S3270 Series Switches Software Upgrade Guide

Models: S3270-10TM; S3270-24TM; S3270-48TM; S3270-10TM-P; S3270-24TM-P

UPGRADE INSTRUCTIONS

Contents

1. Upgrade Steps

1.1 Upgrade Under the Main Program

1)Use the U disk
After downloading the main program to the U disk, insert the U disk into the device USB interface.

Power up the device, press "ctrl+ c" to enter the menu interface, if you enter the command line interface, enter quit to return to the menu. The display is as follows:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
TOP menu items.
 ************************************************
0. Usb utilities.
1. YModem utilities.
2. Run main.
3. SetMac utilities.
 4. Scattered utilities.
************************************************
Press a key to run the command:
```

In the menu options , select 0 to enter the following submenu:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
    Usb utilities.
************************************************
    0. Show usb info.
    1. Upgrade bootloader.
    2. Upgrade kernel and rootfs by install package.
************************************************
Press a key to run the command:
Select 2, and it will appear as follows:
```

Press a key to run the command: 2
Plz enter the Filename:[]: Enter the name of the program you want to upgrade, such asS2915-L_RGOS11.4(1)B82_ install.bin.
Then press enter to start the upgrade, and the message is as follows:

```
Saving Environment to SPI Flash... Erasing SPI flash...Writing to SPI flash...done
OK
starting USB...
Bus usb@18048000: Bring usb2h_out of reset.....
USB EHCI 1.00
scanning bus usb@18048000 for devices... 2 USB Device(s) found
      scanning usb for storage devices... 1 Storage Device(s) found
44482623 bytes read in 2072 ms (20.5 MiB/s)
stopping USB..
Uncompressing 0x2a6b73d@0x64000902 to 0x2e4a038@0x66a6c040
Uncompressed 0x2e4a038 bytes
```

```
Move the uncompressed data(0x2e4a038 bytes) from 0x66a6c040 to 0x64000000.
Get boot addr 0x66d82654, len 0xc7967; kernel addr 0x64125040, len 0x51b500; rootfs addr 0x646405bc, len 0x2742014
 Package information:
    kernel version:4.4.39.3e0af9ccca8e6c
    kernel target :s2905l
    rootfs version:1.0.0.3c182780
    rootfs target :s2905l
    boot version:2019.10.-00883-g4cce48c
    boot target :s2905l Determined to upgrade? [Y/N]: y – Enter y to confirm the upgrade
Upgrading, keep power on and wait please ...
Upgrading boot ...
the version of boot is the same, skip upgrade.
SF: Detected mx66l51235l with page size 256 Bytes, erase size 64 KiB, total 64 MiB
Saving Environment to SPI Flash... Erasing SPI flash... Writing to SPI flash...done
OK
Upgrading kernel ...
SF: 6291456 bytes @ 0x400000 Erased: OK
device 0 offset 0x400000, size 0x51b500
SF: 5354752 bytes @ 0x400000 Written: OK
Upgrading kernel done.
Upgrading rootfs ...
SF: 48234496 bytes @ 0xa00000 Erased: OK
device 0 offset 0xa00000, size 0x2742014
SF: 41164820 bytes @ 0xa00000 Written: OK
Upgrading rootfs done.
SF: 4194304 bytes @ 0x3800000 Erased: OK
UBI0: attaching mtd8
UBI0: scanning is finished
UBI0: empty MTD device detected
UBI0: attached mtd8 (name "overlay", size 4 MiB)
UBI0: PEB size: 65536 bytes (64 KiB), LEB size: 65408 bytes
UBI0: min./max. I/O unit sizes: 1/256, sub-page size 1
UBI0: VID header offset: 64 (aligned 64), data offset: 128 UBI0: good PEBs: 64, bad PEBs: 0, corrupted PEBs: 0
UBI0: user volume: 0, internal volumes: 1, max. volumes count: 128
UBI0: max/mean erase counter: 0/0, WL threshold: 4096, image sequence number: 0
```

UBI0: available PEBs: 60, total reserved PEBs: 4, PEBs reserved for bad PEB handling: 0

No size specified -> Using max size (3924480)

Creating dynamic volume overlay of size 3924480

UBI0: detaching mtd8

UBI0: mtd8 is detached

UBI0: attaching mtd9

UBI0: scanning is finished

UBI0: attached mtd9 (name "data", size 4 MiB)

UBI0: PEB size: 65536 bytes (64 KiB), LEB size: 65408 byte s

UBI0: min./max. I/O unit sizes: 1/256, sub-page size 1

UBI0: VID header offset: 64 (aligned 64), data offset: 128

UBI0: good PEBs: 64, bad PEBs: 0, corrupted PEBs: 0

UBI0: user volume: 1, internal volumes: 1, max. volumescount: 128

UBI0: max/mean erase counter: 198/111, WL threshold: 4096, image sequence number: 0

UBI0: available PEBs: 16, total reserved PEBs: 48, PEBs reserved for bad PEB handling: 0Unmounting UBIFS volume data!

UBI0 error: ubi_detach_mtd_dev:

UBI0 reference count 1, destroy anywayUBI0: detaching mtd9

UBI0: mtd9 is detached

Saving Environment to SPI Flash... Erasing SPI flash... Writing to SPI flash...done

OK

SUCCESS: UPGRADING OK.

====== BootLoader Menu("Ctrl+Z" to upper level) ======
Usb utilities.
****
0. Show usb info.
1. Upgrade bootloader.
2. Upgrade kernel and rootfs by install package.
****
Press a key to run the command: The final prompt "SUCCESS: UPGRADING OK." indicates a successful upgrade. The new version will take effect after restarting the switch.

2)Use PC

After downloading the main program to the PC, connect the PC's network card to the first port of the switch using an Ethernet cable.

Run the TFTPServer. EXE file on the PC and set its directory to the one containing the production test program files to be upgraded.

Connect the PC's serial port to the switch's serial port and configure the PC's HyperTerminal baud rate to 9600 (or 115200).

Power on the device, press "ctrl+ c" to enter the menu interface. If the command-line interface is accessed, enter "quit" to return to the menu. The display will be as follows:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======

  TOP menu items.
**************************************************
  0. Tftp utilities.
  1. XModem utilities.
  2. Run main.
  3. SetMac utilities.
  4. Scattered utilities.
  5. Set Module Serial
**************************************************
```

Press a key to run the command

Choose option 4 in the menu to enter the following submenu:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   Scattered utilities.
**************************************************
   0. Show the bootloader version.
   1. Reload system.
   2. Set baudrate.
   3. Advanced settings.
**************************************************
```

Press a key to run the command:

Choose option 3 in the menu to enter the following submenu:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   Advanced settings.
 **************************************************
   0. Set Fast boot.
   1. Set Support Shell.
   2. Open/Close debug switch.
   3. Format flash filesystem.
   4. Set default environment.
   5. Set FSOS mode.
**************************************************
```

Press a key to run the command:

Choose option 3 in the menu to perform a system format:
Press a key to run the command: 3

```
Warning:It is dangerous to format flash,Are you sure to continue? [yes/No]: y

Erasing at 0x2de0000 -- 100% complete.
OK

Erasing at 0xfe0000 -- 100% complete.
OK

Erasing at 0xf5e0000 -- 100% complete.
OK

Erasing at 0xffe0000 -- 100% complete.
OK

Creating dynamic volume data of size 8634368

The flash has been formatted successfully!
```

After the formatting is complete, press Ctrl+z to return to the initial menu. Then, choose option 0 in the menu to enter the following submenu:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   Tftp utilities.
 **************************************************
   0. Upgrade bootloader.
   1. Upgrade kernel and rootfs by install package.
   2. Down to memory and jump to run.
**************************************************
```

Press a key to run the command:

Choose option 1; it will display as follows:

Please enter the Local IP: [192.168.193.50]: Enter any IP address within the same network segment and press Enter. Then, the following will appear:

Please enter the Remote IP: [192.168.193.28]: Enter the IP address of the PC you are using and press Enter. Then, the following will appear:

Please enter the Filename: [S5860_FSOS_12.4(1)B0101P1S1_install.bin]: Enter the name of the program you want to download and press Enter. The upgrade will start, and the information will be displayed as follows.

```
Erasing Nand...

Erasing at 0x4e0000 -- 100% complete.

Writing to Nand... #done

Auto-update from TFTP: trying update file ' S5860_FSOS_12.5(4)B01S1, Release(09182801)_install.bin '

Using eth-0 device

TFTP from server 172.16.1.111; our IP address is 172.16.1.1

Filename ' S5860_FSOS_12.5(4)B01S1, Release(09182801)_install.bin '.

Load address: 0x82000000

Loading:

#################################################################

done

Bytes transferred = 74601880 (4725598 hex)

Uncompressing 0x47248f2@0x82000ca6 to 0x633fda4@0x86725598

Uncompressed 0x633fda4 bytes

Move the uncompressed data(0x633fda4 bytes) from 0x86725598 to 0x82000000.

Get boot addr 0x87de2f8c,len 0xdc200; kernel addr 0x820e2e88,len 0x440000; rootfs addr 0x82522f04, len 0x58c0000

Package information:
   kernel version:3.10.18.685d6b07d9c3ed
   rootfs version:1.0.0.3e33691f
   boot version:1.2.28.0c4a1bf

Determined to upgrade? [Y/N]: y                  // Manually enter 'Y'.

Upgrading, keep power on and wait please ...

Upgrading boot ...

Erasing Nand...

Erasing at 0x4e0000 -- 100% complete.

Writing to Nand...

#doneErasing at 0x2de0000 -- 100% complete.
OK

Erasing at 0xf5e0000 -- 100% complete.
OK
#################################################################################
```

```
Creating dynamic volume data of size 8634368— Based on the actual data
UBI: mtd1 is detached from ubi0
Creating 1 MTD partitions on "nand0":
0x000001000000-0x000002e00000 : "mtd=6"
UBI: attaching mtd1 to ubi0
UBI: physical eraseblock size:131072 bytes (128 KiB) —Based on the actual data
UBI: logical eraseblock size:126976 bytes—Based on the actual data
UBI: smallest flash I/O unit:    2048
UBI: VID header offset:          2048 (aligned 2048)
UBI: data offset:                4096
UBI: attached mtd1 to ubi0
UBI: MTD device name:            "mtd=6"
UBI: MTD device size:            30 MiB
UBI: number of good PEBs:        240
UBI: number of bad PEBs:         0
UBI: max. allowed volumes:       128
UBI: wear-leveling threshold:    4096
UBI: number of internal volumes: 1
UBI: number of user volumes:     1
UBI: available PEBs:             19
UBI: total number of reserved PEBs: 221
UBI: number of PEBs reserved for bad PEB handling: 2UBI: max/mean erase counter: 1/0
UBIFS: mounted
UBI device 0, volume 0, name "kernel"
UBIFS: mounted read-only
UBIFS: file system size:   26030080 bytes (25420 KiB, 24 MiB, 205 LEBs) —Based on the actual data
UBIFS: journal size:       3682304 bytes (3596 KiB, 3 MiB, 29 LEBs) —Based on the actual data
UBIFS: media format:       w4/r0 (latest is w4/r0)
UBIFS: default compressor: LZO
UBIFS: reserved for root:  0 bytes (0 KiB)
finding an appropriate kernel...vmlinux-3.10.18.685d6b07d9c3ed
Loading file 'vmlinux-3.10.18.685d6b07d9c3ed' to addr 0x82000000 with size 2016097 (0x001ec361)...Done
current rootfs:1
current kernal name:vmlinux-3.10.18.685d6b07d9c3ed
Erasing at 0xfe0000 -- 100% complete.
```

```
OK
##
Erasing Nand...
Erasing at 0x4e0000 -- 1
00% complete.
Writing to Nand... #done.
SUCCESS: UPGRADING OK.
```

The final prompt "SUCCESS: UPGRADING OK." indicates a successful upgrade. The new version will take effect after restarting the switch.

To confirm the successful upgrade, use the command "show version detail" in the CLI to check the version number.

```
FS#show ver detail

System description      : FS Campus Switch (S3270-10TM) By FS.COM Inc

System start time       : 1969-12-31 23:59:59

System uptime           : 0:00:27:56

System hardware version : 1.00

System software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

System patch number     : NA

System software number  : M15432511292022

System serial number    : MACC812571026

System boot version     : 2019.10.-00883-g4cce48c(700101)

System core version     : 4.4.39-124169-g3e0af9c

Module information:
  Slot 0 : S3270-10TM
    Hardware version    : 1.00
    Boot version        : 2019.10
    Software version    : S3270_FSOS 11.4(1)B82S1, Release(09232915)
    Software number     : M15432511292022
    Serial number       : MACC812571026


FS#show ver detail

System description      : FS Campus Switch PoE (S3270-10TM-P) By FS.COM Inc

System start time       : 1969-12-31 23:59:59

System uptime           : 0:00:23:39

System hardware version : 1.00

System software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

System patch number     : NA

System software number  : M15432511292022

System serial number    : MACC942111629

System boot version     : 2019.10.-00883-g4cce48c(700101
```

Module information:

Slot 0 : S3270-10TM-P

Hardware version : 1.00

Boot version : 2019.10

Software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

Software number : M15432511292022

Serial number : MACC942111629

FS#show ver detail

System description : FS Campus Switch PoE (S3270-24TM-P) By FS.COM Inc

System start time : 1969-12-31 23:59:59

System uptime : 0:00:21:22

System hardware version : 1.00

System software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

System patch number : NA

System software number : M15432511292022

System serial number : MACC942531117

System boot version : 2019.10.-00883-g4cce48c(700101)

System core version : 4.4.39-124169-g3e0af9c

Module information: Slot 0 : S3270-24TM-P

Hardware version : 1.00

Boot version : 2019.10

Software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

Software number : M15432511292022

Serial number : MACC942531117

FS#show ver detail

System description : FS Campus Switch (S3270-24TM) By FS.COM Inc

System start time : 1969-12-31 23:59:59

System uptime : 0:00:19:41

System hardware version : 1.00

System software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)

System patch number : NA

System software number : M15432911292022

```
System serial number    : MACC942271514
System boot version     : 2019.10.-00883-g4cce48c(700101)
System core version     : 4.4.39-124169-g3e0af9c
Module information:
  Slot 0 : S3270-24TM
    Hardware version    : 1.00
    Boot version        : 2019.10
    Software version    : S3270_FSOS 11.4(1)B82S1, Release(09232915)
    Software number     : M15432911292022
    Serial number       : MACC942271514

FS#show ver detail
System description      : FS Campus Switch (S3270-48TM) By FS.COM Inc
System start time       : 1969-12-31 23:59:59
System uptime           : 0:00:19:48
System hardware version : 1.00
System software version : S3270_FSOS 11.4(1)B82S1, Release(09232915)
System patch number     : NA
System software number  : M15432911292022
System serial number    : MACCZ33571624
System boot version     : 2019.10.-00883-g4cce48c(700101)
System core version     : 4.4.39-124169-g3e0af9c
Module information:
  Slot 0 : S3270-48TM
    Hardware version    : 1.00
    Boot version        : 2019.10
    Software version    : S3270_FSOS 11.4(1)B82S1, Release(09232915)
    Software number     : M15432911292022
    Serial number       : MACCZ33571624
```