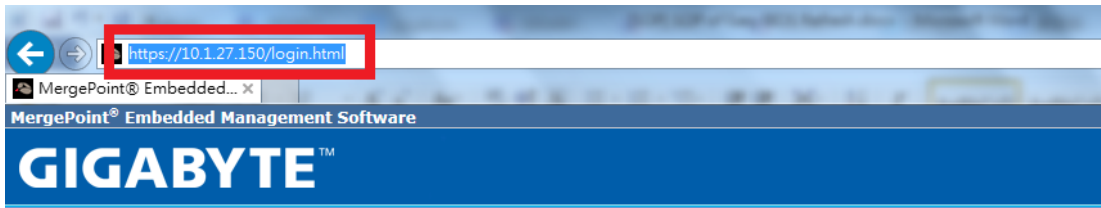
Decompress BIOS package in C:\BIOS



- [2] Make sure there is “image.RBU” in RBU folder.



[3] Open Windows IE and connect to target system BMC Web UI for logon to system.

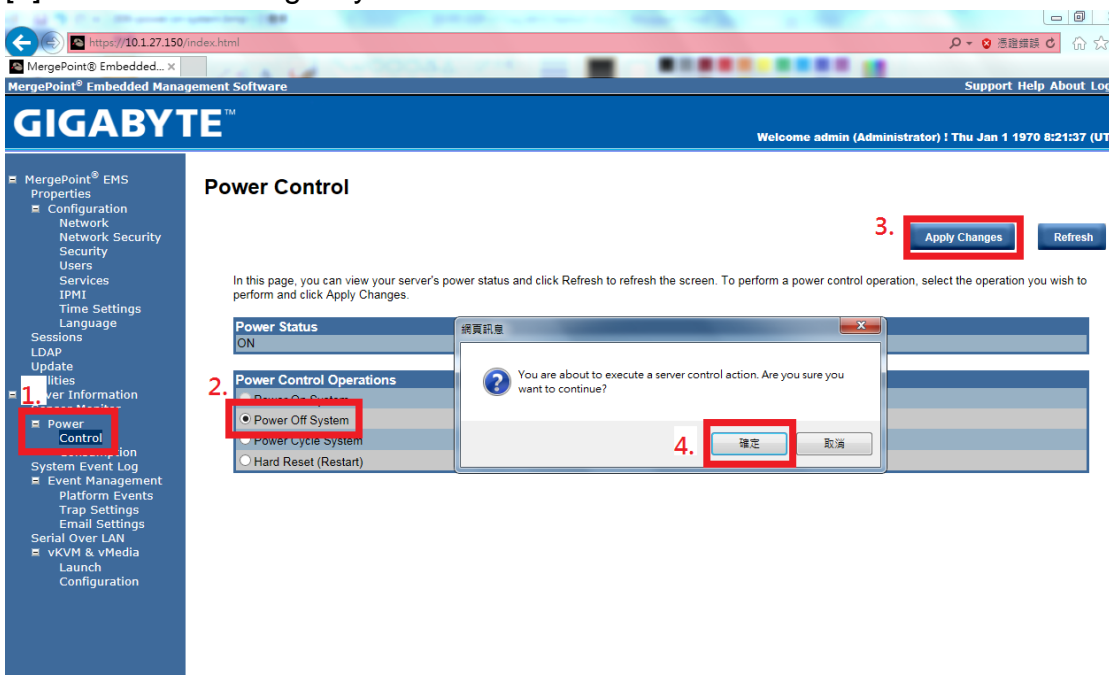


Logon to:

Username:

Password:

[4] Power off the target system

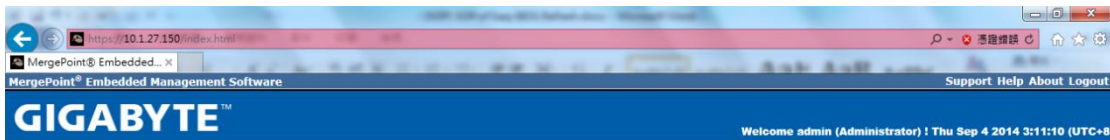
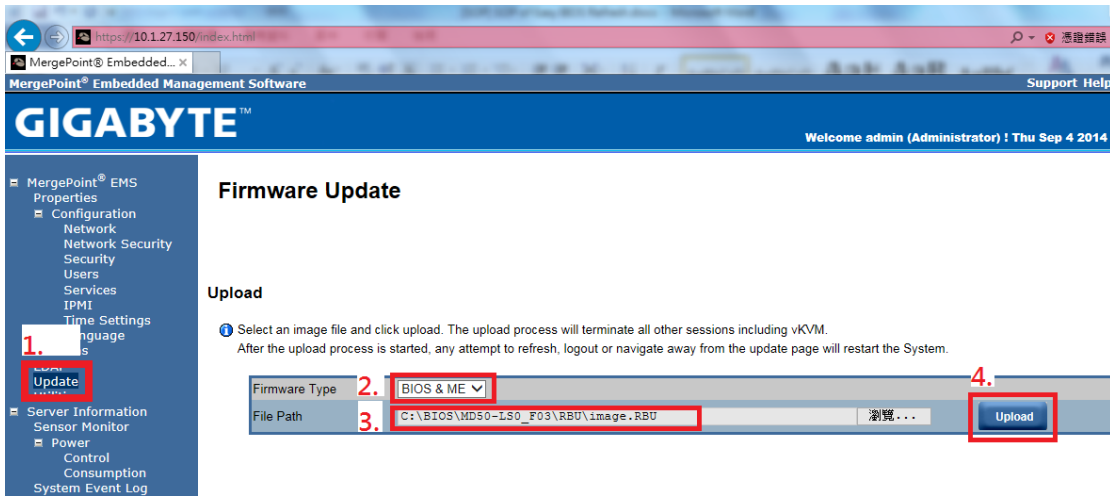


[5] Update BIOS

- (1.) Select Update page
- (2.) Select Firmware Type to “BIOS & ME”
- (3.) Select File Path of “image.RBU”
- (4.) Click Upload button

(5.) Click Update button

(6.) Wait update status to 100% completed



Firmware Update

Upload

Select an image file and click upload. The upload process will terminate all other sessions including vKVM.
After the upload process is started, any attempt to refresh, logout or navigate away from the update page will restart the System.

Firmware Type: BIOS & ME
File Path: C:\BIOS\MD50-ISO_F03\RBUI\image.RBU

5. **Update** **Cancel**

Upload is completed. Please click 'Update' to proceed firmware update or click 'Cancel' to terminate the update.
System will be rebooted after Update/Cancel process.

Firmware Update

Upload

Select an image file and click upload. The upload process will terminate all other sessions including vKVM.
After the upload process is started, any attempt to refresh, logout or navigate away from the update page will restart the System.

Firmware Type: BIOS & ME
File Path: C:\BIOS\MD50-ISO_F03\RBUI\image.RBU

6. **Status**
100% Completed

BIOS firmware image has been updated successfully.

[6] Logon to BMC Web UI again and power on target system.

The screenshot displays the GIGABYTE Embedded Management Software (EMS) interface. The left sidebar contains a navigation menu with the following items: MergePoint® EMS, Properties, Configuration (Network, Network Security, Security, Users, Services, IPMI, Time Settings, Language), Sessions, LDAP, Update, Utilities, Server Information, Sensor Monitor, **Power Control** (highlighted with a red box and '1'), Configuration (System Event Log, Event Management, Platform Events, Trap Settings, Email Settings, Serial Over LAN), vKVM & vMedia (Launch, Configuration). The main content area is titled 'Power Control' and includes a red box and '3.' pointing to the 'Apply Changes' button. Below this is a 'Power Status' section showing 'OFF'. A 'Power Control Operations' section lists: **Power On System** (highlighted with a red box and '2'), Power Off System, Power Cycle System, and Hard Reset (Restart). A dialog box titled '網頁訊息' (Web Message) is open, containing the text: 'You are about to execute a server control action. Are you sure you want to continue?' and two buttons: '確定' (Confirm, highlighted with a red box and '4.') and '取消' (Cancel).

2. Update BIOS through BMC Command-line interface

2.1. Preparation

- [1] Get BIOS image file “image.RBU” of target system.
- [2] Make sure target system BMC is live.
- [3] Get BMC IP address of target system.
- [4] Download TFTP service application for Windows client PC (e.g. Tftpd64.exe/Tftpd32.exe through free download).
- [5] Setup TFTP server for Linux client PC (Please users set up their own TFTP server.).
- [6] Get ipmitool.

2.2. BMC command format table

Table 4-6 Set BMC Configuration Parameters Command (NetFn = 2Eh, CMD = 20h)

	byte	data field
Request Data	1:3	GIGABYTE IANA = 15370 (3C0Ah), LS byte first
	4	Parameter selector
	5:N	Configuration parameter data, per Table 4-9 BMC Configuration Parameters Command
Response Data	1	Completion Code 00h = Command Completed Normally 01h = set configuration failed (IPv6)
	2:4	GIGABYTE IANA = 15370 (3C0Ah), LS byte first.

Table 4-7 Get BMC Configuration Parameters Command (NetFn = 2Eh, CMD = 21h)

	byte	data field
Request Data	1:3	GIGABYTE IANA = 15370 (3C0Ah), LS byte first.
	4	Parameter selector
Response Data	1	Completion Code
	2:4	GIGABYTE IANA = 15370 (3C0Ah), LS byte first.
	5:N	Parameter Data

Table 4-9 BMC Configuration Parameters

Parameter	#	Parameter Data
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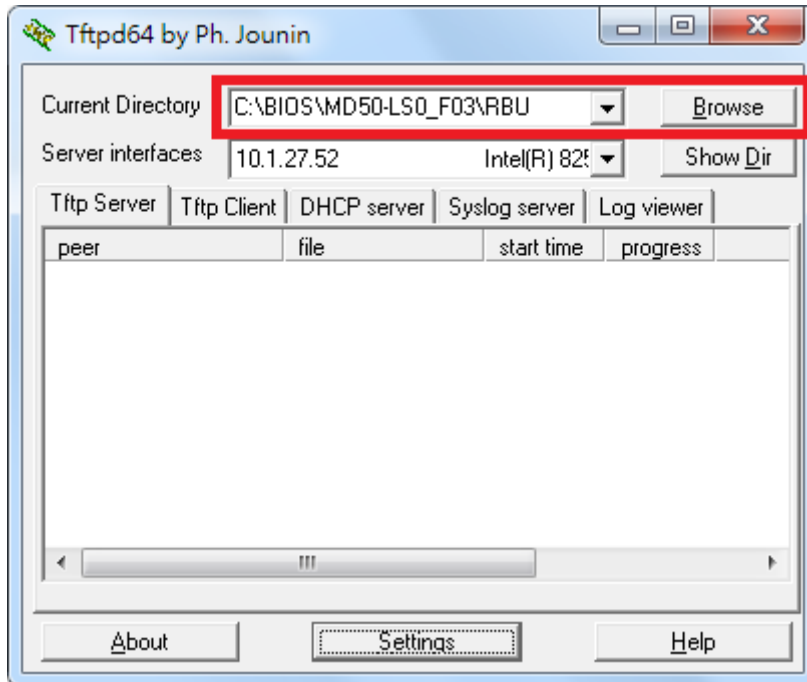
<p>Easy BIOS Refresh (Configuration Mode)</p>	<p>14</p>	<p>byte 1 – Firmware Type 0b: BIOS and ME 1b: BIOS Only</p> <p>byte 2 – Upload Method 0b: TFTP 1b: HTTP</p> <p>byte 3:6 – TFTP/HTTP Server IP Address byte 7:N – File Name</p> <p>Completion Code. 00h = Command Completed Normally 01h = System Is Not Power Off 02h = Another session is running.</p>
<p>Easy BIOS Refresh (Status Mode)</p>	<p>14</p>	<p>byte 1 – Completion Code byte 2 – Update State 00h: Update Not Active 01h: Copying To Scratch 02h: Copy To Scratch Done 04h: Verifying Upload File 05h: Upload File Verified 06h: Copying From Scratch 07h: Update Complete 08h: Update Terminated 09h: Update Failed 0Ah: Upload File Verify Failed 0Fh: Update Offset Error</p>
		<p> 10h: System Not Power Off 11h: Upload Failed 12h: Update Timeout</p> <p>byte 3 – Update Progress (If byte 2 is 06, this data is available.)</p>

2.3. Update BIOS (Sample on Windows client PC)

[1] Set up TFTP service application

Execute Tftpd64.exe

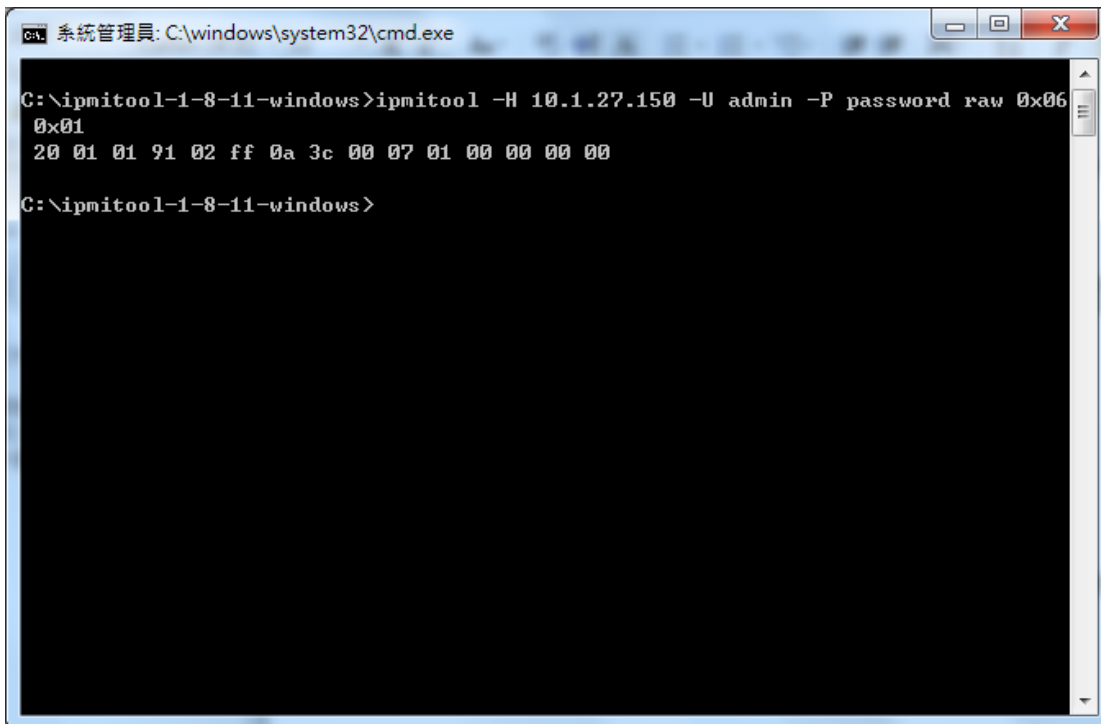
Set Current Directory to file path of "image.RBU"



[2] Execute cmd.exe and connect to target system BMC through ipmitool.

Use command 0x06 0x01 to check connect BMC is success or not.

e.g. `ipmitool -H 10.1.27.150 -U admin -P password raw 0x06 0x01`



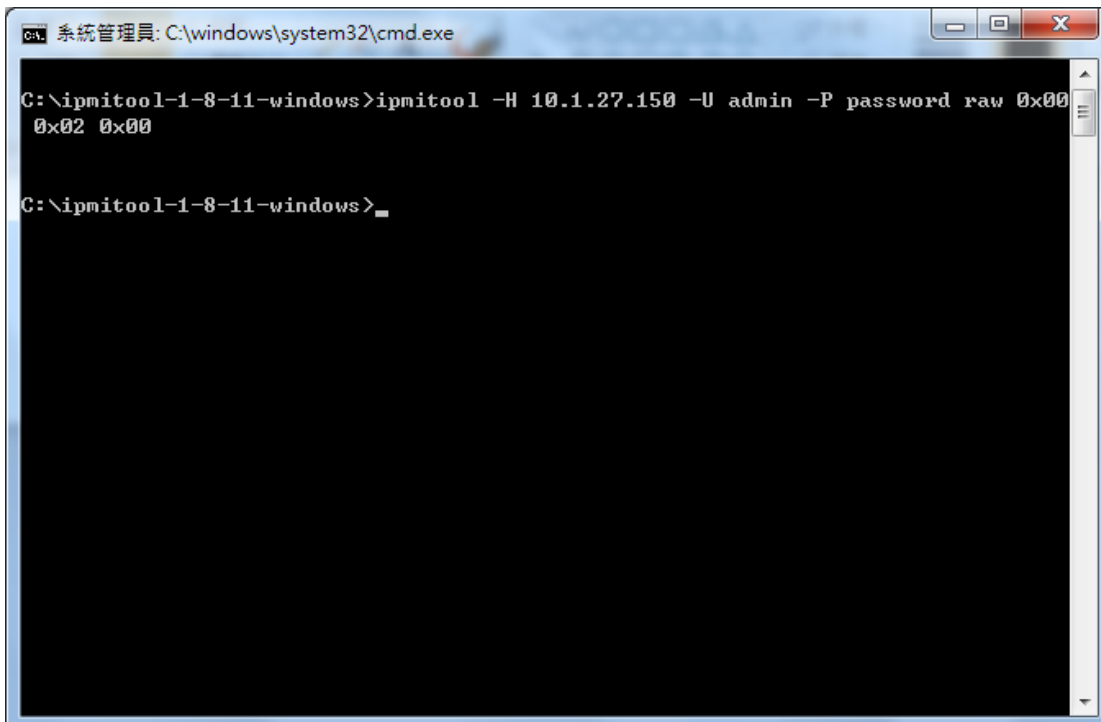
```
系統管理員: C:\windows\system32\cmd.exe

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x06
0x01
20 01 01 91 02 ff 0a 3c 00 07 01 00 00 00 00

C:\ipmitool-1-8-11-windows>
```

[3] Set target system to power off.

e.g. `ipmitool -H 10.1.27.150 -U admin -P password raw 0x00 0x02 0x00`



```
系統管理員: C:\windows\system32\cmd.exe

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x00
0x02 0x00

C:\ipmitool-1-8-11-windows>
```

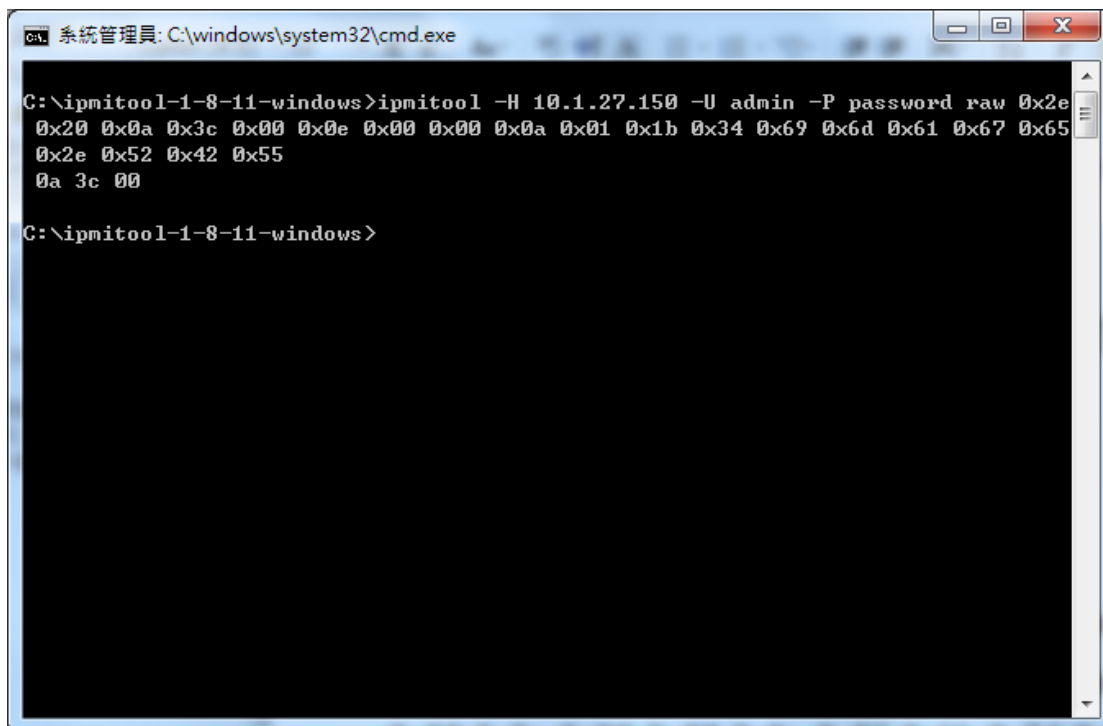
[4] Upload "image.RBU" through TFTP service application.

e.g. ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e 0x20 0x0a 0x3c 0x00
0x0e 0x00 0x00 0x0a 0x01 0x1b 0x34 0x69 0x6d 0x61 0x67 0x65 0x2e 0x52 0x42 0x55

Command format:

raw <NetFn> <CMD> <GIGABYTE IANA> <Parameter #> <Type> <Method> <TFTP IP>
<File Name>

<File Name>: 0x69 0x6d 0x61 0x67 0x65 0x2e 0x52 0x42 0x55 = image.RBU



```
ca. 系統管理員: C:\windows\system32\cmd.exe
C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x20 0x0a 0x3c 0x00 0x0e 0x00 0x00 0x0a 0x01 0x1b 0x34 0x69 0x6d 0x61 0x67 0x65
0x2e 0x52 0x42 0x55
0a 3c 00
C:\ipmitool-1-8-11-windows>
```

[5] Check upload status

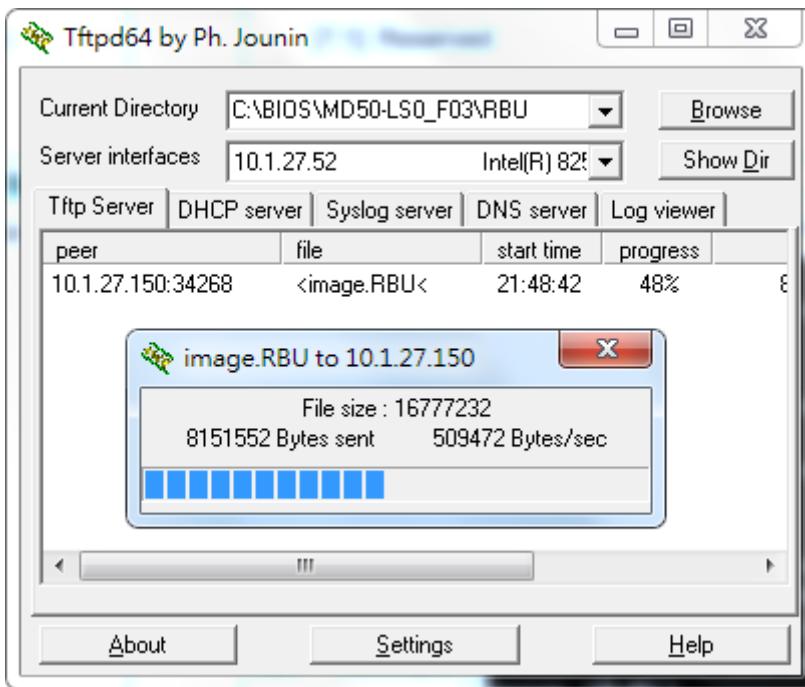
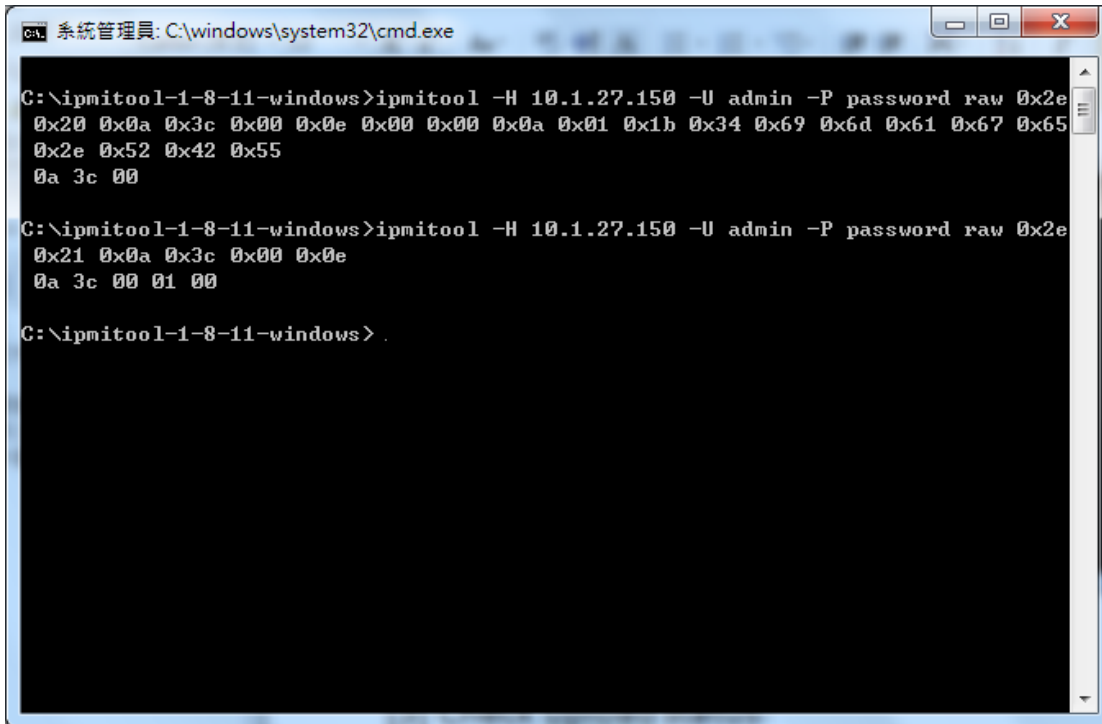
e.g. ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e 0x21 0x0a 0x3c 0x00
0x0e

Response: 0a 3c 00 01 00

Byte 1 = 00h : Command Completed Normally

Byte 2 = 01h : Copying To Scratch

Byte 3 = 00h : Update Progress (If byte 2 is 06, this data is available.)



[6] Check BIOS update status

e.g. ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e 0x21 0x0a 0x3c 0x00 0x0e

Response: 0a 3c 00 06 40

Byte 1 = 00h : Command Completed Normally

Byte 2 = 06h : Copying from Scratch

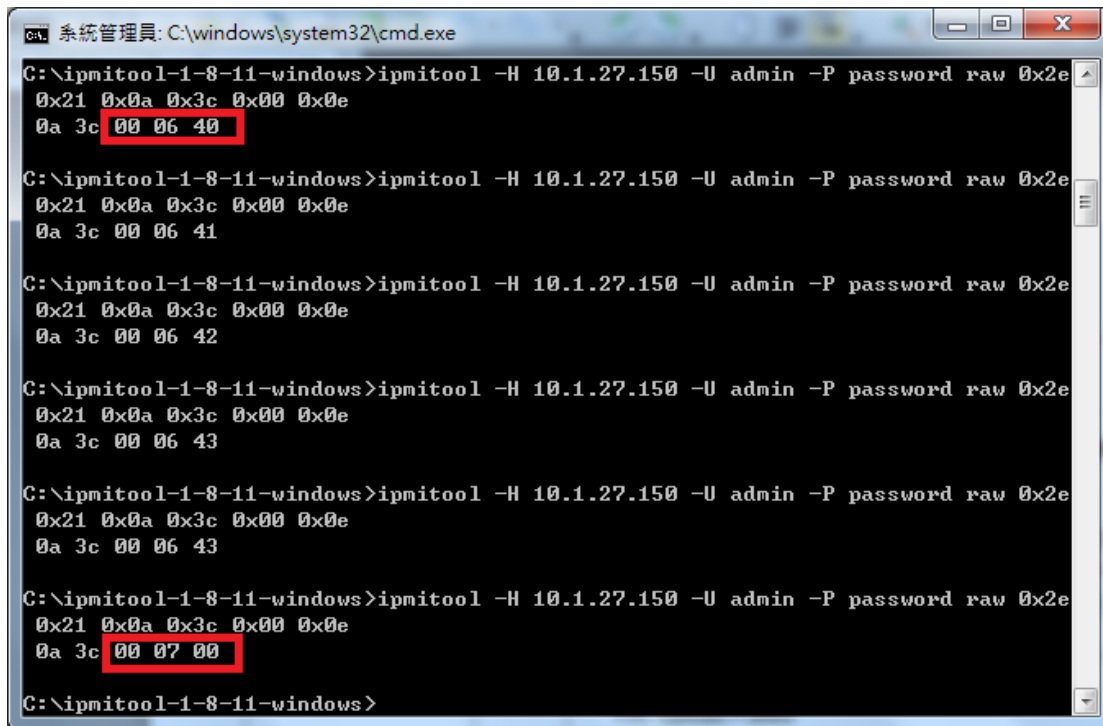
Byte 3 = 40h : Update Progress 64% (If byte 2 is 06, this data is available.)

Response: 0a 3c 00 **07** 00

Byte 1 = 00h : Command Completed Normally

Byte 2 = 07h : Update Complete

Byte 3 = 00h : Update Progress(If byte 2 is 06, this data is available.)



```
ca. 系統管理員: C:\windows\system32\cmd.exe
C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 06 40

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 06 41

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 06 42

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 06 43

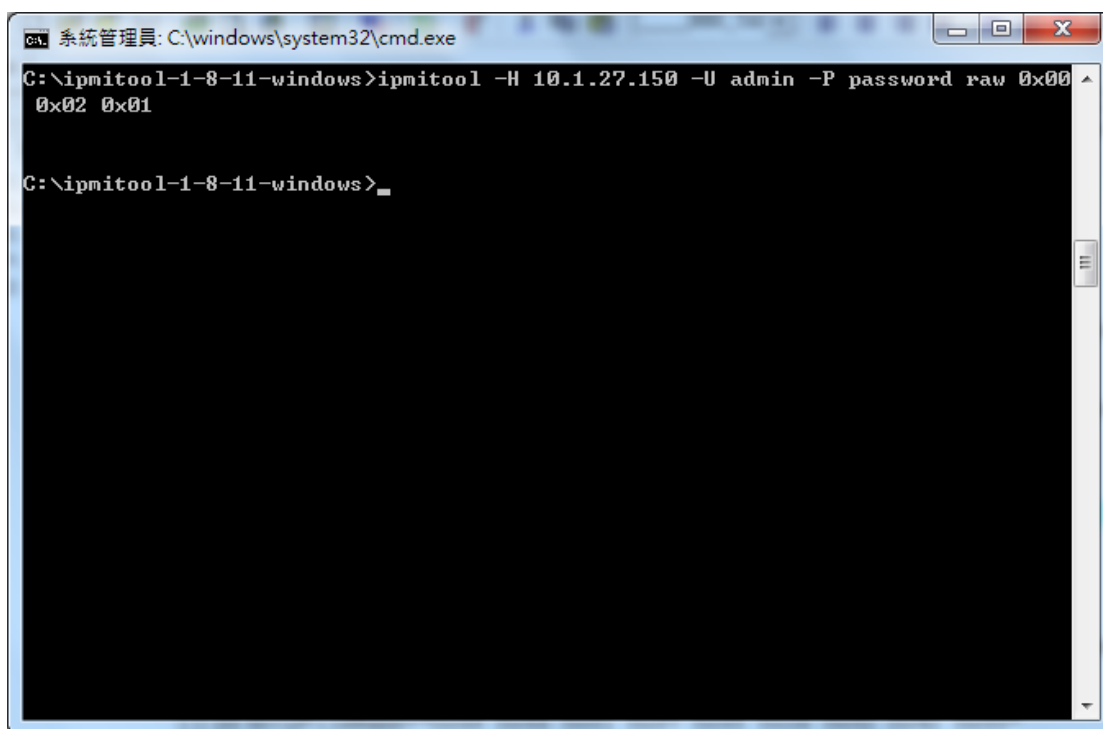
C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 06 43

C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x2e
0x21 0x0a 0x3c 0x00 0x0e
0a 3c 00 07 00

C:\ipmitool-1-8-11-windows>
```

[7] Set target system to power on.

e.g. ipmitool -H 10.1.27.150 -U admin -P password raw 0x00 0x02 0x01



```
cmd 系統管理員: C:\windows\system32\cmd.exe
C:\ipmitool-1-8-11-windows>ipmitool -H 10.1.27.150 -U admin -P password raw 0x00
0x02 0x01

C:\ipmitool-1-8-11-windows>
```