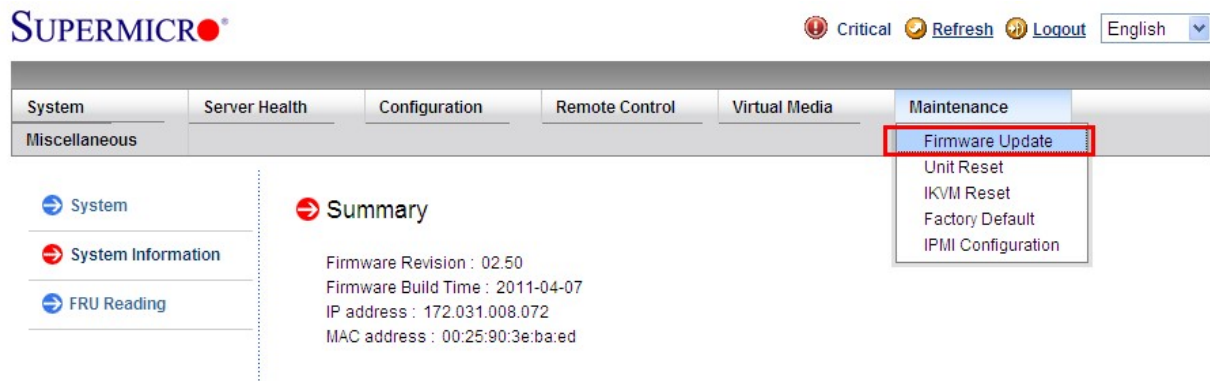


IPMI Firmware Update

In WEB-GUI/DOS/WIN/Linux

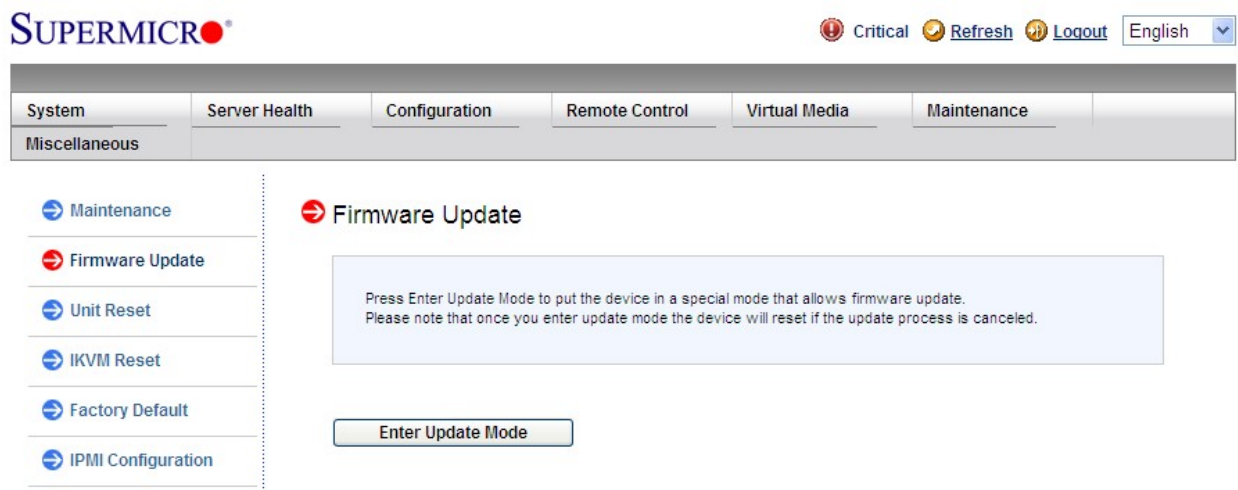
Firmware Updates in WEB-GUI:

1.1 Click < Firmware update > under Maintenance



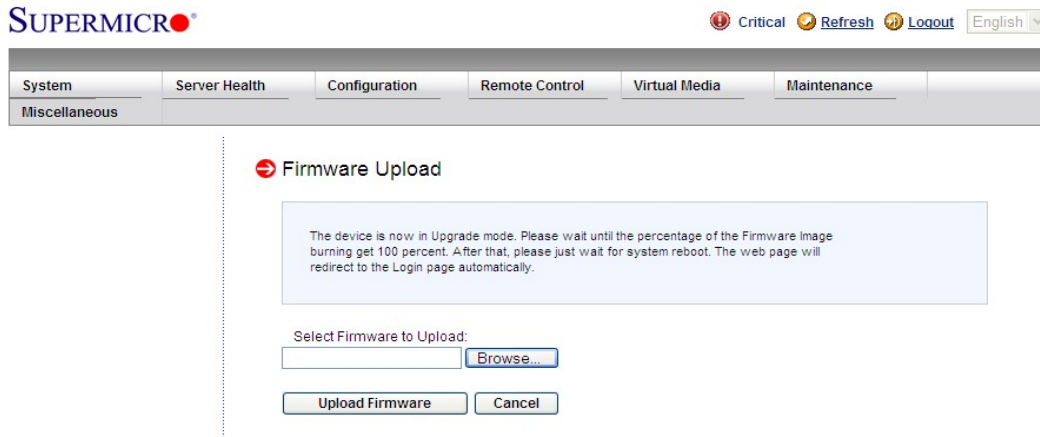
The screenshot shows the SUPERMICR WEB-GUI interface. At the top, there is a navigation bar with tabs for System, Server Health, Configuration, Remote Control, Virtual Media, and Maintenance. The Maintenance tab is active, and a dropdown menu is open, highlighting the Firmware Update option. Other options in the dropdown include Unit Reset, IKVM Reset, Factory Default, and IPMI Configuration. The main content area displays a Summary of system information: Firmware Revision: 02.50, Firmware Build Time: 2011-04-07, IP address: 172.031.008.072, and MAC address: 00:25:90:3e:ba:ed.

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.

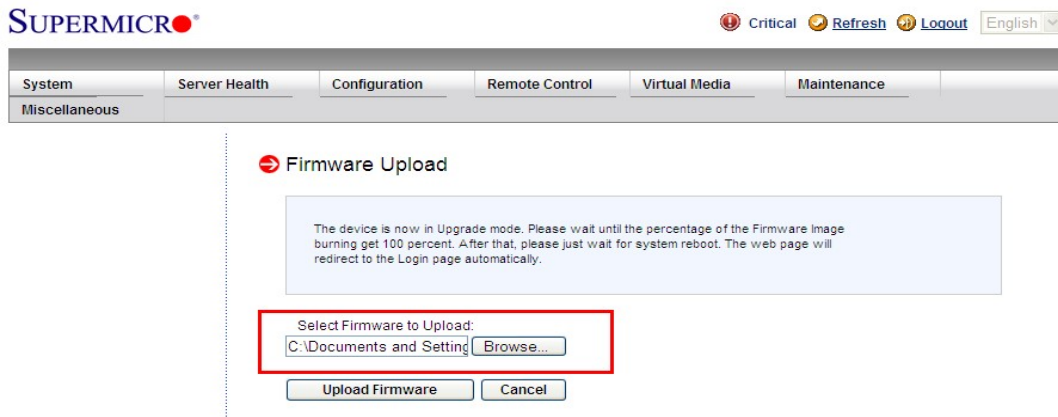


The screenshot shows the SUPERMICR WEB-GUI interface with the Firmware Update page selected. The main content area displays a warning message: "Press Enter Update Mode to put the device in a special mode that allows firmware update. Please note that once you enter update mode the device will reset if the update process is canceled." Below the warning message is a button labeled "Enter Update Mode".

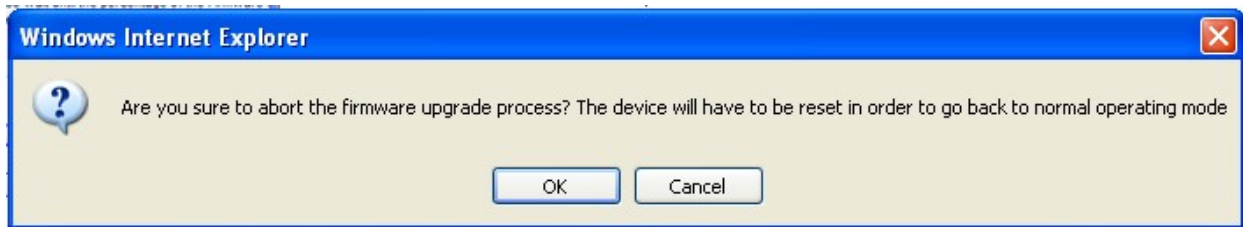
1.3 Click <OK> to update your IPMI firmware. Once you've clicked OK to update the firmware, the Firmware Upload screen will display as shown on the next page. Press the Browse button to choose firmware file and then press the Upload Firmware button to start load



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

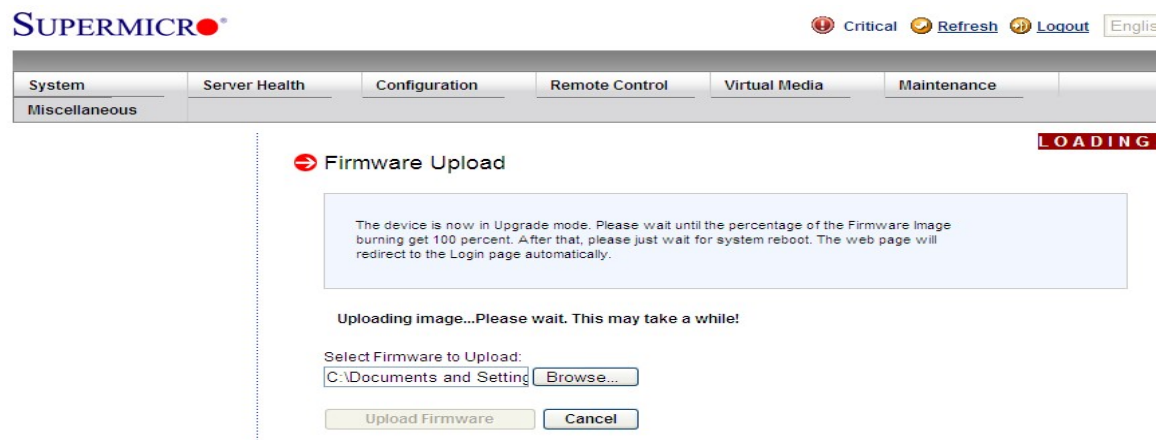


1.5 If Click <Cancel> to cancel firmware updates. Once you have clicked <Cancel > to update the IPMI Firmware, the following Firmware Upload screen will display as shown below.

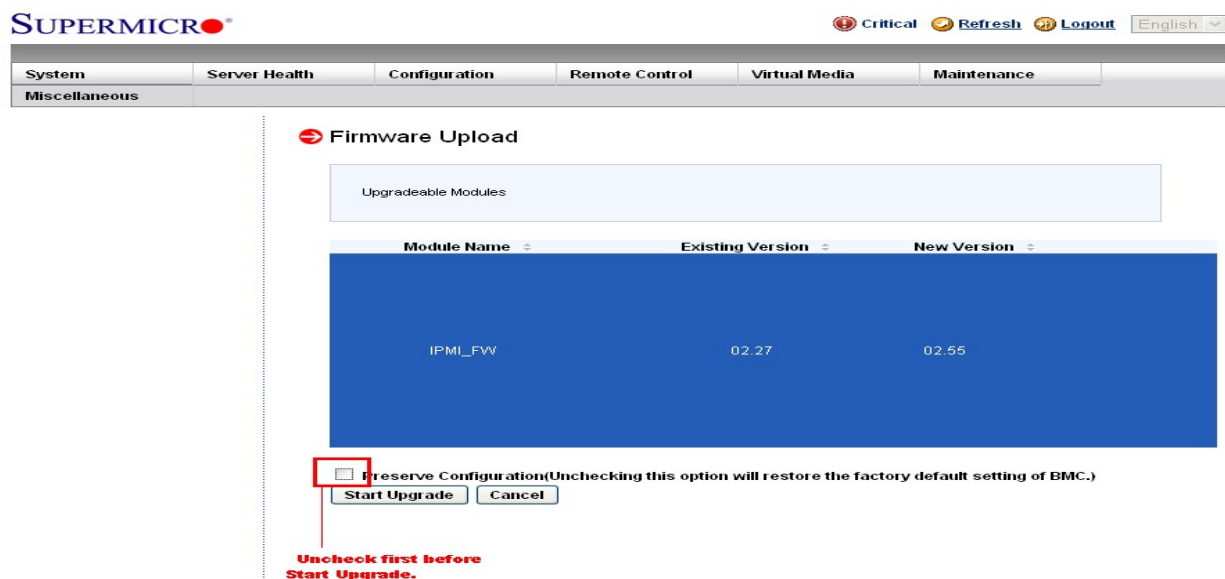


1.6 Click <Upload Firmware> to upload the selected firmware to the host server.

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.



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



1.7 Click < Start upgrade > to download the firmware.

The screenshot shows the SUPERMICR web interface. At the top left is the SUPERMICR logo. At the top right are navigation links: Critical (with a red exclamation mark icon), Refresh (with a circular arrow icon), Logout (with a person icon), and a language dropdown menu set to English. Below the navigation is a horizontal menu with tabs: System, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, and Miscellaneous. The main content area is titled "Firmware Upload" with a red arrow icon. A "LOADING..." indicator is in the top right. A light blue box contains the text: "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 box, the text "Upgrade progress : 2%" is displayed.

This screenshot shows the same SUPERMICR web interface as the previous one, but the "Upgrade progress" is now "100%". A dialog box is open in the foreground with a blue title bar that reads "The page at http://172.31.8.72 says:". The dialog box has a yellow warning triangle icon and contains the text "Upgrade complete: Please wait for 1 minute". An "OK" button is centered at the bottom of the dialog box. The background content of the page is partially obscured by the dialog box.

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

Firmware Updates in DOS, 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.

Using Flash Tools in the DOS Environment

To use the Flash Tools in DOS, follow the steps below:

1. Enter <update.exe> and press <Enter>.
2. The information about the utility will be displayed. Follow the instructions given on the screen to configure the settings as shown in Figure 1.

```
*****
* ATEN Technology, Inc.
*****
* FUNCTION : IPMI FIRMWARE UPDATE UTILITY
* VERSION  : 1.15
* BUILD DATE : Jan 06 2010
* USAGE    :
*           (1)Update FIRMWARE : dUpdate.exe -f filename.bin [OPTION]
*           (2)Dump FIRMWARE  : dUpdate.exe -d filename
*****
* OPTION
* -r Preserve Configuration(default is Preserve)
* n:No Preserve, reset to factory default settings
* y:Preserve, keep all of the settings
*****
```

Figure 1: IPMI Firmware Updates Utility in DOS - Main Screen

The main screen of the IPMI Update Utility for DOS (above) displays the version and the built date of the utility currently used in the system. The DOS version of Flash Tools Utility allows the user to update or dump the firmware via KCS channels.

Firmware Updating via KCS Channels

To update your firmware via KCS, type <dUpdate.exe -f [filename.bin] -r y.> After entering this command, a screen will display as shown in Figure 2.

1. -f: Type <-f> to enter the file name of the firmware that you want to update.
2. -r: Type <-r> to preserve the configuration settings you've chosen. This feature is optional. The default setting is to "preserve" the configuration.

3. y: Type <y> for the BMC to keep all settings after the firmware is updated; otherwise, the BMC will reset all settings to factory default.

```
C:\GET>update.exe -f hermon~1.bin -r y_
```

```
C:\GET>update.exe -f hermon~1.bin
```

Figure 2: Examples of Firmware Updates with or without the "Preserved" Command

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 3, Figure 4 and Figure 5.

```
If the FW update fails,PLEASE TRY AGAIN
update part 0, the size is 0x6f0000 bytes
Transfer data .....164K bytes          3%
```

Figure 3: Transferring (Part 0)

```
If the FW update fails,PLEASE TRY AGAIN
update part 1, the size is 0x110000 bytes
Transfer data .....61K bytes          6%_
```

Figure 4: Transferring (Part 1)

```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000 bytes
Transfer data .....82K bytes          4%_
```

Figure 5: Transferring (Part 2)

2. Phase 2 is to flash 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).

```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000 bytes
Transfer data .....2304K bytes          100%

Programming Flash
Please wait...If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:2 %
```

Figure 6: Progress of Firmware Updating

```

If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000 bytes
Transfer data .....2304K bytes      100%

Programming Flash
Please wait...If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:100 %
Update Complete,Please wait for BMC reboot, about 1 min

```

Figure 7: Updates Completed

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 8.

```

*****
* ATEN Technology, Inc. *
*****
* FUNCTION   : IPMI FIRMWARE UPDATE UTILITY *
* VERSION   : 1.15 *
* BUILD DATE : Jan 8 2010 *
* USAGE     : *
*             <1>Update FIRMWARE : wUpdate.exe -f filename.bin [OPTION] *
*             <2>Dump FIRMWARE   : wUpdate.exe -d filename *
*****
* 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 *
*****
* EXAMPLE *
* we like to upgrade firmware through KCS channel *
* wUpdate.exe -f fw.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 alice *
* Password for alice is secret *
* Preserve Configuration *
* wUpdate.exe -f fw.bin -i lan -h 10.11.12.13 623 -u alice -p secret -r y *
*****

```

Figure 8: 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 <wUpdate.exe/IUpdate -f [filename.bin] -i kcs -r y> as shown in Figure 9.

```
D:\>wUpdate.exe -f HERMONEUB_all.bin -i kcs -r y
```

```
D:\>wUpdate.exe -f HERMONEUB_all.bin -i kcs
```

Figure 9: Example of KCS FW Updates with/without Preserving Configuration

To connect IPMI via LAN, type <wUpdate.exe/IUpdatewUpdate.exe -f [filename.bin] -i lan -h 192.168.46.65 623 -u alice -p secret -r y> as shown in Figure 10.

```
D:\>wUpdate.exe -f HERMONEUB_all.bin -i lan 192.168.46.65 -u alice -p secret
```

```
D:\>wUpdate.exe -f HERMONEUB_all.bin -i lan -h 192.168.46.65 623 -u alice -p secret -r y
```

Figure 10: Example of LAN_FW_Updates with/without Preserving Configuration and RMCP+ Port

For other settings, please refer to their counterparts in the DOS version for configuration instructions.