

## FarSync Flex Firmware Update Procedure (Linux version)

The *FarSync Flex* ships with at least a *Factory Default* version of firmware and may also ship with a later version; by default, the later version will always run. The *ffflash* tool allows a user to check, erase and reprogram the FLASH memory in the *Flex*.

The file to be downloaded to the *Flex* is usually named *ff\_image\_XXXX.hex*, where *XXXX* is the version number. The executable that downloads the code to the *Flex* is called *ffflash(.exe)*. In order to update the *Flex* you must have previously installed the *Flex* driver, then follow this procedure:

1. Copy the *ff\_image\_XXXX.hex* and *ffflash.exe* (*Windows*) or *ffflash* (*Linux*) to a convenient folder on the host PC.
2. Attach the *Flex* and identify the SDCI number (*Windows*) or sync number (*Linux*) associated with it. For *Windows*, this can be found from the *fsinfo* or *fsdemo* test applications (if you installed them), or direct from Device Manager under *FarSync WAN Adapters*. For *Linux*, this can be found by entering the command *more /proc/fsflex* as shown below:

```
# more /proc/fsflex
FarSync Flex OEM Driver version 2.0.8 - Patch Level 00 - Build -b191
1 Cards found
      sync11-sync11: FarSync Flex-1 (U1050294),          1 ports,
State: Running

Total number of ports = 1
#
```

3. For *Windows*, enter *ffflash -nSDCIx -iff\_image\_XXXX.hex* at the command prompt. For *Linux*, enter *./ffflash -nsyncx -iff\_image\_XXXX.hex* at the command line. Where "x" is the SDCI/sync number identified above and "XXXX" is the version number of the supplied file.

```
]# ./ffflash -nsync11 -iff_image_0203.hex

FarSync Flex FFFlash Version 2.0.2
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C.....Check
E.....Erase
P.....Program

Select C, E or P. Q to Quit
```

4. Enter "C" to check the current FLASH content. You should see something like this:

```
Select C, E or P. Q to Quit
Block  Address Length  Version Status  Attribute
0       0x00000 0       . . .  used    r-x-
1       0x04000 0       . . .  used    r---
2       0x06000 0       . . .  free     r---
3       0x08000 0       . . .  used    r-x-
4       0x10000 0       . . .  used    r-x-
5       0x20000 62544  0.1.0.3 used    r-x-
6       0x30000 0       . . .  free     rwxd
7       0x40000 0       . . .  free     rwxd
8       0x50000 0       . . .  free     rwxd
9       0x60000 0       . . .  free     rwxd
10      0x70000 0       . . .  free     rwxd
```

5. FLASH Block 5 will always contain the Factory Default code, Blocks 6 – 7 may be free or could already contain other versions. Blocks 0 – 5 are write-protected and cannot be erased. In order to download a new version there must be at least one free block available. If necessary, one block can be erased to make space at this stage. To erase a block, enter "E" and select the block to be erased.

6. Now, program the new code by entering "P" and selecting the destination block number. You should see something like:

```
Enter Block to Program (0...10): 6
Programming FLASH (block 6 @ 0x00030000)
File to open is ff_image_0203.hex
File                ff_image_0203.hex
Start Address       0x0C0000C4
Checksum            0x0073D61F
FLASH minAddress    0x00000000
FLASH maxAddress    0x0001415F
FLASH used          82272 bytes
```

7. If you enter "C" again you should see the new code in the selected destination Block:

```
Block  Address Length  Version Status  Attribute
0       0x00000 0       . . .  used    r-x-
1       0x04000 0       . . .  used    r---
2       0x06000 0       . . .  free     r---
3       0x08000 0       . . .  used    r-x-
4       0x10000 0       . . .  used    r-x-
5       0x20000 62544  0.1.0.3 used    r-x-
6       0x30000 82016  0.2.0.3 used    rwxd
8       0x50000 0       . . .  free     rwxd
9       0x60000 0       . . .  free     rwxd
10      0x70000 0       . . .  free     rwxd
```

8. Enter "Q" to quit, then unplug and replug the *Flex* to activate the new code.

9. The updated *Flex* can now be run under *Windows* or *Linux* as desired.

**Note:** Earlier releases of *ffflash* used maximum 64KB image sizes. *Ffflash.exe* version 2.0.2, and newer, supports 128KB image sizes. Consequently the block numbering scheme has changed compared with earlier versions.

FarSync Flex firmware versions 0.2.0.0, or newer, are larger than 64KB so require version 2.0.2 *ffflash* or newer.