

# IPMI Firmware Update

## In WEB-GUI/DOS/WIN/Linux

### Firmware Updates in WEB-GUI:

1.1 Click < Firmware update > under Maintenance



1.2 Click <Enter Update Mode> to enter the update mode. A warning message will display. **Warning:** Once the server is in the firmware update mode, the device will be reset, and the server will reboot even if you cancel firmware updating.



1.3 Click <OK> to update your IPMI firmware. Once you've clicked OK to update the firmware, the Firmware Upload screen will display as shown on the next page. Press the Browse button to choose firmware file and then press the Upload Firmware button to start load

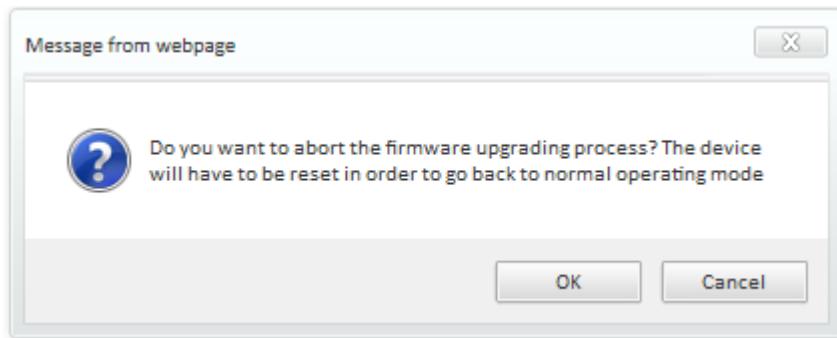
The screenshot shows the 'Firmware Update' section of the Supermicro iKVM interface. On the left, a sidebar lists maintenance options: Maintenance, Firmware Update (which is selected), Unit Reset, KVM Reset, Factory Default, IPMI Configuration, System Event Log, and BIOS Update. The main content area has a header 'Host Identification' showing 'Server: 172.031.032.030' and 'User: ADMIN (Administrator)'. A message box says: 'Press Enter Update Mode to put the device in a special mode that allows firmware update. Please note that once you enter update mode the device will reset if the update process is canceled.' A confirmation dialog box titled 'Message from webpage' asks: 'Do you want to enter update mode? You will not be able to perform any other tasks until firmware upgrade is complete and the device is rebooted.' Buttons for 'OK' and 'Cancel' are shown.

The screenshot shows the 'Firmware Upload' section of the Supermicro iKVM interface. The sidebar remains the same. The main content area has a message box: 'The device is now in Upgrade mode. Please wait until the percentage of the Firmware Image burning get 100 percent. After that, please just wait for system reboot. The web page will redirect to the Login page automatically.' Below this is a form titled 'Selected Firmware to Upload' with a 'Browse...' button. At the bottom are 'Upload Firmware' and 'Cancel' buttons.

**1.4** Make sure the firmware version is correct before you can press the “Upload Firmware” button for updating progress.

This screenshot is identical to the one above, but it highlights the 'Selected Firmware to Upload' field with a red box, showing the path 'C:\Users\jonathan\Downloads\...'. The rest of the interface and instructions are the same.

**1.5** If Click <Cancel> to cancel firmware updates. Once you have clicked <Cancel > to update the IPMI Firmware, the following Firmware Upload screen will display as shown below.



**1.6** Click <Upload Firmware> to upload the selected firmware to the host server.

Warning! To properly update your firmware, do not interrupt the process until the process is completed. Once it is completed, the system will automatically reboot, and you will need to login to the server again.

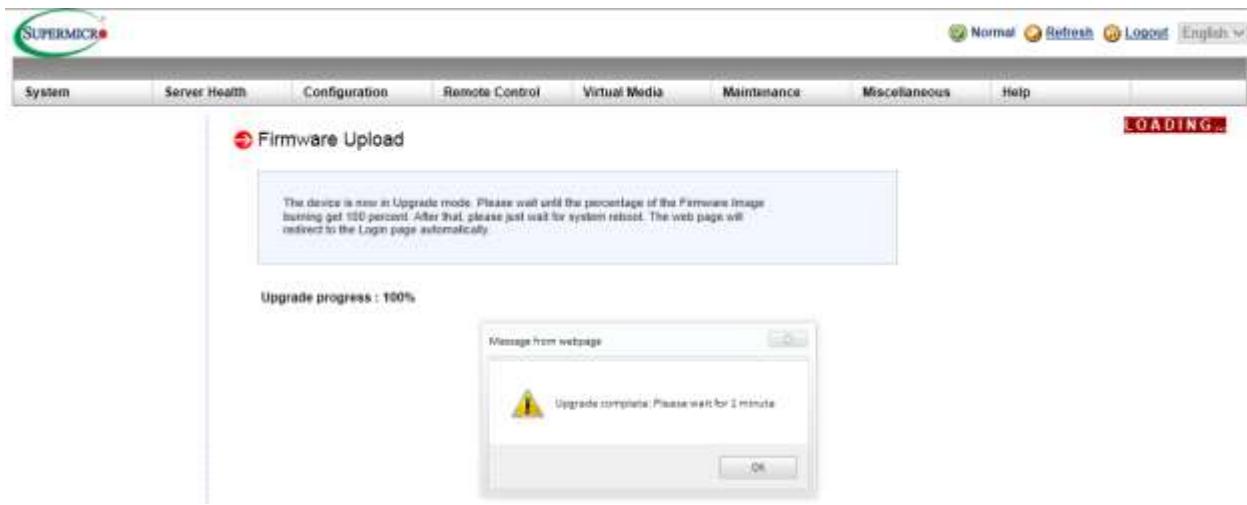
A screenshot of a web browser displaying the SUPERMICRO IPMI interface. The top navigation bar includes links for System, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, Miscellaneous, and Help. On the far right are buttons for Normal, Refresh, Logout, and English. A red banner at the top right says "LOADING...". The main content area is titled "Firmware Upload" with a sub-section "Upgrading Image...Please wait. This may take a while!". It shows a progress bar and a file selection input field containing "C:\Users\jonathan\Desktop\". At the bottom are "Upload Firmware" and "Cancel" buttons.

**NOTE !!!** Uncheck preserve configuration box during flashing (very important step for FW to work properly). All settings will be reset to default.

The screenshot shows the 'Firmware Upload' page of the SUPERMICRO iKVM interface. At the top, there are tabs for System, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, Miscellaneous, and Help. On the right, there are links for Normal, Refresh, Logout, and English. The main area is titled 'Firmware Upload' and shows 'Upgradeable Modules'. A table lists one module: 'Module Name: IPMI\_FW', 'Existing Version: 01.94', and 'New Version: 01.94'. Below the table are two checkboxes: 'Preserve Configuration (Unchecking this option will restore the factory default setting of BMC.)' and 'Preserve SDR (Unchecking this option will restore the default of SDR.)'. There are 'Start Upgrade' and 'Cancel' buttons. A red arrow points to the 'Preserve Configuration' checkbox with the text 'Uncheck first before Start Upgrade'.

**1.7** Click < Start upgrade > to download the firmware.

The screenshot shows the 'Firmware Upload' page during the upgrade process. The status bar at the top right says 'LOADING...'. The main area displays a message: 'The device is now in Upgrade mode. Please wait until the percentage of the Firmware image burning get 100 percent. After that, please just wait for system reboot. The web page will redirect to the Login page automatically.' Below this, it shows 'Upgrade progress: 2%'. A horizontal line marks the bottom of the page.



**1.8** Click < OK > System will reboot after upgrade complete. The web page will redirect to the login page automatically.

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## Firmware Updates in Windows, or Linux.

Instructions on how to use Flash Tools and Flash Tools Utility supports firmware.

The Flash Tools utility provides a complete solution for firmware updates. The user can flash the firmware using **DOS, Windows or Linux**. In addition, Windows and Linux allow the user to update the firmware via LAN or KCS.

### Firmware Dumping

In addition to firmware updating, The Flash Tools also support firmware\_dumping from the BMC (Baseboard Management Controller). You can use this feature to back up the firmware by *dumping* the current version of the firmware to an archive folder before updating to a new version. It will also allow you to flash other BMCs in the factory for mass production. Firmware\_dumping is supported by DOS, Windows and Linux.

### Windows/Linux Version of Flash Tools

In addition to DOS, the Flash Tools Utility supports Windows and Linux platforms.

The Windows/Linux version of Flash Tools Utility provides the same features supported by the DOS version. In addition, it also allows the user to update the firmware via LAN connections.

The main screen of the Windows/Linux version displays the information about the firmware and the instructions on how to use the utility as shown in Figure 1.

```
*****
* ATEN Technology, Inc. *
*****  
* FUNCTION    : IPMI FIRMWARE UPDATE UTILITY *
* VERSION     : 2.02 *
* BUILD DATE  : May 19 2014 *
* USAGE       : *
*             (1) Update FIRMWARE : AlUpdate -f filename.bin [OPTION] *
*             (2) Dump FIRMWARE   : AlUpdate -d filename *
*             (3) Restore CONFIG  : AlUpdate -c -f filename.bin *
*             (4) Backup CONFIG   : AlUpdate -c -d filename.bin *
*****  
* OPTION      *
*   -i the IPMI channel, currently, kcs and lan are supported *
* LAN channel specific arguments *
*   -h remote BMC address and RMCP+ port, (default port is 623) *
*   -u IPMI user name *
*   -p IPMI password correlated to IPMI user name *
*   -r Preserve Configuration (default is Preserve) *
*       n:No Preserve, reset to factory default settings *
*       y:Preserve, keep all of the settings *
*   -c IPMI configuration backup/restore *
*****
```

```
*
*   -f [restore.bin] Restore configurations *
*   -d [backup.bin] Backup configurations *
*****  
* EXAMPLE      *
* we like to upgrade firmware through KCS channel *
* AlUpdate -f fwupgrade.bin -i kcs -r y *
* AlUpdate -d fwdump.bin -i kcs -r y *
*
* we like to restore/backup IPMI config through KCS channel *
* AlUpdate -c -f restore.bin -i kcs -r y *
* AlUpdate -c -d backup.bin -i kcs -r y *
*
* we like to upgrade firmware through LAN channel with *
* - BMC IP address 10.11.12.13 port 623 *
* - IPMI username is usr *
* - Password for alice is pwd *
* - Preserve Configuration *
* AlUpdate -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y *
* AlUpdate -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y *
*
* we like to restore/backup IPMI config through LAN channel with *
* - BMC IP address 10.11.12.13 port 623 *
* - IPMI username is usr *
* - Password for alice is pwd *
* - Preserve Configuration *
* AlUpdate -c -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd *
* AlUpdate -c -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd *
*****
```

## **Figure 1: Main Screen of Flash Tools (in the Windows/Linux Version)**

In the Windows/Linux version of the Flash Tools Utility, there are six parameters:

- (1) -f: Type <-f> to enter the filename of the firmware that you want to update.
- (2) -i: indicates the IPMI channel. Currently, KCS and LAN connections are supported. If a LAN connection is used, the user needs to enter the following parameters:
  1. -h: Type <-h> to enter the addresses of the remote BMC and the RMCP+ port (default port is 623).
  2. -u: Type <-u> to enter the IPMI username.
  3. -p: Type <-p> to enter the password for the IPMI user.
  4. -r: Type <-r> to preserve (to save) the configuration settings you've entered. (This feature is optional.) (Default: preserve configuration.)
  5. y: Type <y> for the BMC to keep all settings after updating the firmware; otherwise, the BMC will reset the settings to factory default.

To connect IPMI via KCS, type <AwUpdate.exe/AIUpdate -f [filename.bin] -i kcs -r y> as shown in Figure 2.

```
./AIUpdate -f SMT_X10_100.bin -i kcs -r y
```

```
./AIUpdate -f SMT_X10_100.bin -i kcs
```

## **Figure 2: Example of KCS FW Updates with/without Preserving Configuration**

To connect IPMI via LAN, type:

<AwUpdate.exe/AIUpdate -f [filename.bin] -i lan -h 192.168.1.1 623 -u USER -p PWD -r y> as shown in Figure 3.

```
./AIUpdate -f SMT_X10_100.bin -i lan -h 192.168.1.1 623 -u USER -p PWD -r y
```

```
./AIUpdate -f SMT_X10_100.bin -i lan -h 192.168.1.1 623 -u USER -p PWD
```

## **Figure 3: Example of LAN\_FW\_Updates through RMCP+ Port with/without Preserving Configuration.**

After you've entered the commands above, the Flash Tools will start to update the firmware. There are two phases in firmware updating.

1. Phase 1 is to transfer the FW image file to the BMC. In this phase, Flash Tools will transfer three parts to the BMC as shown in Figure 4.

```
Check if this file is valid.....  
If the FW update fails, PLEASE TRY AGAIN  
Load part 0 135148 bytes, [Ok]  
Load part 1 11259904 bytes, [Ok]  
Load part 2 1519770 bytes, [Ok]  
Load part 3 2248732 bytes, 1293K bytes 59%
```

## **Figure 4: Transferring (Parts 0, 1, 2 & 3)**

- Phase 1 is to download the new firmware. The progress of firmware updating will be displayed as shown in (Figure 6). The BMC will reboot after the firmware is completely updated. Please wait for the BMC to complete system reboot (Figure 7).
- Phase 2 is to flash the new firmware. The progress of firmware updating will be displayed as shown in (Figure 7). The BMC will reboot after the firmware is completely updated. Please wait for the BMC to complete system reboot (Figure 8).

```
If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
new firmware is updating...19%
```

**Figure 5: Progress of Firmware Updating**

```
If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
new firmware is updating...100%
Update Complete,Please wait for BMC reboot, about 1 min
```

**Figure 6: Updates Completed**