32 DIMM bullion server - How to Update the Firmware to the TS041.02

This package is only for bullion servers "Standard Memory" (32 DIMMs).

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 BIOS & EMM firmware included in this package, can be used to update a 32 DIMMs bullion server operating with Technical Status 34.01(or a more recent TS).

        <<<<<<<<<<<<<   Firmware versions of TS034.01   >>>>>>>>>>>>>

   Bios   : 02.13.3 build 019 or 119
   EMM   : 11.10.10 Build 0002
   ADM   : Vxx-10

        <<<<<<<<<<<<<   Firmware versions of TS034.01   >>>>>>>>>>>>>

 In other cases, please contact your BULL representative

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Versions of the current delivery (Technical Status 041.02)
BIOS version : 02.14.21 build 072
EMM version : 11.20.15 Build 0021
ADM versions : Vxx-11

1) Before Updating

Note the value of the customized Bios Settings

The BIOS Settings are accessible at system boot, on the master module.

Accessing to the BIOS Settings:

1. Power ON the server to be able to change the Bios Settings.
   Start the server from the menu "*Power Management*" of the Server Hardware Console (SHC).

2. From the "Remote Console", enter in the BIOS interface by pressing [Space bar] when the '*Hit [Space] for Boot Menu'* message is displayed.

3. Select '*Device Manager*' and press [Enter].

4. Select the right path through the menus
   Example to enable the Kawela:
   Advanced >> Boxboro Configuration >> General Configuration >> Kawela (Module 0 IOH1) >> Enable and   press [Enter].
   5**.   Save changes by F10 key**, on the modified page (the indication 'NV' in yellow at the bottom of the page is cleared)

6. Return to the main menu by pressing [Esc] and exit the BIOS interface.

Most important BIOS Settings :

Refer to the document *ConfigurationRules.pdf* to have more details and to optimize the Bios Settings according to the type of server.

Console Serial Redirection
Device Manager >> Advanced >> Miscellaneous Configuration >> Console Serial Redirection

Value = always must be OFF

Max NUMA Nodes per module
Device Manager >> Advanced >> Memory RAS Configuration >> go on the line Numa Nodes per modules >> Select the wanted value >> hit "Enter" to change the value

Default value = 2
- bullion mono-module → Max NUMA Nodes = 4
- bullion bi-modules → Max NUMA Nodes = 4
- bullion quadri-module → Max NUMA Nodes = 2

Kawela Enabling
Device Manager >> Advanced >> Boxboro Configuration >> General Configuration
go on the line Kawela (Module i IOHj) >> 2 possible values PXE Enable/iSCSI Enable (hit "Enter" to toggle the value to "enable")

Default = All the Ethernet Kawela Controllers are disabled except the first one (kawela0 of IOH0 of Module0) which is '*Enable*'
NOTE: on a mono-module server, the kawela 1 can always be enabled.

Note the Boot List order

NOTE : a BIOS update can change the boot list media and order. So, it is necessary to note the values before to update the BIOS, in case of loss of the correct boot order.

1. From the "Remote Console", enter in the BIOS interface by pressing [Space bar] when the '*Hit [Space] for Boot Menu*' message is displayed.
Select '*Boot Manager*'
2. Note the media used to boot, and their order

2) *STEP 1: Updating the Firmwares EMM, ADMs, PDBPIC*

- Unzip the package BIOS / EMM / PDBPIC to a local directory **(A)**
or to the root of a USB memory stick **(B)**.

NOTE 1: **each module uses its own Firmwares: PDBPIC, ADM and EMM**.
　　　　These firmware updates have to be done on each module.
　　　　Example: On a Quad Modules bullion server configured in two partitions of two
　　　　drawers each, this will require updating the firmware on each of the four drawers.
NOTE 2: an EMM update doesn't change the settings of the BMC controller.
NOTE 3: the server must be power OFF.

Open a DOS command window and go on the working directory where the files were unzipped.
Run the script "*flashFW.bat*" with the following arguments:
<BMC IP@> <user name> <password> <module number>

Usage:
```
flashFW.bat BMC_IP@  user  password  module_number
```

Example :
```
flashFW.bat  10.1.1.2  super  pass  0
```

At the end of the firmware update procedure, the following text is printed:
```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!    Continue the update procedure          !!
!!!    by executing STEP 2 "BIOS update".     !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

NOTE: Depending on the types of firmware updated, the script may request to:
　　　1) wait for the BMC reboot
　　　　or
　　　2) do a main AC power off of the module.

Continue the procedure by updating the BIOS

3) STEP 2: updating the BIOS
NOTE 1: **there is only one active BIOS per partition**
　　　　Updating the BIOS has to be done on the master module of each partition.
Example: On a Quad Modules bullion server configured in two partitions of two drawers each,
this will require updating the Bios on each of the two master modules.

(A) if the BIOS / EMM / FPGA package was unzipped to a local directory:
- Open the Remote Console:
From the Server Hardware Console (SHC).
→ tab "*System Control*" → menu "*Remote Console / Launch*"
- From the *Remote Console*, mount the directory where the package was unzipped, as a virtual
media

- Click on the "*Virtual Media*" icon, select the "*Local Folder*" tab and use the "*Browse*" button to

choose your local directory, then connect it as a "*Virtual Drive*" by clicking on the "*Connect*" button.

(B) if the BIOS / EMM package was unzipped on a USB stick:
- Insert this key into a USB port on the bullion server.

next step :
- Power ON the bullion server
- From the "*Remote Console*", enter into the BIOS menu by pressing the space bar when the message "*Hit [Space]*
   for Boot Menu" is displayed, then from the BIOS menu go to the "*Boot Manager*" item:
  The boot list is displayed in the "*Boot Manager*" screen. Move the cursor on the line "*EFI Internal Shell*", and then
    press "*Enter*".
- The procedure for updating the BIOS will automatically begin.
- At the end of this BIOS update, the server is automatically restarted.

Remove or disconnect the media containing the BIOS, to avoid running another BIOS update.

4) After Updating

Restoring the BIOS setting:

Depending on the versions, a BIOS update can change the values of the BIOS Settings. According to the type of system and the client configuration, some of these settings have to be restored after this update.

- Access to the BIOS Settings
- restore the values previously noted, before the update.

Restoring the Boot List

In case of loss of the correct Boot Order, restore the required boot order.
Example for VerbatimSTORE N GO (default):
   1. Enter the BIOS interface by pressing [Space] when the Hit [Space] for Boot Menu message is displayed.
   2.   Select '*Boot Maintenance Manager'* >> '*Boot Options'* and press [Enter].
   3. Select '*Change Boot Order'* and press [Enter], move the cursor on the line VerbatimSTORE N GO and push the line to the first place, using 'up' and 'down' key, then hit [Enter].
   4.   Save changes by selecting 'Commit Changes' and Exit and press [Enter].
   5.   Return to the main menu by pressing [Esc] and exit the BIOS interface.
   6.   Reboot the system

In case of Loss of the correct Boot Media (the required media doesn't appear in the list), restore

the right Legacy Device for boot.

    1. Enter the BIOS interface by pressing [Space] when the Hit [Space] for Boot Menu message is displayed.

    2. Select '*Boot Maintenance Manager'* >> '*Boot Options'* and press [Enter].

    3. Set the boot order for each kind of Legacy Device:
- floppy drives
- hard-disk drives (includes the internal USB key)
- CD-ROM drives
- NET drives
- BEV drives (network/PXE)

    4. Example for HardDisk Drive :

        Select '*Set Legacy HardDisk Drive O*rder'

        In the list of Legacy Device, for the Device #0 select the required resource (to be displayed in the Boot list), then hit [Enter].

    5. Apply the changes using 'Commit Changes and Exit'

    6. Return to the main menu by pressing [Esc] and exit the BIOS interface.

    7. **Initiate a Power OFF / Power ON cycle** .