

# AX3800S/AX3600S/AX2400S Software Update Guide



## ■ Preface

This manual describes how to update software from an older version to a newer version. Read this manual carefully before updating the software.

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## ■ Editions history

- December 2005 (Edition 1)
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## ■ Conventions: The terms "Switch" and "switch"

The term Switch (upper-case "S") is an abbreviation for any or all of the following models:

- AX3800S series switch
- AX3600S series switch
- AX2400S series switch

The term switch (lower-case "s") might refer to a Switch, another type of switch from the current vendor, or a switch from another vendor. The context decides the meaning.

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## ■ Note

Information in this document is subject to change without notice.

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## 1. Overview

### 1.1. Overview of update

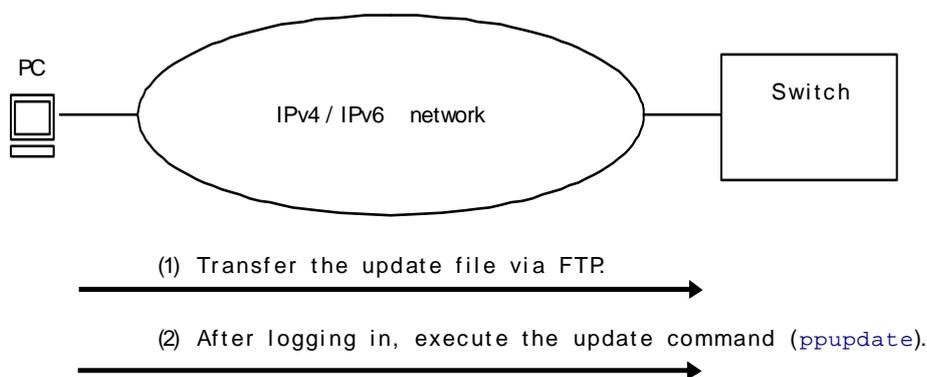
Software can be updated as shown in the subsections below.

After the update, configuration information, user information such as login accounts and passwords, and optional license information are carried over from the previous version.

See Chapter 3 for the update procedure when the VLAN tunneling functionality is used.

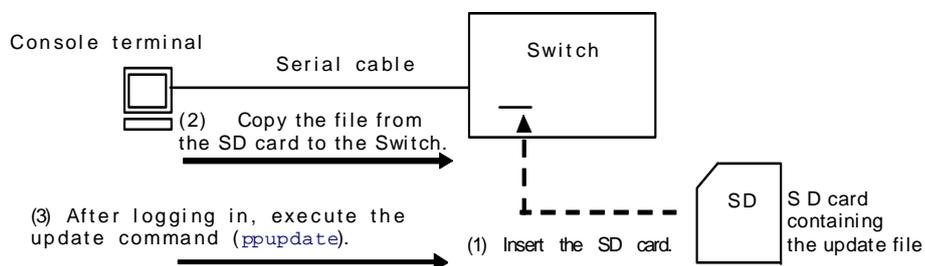
#### (1) Updating software from a remote operation terminal

From a remote operation terminal, such as a PC, transfer the update file to the Switch (see (1) below and 2.2), and then execute the update command (see (2) below and 2.4).



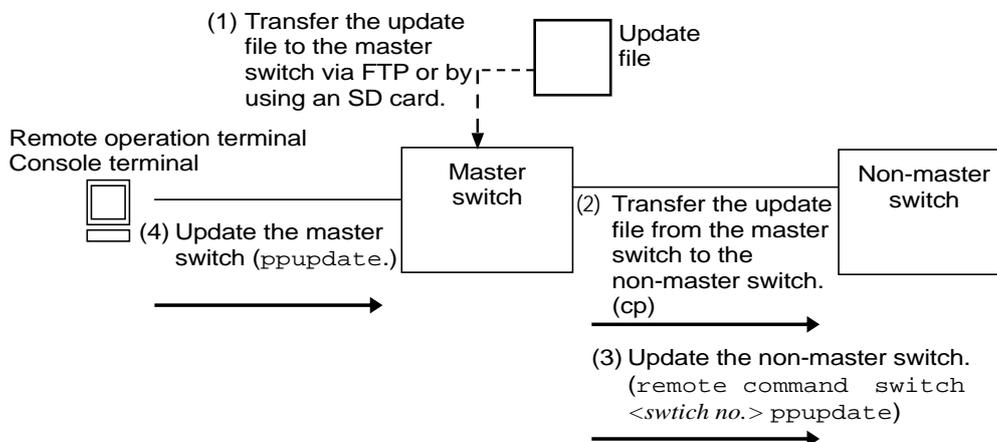
#### (2) Updating software from an SD card

After inserting the SD card containing the update file into the Switch (see (1) below), copy the update file from the card to the Switch (see (2) below and 2.3), and then execute the update command (see (3) below and 2.4).



## (3) Updating a stack configuration

Transfer the update file to the master switch via FTP or by using an SD card (see (1) below), and then transfer the file from the master switch to another switch (see (2) below). Update the non-master switch first (see (3) below), and then update the master switch (see (4) below).



- 1) Transfer the update file to the master switch via FTP or by using an SD card.
- 2) Transfer the update file to a non-master switch. To update the non-master switch, you need to store the update file on the switch before executing the update command. Execute the `cp <file name> switch <switch no.> /usr/var/update/k.img` command on the master switch to transfer the update file with the name `k.img` under the `/usr/var/update` directory of the switch to be updated.
- 3) To update the non-master switch, execute the `remote command <switch no.> ppupdate /usr/var/update/k.img` command on the master switch.
- 4) To update the master switch, execute the `ppupdate` command on the master switch.

## 1.2. Preparing to update

The conditions explained in Table 1-2 must be met before transferring the update file to the Switch and executing the update command. Make sure these conditions are met before updating the software.

Table 1-2 Required conditions before updating

No.	Update operation	Condition	Procedure
1	Update from a remote operation terminal	The Switch that will be updated must be accessible over an IPv4 or IPv6 network from a remote operation terminal, such as a PC.	Connect a remote operation terminal to the network so that IP communication between the terminal and the Switch is possible.
2		FTP client software must be running on the remote operation terminal, and files must be writable to the Switch by the <code>put</code> statement.	Obtain FTP client software and install it on the remote operation terminal. In Windows, the FTP software provided with the OS can be used.
3		The Switch must be configured in the configuration information to communicate with remote operation terminals via FTP.	Define <code>ftp-server</code> in the configuration information. If an access list definition exists in <code>line vty</code> mode, the Switch must be set to allow access from remote operation terminals.
4		A user ID and password for the Switch must be set.	Set a password for the user ID.
5		Login to the Switch that will be updated must be possible from a remote operation terminal or a console.	For login from a remote operation terminal via Telnet, the Switch must be set to support Telnet functionality. (Use the <code>line vty</code> command to specify this in the configuration.)
6	Update from an SD card	Login to the Switch must be possible from a console terminal.	<ul style="list-style-type: none"> <li>• Use a cross serial cable to connect a console terminal and the Switch.</li> <li>• Provide a terminal emulator software program on the console terminal.</li> </ul>
7	Common	Available capacity on the flash memory must be sufficient to receive the transferred update file. Use the <code>show system</code> command to check whether the free capacity of the user area in the internal flash memory is larger than the file size of the update file by 1,000 KB or more.	If the update file cannot be transferred because the flash memory capacity is insufficient, see <i>1.4 If the flash memory capacity is insufficient</i> .
8		The user must have administrator-level permissions ( <code>enable</code> ).	To execute the update command, use the <code>enable</code> command to become an administrator.

### 1.3. Notes on updating the software

#### (1) Notes on transferring files

- A file must be transferred via FTP in binary mode. Otherwise, execution of the update command fails.
- Transfer the file named `k.img` to the directory `/usr/var/update` in the Switch. If the file already exists, overwrite it. If the file is transferred to the wrong location or with an incorrect name, delete the file, and then transfer the file correctly.

#### (2) Notes on copying a file from an SD card

- Use an SD card from ALAXALA.
- Use a PC to store the update file on the SD card in advance.

#### (3) Notes on executing the update command

- If the update command ends abnormally, execute the `ls /tmp/ppupdate.exec` command to check if the `ppupdate.exec` file exists. If the file exists, execute the `rm /tmp/ppupdate.exec` command to remove the file. In a stack configuration, use the `remote command` command to check and remove the file for non-master switches.
- Multiple users cannot concurrently execute the update command. If the command is already being executed when you attempt to execute it, the command aborts with the message `another user is executing now`.
- The update command cannot be executed in configuration mode.
- Back up the configuration information before updating the software.
- Do not delete the `k.img` file. If the file is deleted and the command ends abnormally, files cannot be restored.
- Do not turn the power off and then on while updating the software. If the power is turned off, restart the system, and then perform the procedure again from the beginning.
- After editing the configuration online, if the file has not been saved, use the `save` configuration command to save the file to flash memory before updating the software. If you do not execute the `save` command then restart the Switch, the Switch returns to the state before the configuration information was changed.
- The configuration stored in the internal flash memory is also used for the new version. If the number of stored definitions is too large, inheriting the configuration file might take a long time. When downgrading, if there are any configuration items not supported by the downgraded version, those configuration items are deleted and the Switch runs without them.
- For details of software update in a stack configuration, see the section *Operation management*

*of stack in Configuration Guide Vol. 1.*

1.4. If the flash memory capacity is insufficient

- Use the `rm` command to delete all files in `/usr/var/core/`.
- Execute the `erase protocol-dump unicast all` command (only for L3 models).
- Execute the `squeeze` command.
- Reduce the number of user files saved in the user area.

## 2. Updating Software

### 2.1. Introduction

Use one of the files listed in Table 2-1 to update the software. First, use the procedure described in 2.2 or 2.3 to transfer the file to the Switch, and then use the procedure described in 2.4 to update the software.

Table 2-1 Files used to update software

No.	Model	OS	File Name <sup>#1</sup>
1	AX2430S	OS-L2-A	<a href="#">AX24L2Axxx-xxx.img.gz</a>
2		OS-L2	<a href="#">AX24L2xxx-xxx.img.gz</a>
3	AX3630S	OS-L3L-A, OS-L3A-A	<a href="#">AX36L3Axxx-xxx.img.gz</a>
4	AX3640S	OS-L3L, OS-L3A	<a href="#">AX36L3xxx-xxx.img.gz</a>
5	AX3650S	OS-L3SL-A, OS-L3SA-A	<a href="#">AX36L3SAxxx-xxx.img.gz</a>
6	AX3830S	OS-L3SL, OS-L3SA	<a href="#">AX36L3Sxxx-xxx.img.gz</a>

#1: xxx-xxx represents the version and the build number.

Example: If the version is 10.0 and the build number is 129, the value is [1000-129](#).

If the version is 10.1.C and the build number is 256, the value is [1001C-256](#).

If the version is 10.1.C and the build number is 256 for the AX3630S (OS-L3A-A), the file name is [AX36L3A1001C-256.img.gz](#).

### 2.2. Transferring an update file from a remote operation terminal

See the procedure for transferring files described in 4. *Appendix* to transfer an update file to the [/usr/var/update](#) directory in the Switch. This operation must be performed in binary mode.

### 2.3. Copying an update file from an SD card

To copy an update file from an SD card to the Switch:

- (1) Insert the SD card containing the update file for the update into the Switch.
- (2) Log in to the Switch.
- (3) Execute the [ls mc-dir](#) command to make sure the update file is on the SD card.
- (4) Execute the [cp mc-file](#) command to copy the update file from the SD card to the Switch (the [/usr/var/update](#) directory).
- (5) Use the [ls -l](#) command to make sure the size of the file copied to the Switch is the same as the size of the file on the SD card. (The file is renamed [k.img](#)).

```
> ls mc-dir (3)
Name          Size
AX36L3A1001C-256.img.gz 15215959 ← (Check the file name and size.)
>
> cp mc-file AX36L3A1001C-256.img.gz /usr/var/update/k.img (4)
>
> ls -l /usr/var/update (5)
total 14872
-rwxrwxrwx 1 root wheel 15215959 Dec 19 14:26 k.img ← (Check the file size.)
```

## 2.4. Update procedure

The update procedure updates an older version of the software to a newer version. After the update, the Switch automatically restarts. Note that communication is disconnected temporarily when the Switch restarts. In addition, the update file must be transferred to the Switch (see 2.2) or copied from the SD card to the Switch (see 2.3) before the update can begin.

To update the software:

- (1) Log in to the Switch by using the user-defined ID (for example, `operator`).
- (2) Enter the `enable` command. The command prompt changes to `#`.
- (3) Enter the `cd /usr/var/update` command.
- (4) Execute the `ls -l` command.
- (5) Make sure the size of the transferred file is the same as the size of the original file on the terminal.
- (6) Execute the `ppupdate k.img` command to update the software.
- (7) When the update finishes, the Switch restarts automatically. After the restart, log in to the Switch again.
- (8) Execute the `show version` command to make sure the correct version of the software is running. The procedure is complete.

```

BOOT 00.02.00
Loading from dev0 100%

login: operator (1)

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> enable
# ← (Make sure that # is displayed.) (2)
# cd /usr/var/update
#
# ls -l
total 14872
-rwxrwxrwx 1 root wheel 15215959 Dec 19 14:26 k.img ← (Check the file size.) (5)
#
# ppupdate k.img

Software update start

Broadcast Message from operator@
(??) at 16:20 UTC...
*****
** UPDATE IS STARTED. **
*****

Current version is 10.0 ← (Old version)
New version is 10.1.C ← (New version)
Automatic reboot process will be run after installation process.
Do you wish to continue? (y/n) y

100% 14906 KB 133.56 KB/s 00:00 ETA

Update done.

Broadcast Message from operator@
(??) at 16:22 UTC...
*****
** UPDATE IS FINISHED SUCCESSFULLY. **
*****
#
ROM 00.02.24
.....

BOOT 00.02.00
Loading from dev0 100%

login: operator ← (Login after restarting.) (7)
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> show version
Date 20XX/12/19 16:24:01 UTC
Model: AX3630S-24T
S/W: OS-L3L-A Ver. 10.1.C ← (Check the version.) (8)
H/W: AX-3630S-24T-ZX [TA036L24P000S03015AD004:80320101:1183:2B504]
>

```

### 3. Update Procedure When VLAN Tunneling Is Used

In versions older than 10.2, it is impossible to assign an IP address to the interface (VLAN) when VLAN tunneling is used.

Therefore, we recommend purchasing and using an SD card from ALAXALA when you update a Switch with VLAN tunneling enabled.

When VLAN tunneling is enabled, the update procedure differs depending on the versions before and after the update, as shown below:

- When updating from version 10.2 or later to any version newer than 10.2, see 3.1.
- When updating from any version older than 10.2 to any other version older than 10.2, see 3.2.
- When updating from any version older than 10.2 to version 10.2 or later, see 3.3.

#### 3.1. Update procedure between versions equal to or later than 10.2

Update the software according to the procedure described in Chapter 2.

#### 3.2. Update procedure between versions older than version 10.2

##### 3.2.1 Update procedure from an SD card

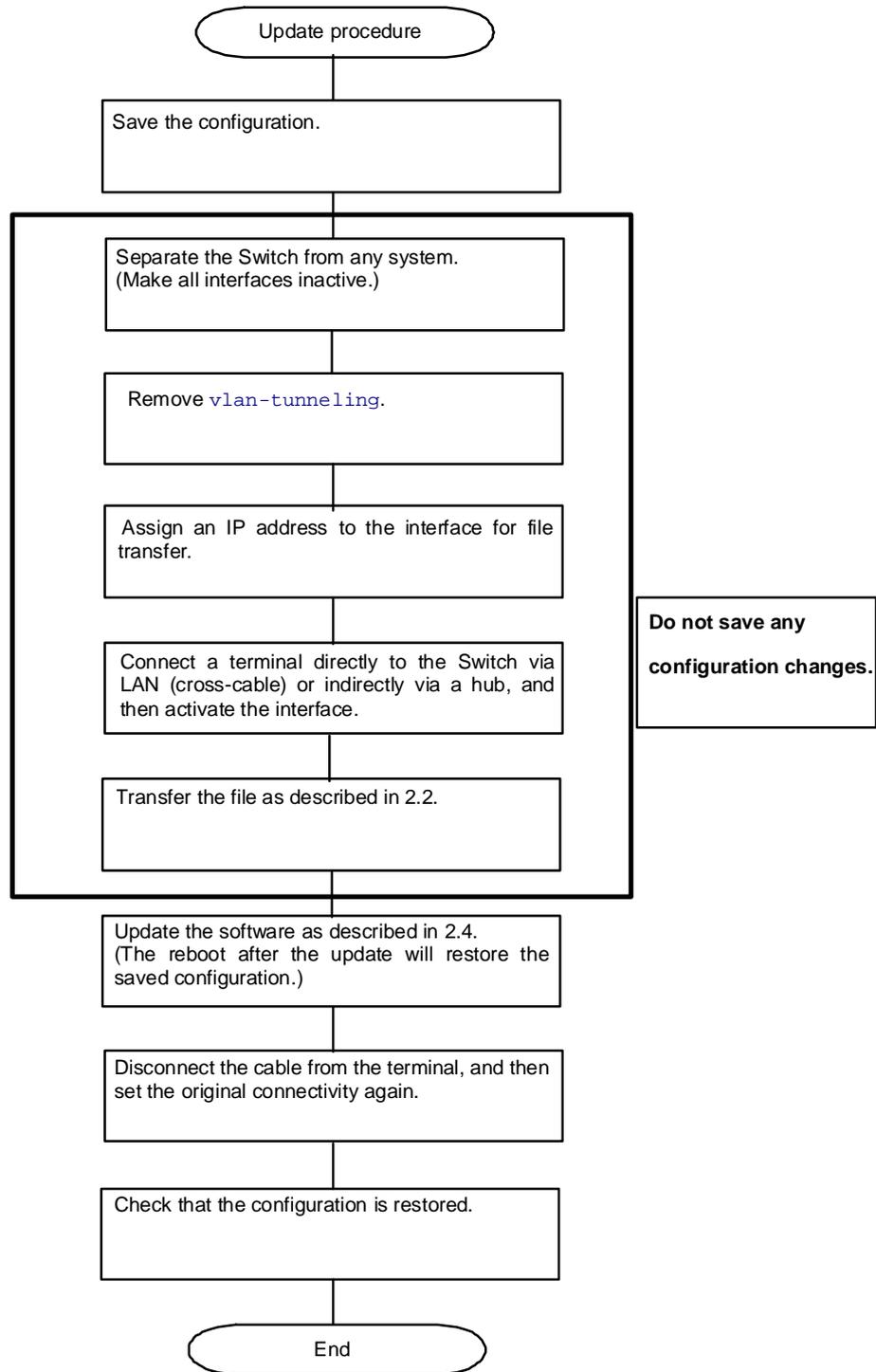
Update the software according to the procedures described in 2.3 and 2.4.

##### 3.2.2 Update procedure from an operation terminal (when you have no SD card)

Because VLAN tunneling suppresses the assignment of IP addresses to the Switch, you need to remove VLAN tunneling and define an IP address (enable IP communication). Therefore, in consideration of the impact on the system, we recommend carrying out the following steps before updating:

- (1) Make all interfaces inactive to separate the Switch from the system.
- (2) Connect an operation terminal transferring the update file directly to the Switch via a LAN cable (cross-cable), or use a hub with connections only to the operation terminal and the Switch.

To update the software:



### 3.3. Update procedure from any version older than 10.2 to version 10.2 or later

In this type of update, the configuration is not inherited, as the method for setting the VLAN tunneling functionality differs. Change the configuration during the update procedure.

For instructions on how to configure VLAN tunneling in version 10.2 or later, see the appropriate manual.

#### 3.3.1 Update procedure from an SD card

To update the software:

- (1) If VLAN 1 (the default VLAN) is enabled, disable VLAN 1 (the default VLAN).
- (2) Remove `vlan-tunneling` in the configuration, and then save the configuration.
- (3) Update the software according to the procedure described in 2.3 and 2.4.
- (4) After updating, set up the VLAN tunneling functionality.
- (5) If you will use VLAN 1 (the default VLAN), enable VLAN 1 (the default VLAN).

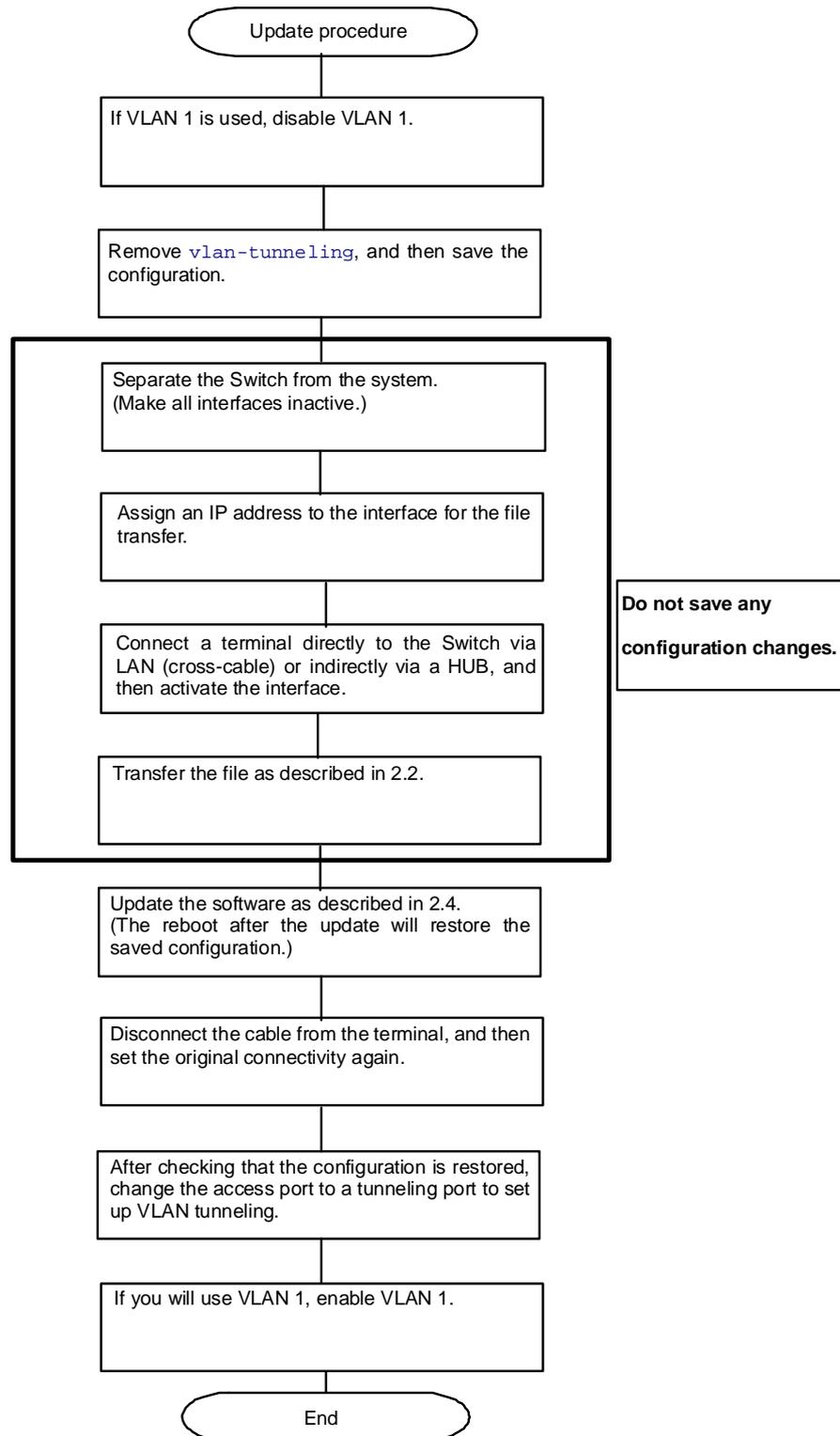
#### 3.3.2 Update procedure from an operation terminal (when you have no SD card)

In consideration of the impact on the system, we recommend carrying out the following steps before updating:

- (1) If VLAN 1 (the default VLAN) is enabled, disable VLAN 1 (the default VLAN).
- (2) Remove `vlan-tunneling` in the configuration, and then save the configuration.
- (3) Make all interfaces inactive to separate the Switch from the system.
- (4) Connect a terminal storing the file directly to the Switch via a LAN cable (cross-cable), or use a hub with connections only to the operation terminal and the Switch..

In version 10.2 and later, you cannot specify `vlan-tunneling` in the configuration.

To update the software:



## 4. Appendix

To transfer a file:

- (1) Open the command prompt window on your PC.
- (2) Move to the directory containing the update file.
- (3) Execute the `dir` command to check the file name and the file size.
- (4) Execute the `ftp` command to connect to the Switch.
- (5) When asked to enter a user name, enter your login name for the Switch.
- (6) When asked to enter a password, enter your password.
- (7) Enter `bin` to transfer the software in binary mode.
- (8) Transfer the software to the `/usr/var/update` directory in the Switch (file name, `k.img`).
- (9) Enter `bye`.

```
C:\WINDOWS> cd c:\soft      (When the software to be updated is in c:\soft)
C:\soft>dir
20XX/12/08 07:25 15,325,541 AXL3A1001C-256.img.gz ← (Check the file name and size.) (3)

C:\soft>ftp 192.168.1.1      ← (When the IP address of the Switch is 192.168.1.1)
User (192.168.1.1:(none)): operator      ← (Specify the login name for the Switch.) (5)
Password:*****                  ← (Specify the password.) (6)
ftp> bin
ftp> put AX36L3A1001C-256.img.gz /usr/var/update/k.img ← (The file name,
AX36L3A1001C-256.img.gz
in this example, varies depending on
the model and version. See Table
2-1.) (8)

ftp> bye
```