Socflash user guide

1. Purpose

Introduce the method to use Socflash tool.

2. Range

Applicable product: All INSPUR servers that include the BMC module

Applicable OS: Dos, Linux, Windows

3. Tool Catalog and Content

OS	File	Content
DOS	socflash.zip	socflash.exe, boot.bin, readme.txt Release.txt
Linux	lxflash.tar.gz	socflash, socflash_x64, readme.txt release.txt, socflash.sh, boot.bin, socflash_elom.sh, socflash_s58.sh,vsser2.scc
Windows	winflash.zip	socflash.exe, socflash_x64.exe, readme.txt, Readme_of_network_share.pdf, release.txt Registry_clean.reg, boot.bin, socflash.bat x86(folder, including astio.sys) x64(folder, including astio.sys, astio.cat)

4. Tool operation flow

The operating tools under Linux and Windows are distinguished from the 32-bit version and the 64-bit version. When using, select the appropriate version according to the environment.

4.1 Function

The socflash tool is used to implement full flashing of the native BMC on the server.

Of course, the function of socflash is not limited to this. Socflash can also implement the backup of the old BMC. And you can specify the range of flash

writes (such as skipping the boot area and config area). For details, see readme.txt in the corresponding directory. Here only introduce the common use for full brushing function.

4.2 Command format

Command	Parameter	File
socflash	if	imagefile

Example: In the DOS environment, flash the new BMC file BMC_4.1.0.bin then execute the following command:

socflash if=BMC_4.1.0.bin

Note: There is no space between "if" and "=" also between "=" and the file name when entering the command.

4.3 Operating procedures

4.3.1 Operation flow of socflash tool in DOS environment

Using socflash in a DOS environment requires the preparation of the necessary tools, the DOS boot disk. Here we use a DOS boot disk made with a U disk. For facilitate the operation, the new folder socflash is stored in the root of the U disk, and all the contents of the socflash folder are copied to the socflash folder. At the same time, the BMC image file to be flashed needs to be copied to the socflash folder.

Note: In the DOS environment, the length of the file name is limited, 8 bytes of file name and 3 bytes of extension, the excess will not be displayed. Therefore, in order to correctly identify the stored image file, it is recommended that the length of the file name be controlled within 8 characters.

The specific operation flow is as follows:

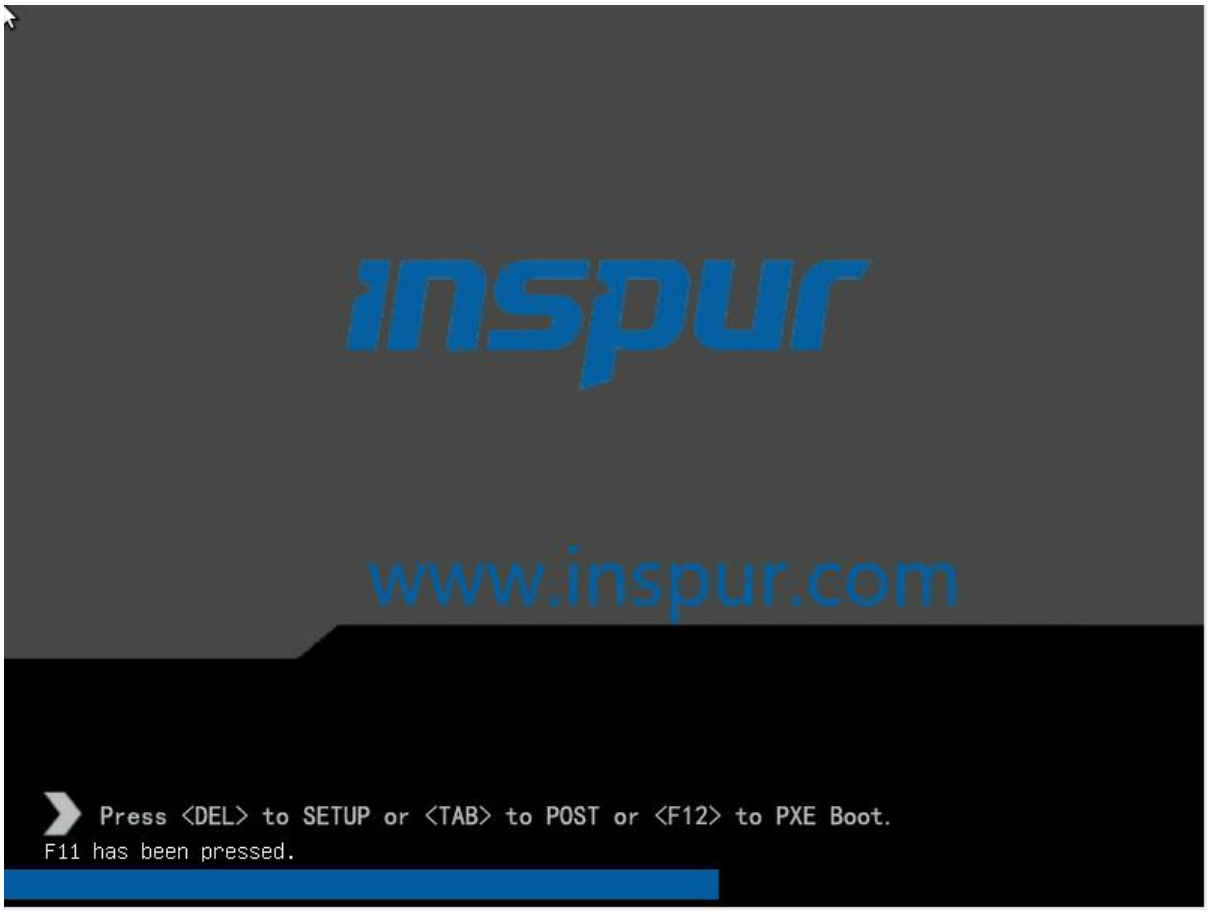
(1) Insert the DOS boot disk and boot from it. When the main-board logo is displayed, it will prompt:

```
Press <DEL> to SETUP or <TAB> to POST or <F12> to PXE Boot.
```

At this point, promptly press the "F11" function key, a prompt will appear the follow picture.



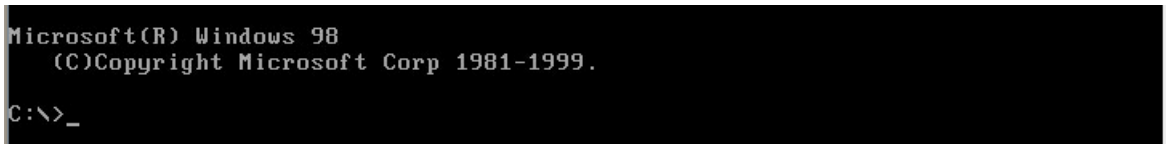
As shown below:



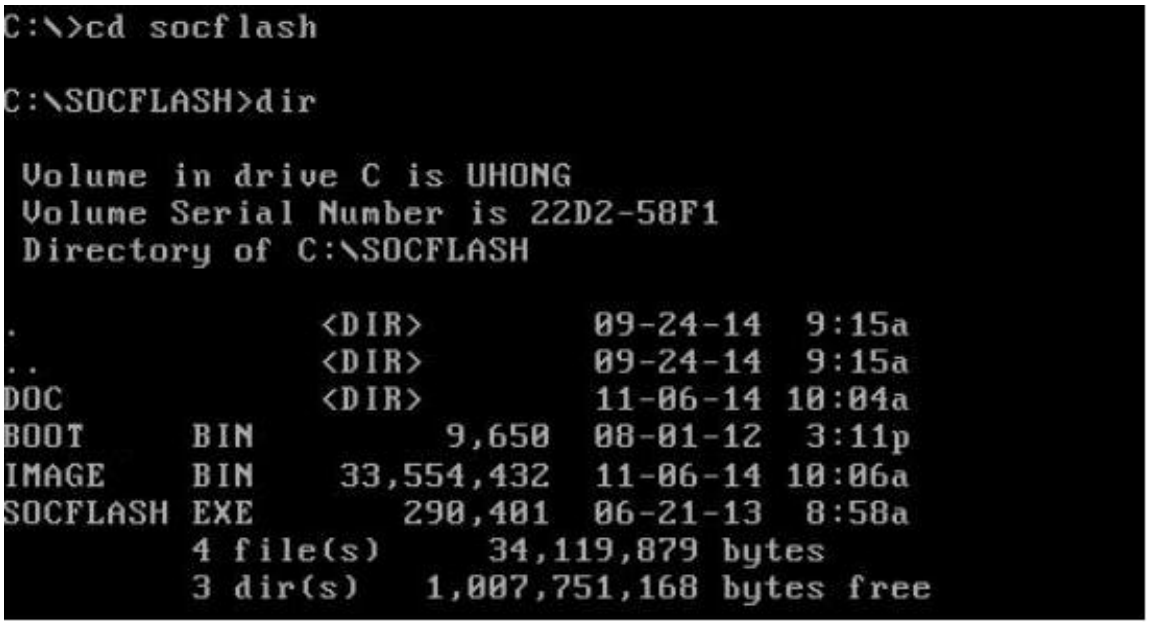
(2) Wait for the Quick Start Options page to appear, select your own USB drive, and press Enter. As shown below:



(3) Automatically start the DOS boot disk created from the U disk and enter the DOS operation interface. As shown below:



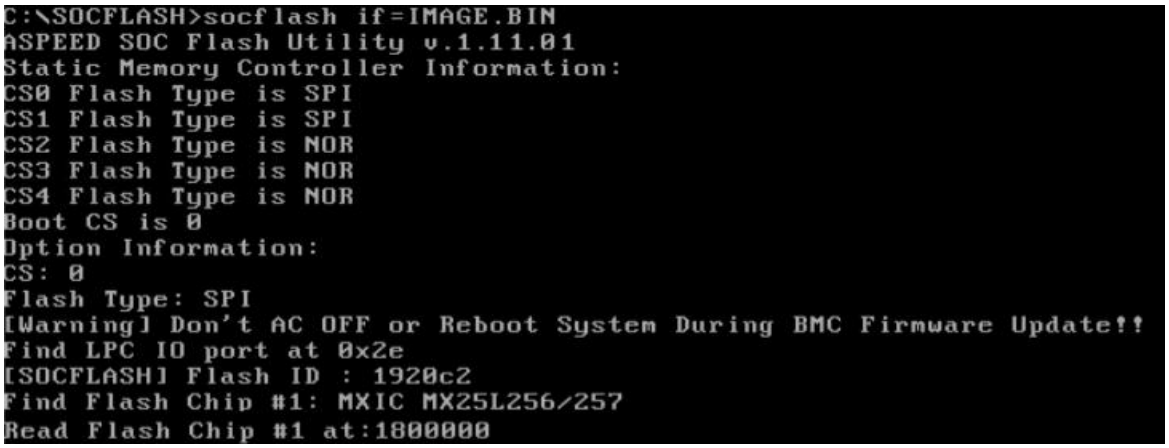
(4) Use the "cd socflash" command to enter the socflash folder. Enter the "dir" command and press Enter to see everything in the socflash folder.



(5) Enter the following command and press Enter.



(6) Wait for the flash operation to be performed. This process takes about 5 minutes. Please wait patiently.



(7) After the flashing is completed, wait for the BMC to restart automatically. It takes approximately 1 minute to wait for the BMC restart. The brush completion flag is shown below.

```
C:\SOCFLASH>socflash if=IMAGE.BIN
ASPEED SOC Flash Utility v.1.1 1.01
Static Memory Controller Information:
CS0 Flash Type is SPI
CS1 Flash Type is SPI
CS2 Flash Type is NOR
CS3 Flash Type is NOR
CS4 Flash Type is NOR
Boot CS is 0
Option Information:
CS: 0
Flash Type: SPI
[Warning] Don't AC OFF or Reboot System During BMC Firmware Update!!
Find LPC IO port at 0x2e
[SOCFLASH] Flash ID : 1920c2
Find Flash Chip #1: MXIC MX25L256/257
Update Flash Chip #1 O.K.
Update Flash Chip O.K.
```

At this point, the use of socflash to write BMC in the DOS environment was introduced.

4.3.2 The operation flow of the socflash tool in the Linux environment

The socflash tool in the Linux environment is distinguished from the 32-bit version and the 64-bit version. When using the socflash tool, select the appropriate version.

The 32-bit version has the same operation flow as the 64-bit version. This section describes the operation flow of using the socflash to flash the BMC in a 64-bit Linux environment.

Case: Swipe BMC file Baotu_BMC_image44.bin with socflash on a server in a 64-bit Linux system.

The specific operation flow is as follows:

(1) Copy the socflash tool used in the 64-bit Linux environment to a Linux system, such as home/socflash/lxflash/socflash.

(2) Copy the file to be flashed Baotu_BMC_image44.bin to the directory where the socflash tool is located, such as home/socflash/lxflash/Baotu_BMC_image44.bin.

(3) Through the console in the Linxu system, use the cd command to enter the directory where socflash is located, as shown in the following figure.

```
[root@c2 /]# cd home/socflash/lxflash
[root@c2 lxflash]# ls
Baotu_BMC_image44.bin  socflash
[root@c2 lxflash]#
```

(4) Execute the socflash command, enter the following command, and press Enter.

```
[root@c2 lxflash]# ./socflash if=Baotu_BMC_image44.bin
```

(5) Wait for the flash operation to be performed. This process takes about 6 minutes. Please wait patiently.

```
ASPEED SOC Flash Utility v.1.11.01
Find ASPEED Device 1a03:2000 on a:0.0
Relacate IO Base: d000
MMIO Virtual Address: f7780000
Static Memory Controller Information:
CS0 Flash Type is SPI
CS1 Flash Type is SPI
CS2 Flash Type is NOR
CS3 Flash Type is NOR
CS4 Flash Type is NOR
Boot CS is 0
Option Information:
CS: 0
Flash Type: SPI
[Warning] Don't AC OFF or Reboot System During BMC Firmware Update!!
Find LPC IO port at 0x2e
[SOCFLASH] Flash ID : 1920c2
Find Flash Chip #1: MXIC MX25L256/257
Check Flash Chip #1 at: 30000
```

(6) After the flashing is completed, the BMC will restart automatically. It takes approximately 1 minute to wait for the BMC to restart. The brush completion flag is shown below.

```
ASPEED SOC Flash Utility v.1.11.01
Find ASPEED Device 1a03:2000 on a:0.0
Relacate IO Base: d000
MMIO Virtual Address: f7780000
Static Memory Controller Information:
CS0 Flash Type is SPI
CS1 Flash Type is SPI
CS2 Flash Type is NOR
CS3 Flash Type is NOR
CS4 Flash Type is NOR
Boot CS is 0
Option Information:
CS: 0
Flash Type: SPI
[Warning] Don't AC OFF or Reboot System During BMC Firmware Update!!
Find LPC IO port at 0x2e
[SOCFLASH] Flash ID : 1920c2
Find Flash Chip #1: MXIC MX25L256/257
Update Flash Chip #1 O.K.
Update Flash Chip O.K.
```

So far, the operation flow of flashing the BMC in a 64-bit Windows environment using socflash has been introduced.

4.3.3 The operation flow of the socflash tool in the Windows environment

The socflash tool in the Windows system has a 32-bit version and a 64-bit version. When using the socflash tool, select the appropriate version.

The 32-bit version has the same operation flow as the 64-bit version. Here, a specific case is introduced to use the socflash to write BMC operations in a 64-bit Windows system.

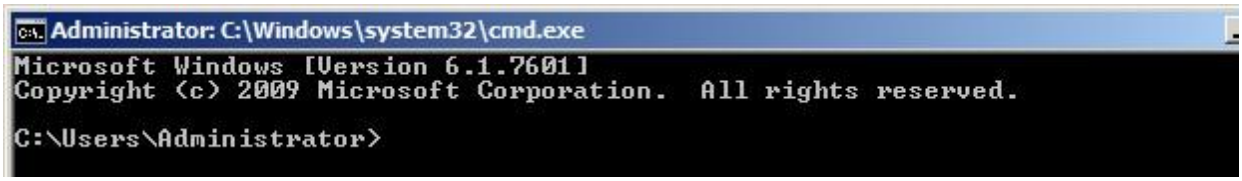
Case: Swipe BMC file Baotu_BMC_image44.bin with socflash on a server in a 64-bit Windows environment.

The specific operation flow is as follows:

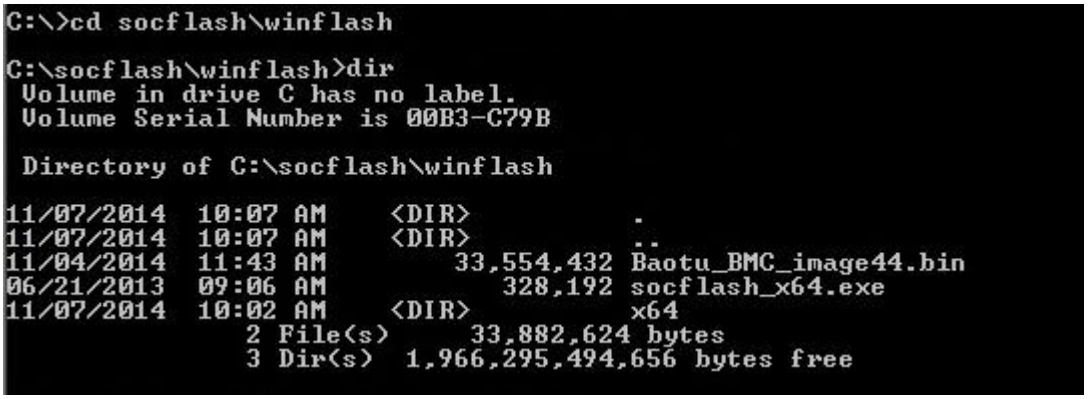
(1) Copy the socflash tool used in the 64-bit Windows environment to a Windows system, such as C:/socflash/winflash/socflash_x64.exe.

(2) Copy the file to be flashed Baotu_BMC_image44.bin to the directory where the socflash tool is located, that is, C:/socflash/winflash/Baotu_BMC_image44.bin.

(3) Under Windows system, select "Command Prompt" under "Accessories", or enter CMD at the program search to enter the command prompt interface, as shown in the figure below.



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



(5) Execute the socflash command, enter the following command, and press Enter.



(6) Wait for the flash operation to be performed. This process takes about 6 minutes. Please wait patiently.

```
ASPEED SOC Flash Utility v.1.11.01
Load Cross-Signed Porperly!!
Found ASPEED Device 1a03:2000 rev. 30
Static Memory Controller Information:
CS0 Flash Type is SPI
CS1 Flash Type is SPI
CS2 Flash Type is NOR
CS3 Flash Type is NOR
CS4 Flash Type is NOR
Boot CS is 0
Option Information:
CS: 0
Flash Type: SPI
[Warning] Don't AC OFF or Reboot System During BMC Firmware Update!!
Find LPC IO port at 0x2e
[SOCFLASH] Flash ID : 1920c2
Find Flash Chip #1: MXIC MX25L256/257
Erase Flash Chip #1 at: 30000
```

(7) After the flashing is completed, the BMC will restart automatically. It takes approximately 1 minute to wait for the BMC to restart. The brush completion flag is shown below.

```
ASPEED SOC Flash Utility v.1.11.01
Load Cross-Signed Porperly!!
Found ASPEED Device 1a03:2000 rev. 30
Static Memory Controller Information:
CS0 Flash Type is SPI
CS1 Flash Type is SPI
CS2 Flash Type is NOR
CS3 Flash Type is NOR
CS4 Flash Type is NOR
Boot CS is 0
Option Information:
CS: 0
Flash Type: SPI
[Warning] Don't AC OFF or Reboot System During BMC Firmware Update!!
Find LPC IO port at 0x2e
[SOCFLASH] Flash ID : 1920c2
Find Flash Chip #1: MXIC MX25L256/257
Update Flash Chip #1 O.K.
Update Flash Chip O.K.
```

Now, the operation flow of flashing the BMC in a 64-bit Windows environment using socflash has been introduced.

4.4 Get Version of the tool

You can get current version of the tool with "-help" or "-h",

```
root@hlc-VIT-P2412:~/lxflash# ./socflash_x64 -help
ASPEED SOC Flash Utility v.1.14.00
SOC Flash Utility Command Interface:
Example: socflash NewROMFile BackupROMFile
root@hlc-VIT-P2412:~/lxflash#
```

```
C:\>socflash.exe -help
ASPEED SOC Flash Utility v.1.14.00
SOC Flash Utility Command Interface:
Example: socflash NewROMFile BackupROMFile
```

Note:

Ver	date	modify
v.1.14.00	080416	See release.txt in Release Package
v1.13.00	042216	See release.txt in Release Package
v.1.11.01	111014	See release.txt in Release Package