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Introduction

This document provides software upgrade examples.

Prerequisites

This document is not restricted to specific software or hardware versions.

The configuration examples in this document were created and verified in a lab environment, and all the devices were started with the factory default configuration. When you are working on a live network, make sure you understand the potential impact of every command on your network.

This document assumes that you have basic knowledge of FTP and TFTP.

General restrictions and guidelines

When you upgrade software, follow these restrictions and guidelines:

- Make sure the switch has sufficient storage space for the upgrade file. If the switch does not have sufficient storage space, delete unused files by using the `delete /unreserved file-url` command.
- Save the configuration before the upgrade for the configuration to survive a reboot.
- If the switch supports the management Ethernet interface, assign an IP address to the management Ethernet interface. If the switch does not support the management Ethernet interface, assign an IP address to VLAN-interface 1.

Example: Using the switch as a TFTP client to upgrade software

Network configuration

As shown in [Figure 1](#), use TFTP to download a software upgrade file from a TFTP server to upgrade the switch.

Figure 1 Network diagram



Applicable hardware and software versions

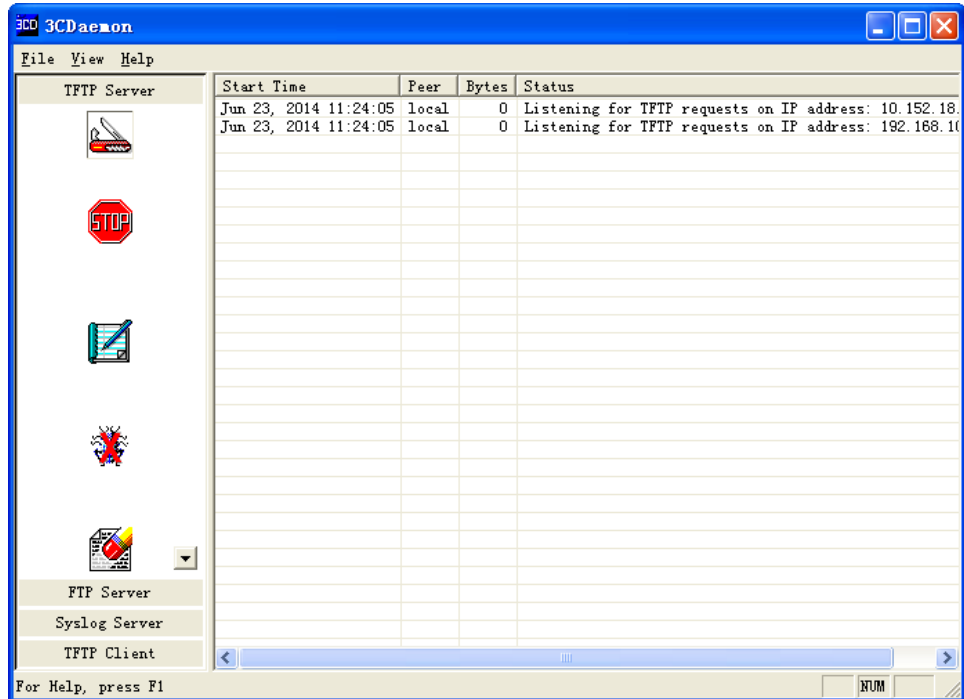
The following matrix shows the hardware and software versions to which this configuration example is applicable:

Hardware	Software version
SC 3570 switch series	Release 11xx
SC 5525 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 5520 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 3170 switch series	Release 11xx
SC 3130 switch series	Release 63xx

Procedures

1. Configure the TFTP server:
 - # Assign the IP address 192.168.100.14/24 to the TFTP server. (Details not shown.)
 - # Start the TFTP server and specify a working directory. This example uses the 3CDaemon TFTP server. (Details not shown.)

Figure 2 Configuring the TFTP server



2. Upgrade the switch:

(Switches supporting the management Ethernet interface) Assign an IP address to M-GigabitEthernet 0/0/0. Make sure the switch can reach the TFTP server.

```
<Switch> system-view
```

```
System View: return to User View with Ctrl+Z.
```

```
[Switch] interface m-gigabitethernet 0/0/0
```

```
[Switch-M-GigabitEthernet0/0/0] ip address 192.168.100.66 255.255.255.0
```

```
[Switch-M-GigabitEthernet0/0/0] quit
```

```
[Switch] quit
```

(Switches not supporting the management Ethernet interface) Assign an IP address to VLAN-interface 1. Make sure the switch can reach the TFTP server.

```
<Switch> system-view
```

```
[Switch] interface Vlan-interface1
```

```
[Switch-Vlan-interface1] ip address 192.168.100.66 255.255.255.0
```

```
[Switch-Vlan-interface1] quit
```

Verify that the switch can ping the TFTP server.

```
<Switch> ping 192.168.100.14
```

```
Ping 192.168.100.14 (192.168.100.14): 56 data bytes, press CTRL_C to break
```

```
56 bytes from 192.168.100.14: icmp_seq=0 ttl=64 time=10.701 ms
```

```
56 bytes from 192.168.100.14: icmp_seq=1 ttl=64 time=2.678 ms
```

```
56 bytes from 192.168.100.14: icmp_seq=2 ttl=64 time=2.282 ms
```

```
56 bytes from 192.168.100.14: icmp_seq=3 ttl=64 time=1.617 ms
```

```
56 bytes from 192.168.100.14: icmp_seq=4 ttl=64 time=1.701 ms
```

```
--- Ping statistics for 192.168.100.14 ---
```

```
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
```

```
round-trip min/avg/max/std-dev = 1.617/3.796/10.701/3.474 ms
```

Save the configuration.

```
<Switch> save
The current configuration will be written to the device. Are you sure? [Y/N]:y
Please input the file name(*.cfg) [flash:/startup.cfg]
(To leave the existing filename unchanged, press the enter key):
flash:/startup.cfg exists, overwrite? [Y/N]:y
Validating file. Please wait...
Saved the current configuration to mainboard device successfully.
```

Use TFTP to download the upgrade file **switch.ipe** from the TFTP server to the root directory of the storage medium on the switch.

```
<Switch> tftp 192.168.100.14 get switch.ipe
% Total      % Received % Xferd Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100 58.7M 100 58.7M    0     0 1193k      0  0:00:50 0:00:50 --:-----1127k
```

Specify **switch.ipe** as the main startup image file.

```
<Switch> boot-loader file flash:/switch.ipe slot 1 main
Verifying the file flash:/switch.ipe on slot 1. ...Done.
Images in IPE:
    boot.bin
    system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to slot 1.
Decompressing file switch.bin to flash:/boot.bin. ....Done.
Decompressing file switch.bin to flash:/system.bin. .... Done.
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 1.
```

Reboot the switch.

```
<Switch> reboot
```

Verifying the configuration

Verify that the software has been upgraded.

```
<Switch> display version
INTELBRAS Comware Software, Version 7.1.070, Release xxxx
Copyright (c) 2004-2019 Intelbras S.A, All rights reserved. INTELBRAS SC
5525-24X-2HE uptime is 0 weeks, 0 days, 0 hours, 19 minutes
Last reboot reason : User reboot

Boot image: flash:/boot.bin
Boot image version: 7.1.070, Release xxxx
    Compiled Jun 18 2019 17:52:09
System image: flash:/system.bin
System image version: 7.1.070, Release xxxx
    Compiled Jun 18 2019 17:52:09
----- More -----
```

Display the current software images and startup software images.

```
<Switch> display boot-loader
Software images on slot 1:
```

```

Current software images:
flash:/boot.bin
flash:/system.bin
Main startup software images:
flash:/boot.bin
flash:/system.bin
Backup startup software images:
None

```

Configuration files

- Switches supporting the management Ethernet interface:

```

#
interface M-GigabitEthernet0/0/0
ip address 192.168.100.66 255.255.255.0
#

```
- Switches not supporting the management Ethernet interface:

```

#
interface Vlan-interface1
ip address 192.168.100.66 255.255.255.0
#

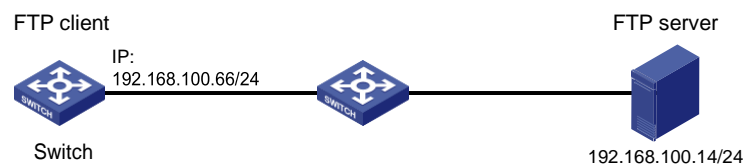
```

Example: Using the switch as an FTP client to upgrade software

Network configuration

As shown in [Figure 3](#), use FTP to download a software upgrade file from an FTP server to upgrade the switch.

Figure 3 Network diagram



Applicable hardware and software versions

The following matrix shows the hardware and software versions to which this configuration example is applicable:

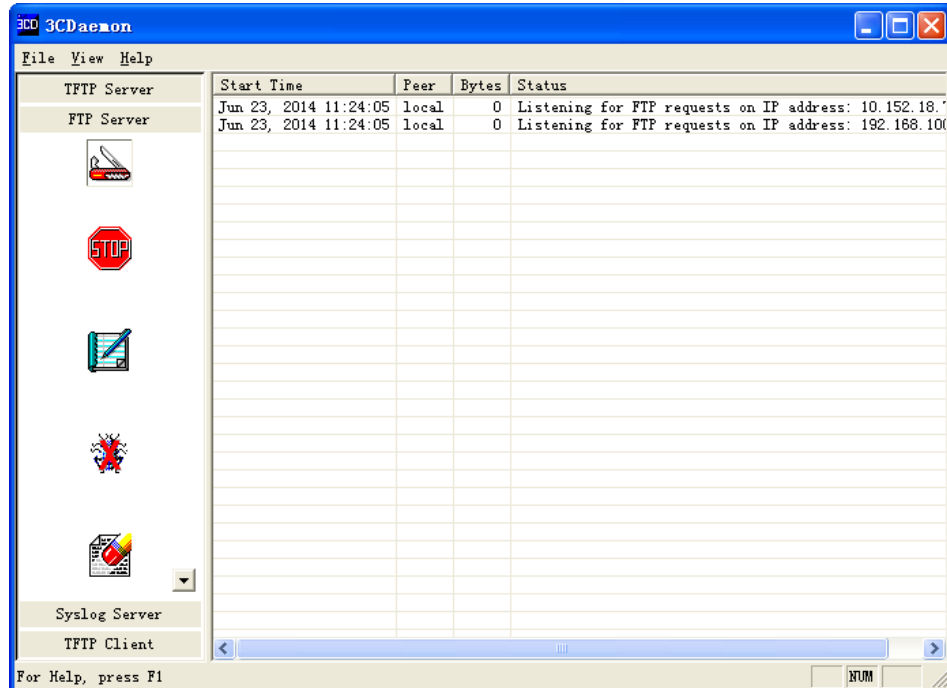
Hardware	Software version
SC 3570 switch series	Release 11xx

SC 5525 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 5520 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 3170 switch series	Release 11xx
SC 3130 switch series	Release 63xx

Procedures

1. Configure the FTP server:
 - # Assign the IP address 192.168.100.14/24 to the FTP server. (Details not shown.)
 - # Start the FTP server and specify a working directory. This example uses the 3CDaemon FTP server. (Details not shown.)
 - # Add a local user account. (Details not shown.)
 - # Set the username to **123456** and the password to **123456** for the user account.

Figure 4 Configuring the FTP server



2. Upgrade the switch:

(Switches supporting the management Ethernet interface) Assign an IP address to M-GigabitEthernet 0/0/0. Make sure the switch can reach the FTP server.

```
<Switch> system-view
System View: return to User View with Ctrl+Z.
[Switch] interface m-gigabitethernet 0/0/0
[Switch-M-GigabitEthernet0/0/0] ip address 192.168.100.66 255.255.255.0
[Switch-M-GigabitEthernet0/0/0] quit
[Switch] quit
```

(Switches not supporting the management Ethernet interface) Assign an IP address to VLAN-interface 1. Make sure the switch can reach the TFTP server.

```
<Switch> system-view
[Switch] interface Vlan-interface1
[Switch-Vlan-interface1] ip address 192.168.100.66 255.255.255.0
[Switch-Vlan-interface1] quit
```

Verify that the switch can ping the FTP server.

```
<Switch> ping 192.168.100.14
Ping 192.168.100.14 (192.168.100.14): 56 data bytes, press CTRL_C to break
56 bytes from 192.168.100.14: icmp_seq=0 ttl=64 time=10.701 ms
56 bytes from 192.168.100.14: icmp_seq=1 ttl=64 time=2.678 ms
56 bytes from 192.168.100.14: icmp_seq=2 ttl=64 time=2.282 ms
56 bytes from 192.168.100.14: icmp_seq=3 ttl=64 time=1.617 ms
56 bytes from 192.168.100.14: icmp_seq=4 ttl=64 time=1.701 ms
```

--- Ping statistics for 192.168.100.14 ---

```
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss
round-trip min/avg/max/std-dev = 1.617/3.796/10.701/3.474 ms
```


Save the configuration.

```
<Switch> save
The current configuration will be written to the device. Are you sure? [Y/N]:y
Please input the file name(*.cfg) [flash:/startup.cfg]
(To leave the existing filename unchanged, press the enter key):
flash:/startup.cfg exists, overwrite? [Y/N]:y
Validating file. Please wait...
Configuration is saved to mainboard device successfully.
```

Use the username **123456** and the password **123456** to log in to the FTP server.

```
<Switch> ftp 192.168.100.14
Connected to 192.168.100.14 (192.168.100.14).
220 3Com 3CDaemon FTP Server Version 2.0
User (192.168.100.14:(none)): 123456
331 User name ok, need password
Password:
230 User logged in
Remote system type is UNIX.
Using binary mode to transfer files.
```

Use FTP to download the upgrade file **switch.ipe** from the FTP server to the root directory of the storage medium on the switch.

```
ftp> get switch.ipe
227 Entering passive mode (192,168,100,14,8,86)
125 Using existing data connection
226 Closing data connection; File transfer successful.
50445056 bytes received in 53.6 seconds (1.25 Mbyte/s)
ftp> quit
```

Specify **switch.ipe** as the main startup image file.

```
<Switch> boot-loader file flash:/switch.ipe slot 1 main
Verifying the file flash:/switch.ipe on slot 1. ...Done.
Images in IPE:
  boot.bin
  system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to slot 1.
Decompressing file switch.bin to flash:/boot.bin. ....Done.
Decompressing file switch.bin to
flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software
images at the next reboot on on slot 1.
```

Reboot the switch.

```
<Switch> reboot
```

Verifying the configuration

Verify that the software has been upgraded.

```
<Switch> display version
INTELBRA5 Comware Software, Version 7.1.070, Release xxxx
Copyright (c) 2004-2019 Intelbras S.A, All rights reserved.
```

```
INTELBRA5 SC 5525-24X-2HE uptime is 0 weeks, 0 days, 0 hours, 19
minutes Last reboot reason : User reboot
```

```
Boot image: flash:/boot.bin
Boot image version: 7.1.070, Release xxxx
  Compiled Jun 18 2019 17:52:09
System image: flash:/system.bin
System image version: 7.1.070, Release xxxx
  Compiled Jun 18 2019 17:52:09
----- More -----
```

Display the current software images and startup software images.

```
<Switch> display boot-loader
Software images on slot 1:
Current software images:
  flash:/boot.bin
  flash:/system.bin
Main startup software images:
  flash:/boot.bin
  flash:/system.bin
Backup startup software images:
None
```

Configuration files

- Switches supporting the management Ethernet interface:

```
#
interface M-GigabitEthernet0/0/0
ip address 192.168.100.66 255.255.255.0
#
```
- Switches not supporting the management Ethernet interface:

```
#
interface Vlan-interface1
ip address 192.168.100.66 255.255.255.0
#
```

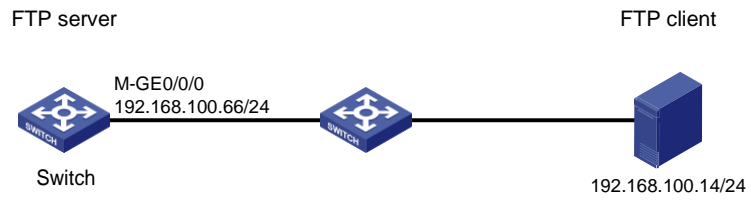
Example: Using the switch as an FTP server to upgrade software

Network configuration

As shown in [Figure 5](#):

- Enable the FTP server on the switch.
- Use FTP to upload a software upgrade file from an FTP client to upgrade the switch.

Figure 5 Network diagram



Applicable hardware and software versions

The following matrix shows the hardware and software versions to which this configuration example is applicable:

Hardware	Software version
SC 3570 switch series	Release 11xx
SC 3570 switch series	Release 11xx
SC 3570 switch series	Release 11xx
SC 3570 switch series	Release 11xx
SC 3570 switch series	Release 11xx

Analysis

To use the switch as an FTP server, you must create a local user account on the switch to provide FTP service.

Restrictions and guidelines

You must set the file transfer mode to binary for FTP to transfer files correctly.

Procedures

1. Configure the FTP server:

(Switches supporting the management Ethernet interface) Assign an IP address to M-GigabitEthernet 0/0/0.

```
<Switch> system-view
System View: return to User View with Ctrl+Z.
[Switch] interface m-gigabitethernet 0/0/0
[Switch-M-GigabitEthernet0/0/0] ip address 192.168.100.66 255.255.255.0
[Switch-M-GigabitEthernet0/0/0] quit
```

(Switches not supporting the management Ethernet interface) Assign an IP address to VLAN-interface 1. Make sure the switch can reach the TFTP server.

```
<Switch> system-view
[Switch] interface Vlan-interface1
[Switch-Vlan-interface1] ip address 192.168.100.66 255.255.255.0
[Switch-Vlan-interface1] quit
```

Add a local user account. Set the username to **abc** and the password to **a123456789**.

```
[Switch] local-user abc
[Switch-luser-abc] password simple a123456789
```

Assign the network-admin user role to the user account.

```
[Switch-luser-abc] authorization-attribute user-role network-admin
```

Remove the default network-operator user role.

```
[Switch-luser-abc] undo authorization-attribute user-role network-operator
```

Assign FTP service to the user account.

```
[Switch-luser-abc] service-type ftp
[Switch-luser-abc] quit
```

Enable the FTP server.

```
[Switch] ftp server enable
```

```
[Switch] quit
```

Save the configuration.

```
<Switch> save
```

The current configuration will be written to the device. Are you sure? [Y/N]:y

Please input the file name(*.cfg)[flash:/startup.cfg]

(To leave the existing filename unchanged, press the enter key):

```
flash:/startup.cfg exists, overwrite? [Y/N]:y
Validating file. Please wait...
Saved the current configuration to mainboard device successfully.
```

2. Configure the FTP client:

Assign the IP address 192.168.100.14/24 to the FTP client. Make sure the FTP client can reach the switch. (Details not shown.)

Use the username **abc** and the password **a123456789** to log in to the FTP server.

```
C:\Documents and Settings\Administrator> ftp 192.168.100.66
Connected to 192.168.100.66.
```

```
220 FTP service ready.
```

```
User (192.168.100.66:(none)): abc
```

```
331 Password required for abc.
```

```
Password:
```

```
230 User logged in.
```

Access the directory that contains the upgrade file.

```
ftp> lcd E:\
```

```
Local directory now E:\
```

Set the file transfer mode to binary.

```
ftp> binary
```

```
200 TYPE is now 8-bit binary
```

Transfer the upgrade file **switch.ipe** to the root directory of the storage medium on the FTP server.

```
ftp> put switch.ipe
```

```
200 PORT command successful
```

```
150 Connecting to port 2903
```

```
226 File successfully transferred
```

```
ftp: 50445056 sent in 1.05Seconds 67282.77Kbytes/sec.
```

Verify that the image file is saved on the FTP server.

```
ftp> ls switch.ipe
```

```
200 PORT command successful
```

```
150 Connecting to port 3391
```

```
switch.ipe
```

```
226 1 matches total
```

```
ftp: 24 bytes received in 0.00Seconds 24000.00Kbytes/sec.
```

Close the FTP connection.

```
ftp> bye
```

3. Upgrade the switch:

Specify **switch.ipe** as the main startup image file.

```
<Switch> boot-loader file flash:/switch.ipe slot 1 main
```

```
Verifying the IPE file and the images ....Done.
```

```
Verifying the file flash:/switch.ipe on slot 1. ...Done.
```

```
Images in IPE:
```

```
boot.bin
```

```
system.bin
```

```
This command will set the main startup software images. Continue? [Y/N]:y
```

```
Add images to slot 1.
```

```
Decompressing file switch.bin to flash:/boot.bin. ....Done.
```

```
Decompressing file switch.bin to
flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software
images at the next reboot on slot 1.
# Reboot the switch.
<Switch> reboot
```

Verifying the configuration

Verify that the software has been upgraded.

```
<Switch> display version
INTELBRAS Comware Software, Version 7.1.070, Release xxxx
Copyright (c) 2004-2019 Intelbras S.A, All rights reserved. INTELBRAS SC
5525-24X-2HE uptime is 0 weeks, 0 days, 0 hours, 19 minutes
Last reboot reason : User reboot

Boot image: flash:/boot.bin
Boot image version: 7.1.070, Release xxxx
  Compiled Jun 18 2019 17:52:09
System image: flash:/system.bin
System image version: 7.1.070, Release xxxx
  Compiled Jun 18 2019 17:52:09
----- More -----
```

Display the current software images and startup software images.

```
<Switch> display boot-loader
Software images on slot 1:
Current software images:
  flash:/boot.bin
  flash:/system.bin
Main startup software images:
  flash:/boot.bin
  flash:/system.bin
Backup startup software images:
None
```

Configuration files

- Switches supporting the management Ethernet interface:

```
#
interface M-GigabitEthernet0/0/0
ip address 192.168.100.66 255.255.255.0
#
local-user abc class manage
password hash
$H$6$YMVbbwFL/vviWcQu$+CuTbYCehNZtZo5RCXiadpYbXYWa2omt5TUtEh3UPCg3fZjxYCp5WzbuE2G
oowVi2YA/BK+mnSZJZqi5jRDuCG==
service-type ftp
authorization-attribute user-role network-admin
```

```
#
ftp server enable
#
```

- **Switches not supporting the management Ethernet interface:**

```
#
interface Vlan-interface1
ip address 192.168.100.66 255.255.255.0
#
local-user abc class manage
password hash
$H$6$YMVbbwFL/vviWcQu$+CuTbYCehNZtZo5RCXiadpYbXYWa2omt5TUtEh3UPCg3fZjxYCp5WzbuE2G
oowVi2YA/BK+mnSZJZqi5jRDuCg==
service-type ftp
authorization-attribute user-role network-admin
#
ftp server enable
#
```