

AX6700S/AX6600S/AX6300S Software Update Guide

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■ Preface

This manual explains how to update the basic software from an older version to a newer version. This manual also describes how to install the basic software on a new BCU, CSU, or MSU for AX6700S, AX6600S, or AX6300S series switches, respectively. Read this manual carefully before updating or installing the software.

For details about the terms used in this manual, how to handle devices, and how to connect to an operation terminal, see the *Configuration Guide* or other manuals. For details about the manual organization, see the *Quick Start Guide*.

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■ Notes

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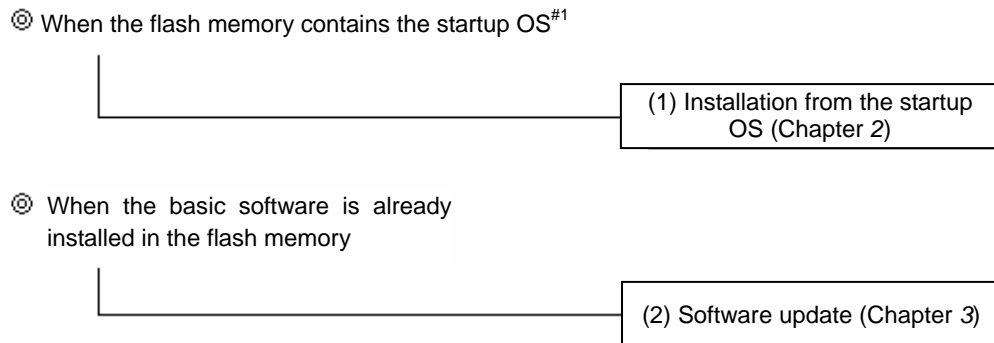
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1 Overview

1.1 Overview of updating and installing software

There are two ways to set up the software: (1) Perform a software installation from the startup OS, or (2) perform a software update. Each way has a different purpose and procedure. Select whichever is more suitable for your situation based on the following figure.



#1: After you log in to the Switch, if the command prompt is `BOOT-INST-OS>`, it indicates that the startup OS is running.

Installing from the startup OS

Installing from the startup OS means to install software for the first time from the internal flash memory that contains the startup OS.

The internal flash memory in a newly purchased BCU for AX6700S series switches, CSU for AX6600S series switches, or MSU for AX6300S series switches, contains dedicated software (the startup OS) used for the purpose of starting up the Switch. After you log in to the Switch, if the command prompt is `BOOT-INST-OS>`, then the startup OS is running. In this case, before using the Switch, you must install the basic software according to the procedure described in this manual.

To install the basic software from the startup OS, you must transfer the update file shown in Table 1-1 to the Switch and execute the `ppupdate` command.

The update file is the same for all AX6700S, AX6600S, and AX6300S series switches.

For details about the procedure, see Chapter 2.

Update operation

Update means updating an older version of your software to a later version.

To update the software, you must transfer the update file shown in Table 1-1 to the Switch and execute the `ppupdate` command. In this case, the configuration, user information, such as login accounts and passwords, and optional license information are all inherited.

The update file is the same for all AX6700S, AX6600S, and AX6300S series switches.

For details about the procedure, see Chapter 3.

Table 1-1 Files used to update software

No.	Abbreviated name	File name ^{#1}
1	OS-S	<code>AX63SAxxxx-yyy.img.gz</code>
2	OS-SE	<code>AX63Sxxxx-yyy.img.gz</code>

#1: xxxxx-yyy represents the version (xxxxx) and the build number (yyy).

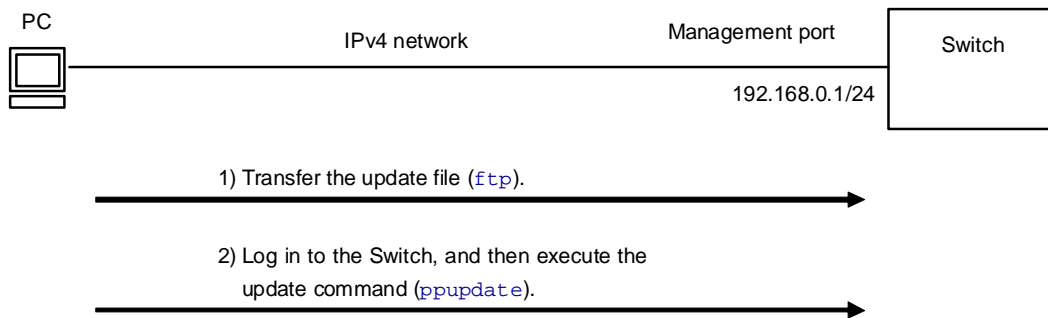
Example: If the version is 10.2 and the build number is 158, the file name is `1002-158`.

For OS-SE Ver. 10.2 Build158, the file name is `AX63S1002-158.img.gz`.

2 Software installation from the startup OS

2.1 Overview of installing software from the startup OS

While the startup OS is running, the IP address of the management port is set to 192.168.0.1/24. To perform a software installation from the startup OS (hereafter an *installation*), you must first transfer the update file from a remote terminal, such as a PC, by using the management port (see 1) below). After that, you must execute the update command (`ppupdate`, see 2) below).



2.2 Preparations for installation

Table 2-1 shows the conditions required for an installation. Make sure that these conditions are met before attempting to install the software.

Table 2-1 Required conditions before installing

No.	Installation operation	Conditions	Procedure
1	Conditions required for transferring the update file	The Switch ^{#1} that will be updated must be accessible over an IPv4 network from a remote terminal, such as a PC. #1: The IP address of the management port is set to 192.168.0.1/24.	Connect a remote 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 terminal, and files must be able to be written to the Switch by the put statement.	Obtain FTP client software and install it on the remote terminal. (In Windows 95 and later, the FTP software provided with the OS can be used.)
3	Conditions required for executing the <code>ppupdate</code> command	Login to the Switch must be possible from a console.	Use an RS-232C crossover cable with D-sub 9-pin female connectors on both ends to connect the PC to the Switch. In addition, prepare communication software, such as HyperTerminal.

2.3 Notes on installation

(1) Notes on the startup OS

The startup OS is dedicated software for installing the basic software. After you log in to the Switch, `BOOT-INST-OS>` is displayed for the prompt, indicating that the startup OS is running.

- The startup OS starts up only the BCU, CSU, or MSU on AX6700S, AX6600S, or AX6300S series switches, respectively. The startup OS does not start up NIFs. As a result, you must use the management port to transfer the update file. In a BCU, CSU, or MSU redundant configuration, use the management port of the active system.
- When the startup OS is running, the IP address of the management port is set to 192.168.0.1/24. For the host connected to the Switch, specify an IP address other than 192.168.0.1 that belongs to the network 192.168.0.0/24. Note that after installation is complete, when the Switch is restarted, the IP address 192.168.0.1/24 is automatically deleted.
- The configuration cannot be changed.
- The commands listed in Table 2-2 cannot be used.

Table 2-2 Commands that cannot be used in the startup OS

No.	Category	Command	Remarks
1	Configuration	<code>configure</code>	The configuration cannot be changed.
2		<code>copy startup-config</code>	Same as above
3		<code>copy running-config</code>	Same as above
4		<code>erase configuration</code>	Same as above
5		<code>show running-config</code>	The configuration cannot be displayed.
6		<code>show startup-config</code>	Same as above
7	Management of BSUs and NIFs	<code>activate bsu</code>	--
8		<code>activate nif</code>	--
9		<code>inactivate bsu</code>	--
10		<code>inactivate nif</code>	--
11	Management port	<code>activate mgmt</code>	--
12		<code>inactivate mgmt</code>	--
13		<code>test interface mgmt</code>	--
14	Ethernet	<code>activate</code>	--
15		<code>inactivate</code>	--
16	Device redundancy	<code>synchronize</code>	--
17		<code>activate standby</code>	--
18		<code>inactivate standby</code>	--
19		<code>redundancy force-switchover</code>	The command cannot be executed.

(2) Notes on transferring the update file

- A file must be transferred via FTP in binary mode. Otherwise, execution of the `ppupdate` 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.

(3) Notes on executing the ppupdate command

- Do not delete the `k.img` file unless it is specified in the procedure. The file cannot be restored when the command abnormally ends.
- Do not turn the power off while updating the software. If the power is turned off, restart it and conduct the procedure again from the start.
- Multiple users cannot concurrently execute the `ppupdate` 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`. However, if the `ppupdate` command ends abnormally (for example, the command is forced to stop by pressing **Ctrl + C**, or a forced logout occurs because communication software is terminated), this message might be issued and you will not be able to execute the command again, even though only one instance of the command is being executed.
In this case, execute the `rm /tmp/ppupdate.exec` command, and then execute the `ppupdate` command again.

2.4 Connecting to the Switch

Connect a remote terminal (PC) to the Switch by using an Ethernet cable and RS-232C crossover cable. Connect the Ethernet cable to the management port of the Switch. In a BCU, CSU, or MSU redundant configuration, connect both the Ethernet cable and RS-232C crossover cable to the corresponding ports of the active system.

While the startup OS is running, the IP address of the management port is set to 192.168.0.1/24. For the remote terminal, specify an IP address other than 192.168.0.1 that belongs to the network 192.168.0.0/24 so that the terminal can perform IP communication with the Switch.

2.5 Installation procedure

Follow the procedure shown below to install the software:

- 1) After the Switch is turned on, wait until `login:` is displayed.
- 2) After `login:` is displayed, log in with the user name `operator`.
After you log in to the Switch, `BOOT-INST-OS>` is displayed for the prompt, indicating that the startup OS is running. After logging in, if `BOOT-INST-OS>` is not displayed, the basic software is running. In this case, perform an update according to *3 Software update*.
- 3) Enter the `enable` command.
The command prompt changes to `BOOT-INST-OS#`.

Example

```

:
Loading from dev0 100%

login: operator (Log in as operator.)

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reserved.

Please install product software.

BOOT-INST-OS> enable (Execute the enable command.)
BOOT-INST-OS# (The prompt changes to BOOT-INST-OS#.)
```

- 4) See the procedure for transferring files described in *Appendix* to transfer an update file to the `/usr/var/update` directory in the Switch.
(This operation must be performed in binary mode.)
- 5) Execute the `ls -l /usr/var/update/` command, and confirm that the size of the `k.img` file is the same as the source file.
- 6) Enter the `cd /usr/var/update` command to change the directory.

Example

```

BOOT-INST-OS# ls -l /usr/var/update
total 18994
-rwxrwxrwx 1 root wheel XXXXXXXX Sep 15 21:45 k.img (Check the file size.)
BOOT-INST-OS# cd /usr/var/update (Change the directory.)
```

***** Installation on the standby system *****

In a BCU, CSU, or MSU single configuration, go to step 8).

- 7) Execute the `ppupdate k.img standby` command. Installation from the internal flash memory in the standby system starts. The version of the basic software to be installed is displayed. Make sure that the version is correct.

Example

```
BOOT-INST-OS# ppupdate k.img standby (Installation starts.)

Software update start
Current version is 1.0
New version is 10.2 (The version of the software is displayed.)

Update done.
BOOT-INST-OS# (Installation is complete.)
```

***** Installation on the active system *****

- 8) Execute the `ppupdate k.img active` command. Installation from the internal flash memory in the active system starts. The version of the basic software to be installed is displayed. Make sure that the version is correct.

Example

```
BOOT-INST-OS# ppupdate k.img active (Installation starts.)

Software update start

Broadcast Message from operator@BOOT-INST-OS
(??) at 22:29 UTC...

*****
** UPDATE IS STARTED. **
*****

Current version is 1.0
New version is 10.2 (The version of the software is displayed.)

100% |*****| 20999 KB 508.17 KB/s 00:00 ETA

Update done.

Broadcast Message from operator@BOOT-INST-OS
(??) at 22:30 UTC...

*****
** UPDATE IS FINISHED SUCCESSFULLY. **
*****

BOOT-INST-OS# (Installation is complete.)
```

9) Execute the `reload no-dump-image` command to restart the Switch.

Example

```
BOOT-INST-OS# reload no-dump-image
Restart OK? (y/n): y (Enter y.)
```

10) After `login:` is displayed, log in with the user name `operator`.

11) Execute the `show logging` command to make sure that the abbreviated name and version of the software running on the active system are correct.

In a BCU, CSU, or MSU redundant configuration, execute the `show logging standby` command to make sure that the abbreviated name and version of the software running on the standby system are correct.

Example

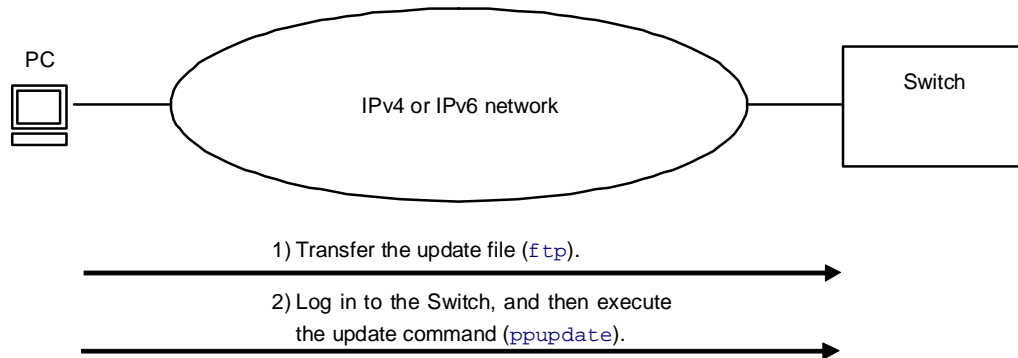
```
> show logging (Check the active system.)
Date 20XX/09/15 22:34:37 UTC
System information
  AX6304S, OS-SE Ver. 10.2 (Build:158), MSU1(active) (Check the displayed information.)
Logging information
KEY 09/15 22:34:37 operator(tty00):> show logging
:
:
> show logging standby (Check the standby system.)
Date 20XX/09/15 22:34:44 UTC
System information
  AX6304S, OS-SE Ver. 10.2 (Build:158), MSU2(standby) (Check the displayed information.)
Logging information
:
:
```

The installation procedure is complete.

3 Software update

3.1 Overview of updating software from a remote terminal

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



3.2 Preparing to update

Table 3-1 shows the conditions required for updating the software. Make sure these conditions are met before updating the software.

Table 3-1 Required conditions before update

No.	Update operation	Conditions	Procedure
1	Conditions required for transferring the update file	The Switch must be accessible from a remote terminal, such as a PC.	Connect a remote 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 terminal, and files must be able to be written to the Switch by the put statement.	Obtain FTP client software and install it on the remote terminal. In Windows, the FTP software provided with the OS can be used.
3		The Switch must be configured in the configuration to communicate with remote terminals via FTP.	Set <code>ftp-server</code> in the configuration. If access list information exists in <code>line vty</code> mode, the Switch must be set to allow access from remote terminals.
4		Available capacity on the internal flash memory must be sufficient to receive the transferred update file. Use the <code>show system</code> command to confirm that the free capacity of the user area in the internal flash memory of both BCU 1 and BCU 2 for an AX6700S series switch, CSU 1 and CSU 2 for an AX6600S series switch, or MSU 1 and MSU 2 for an AX6300S series switch is larger than the update file by 1,000 KB or more.	If the update file cannot be transferred because the internal flash memory capacity is insufficient, see <i>3.3 Actions to be taken if there is insufficient free space in the internal flash memory</i> .
5	Conditions required for executing the <code>ppupdate</code> command	Login to the Switch that will be updated must be possible from a remote terminal or a console.	For login from a remote terminal via Telnet, the Switch must be set to support the Telnet functionality. (Use the <code>line vty</code> command to make this in the configuration.)
6		The user must have administrator-level permissions (<code>enable</code>).	To execute the <code>ppupdate</code> command, use the <code>enable</code> command to become an administrator.
7		In a BCU, CSU, or MSU redundant configuration, the license information between the active and standby systems must match.	If the license information does not match, use the <code>synchronize</code> command to synchronize the information, and then use the <code>reload</code> command to restart the standby system.

3.3 Actions to be taken if there is insufficient free space in the internal flash memory

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

3.4 Notes on updating the software

(1) Notes on transferring the update file

- A file must be transferred via FTP in binary mode. Otherwise, execution of the `ppupdate` 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 executing the `ppupdate` command

- Do not delete the `k.img` file unless it is specified in the procedure. The file cannot be restored when the command abnormally ends.
- In a BCU, CSU, or MSU single configuration, the Switch restarts after the update. In a BCU, CSU, or MSU redundant configuration, system switching is performed during the update process. During the system switchover, communication via the Switch is temporarily suspended. In addition, after the update, the active and standby roles are switched between the boards of the active and standby systems.
- In a BCU, CSU, or MSU redundant configuration, a "no-stop" software update functionality is available by which software can be updated without interrupting communication. For details about conditions for the no-stop software update functionality, see the *Configuration Guide*.
- In a BCU, CSU, or MSU redundant configuration, perform a system switchover when the status of the standby system is `standby` or `software version discord`. The status of the standby system can be checked by using the `show system` command.
- Do not turn the power off while updating the software. If the power is turned off, restart it and conduct the procedure again from the start.
- When the update is performed in a BCU, CSU, or MSU redundant configuration, the following log data might be collected from a system other than the updated system. (This does not imply that a problem has occurred.)

For the AX6700S series:

```
E5 BCU xxxxxxxx 2314:xxxxxxxxxx Fatal error detected on other system.  
This system (BCUx) is active.
```

For the AX6600S series:

```
E5 CSU xxxxxxxx 2314:xxxxxxxxxx Fatal error detected on other system.  
This system (CSUx) is active.
```

For the AX6300S series:

```
E5 MSU xxxxxxxx 2314:xxxxxxxxxx Fatal error detected on other system.  
This system (MSUx) is active.
```

Note: The values of *x*, *xxxxxxx*, and *xxxxxxxxxxx* vary depending on the status of the active system.

Note: These log messages will be displayed in the following cases:

- When a version of the software earlier than 11.2 is installed on the active system and is updated
- When a version of the software earlier than 10.5 is installed on the standby system and is updated
- Multiple users cannot concurrently execute the `ppupdate` 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`. However, if the `ppupdate` command ends abnormally (for example, the command is forced to stop by pressing **Ctrl + C**, or a forced logout occurs because communication software is terminated), this message might be issued and you will not be able to execute the command again, even though only one instance of the command is being executed.
In this case, execute the `rm /tmp/ppupdate.exec` command, and then execute the `ppupdate` command again.
- The `ppupdate` command cannot be executed in configuration mode.
- Back up the configuration before updating the software.
- 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, when the Switch is restarted, the Switch returns to the state existing before the configuration was changed.
- The configuration stored in the internal flash memory is also used for the new version. If the number of configuration definitions being stored is too large, inheriting the configuration file might take a while. 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.

3.5 Update procedure

The update procedure updates an older version of the software to a newer version.

To update the software:

- 1) Log in to the Switch, using the user-defined ID (for example, `operator`).
After logging in, if the command prompt is `BOOT-INST-OS>`, then the startup OS is running. In this case, perform an installation according to the procedure described in 2 *Software installation from the startup OS*.
- 2) Enter the `enable` command. The command prompt changes to `#`.

Example

```
login: operator (Log in as operator.)

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> enable (Execute the enable command.)
# (The command prompt changes to #.)
```

- 3) Execute the `show system` command. Confirm that the free capacity of the user area in the internal flash memory of both BCU 1 and BCU 2 for an AX6700S series switch, CSU 1 and CSU 2 for an AX6600S series switch, or MSU 1 and MSU 2 for an AX6300S series switch is larger than the update file by 1,000 KB or more.

Example

```
# show system
Date 20XX/09/19 22:32:13 UTC
System: AX6304S, OS-SE Ver. 10.2
:
:
MSU1 : active
:
:
Flash
  user area  config area  dump area  area total
used  21,135kB  15kB       0kB        21,150kB
free  72,146kB  19,029kB   20,678kB   111,853kB
      (Check the free capacity of the user area.)
total 93,281kB  19,044kB   20,678kB   133,003kB
MC : notconnect
MSU2 : standby
:
:
Flash
  user area  config area  dump area  area total
used  21,123kB  15kB       0kB        21,138kB
free  72,158kB  19,029kB   20,678kB   111,865kB
      (Check the free capacity of the user area.)
total 93,281kB  19,044kB   20,678kB   133,003kB
MC : notconnect
:
:
#
```

- 4) See the procedure for transferring files described in *Appendix* to transfer the update file named `k.img` to the `/usr/var/update` directory in the Switch. (This operation must be performed in binary mode.)
- 5) Execute the `ls -l /usr/var/update/` command, and confirm that the size of the `k.img` file is the same as the source file on the terminal.
- 6) Enter the `cd /usr/var/update` command to change the directory.

Example

```
# ls -l /usr/var/update
total 21040
-rwxrwxrwx 1 root wheel XXXXXXXX Sep 19 22:27 k.img      (Check the file size.)
# cd /usr/var/update                                     (Change the directory.)
```

In a BCU, CSU, or MSU redundant configuration, go to step 7). In a BCU, CSU, or MSU single configuration, go to step 18).

***** Update in a BCU, CSU, or MSU redundant configuration *****

- 7) Execute the `ppupdate k.img standby` command. Installation from the internal flash memory on the standby system starts. The version of the basic software to be installed is displayed. Make sure that the version is correct. When the update on the standby system is complete, the standby system restarts.

Example

```
# ppupdate k.img standby      (Installation starts.)

Software update start
Current version is 10.2
New version is 10.2.A        (The version of the software is displayed.)

Update done.
#                               (The update is complete.)
09/19 22:34:22 E5 MSU 01300438 2314:0b0600000000 Fatal error detected on other
system. This system (MSU1) is active.      (The standby system restarts.)
#
09/19 22:34:22 E3 MSU 01300412 2314:1b0100000000 System status changed from duplex
to simplex.
#
09/19 22:34:58 E3 SOFTWARE 01300462 1001:14e800000000 There is mismatch between
active and standby software version.
#
09/19 22:35:01 E3 MSU 01300413 2314:09a900000000 System status changed from simplex
to duplex.
#
```

- 8) Execute the `show system` command to confirm that the status of the standby system is `standby` or `software version discord`. If any configuration items are not supported, for example, due to the downgraded version, `configuration discord` or both `configuration discord` and `software version discord` are displayed for the status of the standby system.

If the status of the standby system is `standby` or `software version discord`, go to step 9). If the status is `configuration discord` or both `configuration discord` and `software version discord`, go to step 19).

Example

```
# show system
Date 20XX/09/19 22:37:24 UTC
System: AX6304S, OS-SE Ver. 10.2
Node : Name=
      Contact=
      Locate=
      Elapsed time : 00:06:30
      Machine ID : 0012.e220.5300
      Device redundancy cpu status : duplex
      Power control : normal
      Power redundancy-mode : check is not executed
      PS1 = active
      PS2 = active
      PS3 = active
      PS4 = active
      Fan : active No = FAN1(1), FAN1(2), FAN1(3),
              FAN2(4), FAN2(5), FAN2(6)
              Speed=normal

MSU1 : active
      CPU : AX-F6300-51A [MSU-1A , 80200020]
      Boot : 20XX/09/19 22:31:05 , power on , 0 times restart
      PSP : active
      Lamp : STATUS LED=green , ACTIVE LED=green , SYSTEM1 LED=green
      System operation panel : No error
      Board : CPU=PowerPC 667MHz , Memory=1,048,576kB(1024MB)
      Management port: unused
      Temperature : normal(24degree)
      Flash :
            user area   config area   dump area   area total
            used    21,135kB    15kB        0kB         21,150kB
            free    72,146kB    19,029kB    20,678kB    111,853kB
            total  93,281kB    19,044kB    20,678kB    133,003kB
      MC : notconnect
MSU2 : software version discord          (The status of the standby system is displayed.)
      CPU : AX-F6300-51A [MSU-1A , 80200020]
      :
      :
```

- 9) Execute the `show logging standby` command to make sure that the updated software is running.

Example

```
# show logging standby
Date 20XX/09/19 22:37:41 UTC
System information
  AX6304S, OS-SE Ver. 10.2.A (Build:162), MSU2(standby) (Check the displayed information.)
Logging information
EVT 09/19 22:35:01 E3 MSU 01300413 2314:0e8000000000 System status changed from
simplex to duplex.
      :
      :
```

- 10) Ensure that the capacity required to transfer the update file to the BCU, CSU, or MSU module in the active system is available. Execute the `rm /usr/var/update/k.img` command to delete the `k.img` file in the active system.

Example

```
# rm /usr/var/update/k.img (Execute the rm /usr/var/update/k.img command.)
remove '/usr/var/update/k.img'? y (Enter y.)
#
```

- 11) Perform a system switchover of the BCU, CSU, or MSU module for the AX6700S, AX6600S, or AX6300S series switch, respectively. Execute the `redundancy force-switchover` command. Replaces the active system with the standby system in a redundant configuration.

Example

```
# redundancy force-switchover (Execute the redundancy force-switchover command.)
SBY:# (The command prompt changes to SBY:#.)
```

- 12) After the active and standby systems are switched over, log in to the new active system, using the user-specified ID (for example, `operator`).
- 13) Execute the `enable` command. The command prompt changes to `#`.

Example

```
login: operator (Log in as operator.)

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> enable (Execute the enable command.)
# (The command prompt changes to #.)
```

- 14) Execute the `ls -l /usr/var/update/` command, and confirm that the size of the `k.img` file is the same as the source file transferred to the Switch.
- 15) Enter the `cd /usr/var/update` command to change the directory.

Example

```
# ls -l /usr/var/update
total 21040
-rwxrwxrwx 1 root wheel XXXXXXXX Sep 19 22:27 k.img      (Check the file size.)
# cd /usr/var/update      (Change the directory.)
```

- 16) Execute the `show system` command to confirm that the status of the standby system is `standby` or `software version discord`.

Example

```
# show system
Date 20XX/09/19 22:41:24 UTC
System: AX6304S, OS-SE Ver. 10.2.A
Node : Name=
      Contact=
      Locate=
      Elapsed time : 00:06:30
      Machine ID : 0012.e220.5300
      Device redundancy cpu status : duplex
      Power control : normal
      Power redundancy-mode : check is not executed
      PS1 = active
      PS2 = active
      PS3 = active
      PS4 = active
      Fan : active No = FAN1(1), FAN1(2), FAN1(3),
                FAN2(4), FAN2(5), FAN2(6)
                Speed=normal
      MSU1 : software version discord      (The status of the standby system is displayed.)
            CPU : AX-F6300-51A [MSU-1A , 80200020]
            :
            :
            MC : notconnect
      MSU2 : active
            CPU : AX-F6300-51A [MSU-1A , 80200020]
            :
            :
```

- 17) Execute the `ppupdate k.img standby` command. Installation from the internal flash memory on the standby system starts. The version of the basic software to be installed is displayed. Make sure that the version is correct. When the update on the standby system is complete, the standby system restarts.

Example

```
# ppupdate k.img standby      (Installation starts.)

Software update start
Current version is 10.2
New version is 10.2.A          (The version of the software is displayed.)

Update done.
#                               (Update is complete.)
09/19 22:41:22 E5 MSU 01300438 2314:0b0600000000 Fatal error detected on other
system. This system (MSU1) is active.          (The standby system restarts.)
#
09/19 22:41:22 E3 MSU 01300412 2314:1b0100000000 System status changed from
duplex to simplex.
#
09/19 22:41:58 E3 SOFTWARE 01300462 1001:14e800000000 There is mismatch between
active and standby software version.
#
09/19 22:41:01 E3 MSU 01300413 2314:09a900000000 System status changed from
simplex to duplex.
#
```

- 18) In a BCU, CSU, or MSU redundant configuration, execute the `show system` command to confirm that the status of the standby system is `standby`.

Example

```
> show system
Date 20XX/09/19 22:40:36 UTC
System: AX6304S, OS-SE Ver. 10.2.A
Node : Name=
      Contact=
      Locate=
      Elapsed time : 00:00:31
      Machine ID : 0012.e220.5300
      Device redundancy cpu status : duplex
      Power control : normal
      Power redundancy-mode : check is not executed
      PS1 = active
      PS2 = active
      PS3 = active
      PS4 = active
      Fan : active No = FAN1(1), FAN1(2), FAN1(3),
                FAN2(4), FAN2(5), FAN2(6)
                Speed=normal
      MSU1 : standby          (The status of the standby system is displayed.)
                :
                :
```

Go to step 20).

Update when one or more configuration items are not supported in a BCU, CSU, or MSU single configuration or a BCU, CSU, or MSU redundant configuration

- 19) Execute the `ppupdate k.img active` command. Installation from the internal flash memory on the active system starts. The version of the basic software to be installed is displayed. Make sure that the version is correct. After the update of the active system is complete, the active system restarts automatically. In a BCU, CSU, or MSU redundant configuration, a system switchover occurs. After the restart, log in to the Switch again.

Example

```
# ppupdate k.img active (Installation starts.)
Software update start
Broadcast Message from operator@
  (??) at 22:38 UTC...

*****
** UPDATE IS STARTED.          **
*****

Current version is 10.2
New version is 10.2.A (The version of the software is displayed.)
Automatic reboot process will be run after installation process.
Do you wish to continue? (y/n) y (Enter y.)

100% | ***** | 21009 KB  502.42 KB/s    00:00 ETA
Update done.
Broadcast Message from operator@
  (??) at 22:39 UTC...

*****
** UPDATE IS FINISHED SUCCESSFULLY.  **
*****

# (Update is complete.)
ROM 00.11.26 (The active system restarts. System switching occurs in a BCU, CSU, or MSU redundant configuration.)
.....

BOOT 00.11.00
current version=ROM 00.11.26(26)
new version      =ROM 00.11.26(26)
Not changed.
Loading from dev0 100%

login: operator (Log in after the restart.)

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>
```

Appendix

- Example procedure for transferring an update file:

- 1) Open the command prompt window on your PC.
- 2) Move to the directory containing the update file.
- 3) Use the `dir` command to check the file name and 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.
If the startup OS is running, enter `operator`.
- 6) When asked to enter a password, enter your password.
If the startup OS is running, press the **Enter** key without entering a 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:\¥tmp>dir (When the software to be updated is located in the c:\¥tmp directory)
      .
      :
20XX/09/15  12:03  21,503,812 AX63S1002-158.img.g          ← (Check the file name and file size.)  3)
      .
      :

C:\¥tmp>ftp 192.168.0.1 ← (Specify the IP address of the Switch. When the startup OS is running, specify 192.168.0.1.) 4)
Connected to 192.168.0.1.
220 192.168.0.1 FTP server (NetBSD-ftpd) ready.
User (192.168.0.1:(none)): operator ← (Specify the login name for the Switch. When the startup OS is running, specify
operator.) 5)
331 Password required for operator.
Password: ***** ← (Specify the password. When the startup OS is running, press the Enter key.) 6)
230-
Please install product software.
230 User operator logged in.
ftp> bin
200 Type set to I.
ftp> put AX63S1002-158.img.gz /usr/var/update/k.img ← (The file name of the AX63S1002-158.img.gz
file varies depending on the type and version of the basic software. See Table 2-1.) 8)
ftp> bye
```