

Part No.XXXXXXXXXXXXXXX

Content

| 1 | Firmw | are update | 4 |
|---|--------|---|----|
| | 1.1 BK | DS + SPS | 6 |
| | 1.1.1 | BIOS + SPS update in UEFI environment | 6 |
| | 1.1.2 | BIOS + SPS update in Windows PE environment | 9 |
| | 1.1.3 | BIOS + SPS update using IPMI command | 11 |
| | 1.1.4 | BIOS + SPS update using IPMI Web UI | 12 |
| | 1.2 Bl | DS | 15 |
| | 1.2.1 | BIOS update in UEFI environment | 15 |
| | 1.2.2 | BIOS update in Windows PE environment | 17 |
| | 1.3 BN | ИС | 19 |
| | 1.3.1 | BMC update in DOS environment | 19 |
| | 1.3.2 | BMC update in WinPE environment | 22 |
| | 1.3.3 | BMC update using Web UI | 24 |
| | 1.3.4 | BMC update using IPMI tool | 27 |
| | 1.4 CF | PLD | 29 |
| | 1.4.1 | CPLD update using Web UI | 29 |
| ~ | 1.4.2 | CPLD update using IPMI tool | 32 |
| 2 | Smart | Fan Configuration | 33 |
| | 2.1 OF | EM Message Format | 34 |
| | 2.2 OF | EM Command Table | 34 |
| | 2.3 Ex | ample | 35 |
| | 2.3.1 | Locally set PWM of SYS_FAN3 to 0x20 by "ipmiutil" in Windows OS | 35 |
| - | 2.3.2 | Remotely set PWM of CPU1_FAN1 to 0x10 by "ipmiutil" in Windows OS | 36 |
| 3 | SEL T | roubleshooting | 37 |
| | 3.1 Me | emory Correctable and Uncorrectable ECC Error | 38 |
| _ | 3.2 PC | Cle Errors | 39 |
| 4 | Webl | II futures | 40 |
| | 4.1 Re | emote Power Control | 41 |
| | 4.2 Ca | apture and save BSOD information | 42 |
| | 4.3 Us | er Management | 43 |



If necessary, the system firmware can be updated at local machine or remote console. Please refer the following instructions.

1.1 BIOS + SPS

| Update Method | OS | Tool and Jumper settings |
|-------------------------------|------------------------|-------------------------------------|
| Local Update UEFI environment | | AfuEfix64.efi |
| | | Need to disable SPS by JME1 jumper. |
| | Windows PE environment | AFUWINx64.EXE |
| | | Need to disable SPS by JME1 jumper. |
| Remote update | IPMI command | Yafuflash.exe |
| | | No need to disable SPS. |
| | IPMI Web UI | No tool required |
| | | No need to disable SPS. |

- 1.1.1 BIOS + SPS update in UEFI environment
 - 1. Format a USB flash drive to FAT32.

| Format USB Drive (H:) | × |
|-------------------------|---|
| Capacity: | |
| 3.65 GB | ~ |
| File system | |
| FAT32 (Default) | ~ |
| Allocation unit size | |
| 4096 bytes | ~ |
| Restore device defaults | |
| Volume label | |

2. Download the update tool and BIOS file(xxx.bin), then save at the **root** directdory of the USB drive.

| Thi | s PC > USB Drive (G:) > | | |
|-----|-------------------------|-----------|--------|
| ^ | Name | Size | Date r |
| | EFI | | 12/11, |
| | AfuEfix64.efi | 521 KB | 7/19/2 |
| | BIOS.bin BIOS file | 32,768 KB | 1/2/20 |
| | FlashAll.nsh | 1 KB | 6/16/2 |

- 3. Plug the USB drive to the Server and close pin 2-3 of JME1.
- 4. Power on system. When you hear BIOS ready beep, perss **F11** to enter boot menu and select the USB drive to boot.

| | Please select boot device: |
|-------|--|
| Windo | ws Boot Manager (P1: TS128FSTDM1500AV) |
| UEFI: | Built-in EFI Shell |
| UEFI: | hp v115p PMAP, Partition 1 |
| Enter | Setup |
| | ↑ and ↓ to move selection |
| | ENTER to select boot device |
| | ESC to boot using defaults |

5. Type **fs*:** to enter the USB drive, for example **fs0:**.



6. Type FlashAll.nsh [BIOS file name] to update BIOS.



7. When the process ends, make sure all regions are done successfully without any error.

| Reading flash done | |
|--|---------|
| – ME Data Size checking . ok | |
| – FFS checksumsok | |
| – Check RomLayout ok. | |
| 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 | |
| – Update success for FDR | |
| – Update success for PTT – | |
| – Successful Update Recovery Loader to OPRx!! | |
| – Successful Update MFSB. – | |
| – Successful Update FTPR!!– | |
| – Successful Update MFS, IVB1 and IVB2!! | |
| – Successful Update FLOG and UTOK!! | |
| – ME Entire Image update success !! | |
| WARNING : System must power-off to have the changes take | effect! |
| | |
| Process completed. | |
| | |

- 8. Remove AC power and move **JME1** jumper back to pin 1-2.
- 9. Power on, then boot to BIOS to check if BIOS version and SPS version are correct. BIOS version:

| Aptio Setup Uti | lity – Copyright (C) 2020 American |
|---|---|
| Main Advanced Server Mgmt | Security Boot Save & Exit |
| BIOS Information BIOS Vendor Core Version Compliancy | American Megatrends 5.14 UEFI 2.7; PI 1.6 |
| Project Version | 0ACLA 0.45 x64 |
| Build Date and Time | 09/09/2020 14:30:17 |
| Access Level | Administrator |
| BIOS Name | HPM6210B |
| System Language | 0.08 |
| ▶ Intel RC Version | [English] |

SPS version:

| Aptio Setup Utility – Cop Main Advanced Server Mgmt Security | Aptio Setup Utility - Advanced | Copyright (C) 201 |
|---|---|--|
| Processor Configuration UPI Configuration Memory Configuration IIO Configuration PCI Express Configuration SSATA Configuration Miscellaneous Configuration Server ME Configuration | General ME Configuration Oper. Firmware Version Backup Firmware Version Recovery Firmware Version ME Firmware Status #1 ME Firmware Status #2 Current State Error Code | SPS version 0A:4.1.4.256 N/A 0A:4.1.4.256 0x000F0245 0x80118026 0yperational No Error |

- 1.1.2 BIOS + SPS update in Windows PE environment
 - 1. Copy update tool and BIOS file(xxx.bin) to WinPE disk.



2. Plug the WinPE disk to server and close pin 2-3 of JME1.

3. Power on system. When you hear BIOS ready beep, press **F11** to enter boot menu and select the WinPE disk.



4. Switch to BIOS folder and run the command.

FlashAll.bat [BIOS file name]

| C-1 A C-112-CA | x = 1 | 11 bot | BTOS his | | RIOS file name |
|----------------|-------|--------|-------------|-------|----------------|
| | 2 [| Dir(s) | 30,495,85 | 0,490 | 5 bytes free |
| | 4 F | ile(s) | 34,15 | 3,081 | l bytes |
| 12/03/2019 | 05:35 | PM | | 33 | FlashAll.bat |
| 01/02/2020 | 04:46 | PM | 33,554 | ,432 | BIOS.bin |
| 03/30/2017 | 12:05 | AM | 19 | ,432 | amifldrv64.sys |
| 07/19/2018 | 06:57 | PM | 579 | ,184 | AFUWINx64.EXE |
| 11/28/2019 | 11:53 | AM | <dir></dir> | | |
| 11/28/2019 | 11:53 | AM | <dir></dir> | | |

5. When the process ends, make sure all regions are done successfully without any error.

| Copyright (C)2018 American Megatrends Inc. All Rights Res | erved. |
|--|--------|
| Reading flash done • ME Data Size checking . ok • FFS checksums ok • Check RomLayout ok. Frasing Boot Block done /pdating Boot Block done /prifying Moot Block done /pdating Main Block done /pdating Main Block done /prifying Main Block done /prifying NVRAM Block done /pdating NVRAM Block done /pdating NVRAM Block done /pdate success for FDR • Update success for PTT • Successful Update Recovery Loader to OPRx!! • Successful Update MFSB • Successful Update FTPR!!- • Successful Update FIOR and UTOK!! • Successful Update FLOG and UTOK!! • ME Entire Image update success !! RNNING : System must power-off to have the changes take effect! Process completed. | |

- 6. Remove AC power and move **JME1** jumper back to pin 1-2.
- 7. Refer 1.1.1 step9 to check the BIOS and SPS version.

- 1.1.3 BIOS + SPS update using IPMI command
 - 1. Copy BIOS file(xxx.hpm) to Yafuflash tool folder

| Local Disk (C:) > Yafuflash_Win64 | | | | | |
|-----------------------------------|----------------|-----------------|-----------|--|--|
| ^ | Name | Date modified | Size | | |
| | amifldrv64.sys | 2019/11/19下午 0 | 19 KB | | |
| | bios_019.hpm | 2019/11/21 下午 0 | 32,769 KB | | |
| | 🚳 LIBIPMI.dll | 2019/11/19 下午 0 | 632 KB | | |
| | 📧 Yafuflash | 2019/11/19下午 0 | 730 KB | | |

- 2. Open Command Prompt (admin) and change directory to Yafuflash tool folder.
- 3. Input the command:

Yafuflash.exe -nw -ip [BMC IP address] -U [user name] -P [user password] -d 2 [BIOS file name]. The default username and password are admin/admin.



Note: BMC IP address can be configured at BIOS menu.

| Main Advanced Perver Mgmt | Security Boot Save & Exit | Aptio Setup Utility Server Mgmt | y – Copyright (C) 2019 Americar |
|---|---|---|---|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) | PASSED 32 1 12.01.191106 2.0 KCS, USB | BMC network configuration *********************************** | 3 |
| BMC Support Wait For BMC FRB-2 Timer timeout FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wid Timer Timeout OS Wid Timer Policy | [Enabled] [Disabled] [Enabled] [Do Nothing] [Disabled] [Io minutes] [Reset] | Lan channel 1 Donfiguration Address source Current Configuration Address source Station IP address Subnet mask | [Unspecified] StaticAddress 192.168.1.78 255.255.0 |
| BMC Configured Power Control Policy Power Control Policy System Event Log BMC self test log | Power Restore [Unspecified] | Station MAC address Router IP address Router MAC address *********************************** | 00-11-22-33-44-CC 0.0.0.0 00-00-00-00-00 |
| BMC self test log BMC network configuration View System Event Log | | Configure IPV5 support χοιοιοίοιοιοιοιοίοιοιοιοιοιοιοιοιοιοιοιο | |

4. When the process ends, turn off AC power for 10 seconds.



5. Refer 1.1.1 step9 to check the BIOS and SPS version.

1.1.4 BIOS + SPS update using IPMI Web UI

1. Open web browser. Enter BMC IP address and log in. The default username and password are admin/admin.

If you get a message that says "Your connection is not private", just skip it.



Note: BMC IP address can be configured at BIOS menu.

| Main Advanced Server Mgmt | lity – Copyright (C) 2019 American Security Boot Save & Exit | Aptio Setup Utility Server Mgmt | – Copyright (C) 2019 American |
|---|---|---|---|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) | PASSED 32 1 12.01.191106 2.0 KCS, USB | BMC network configuration жижжижносоносоноконского Configure IPv4 support жижносононононоконоконоконок | 3 |
| BMC Support Wait For BMC FR8-2 Timer timeout FR8-2 Timer timeout FR8-2 Timer Policy OS Watchdog Timer OS Wtd Timer Timeout OS Wtd Timer Policy | [Enabled] [Disabled] [Enabled] [Go Nothing] [Olsabled] [IO minutes] [Reset] | Lan channel 1 Configuration Address source Current Configuration Address source Station IP address Subnet mask | [Unspecified] StaticAddress 192.168.1.78 255.255.255.0 |
| BMC Configured Power Control Policy Power Control Policy ▶ System Event Log | Power Restore [Unspecified] | Station MAC address Router IP address Router MAC address | 00-11-22-33-44-CC 0.0.0.0 00-00-00-00-00-00 |
| ▶ Bmc self test log 2 ▶ BMC network configuration ▶ View System Event Log | le l | Configure IPv6 support жжжжжжжжжжжжжжжж | |



2. Click the Maintenance tab, then Firmware Upate.

3. Choose File to select BIOS file(xxx.hpm).

| Firmware Update |
|--|
| |
| Note: Following are the Firmware update methods and components supported in this page. BMC Firmware update. HPM Firmware update supports the following components. BOCT and APP BIOS ME OB |
| Select Firmware Image |
| Choose File bios_019.hpm |
| Start firmware update |
| WARNING:Please note that after entering the update mode, the widgets, other web pages widgets will be automatically closed. If the upgradation is cancelled in the middle of the w BOOT, and APP components of Firmware. |

4. Click the **Start firmware update** button, then **Proceed**. The message appears, "Are you sure you want to flash?". Click **OK**.

| Note: Followir • B • H | ng are the Firmware update method IMC Firmware update. IPM Firmware update supports the | ds and components supported in following components. | 192.168.1.78 says this Are you sure you want | t to flash? | OK Cancel |
|---------------------------------|---|--|---|-------------|-----------|
| Select Fire | mware Image | | | | |
| Choos | se File bios_019.hpm | | | | |
| 1 Start fir | mware update | | | | |
| Uploa | ded signImage Public Key Info | | | | |
| < Ved N | ov 6 01:23:50 2019 | | | | |
| New si | ignImage Public Key | | | Upload | |
| | | | | | |
| | | Preparing to flash | | | |
| V Up | date All | | | | |
| List o | of Components | | | | |
| # | Component Name | Existing Version | Uploaded Version | Upgrade | |
| 2 | BIOS | 0.0.0 | 1.0.35651584 | ~ | |
| Procee | d | | | | |
| | | | | | |

5. The message appears, "The device has been updated successfully.". Click **OK**.

| Note: Following are the Firmware update methods and components supported in this • BMC Firmware update. • HPM Firmware update supports the following components. • BOOT and APP • BIOS | 192.168.1.78 says The device has been updated successfully. | ок |
|--|--|----|
| ⊙ ME ⊙ CPLD | | |
| Select Firmware Image | | |
| Choose File bios_019.hpm | | |
| Start firmware update | | |

6. Server will reset after few seconds, refer 1.1.1 step9 to check the BIOS and SPS version.

1.2 BIOS

| Update Method | OS | ΤοοΙ |
|---------------|------------------------|---------------|
| Local Update | UEFI environment | AfuEfix64.efi |
| | Windows PE environment | AFUWINx64.EXE |

1.1.51.2.1 BIOS update in UEFI environment

1. Format a USB flash drive to FAT32.

| Format USB Drive (H:) | × |
|------------------------------------|---|
| Capacity: 3.65 GB | ~ |
| File system FAT32 (Default) | ~ |
| Allocation unit size 4096 bytes | ~ |
| Restore device defaults | |
| Volume label | |

2. Download the tool and BOIS file(xxx.bin) and save at the **root** directdory of the USB drive.

| PC > USB Drive (G:) | | | | | |
|---------------------|-----------|--------------------|-------------|--|--|
| <u>^</u> | | | 1 | | |
| Name | Size | Date modified | Туре | | |
| EFI | | 12/11/2019 4:17 PM | File folder | | |
| AfuEfix64.efi | 521 KB | 7/19/2018 6:33 PM | EFI File | | |
| 🧾 FlashMain.nsh | 1 KB | 3/10/2016 4:25 PM | NSH File | | |
| BIOS.bin BIOS file | 32,768 KB | 1/2/2020 4:46 PM | BIN File | | |

3. Power on system. When you hear BIOS ready beep, perss **F11** to enter boot menu and select the USB drive to boot.

| | Please select boot device: | |
|--|---|--|
| Windou UEFI: UEFI: Enter | us Boot Manager (P1: TS128FSTDM1500AV) Built–in EFI Shell hp v115p PMAP, Partition 1 Setup | |
| ↑ and ↓ to move selection ENTER to select boot device ESC to boot using defaults | | |

4. Type fs*: to enter the USB drive, for example fs0:



5. Type FlashMain.nsh [BIOS file name] to update BIOS.



6. When the process ends, make sure all regions are done successfully without any error.

| (null string> | |
|---|---|
| AMI Firmware Up Copyright (C)2018 Americar | udate Utility v5.11.01.1744 ⊨ Megatrends Inc. All Rights Reserved. |
| Reading flashdo – ME Data Size checking . ok | ne |
| – FFS checksums ok | |
| - Check RomLayout ok. | |
| Undeting Boot Block | ine ine |
| Verifying Boot Block do | ine |
| Erasing Main Block do | ine |
| Updating Main Block do | ine |
| Verifying Main Block do | ine |
| Erasing NVRAM Block do | ne |
| Updating NVRAM Block do | ine |
| Verifining NURAH Risely | ine |

7. Reboot to BIOS to check if BIOS version is correct.



<u>1.1.6</u>1.2.2 BIOS update in Windows PE environment

1. Copy update tool and BIOS file(xxx.bin) to WinPE disk.

| nis | PC → WINPE_X64 (H:) → AfuWi | in64 | | | |
|-----|-----------------------------|-----------|--------------------|---|--|
| ^ | Name | Size | Date modified | ٦ | |
| | G AFUWINx64.EXE | 566 KB | 7/19/2018 6:57 PM | 4 | |
| | amifldrv64.sys | 19 KB | 3/30/2017 12:05 AM | 5 | |
| | BIOS.bin BIOS file | 32,768 KB | 1/2/2020 4:46 PM | E | |
| | 💿 FlashMain.bat | 1 KB | 12/5/2019 5:45 PM | N | |
| | | | | | |

2. Power on Server. When you hear BIOS ready beep, press **F11** to enter boot menu and select the WinPE disk.

| Please select boot device: | | | |
|--|--|--|--|
| UEFI: Built-in EFI Shell UEFI: USB3.0 FLASH DRIVE PMAP, Partition 1 Enter Setup | | | |
| ↑ and ↓ to move selection ENTER to select boot device ESC to boot using defaults | | | |

3. Switch to BIOS folder and run the command. FlashMain.bat [BIOS file name]

| Directory | of C:\AfuWin6 | 4 | | |
|---------------------------|-------------------------|----------------|----------------|---|
| 1 | | | | |
| 11/28/2019 | 11:53 AM | <dir></dir> | | |
| 11/28/2019 | 11:53 AM | <dir></dir> | | |
| 07/19/2018 | 06:57 PM | 579,184 | AFUWINx64.EXE | |
| 03/30/2017 | 12:05 AM | 19,432 | amifldrv64.sys | |
| 12/05/2019 | 05:45 PM | | FlashMain.bat | |
| 01/02/2020 | 04:46 PM | 33,554,432 | BIOS.bin | |
| | 4 File(s) | 34,153,073 | 7 bytes | |
| | 2 Dir(s) | 30,495,850,490 | 5 bytes free | |
| o concentration as the or | | | | |
| C:\AfuWin64 | <pre>FlashMain.ba</pre> | t BIOS.bin_ B | IOS file name | 4 |

4. When the process ends, make sure all regions are done successfully without any error.

| AMI Firmware Update Uti | lity v5.11.01.1745 |
|--|-------------------------------|
| Copyright (C)2018 American Megatre | nds Inc. All Rights Reserved. |
| Reading flash done - ME Data Size checking . ok - FFS checksums ok - Check RomLayout ok. Erasing Boot Block done Updating Boot Block done Verifying Boot Block done Updating Main Block done Updating Main Block done Verifying Main Block done Updating NVRAM Block done Updating NVRAM Block done Verifying NVRAM Block done Process completed. | K |

5. Reboot to BIOS to check if BIOS version is correct.

| Aptio Setup Uti | lity – Copyright (C) 2020 American |
|---------------------------|------------------------------------|
| Main Advanced Server Mgmt | Security Boot Save & Exit |
| | |
| BIOS Information | |
| BIOS Vendor | American Megatrends |
| Core Version | 5.14 |
| Compliancy | UEFI 2.7; PI 1.6 |
| Project Version | 0ACLA 0.45 x64 |
| Build Date and Time | 09/09/2020 14:30:17 |
| Access Level | Administrator |
| BIOS Name | HPM6210B |
| BIOS Version | 0.0B |
| | |
| System Language | [English] |
| ▶ Intel RC Version | |

1.3 BMC

| Update Method | OS | ΤοοΙ |
|---------------|-------------------|------------------|
| Local Update | DOS environment | Yafuflash.exe. |
| | WinPE environment | Yafuflash.exe |
| Remote update | IPMI Web UI | No tool required |
| | IPMI command | Yafuflash.exe |

Please refer readme for tool detail information.

- <u>1.1.7</u><u>1.3.1</u> BMC update in DOS environment
 - 1. Download **Rufus** to create a DOS USB drive, <u>https://rufus.ie/</u>.

| 🔗 Rufus 3.8.1580 (Portable) | _ | | X |
|--|----------------|-------|--------|
| | | | |
| Drive Properties ——— | | | |
| Device | | | |
| NO_LABEL (H:) [3.9GB] | | | ~ |
| Boot selection | | | |
| Disk or ISO image (Please select) | ~ ⊘ | SELEC | Т |
| 2 Non bootable | rstern | | |
| FreeDOS | JUST C | (A.4) | 2 |
| Disk or ISO image (Please select) | UEFI-C: | SIVI) | · |
| Show advanced drive properties | | | |
| Format Options | | | |
| | | | |
| Volume label | | | |
| 3.9GB | | | |
| File system Clu | ister size | | |
| FAT32 ~ 40 | 96 bytes (Defa | ult) | \sim |
| Show advanced format options | | | |
| Ctature | | | |
| Status | | | _ |
| READY | | | |
| | | | |
| ® û ≋ ≣ 🎴 | START | CLOS | E |
| | | | |
| 1 device found | | | |
| | | | |

2. Save BMC file to **root** dictory of the DOS USB drive.

| PC > USB Drive (H:) | | | | |
|---------------------|-----|------|-----------|---|
| Name | | Size | | D |
| LOCALE | | | | 1 |
| 🖉 autorun.ice | b | | 34 KB | 1 |
| autorun.in | F | | 1 KB | 1 |
| 📄 bmc.hpm | BMC | file | 32,769 KB | 1 |
| 📧 Yafuflash.e | xe | | 450 KB | 1 |
| 📄 Yafuflash.ll | c1 | | 1 KB | 1 |
| 📄 Yafuflash.s | ym | | 131 KB | 1 |
| 💿 Flash.bat | | | 0 KB | 1 |
| | | | | |

3. Plug the USB drive to the Server and boot to BIOS setup. Switch to **Boot** tab and change **CSM Support** to [**Enable**], **Boot mode select** to [**LEGACY**].

| Aptio Setup Ut Main Advanced Server Mgmt | lility – Copyright (C) 2019 Amer : Security <mark>Boot</mark> Save & Exit | ican |
|---|--|------|
| Boot Configuration | | |
| Setup Prompt Timeout | 1 | |
| Bootup NumLock State | [0n] | |
| Quiet Boot | [Enabled] | |
| CSM Support | [Enable] | |
| Boot mode select | [LEGACY] | |

Switch to Save & Exit tab and then Save changes and Reset.

| Main Advanced Ser | rver Mgmt Secu | rity Boot | Save & Exit | .coain |
|----------------------|----------------|-----------|-------------|--------|
| Save Options | | | | |
| Save Changes and Res | set | | | |
| Discard Changes and | Reset | | | |
| Default Options | | | | |
| Restore Default Valu | les | | | |
| Save the User Defaul | lt Values | | | |
| Restore the User Def | ault Values | | | |

4. When you hear BIOS ready beep, press **F11**, and select the DOS USB drive to boot.

5. Input **flash.bat** [**BMC file name**] and press enter. Please wait. This process may take 40 minutes.

| DI10000 | 9 01 | Melon I | | |
|-----------|-------|-------------|------------|---------|
| LOCALE | | <dir></dir> | 11-28-19 | 3:08p |
| AUTOEXEC | BAT | 96 | 11-28-19 | 3:08p |
| AUTORUN | INF | 206 | 11-28-19 | 3:08p |
| AUTORUN | ICO | 34,494 | 11-28-19 | 3:08p |
| BMC | HPM | 33,554,991 | 11-25-19 | 3:03p |
| YAFU | EXE | 460,378 | 11-19-19 | 5:52p |
| YAFU | LK1 | 160 | 11-19-19 | 5:52p |
| YAFU | SYM | 133,488 | 11-19-19 | 5:52p |
| FLASH | BAT | 25 | 11-29-19 | 11:55a |
| | 8 fil | e(s) 34,1 | 83,838 byt | es |
| | 1 dir | (s) 3,70 | 2 Mega byt | es free |
| C:\>flasl | n.bat | bmc.hpm | | |

6. When the update process finishs, BMC will reset.

| PLEASE UP NULLINE THIS FLASH THIL FRIM THE REPLICED THIN CONSULE. |
|---|
| |
| Unloading Firmware Image : 100% done |
| Skinning [hoot] Module |
| Skinning [conf] Module |
| Flashing [bkunconf] Module |
| Flashing Firmware Image: 1992 done |
| Verifuing Firmware Image : 100% done |
| Flashing Front Module |
| Flashing Firmware Image: 1992 done |
| Verifuing Firmware Image : 1902 done |
| Flashing fosimarel Module |
| Flashing Firmware Image : 1007 |
| Verifuing Firmware Image : 1992 done |
| Flashing [www] Module |
| Flashing Firmware Image: 1992 done |
| Verifuing Firmware Image : 100% done |
| Flashing [Imedia] Module |
| Flashing Firmware Image : 100% done |
| Verifuing Firmware Image : 100% done |
| Flashing [ast2500e] Module |
| Flashing Firmware Image: 1992 done |
| Verifuing Firmware Inge : 100% done |
| Resetting the firmware |
| $C: \Sigma >$ |

7. After BMC reset, run chkver.bat to check BMC firmware version.

| C:\>chkver.bat | |
|-----------------------|---------------------------------------|
| C:\>Yafu.exe -kcs -m | |
| INFO: Yafu INI Config | guration File not found Default optic |
| ed | |
| YAFUFlash - Firmware | Upgrade Utility (Version 6.14.0.0.0) |
| (C)Copyright 2017, A | nerican Megatrends Inc. |
| Firmware 1 | Details |
| | |
| Image 4 | Jersion |
| ModuleName Descr | iption <u>Hersion</u> |
| 1.ast2500e | 12.1.191112 |
| C:N> | |

8. Reboot to BIOS and restore the CSM support and Boot mode select settings.

| Main Advanced Server Mg | mt Security Boot Save & Exit |
|-------------------------|------------------------------|
| Boot Configuration | |
| Setup Prompt Timeout | 1 |
| Bootup NumLock State | [0n] |
| Quiet Boot | [Enabled] |
| CSM Support | [Disable] |
| Boot mode select | [UEFI] |

Save changes and exit.

1.1.81.3.2 BMC update in WinPE environment

1. Copy update tool and BMC file to WinPE disk.

| This P | PC > WINPE_X64 (J:) > Yafuf | lash_Win64 |
|--------|-----------------------------|------------|
| ^ | Name | Size |
| | 🚳 amifldrv64.sys | 19 KB |
| | bmc.hpm BMC file | 32,769 KB |
| * | 💿 chkver.bat | 1 KB |
| * | 💿 Flash.bat | 1 KB |
| * | 🗟 LIBIPMI.dll | 632 KB |
| ٤T | 📧 Yafuflash.exe | 730 KB |

2. Plug the WinPE disk to the Server and power on. When you hear BIOS ready beep, press **F11** to enter boot menu and select the WinPE disk to boot.

| Please select boot device: | | | | |
|--|--|--|--|--|
| UEFI: Built-in EFI Shell UEFI: USB3.0 FLASH DRIVE PMAP, Partition 1 Enter Setup | | | | |
| ↑ and ↓ to move selection ENTER to select boot device ESC to boot using defaults | | | | |

3. Switch to the ipmi tool folder and run the command. **Flash.bat** [**BMC file**]

| 12/06/2019 | 11:51 AM | <dir></dir> | |
|-------------|---------------|----------------|----------------|
| 12/06/2019 | 11:51 AM | <dir></dir> | |
| 11/19/2019 | 05:52 PM | 19,432 | amifldrv64.sys |
| 12/06/2019 | 11:50 AM | 22 | chkver.bat |
| 12/06/2019 | 11:50 AM | 30 | Flash.bat |
| 11/19/2019 | 05:52 PM | 647,168 | LIBIPMI.dll |
| 11/19/2019 | 05:52 PM | 747,520 | Yafuflash.exe |
| 11/25/2019 | 03:03 PM | 33,554,991 | bmc.hpm |
| | 6 File(s) | 34,969,163 | 3 bytes |
| | 2 Dir(s) | 30,669,848,576 | bytes free |
| C:\Yafuflas | h_Win64>Flash | .bat bmc.hpm | BMC file name |

Please wait. This may take few minutes.

4. When the update process finishs, BMC will reset.

| ***** |
|--|
| WARNING! |
| FIRMWARE UPGRADE MUST NOT BE INTERRUPTED ONCE IT IS STARTED. PLEASE DO NOT USE THIS FLASH TOOL FROM THE REDIRECTION CONSOLE. |
| Vulcading Firmware Image : 100% done Skipping [boot] Module Skipping [conf] Module Flashing [bkupconf] Module Flashing Firmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Flashing [osimage] Module Flashing [osimage] Module Flashing [irmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Flashing [irmware Image : 100% done Flashing Firmware Image : 100% done Flashing Firmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Verlfying Firmware Image : 100% done Flashing Firmware Image : 100% done Verlfying Firmware Image : 100% done Flashing [strmware Image : 100% done Verlfying Firmware Image : 100% done Flashing [ast2500e] Module |
| Flasning Firmware image : 100% done |
| veritying Firmware image : 100% done |
| c:\Yafuflash Win64>_ |
| |

5. After BMC reset, run chkver.bat to check BMC firmware version.



1.1.91.3.3 BMC update using Web UI

1. Open web browser. Enter BMC IP address and log in. The default user name and password are admin/admin.

If you get a message that says "Your connection is not private", just skip it.



Note: BMC IP address can be configured at BIOS menu.

| A Setup Uti Main Advanced Server Mgmt | lity – Copyright (C) 2019 America Security Boot Save & Exit | n Aptio Setup Utility Server Mgmt | y — Copyright (C) 2019 America |
|--|---|---|---|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) | PASSED 32 1 12.01.191106 2.0 KCS, USB | BMC network configuration жижжижжениение Configure IPv4 support жижжижениениениениениение | 3 |
| BMC Support Nait For BMC FR8-2 Timer timeout FR8-2 Timer folicy DS Hatchdog Timer OS Htd Timer Timeout OS Htd Timer Folicy | [Enabled] [Enabled] [Enabled] [6 minutes] [00 Nothing] [01sabled] [10 minutes] [Reset] | Lan channel 1 Configuration Address source Current Configuration Address source Station IP address Subnet mask | [Unspecified] StaticAddress 192.168.1.78 255.255.255.0 |
| BMC Configured Power Control Policy Power Control Policy | Power Restore [Unspecified] | Station MAC address Router IP address Router MAC address | 00-11-22-33-44-CC 0.0.0.0 00-00-00-00-00 |
| System Event Log Bmc self test log BHC network configuration View System Event Log | | жжжжжжжжжжжжжжжжжжж Configure IPV6 support жжжжжжжжжжжжжжжжжж | |

2. Click the Maintenance tab, then Preserve Configuration.



Check all and Save.

| | G |
|---|---|
| Click here to go to Firmware Update or Restore Factory Defaults | |
| Check All | |
| SDP. | |
| V FRU | |
| ✓ SEL | |
| ирмі | |
| Vetwork | |
| ✓ NTP | |
| ✓ SNMP | |
| ✓ SSH | |
| V KVM | |
| Authentication | |
| Systog | |

3. Click the link to go to Firmware Upate.

| F | Preserve Configuration | |
|---|--|---|
| | Click here to go to Firmware Lindate or Restore Factory Defaults | (|
| | Check All | |

4. Choose File to select BMC file.

| Firmware Update |
|--|
| |
| Note: Following are the Firmware update methods and components supported in this page. • BMC Firmware update supports the following components. • BOT and APP • BIOS • ME • CPLD |
| Select Firmware Image |
| Start firmware update |

5. Click the Start firmware update button, then scroll down and click Proceed.

| | Preparing to flash | | | | | | |
|------|--------------------|------------------|------------------|---------|--|--|--|
| ~ | ✓ Update All | | | | | | |
| List | List of Components | | | | | | |
| # | Component Name | Existing Version | Uploaded Version | Upgrade | | | |
| 1 | BOOT | 12.1.0 | 12.1.0 | ~ | | | |
| 2 | APP | 12.1.191023 | 12.1.191127 | ~ | | | |
| Proc | eed | | | | | | |

The message appears, "Are you sure you want to flash?". Click OK.

| mponents supported in this | 192.168.1.78 says Are you sure you want to flash? | | |
|----------------------------|--|----|--------|
| g components. | | ОК | Cancel |
| g components. | | ОК | Cancel |

6. The message appears, "Firmware reset has been called. Close this current session, and open a new session after a copule of minutes.". Click **OK**.

| 7 8 | SNMP SSH | 192.168.1.78 says Firmware reset has been called. Close the current session, and open a new session after a couple of minutes. |
|--------|-----------------------|--|
| 9 | KVM AUTHENTICATION | Ск |
| 11 | SYSLOG | Overwrite 新增註解 |
| 12 | WEB | Overwrite |

7. Reboot the server and then login to check the BMC firmware version.



1.1.101.3.4 BMC update using IPMI tool

1. Save BMC file to Yafuflash folder.

| Local Disk (C:) > Yafuflash_Win64 | | | | | |
|-----------------------------------|-----------------------|----------------|-----------|---------|--|
| | Name | Date modified | Size | Туре | |
| | amifldrv64.sys | 2019/11/19下午 0 | 19 KB | System | |
| ж | LIBIPMI.dll | 2019/11/19下午 0 | 632 KB | Applica | |
| A | 📧 Yafuflash | 2019/11/19下午 0 | 730 KB | Applica | |
| * | bmc.hpm BMC file name | 2019/11/28下午 0 | 32,769 KB | HPM Fi | |
| * | | | | | |

- 2. Open Command Prompt (admin) and change directory to Yafuflash tool folder.
- 3. Input the command:

Yafuflash.exe -nw -ip [BMC IP address] -U [user name] -P [user password] -pc -spi [BMC file name]. The default username and password are admin/admin.



Note: BMC IP address can be configured at BIOS menu.

| A Setup Uti Main Advanced Server Mgmt | lity – Copyright (C) 2019 Americ Security Boot Save & Exit | an Aptio Setup Utility Server Mgmt | 9 – Copyright (C) 2019 Americar |
|---|---|--|--|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) | PASSED 32 1 12.01.191106 2.0 KCS, USB | BMC network configuration жекжекжениенскиенскиенские Configure IPv4 support жекжекжекже | 3 |
| BMC Support Mait For BMC FR8-2 Timer timeout FR8-2 Timer timeout FR8-2 Timer Policy OS Matchdog Timer OS Mtd Timer Timeout OS Mtd Timer Policy BMC Configured Power | [Enabled] [Oisabled] [Enabled] [Go Nothing] [Oisabled] [10 minutes] [Reset] | Lan channel 1 Configuration Address source Current Configuration Address source Station IP address Subnet mask Station MAC address | [Unspecified] StaticAddress 192.168.1.78 255.255.255.0 00-11-22-33-44-CC |
| Control Policy Power Control Policy > System Event Log > Bmc self test log > Bmc network configuration > View System Event Log | Power Restore [Unspecified] | Router IP address Router MAC address ********************* Configure IPv6 support ******* | 0.0.0.0 00-00-00-00-00 |

4. When the following screen shows, please wait few seconds.

The update process will start.



5. When the update process finishs, BMC will reset.

| G C:\Windows\System32\cmd.exe |
|---|
| ****** |
| WARNINGI |
| FIRMWARE UPGRADE MUST NOT BE INTERRUPTED ONCE IT IS STARTED. PLEASE DO NOT USE THIS FLASH TOOL FROM THE REDIRECTION CONSOLE. |
| Uploading Firmware Image : 100% done |
| Skipping [boot] Module |
| Skipping [conf] Module |
| Flashing [bkupconf] Module |
| Flashing Firmware Image : 100% done |
| Verifying FirmWare Image : 100% done |
| Flashing [foot] module Flashing Firmware Image : 100% done |
| Verifving Firmware Image : 100% done |
| Flashing [osimage] Module |
| Flashing Firmware Image : 100% done |
| Verifying Firmware Image : 100% done |
| Flashing [www] Module |
| Flashing Firmware Image : 100% done |
| Verifying Firmware Image : 100% done |
| Flashing [Imedia] module Flashing Firmwara Imaga : 100% dona |
| Varifying Firmware Image - 100%. done |
| Flashing [ast2500e] Module |
| Flashing Firmware Image : 100% done |
| Verifying Firmware Image : 100% done |
| Resetting the firmware |

- 6. Reboot the server. Check BMC firmware version by following formand.
- Yafuflash.exe -nw -ip [BMC IP address] -U [user name] -P [user password] -mi

| C:\Yafuflash_Win64>Yafuflash.exe -nw -ip <u>192.168.1.78</u> -U <u>admin</u> -P <u>admin</u> -mi INFO: Yafu INI Configuration File not found Default options will not be applied |
|---|
| Creating IPMI session via network with address 192.168.1.78Done |
| - YAFUFlash – Firmware Upgrade Utility (Version 6.14.0.0.0) |
| (C)Copyright 2017, American Megatrends Inc. |
| Firmware Details |
| Image Version ModuleName Description Version 1.ast2500e 12.1.191112 |

1.21.4 CPLD

| Update Method | OS | ΤοοΙ |
|---------------|--------------|------------------|
| Remote update | IPMI Web UI | No tool required |
| | IPMI command | Yafuflash.exe |

1.2.1 <u>1.4.1</u> CPLD update using Web UI

1. Open browser. Enter BMC IP address and log in. The default user name and password are admin/admin.

If you get a message that says "Your connection is not private", just skip it.



Note: BMC IP address can be configured at BIOS menu.

| Main Advanced Verver Mgmt | ility – Copyright (C) 2019 American Security Boot Save & Exit | Aptio Setup Utility Server Mgmt | – Copyright (C) 2019 American |
|---|--|---|---|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) | PASSED 32 1 12.01.191106 2.0 KCS, USB | BMC network configuration *************************** Configure IPv4 support ****** | 3 |
| BMC Support Wait For BMC FRB-2 Timer timeout FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Witd Timer Timeout OS Witd Timer Policy | [Enabled] (Disabled] [Enabled] [6 minutes] (Disabled] (Disabled] [10 minutes] [Reset] | Lan channel 1 Configuration Address source Current Configuration Address source Station IP address Subret medu | [Unspecified] StaticAddress 192.168.1.78 |
| BMC Configured Power Control Policy Power Control Policy | Power Restore [Unspecified] | Station MAC address Router IP address Router MAC address | 00-11-22-33-44-CC 0.0.0.0 00-00-00-00-00-00 |
| System Event Log Bmc self test log BMC network configuration View System Event Log | u. | жжжжжжжжжжжжжжжж Configure IPv6 support жжжжжжжжжжжжжжжжж | |

2. Click the Maintenance tab, then Firmware Upate.

| ← → C ▲ Not secure 192.1 | 68.1.78/#maintenance | |
|--|----------------------|------------------------|
| MEGARAC SP-X 📃 | | |
| Eirmware Information 12.01.191106 Nov 6 2019 14:24:04 CST Hoat Online | aintenance | |
| Quick Links 🔻 | Backup Configuration | BMC Recovery |
| 🚯 Sensor | | Δ |
| Power Source | Firmware Update | Preserve Configuration |
| FRU Information | | |
| Logs & Reports | System Administrator | |
| Settings | System Administrator | |
| 🖵 Remote Control | | |
| Image Redirection | | |
| එ Power Control | | |
| Fan Control | | |
| ✗ Maintenance | | |
| Sign out | | |

3. Choose File to select CPLD file.

| Firmware Update |
|---|
| |
| Note: Following are the Firmware update methods and components supported in this page. • BMC Firmware update. • HPM Firmware update supports the following components. • BOOT and APP • BIOS • ME • CPLD |
| Select Firmware Image Choose File cpld.hpm |

4. Click the Start firmware update button, then scroll down and click Proceed.

| | | Preparing to 1 | flash | |
|------|-----------------|------------------|------------------|---------|
| ~ | Update All | | | |
| Lis | t of Components | | | |
| # | Component Name | Existing Version | Uploaded Version | Upgrade |
| 1 | CPLD | 12.1.191112 | 1.0.35651584 | × |
| Proc | ceed | | | |

The message appears, "Are you sure you want to flash?". Click **OK**.

| Are you sure you want to flash? | | |
|---------------------------------|---------------------------------|-----------------------------------|
| | ок | Cancel |
| - | Are you sure you want to flash? | ; Are you sure you want to flash? |

5. The message appears, "The device has been updated successfully". Click OK.

| 19 | 2.168.1.78 | says | | | | | |
|-----|--------------|-----------|------------|----------|---|----|---|
| The | e device has | been upda | ated succe | ssfully. | | | |
| | | | | | | ОК | |
| | | | | | _ | | _ |

6. Shutdown the server and turn off AC power for 10 seconds.

1.2.21.4.2 CPLD update using IPMI tool

1. Save CPLD file to Yafuflash folder.

| Loc | cal Disk (C:) → Yafuflash_Win64 | | | |
|-----|---------------------------------|------|--------|----|
| | Name | Size | | Da |
| | 🗟 amifldrv64.sys | | 19 KB | 20 |
| π. | cpld.hpm CPLD file | | 494 KB | 20 |
| * | LIBIPMI.dll | | 632 KB | 20 |
| * | Yafuflash | | 730 KB | 20 |
| * | | | | |

- 2. Open Command Prompt (admin) and change directory to Yafuflash tool folder.
- Input the command: Yafuflash.exe -nw -ip [BMC IP address] -U [user name] -P [user password] -d 4 [CPLD file name]. The default username and password are admin/admin.



4. After the process finishing, shutdown the server and turn off AC power for 10 seconds.



2 Smart Fan Configuration



2.1 OEM Message Format

The OEM command bytes are organized according to the following format specification:

| Byte 1 | Byte 2 | Byte 3:N |
|---------------|--------|----------|
| Function code | Cmd | Data |

Where:

| Function code | 0x30 is the OEM function code, and default Privilege Level |
|---------------|--|
| | is User. If you use " ipmiutil " tool in Windows OS, replace "0x30" |
| | with "00 20 C0". |
| Cmd | Command code. This message byte specifies the operation that it to |
| | be executed. |
| Data | Zero or more bytes of data, as required by given command. |

2.2 OEM Command Table

| Description | Function code | Cmd | Data/Response data |
|--------------|---------------|------|------------------------------------|
| Set fan mode | 0x30 | 0x01 | [Mode] |
| | | | 0 = standard mode |
| | | | 1 = full mode |
| | | | 2 = optimal mode |
| | | | 3 = manual mode |
| Get fan mode | 0x30 | 0x30 | The response data is the fan mode. |
| | | | 0 = standard mode |
| | | | 1 = full mode |
| | | | 2 = optimal mode |
| | | | 3 = manual mode |
| Set fan PWM | 0x30 | 0x35 | [Fan] [PWM] |
| | | | Fan: |
| | | | $0 = CPU1_FAN1$ |
| | | | $1 = CPU2_FAN1$ |
| | | | 2 = SYS_FAN1 |
| | | | $3 = SYS_FAN2$ |
| | | | 4 = SYS_FAN3 |
| | | | 5 = HDD_FAN1 |
| | | | $6 = SYS_FAN4$ (HPM-621UA) |
| | | | PWM: |
| | | | The PWM duty cycle range should be |
| | | | 0x1E to 0x64(30%~100%). |

User's Manual

| Get fan PWM | 0x30 | 0x36 | The response data represent each fan |
|-------------|------|------|--------------------------------------|
| | | | PWM. |

The OEM commands can be run at local or remote console. Please refer next section.

2.3 Example

2.3.1 Locally set PWM of SYS_FAN3 to 0x20 by "ipmiutil" in Windows OS. Step 1. Run Command Prompt as Administrator.

Step 2. Get fan mode

| C:\ipmiutil-3.1.5-win32>ipmiutil cmd <u>00 20 c0</u> 30 | |
|---|---------------|
| ipmiutil cmd ver 3.15 | |
| This is a test tool to compose IPMI commands. | |
| Do not use without knowledge of the IPMI specification | S . |
| BMC version 0.6, IPMI version 2.0 | X |
| respData[len=1]: 00 Response data | 30 = Get mode |
| <pre>send_icmd ret = 0</pre> | bo accinoac |
| ipmiutil cmd, completed successfully | |
| | |

Step 3. Set fan mode to manual mode



Step 4. Set fan PWM

| C:\ipmiutil-3.1.5-win32≻ipmiutil cm | id <u>00 20 c0</u> 35 4 20 |
|-------------------------------------|------------------------------------|
| ipmiutil cmd ver 3.15 | |
| This is a test tool to compose IPMI | commands. |
| Do not use without knowledge of the | IPMI specification, PWM = 0x20 |
| BMC version 0.6, IPMI version 2. | 0 I I 🖌 |
| respData[len=1]: 00 | |
| send_icmd ret = 0 | OEM code 35 = Set PWM 4 = SYS FAN3 |
| ipmiutil cmd, completed successfull | у |

Step 5. Get fan PWM

| C:\1pm1ut11-3.1.5-w1n32>1pm1ut11 cmd_00_20_c0_36 |
|--|
| ipmiutil cmd ver 3.15 |
| This is a test tool to compose IPMI commands. |
| Do not use without knowledge of the IPMI specification. |
| BMC version 0.6, IPMI version 2.0 🎍 💊 |
| respData[len=8]: 64 64 28 28 20 10 10 10 0EM code 36 = Get fan PWM |
| send_icmd ret = 0 cpui FAN1 |
| ipmiutil cmd, completed successfully SYS_FAN3 had been set PWM to 0x20 |

- 2.3.2 Remotely set PWM of CPU1_FAN1 to 0x10 by "ipmiutil" in Windows OS.
 - Step 1. Run Command Prompt as Administrator.
 - Step 2. Get fan mode

ipmiutil.exe cmd -N [BMC IP] -U [user name] -P [user password] 00 20 c0 30



Step 3. Set fan mode to manual mode

ipmiutil.exe cmd -N [<mark>BMC IP</mark>] -U [<mark>user name</mark>] -P [<mark>user password</mark>] 00 20 c0 1 3

Step 4. Set fan PWM

ipmiutil.exe cmd -N [BMC IP] -U [user name] -P [user password] 00 20 c0 35 0 10

| C:\ipmiutil-3.1.5-win32>ipmiutil.exe cmd -N 192.168.1.78 -U admin | -P admin 00 20 c0 35 0 10 |
|---|---------------------------|
| ipmiûtil cmd ver 3.15 | |
| This is a test tool to compose IPMI commands. | |
| Do not use without knowledge of the IPMI specification. | 35 = Set PWM |
| Connecting to node 192.168.1.78 | |
| BMC version 0.6, IPMI version 2.0 | 0 = CPU1 FAN1 |
| send_icmd ret = 0 | - V |
| ipmiutil cmd, completed successfully | $PWM = 0 \times 10$ |
| | |

Step 5. Get fan PWM

ipmiutil.exe cmd -N [BMC IP] -U [user name] -P [user password] 00 20 c0

3 SEL Troubleshooting

3.1 Memory Correctable and Uncorrectable ECC Error

ECC errors are divided into Uncorrectable ECC Errors and Correctable ECC Errors.

Correctable ECC errors can be detected and corrected if the chipset and DIMM support this functionality. This event in itself does not pose any direct problems because the ECC errors are still being corrected. Even though this event doesn't immediately lead to problems, it can indicate on the DIMM modules is slowly failing. If this error occurs multiple times, consider replacing the DIMM as a preventative measure.

An uncorrectable ECC error is a fatal issue. While correctable errors do not affect the normal operation of the system, uncorrectable memory errors will immediately result in a system crash or shutdown of the system. If an uncorrectable ECC error has occurred, consider replacing the DIMM as a preventative measure.

DIMM location from SEL:

1. Issus the command

ipmitool –I lanplus –H [BMC IP address] -U [user name] -P [user password] sel elist 2. The SEL log will indicate which DIMM happens error

Logs & Reports >>IPMI Event Log

ID: 11 DIMM5 sensor of type memory logged a correctable ecc logging limit reached Oin 8 hours

3.2 PCle Errors

PCle error events are either correctable (informational event) or fatal. In both cases information is logged to help identify the source of the PCIe error and the location.

Correctable errors include those error conditions where hardware can recover without any loss of information. Correctable errors are acceptable and normal at a low rate of occurrence. If the error continues, identify the card from SEL and check the following steps.

- Verify the card is inserted properly. a.
- b. Install the card in another slot and check if the error follows the card or stays with the slot.
- Update all firmware and driver. C.

Fatal errors are uncorrectable error conditions which render the particular Link and related hardware unreliable. For Fatal errors, a reset of the components on the Link may be required to return to reliable operation. When a fatal error is reported, identify the card from SEL and check the following steps.

- Verify the card is inserted properly. a.
- Install the card in another slot and check if the error follows the card or stays with b. the slot.
- Update all firmware and driver. C.

PCIe location from SEL:

1. Issus the command

ipmitool –I lanplus –H [BMC IP address] -U [user name] -P [user password] sel elist

2. The SEL log will indicate which PCIE happens error

4 Web UI futures

4.1 Remote Power Control

1 Click the **Power Control** tab, and then select the option and press **Perform Action** button.

| MEGARAC SP-X | ≡ | |
|---|------------------------------|------------------|
| Eirmware Information 0.02.20200508 BIOS Version 0.0B CPID Version | Power Control on Host Server | |
| 0.1 | Power Actions | 0 |
| Quick Links | Host is currently on | |
| 🖶 Dashboard | Power Off | |
| 🍄 Sensor | Power On Power Cycle | |
| Power Source | ✓ Hard Reset | |
| FRU Information | ACPI Shutdown | |
| 네 Logs & Reports > | | C Perform Action |
| Settings | | |
| Remote Control | | |
| Image Redirection | | |
| O Power Control | | |
| Fan Control | | |
| 🗲 Maintenance | | |
| 🕞 Sign out | | |
| | | |
| | | |

• Power Off

Immediately power off the server

• Power On

Power on the server

• Power Cycle

Reboot the system without powering off (warm boot)

Hard Reset

Select this option to reboot the system without powering off (warm boot)

ACPI Shutdown

Initiate operating system shutdown prior to the shutdown

4.2 Capture and save BSOD information

1 Click the **Settings** tab, and then click **Capture BSOD** option.

2 This page displays a snapshot of the blue screen captured if the host system crashed since the last reboot.

4.3 User Management

1 Click the **Settings** tab, and then click the **User Management** option.

2 Select the user to edit.

You can change user password or modify user privilege at the Configuration page.

| S MegaRAC SP-X | × + | |
|---|-------------------------------------|---|
| ← → C ▲ Not secure | 192.168.1.78/#settings/users/edit/2 | |
| MEGARAC SP-X | | |
| Eirmware Information 0.02.20200508 BIOS Version 0.08 | User Management Configuration | |
| <u>CPLD Version</u> 0.1 ● Host Online | | 0 |
| Quick Links | Username | |
| Dashboard | admin Change Password | |
| 🚯 Sensor | Password Size | |
| Power Source | 16 bytes | ~ |
| FRU Information | Password | |
| Logs & Reports | Confirm Password | |
| Settings | | |