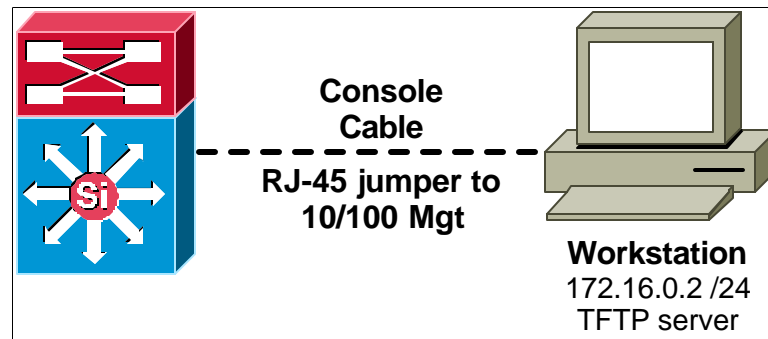


Lab 3.1.3.1: Upgrading the 4006 Supervisor Software



Objective

It is possible that when the new Catalyst 4006 arrives that the Supervisor unit will not recognize the L3 module. The software image must be at least 5.5(4) to recognize the L3 module. Many early shipments came with 5.4(2) or older. This set of instructions will cover upgrading the software image.

The same process will work for any future upgrades.

Scenario

A WS-X4232-L3 layer three Router Switch Card has been added to an existing 4003 or 4006 chassis. After installing it, you discover that the Supervisor unit does not recognize the new module. A check of the configuration shows that the software image is too old to support the new module. The following steps cover the process of upgrading the software.

Step 1

To confirm the software version, use the **show config** command while connected to the Supervisor module via the console port (roll-over cable). **Note:** If you haven't used the Catalyst 4006 before, you get to the Privilege (enable) mode the same as other Cisco devices. If you haven't set passwords, just press **Enter** when prompted for both passwords.

[illegible]

```

#system web interface version(s)
!
#test
set test diaglevel minimal
!
#frame distribution method
set port channel all distribution mac both
!
#ip
set interface sl0 down
!
#syslog
set logging level cops 2 default
!
#set boot command
set boot config-register 0x2
set boot system flash bootflash:cat4000.5-4-2.bin           (Shows image used)
!
#mls
set mls nde disable
!
#port channel
set port channel 1/1-2 1
!
#module 1 : 2-port 1000BaseX Supervisor
!
#module 2 empty
!
#module 3 empty
!
#module 4 empty
!
#module 5 empty
!
#module 6 empty
end

```

The L3 module is in Module 3 (slot 3 from the top) on the unit. The “empty” above confirms that the Supervisor module does not recognize the new L3 module.

Step 2

(Optional for students) The following steps show the process to download the image from the www.cisco.com site. **Students:** The instructor will tell you where to find the appropriate image.

Go to the Web site and login with your CCO account information based on your Smartnet agreement. Choose **Software Center** from the Service & Support section.



Choose **LAN Switching Software** from the Software Products & Downloads list.

Software Products & Downloads

[Cisco IOS Software](#)
[Access Software](#)
[Cable/Broadband Software](#)
[Cisco Secure Software](#)
[CiscoWorks2000 Software](#)
[Content Delivery Devices](#)
[LAN Switching Software](#)
[Network Mgmt Software](#)

Choose Catalyst 4000 from the list of Catalyst Switch Software choices.

● Catalyst Switch Software

Catalyst 1200	Catalyst 3500XL
Catalyst 1600	Catalyst 3900
Catalyst 1700	Catalyst 4000
Catalyst 1800	Catalyst 4232

Choose the version by clicking on the link. The newest is near the bottom.

Select a File to Download					
Filename	Description	Release	Size 'Bytes'	More Info	
cat4000-cv5-4-1.bin	Catalyst 4000 Ciscoview ADP Flash Code	5.4(1)	2197413	?	
cat4000-cv5-5-1.bin	Catalyst 4000 Ciscoview ADP Flash Code	5.5(1)	2239867	?	
cat4000-cv5-5-2.bin	Catalyst 4000 Ciscoview ADP Flash Code	5.5(2)	2223426	?	
cat4000-cv5-5-3.bin	Catalyst 4000 Ciscoview ADP Flash Code	5.5(3)	2223426	?	
cat4000-cv5-5-5.bin	Catalyst 4000 Ciscoview ADP Flash Code	5.5(5)	2223426	?	
cat4000-cv6-1-1.bin	Catalyst 4000 Ciscoview ADP Flash Code	6.1(1)	2512556	?	
cat4000-promuupgrade.5-5-4.bin	Cat4000 Rommon Upgrade	5.5(4)	1895680	?	
cat4000-releasenote.4-5-11.pdf	Catalyst 4000 Release Notes	4.5(11)	154716	?	
cat4000-releasenote.5-5-6.pdf	Catalyst 4000 Release Notes	5.5(6)	221644	?	
cat4000-releasenote.5-5-7.pdf	Catalyst 4000 Release Notes	5.5(7)	1514344	?	
cat4000-releasenote.6-1-2.pdf	Catalyst 4000 Release Notes	6.1(2)	345772	?	
cat4000-releasenote.6-1-3.pdf	Catalyst 4000 Release Notes	6.1(3)	432886	?	
cat4000-releasenote.6-2-1.pdf	Catalyst 4000 Release Notes	6.2(1)	388452	?	
cat4000.4-5-10.bin	Catalyst 4000 Image	4.5(10)	2843352	?	
cat4000.4-5-11.bin	Catalyst 4000 Image	4.5(11)	2846020	?	
cat4000.5-5-4b.bin	Catalyst 4000 Image	5.5(4b)	3642740	?	
cat4000.5-5-5.bin	Catalyst 4000 Image	5.5(5)	3643984	?	
cat4000.5-5-6.bin	Catalyst 4000 Image	5.5(6)	3646588	?	
cat4000.5-5-7.bin	Catalyst 4000 Image	5.5(7)	3648964	?	
cat4000.6-1-1.bin	Catalyst 4000 Image	6.1(1)	3817476	?	
cat4000.6-1-2.bin	Catalyst 4000 Image	6.1(2)	3830900	?	
cat4000.6-1-3.bin	Catalyst 4000 Image	6.1(3)	3834504	?	
cat4000.6-2-1.bin	Catalyst 4000 Image	6.2(1)	4089736	?	

Agree to the Software License Agreement.

Pick a Download Site and then just follow normal download instructions.

Step 3

The upgrade process uses TFTP very much like the CCNA and other CCNP exercises, with just a couple twists unique to this model of switch.

Make sure that the TFTP server is running and that the software image is in the default directory for the server. Note the IP address of the TFTP server.

Cabling: Use a Cisco console cable to the Supervisor Console port to execute the commands and monitor the process. Use a straight through RJ-45 jumper to connect the Supervisor module 10/100Mgmt port to the TFTP server's NIC. If you go through a switch to get to the TFTP server, you will need to use a crossover cable between the 4006 and the switch. The 10/100Mgmt interface is a standard switch port.

Configuring the me1 (10/100Mgmt) port: The me1 interface must be assigned an address in the same subnet as the TFTP server. The commands to set the me1 from the enable prompt are:

```
Console> (enable) set interface me1 172.16.0.5 255.255.255.0
```

```
Interface me1 IP address and netmask set.  
Console> (enable)
```

Note: The above address fit in with my TFTP server, but would undoubtedly be different if you are doing this as anything but a practice lab.

Verify that the change, by using the **show config** command:

```
Console> (enable) show config  
This command shows non-default configurations only.  
begin  
!  
# ***** NON-DEFAULT CONFIGURATION *****  
!  
#time: Wed Apr 18 2001, 14:48:43  
!  
#version 5.4(2)  
!  
#system web interface version(s)  
!  
#test  
set test diaglevel minimal  
!  
#frame distribution method  
set port channel all distribution mac both  
!  
#ip  
set interface sl0 down  
set interface me1 172.16.0.5 255.255.255.0 172.16.0.255      (here it is)  
!  
#syslog  
set logging level cops 2 default  
!                      (rest of output omitted)
```

Step 4

Confirm connectivity with the TFTP server by pinging the server:

```
Console> (enable) ping 172.16.0.2  
!!!!!  
  
----172.16.0.2 PING Statistics----  
5 packets transmitted, 5 packets received, 0% packet loss  
round-trip (ms)  min/avg/max = 14/15/17  
Console> (enable)
```

Note: On some versions of the IOS you will get a "172.16.0.2 is alive" message instead of the typical Cisco ping output.

If this fails, check that the TFTP server is on, the IP addresses, and that the cabling is correct (see Step 3). Troubleshoot as needed.

Step 5

Use the **show flash** command to check the contents of Flash to confirm that space is available for the new image. It will ultimately be in there with the existing image(s):

```
Console> (enable) show flash  
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name  
  1 .. ffffffff 548c8f9c 39cf70 17 3526384 --- -- ---- -:--:-- cat4000.5-4-2.bin  
  
12071928 bytes available (3526384 bytes used)
```

```
Console> (enable)
```

Step 6

Just to make sure that you have a backup of the current image, start with copying the image to the TFTP server. In addition to creating a backup, it familiarizes you with the steps and the time required before you start copying the new image into the 4006.

You will be expected to enter the TFTP server IP address and the current image name. This final item is case sensitive and might be best handled by copying it from the **show flash** output and pasting it here as needed.

```
Console> (enable) copy flash tftp
Flash device [bootflash]? Name of file to copy from []? cat4000.5-4-2.bin
IP address or name of remote host []? 172.16.0.2
Name of file to copy to []? cat4000.5-4-2.bin (You could rename here)
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
File has been copied successfully.

Console> (enable)
```

The **X** shown at the end of the second row of Cs is to represent a spinning line that looks very much like a turnstile. This will appear on the screen for several minutes until the copy is done. It is a 4MB file so it will take several minutes to copy.

Step 7

(Optional for students) You are now ready for the real thing. **Suggestion:** Use windows explorer and select the new image name (as if you were going to rename it) and do a copy. You will use this when the **copy tftp** command asks for the file name.

Note that the following default values for each prompt assumes you did the **copy flash tftp** step earlier. Because of this we can just press **Enter** at the prompt 1. Press **Enter** at prompt 3 and 4 unless you want to rename the image.

```
Console> (enable) copy tftp flash
IP address or name of remote host [172.16.0.2]?
Name of file to copy from [cat4000.5-4-2.bin]? cat4000.6-2-1.bin
Flash device [bootflash]?
Name of file to copy to [cat4000.6-2-1.bin]?
7981064 bytes available on device bootflash, proceed (y/n) [n]? y
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
File has been copied successfully.

Console> (enable)
```

The **X** shown before the first row of Cs is to represent a spinning line that looks very much like a turnstile. This will appear on the screen for several minutes until the copy is done. This is exactly the opposite of when you copy to the TFTP server.

Step 8

(Optional for students) To confirm that it happened, use the show flash command. You will see that both images are now present.

```
Console> (enable) show flash
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
  1 .. ffffffff 548c8f9c 39cf70 17 3526384 --- -- -- --:--:-- cat4000.5-4-2.bin
  2 .. ffffffff d39d5c46 783778 17 4089736 Apr 17 2001 14:40:15 cat4000.6-2-1.bin

7981192 bytes available (7616376 bytes used)

Console> (enable)
```

Step 9

(Optional for students) Use the **set boot system flash bootflash: image_name prepend** command to tell the 4006 which image to use. It is critical that you add the **prepend** option to the end of the command to move this image ahead of the existing image – they will both be listed on the configuration. If you forget this option the machine will boot to the old image.

The following output starts with using the help feature to see the options:

```
Console> (enable) set boot system flash bootflash:cat4000.6-2-1.bin ?
      prepend          Put as first priority
      <mod>             Module number
      <cr>
Console> (enable) set boot system flash bootflash:cat4000.6-2-1.bin prepend
Console> (enable)
```

Use the **show config** command to confirm that the command worked. The following is only the appropriate output lines.

```
Console> (enable) show config
!
#set boot command
set boot config-register 0x2
set boot system flash bootflash:cat4000.6-2-1.bin
set boot system flash bootflash:cat4000.5-4-2.bin
!
#mls
set mls nde disable
```

Step 10

(Optional for students) Reboot the device with the **reset** command. The configuration is automatically saved on a 4006 so that you do not need to do a copy run start command first.

Use the **show config** and **show module** commands to confirm that the changes have been made.

```
Console> (enable) show config
This command shows non-default configurations only.
Use 'show config all' to show both default and non-default configurations.
.....
..

begin
!
# ***** NON-DEFAULT CONFIGURATION *****
!
#time: Wed Apr 18 2001, 15:04:09
!
#version 6.2(1)                                     (Note the new version)
!
#system web interface version(s)
!
#test
set test diaglevel minimal
!
#frame distribution method
set port channel all distribution mac both
!
#ip
set interface sl0 down
```

```

set interface me1 172.16.0.5 255.255.255.0 172.16.0.255
!
#syslog
set logging level cops 2 default
!
#set boot command
set boot config-register 0x2
set boot system flash bootflash:cat4000.6-2-1.bin
set boot system flash bootflash:cat4000.5-4-2.bin(This is ignored. Can be removed)
!
#mls
set mls nde disable
!
#port channel
set port channel 1/1-2 1
!
#module 1 : 2-port 1000BaseX Supervisor
!
#module 2 empty
!
#module 3 : 34-port Router Switch Card          (The L3 module is now appearing)
!
#module 4 empty
!
#module 5 empty
!
#module 6 empty
end
Console> (enable)
Console> (enable) show module

```

Mod	Slot	Ports	Module-Type	Model	Sub	Status
1	1	2	1000BaseX Supervisor	WS-X4013	no	ok
3	3	34	Router Switch Card	WS-X4232-L3	no	ok

Mod	Module-Name	Serial-Num
1		JAB044200Q9
3		JAB044204L3

Mod	MAC-Address(es)	Hw	Fw	Sw
1	00-03-6b-a8-13-00 to 00-03-6b-a8-16-ff	1.2	5.4(1)	6.2(1)
3	00-01-96-d8-d9-ca to 00-01-96-d8-d9-eb	1.5	12.0(7)W5(12.0(7)W5(15d)

```

Console> (enable)

```

Step 11

(Optional for students) If you want to remove the old image from the flash, you need to use the **cd bootflash:** command to move to the bootflash area. The **dir** command can be used to see the contents. Note that the output is a little different than the **show flash** command earlier.

```

Console> cd bootflash:
Console> dir
-#- -length- -date/time----- name
  1  3526384 --- -- --:--:-- cat4000.5-4-2.bin
  2  4089736 Apr 17 2001 14:40:15 cat4000.6-2-1.bin

7981192 bytes available (7616376 bytes used)

```

Go to the privilege mode and use the **delete** command to remove the file. Use the **dir** command to confirm that the file *appears* gone.


```
Console> enable
```

```
Enter password:
```

```
Console> (enable) delete cat4000.5-4-2.bin
```

```
Console> (enable) dir
```

```
-#- -length- ----date/time----- name  
  2  4089736 Apr 17 2001 14:40:15 cat4000.6-2-1.bin
```

```
7981192 bytes available (7616376 bytes used)
```

Note that the “bytes available” and “bytes used” have not changed. The file is actually just hidden – much like deleting records in a database. To see the deleted file, use the **dir deleted** command. To remove the file, use the **squeeze bootflash:** command.

```
Console> (enable) dir deleted
```

```
-#- ED --type-- --crc--- -seek-- nlen -length- ----date/time---- name  
  1 .. ffffffff 548c8f9c 39cf70 17 3526384 -- -- ---- --:-:- cat4000.5-4-2.bin
```

```
7981192 bytes available (7616376 bytes used)
```

```
Console> (enable) squeeze bootflash:
```

```
All deleted files will be removed, proceed (y/n) [n]? y
```

```
Squeeze operation may take a while, proceed (y/n) y
```

On my device this took less than two minutes.

```
Console> (enable) dir
```

```
-#- -length- ----date/time----- name  
  1  4089736 Apr 17 2001 14:40:15 cat4000.6-2-1.bin
```

```
12070928 bytes available (4089736 bytes used)
```

You are done