

# Replace a Failed Redundant Supervisor Module in the Catalyst 6500 Series Switches Running CatOS (Hybrid)

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## Introduction

This document shows how to replace a failed redundant supervisor module in Catalyst 6500 Series Switches. This document explains the procedure for the supervisor modules that run in Hybrid OS.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Configuring Redundancy
- Configuring NSF with SSO MSFC Redundancy

### Components Used

The information in this document is based on these software and hardware versions:

- Cisco Catalyst 6500 Series Switch
- Supervisor Module: WS-SUP32-GE-3B
- Hybrid OS:
  - ◆ Catalyst OS (CatOS) 8.5(8)
  - ◆ MSFC IOS® 12.2(18)SXF7

The information in this document was created from the devices in a specific lab environment. All of the

devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Related Products

This document can also be used with these hardware and software versions:

- Supervisor 720 that runs Hybrid OS
- Supervisor 2 that runs Hybrid OS

## Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

## Background Information

These are some of the important points related to redundant supervisor modules:

- On the standby supervisor engine, the console port is inactive, the module status shows as "standby", and the status for the uplink ports is shown normally.
- In order to allow you to control the booting of each supervisor engine separately, the configuration registers are not synchronized between the supervisor engines.
- If the software versions of the two supervisor engines are different, or if the NVRAM configuration of the two supervisor engines is different, the active supervisor engine automatically downloads its software image and configuration to the standby supervisor engine.
- The supervisor engines use two flash images: the boot image and the run-time image. The boot image filename, which is specified in the BOOT environment variable, is stored in NVRAM. The run-time image is the boot image that the ROM monitor uses to boot the supervisor engine. After the system boots, the run-time image resides in dynamic RAM (DRAM).
- The redundant supervisor engines must be of the same type with the same model feature card. The WS-X6K-SUP1-2GE and the WS-X6K-SUP1A-2GE, which are both without Policy Feature Cards (PFCs), are compatible for redundancy. For supervisor engines with PFCs, the PFCs must be identical for redundancy (two PFCs, two PFC2s, two PFC3As, two PFC3Bs, or two PFC3BXLs).

## Step by Step Procedure to Replace the Supervisor Module – Same Hybrid OS

This section provides the step by step procedure to replace the Supervisor Module 32 in a Catalyst 6500 Series Switch. This example uses a Cisco Catalyst 6509 Switch, which has two supervisor modules in slot 5 and 6. The supervisor module in slot 6 has failed. It is assumed that the failed supervisor module in slot 6 is removed from the chassis. You can see the procedure to add the new supervisor module into slot 6.

If you have an additional Cisco Catalyst 6500 Series Switch, you can connect the new supervisor on the switch and upgrade or downgrade the Hybrid OS to the same level as the supervisor in slot 5 of the production switch. If you have the same Hybrid OS in the new supervisor module, you do not need to configure anything on the new supervisor module. When you add the supervisor module into slot 6, the active supervisor engine automatically synchs the configuration. This section shows the step by step process and the checklist during the supervisor replacement.

This is the step by step procedure to replace the Supervisor Module 32 in a Catalyst 6500 Series Switch:

1. Add the supervisor module into slot 6.



```

%SYS-5-PORT_SSUPOK:Ports on standby supervisor (module 6) are up

%SYS-3-MOD_PORTINTFINSYNC:Port Interface in sync for Module 6

%DIAG-6-RUN_MINIMUM:Module 16: Running Minimal Diagnostics...

%DIAG-6-DIAG_OK:Module 16: Passed Online Diagnostics

%SYS-5-MOD_OK:Module 16(WS-F6K-MSFC2A,SAL1018LQ3C) is online

%MGMT-5-SYS_CONFIG_START_MOD_FAIL:Unable to start system configuration
for module 6

%MGMT-5-SYS_CONFIG_START_MOD_FAIL:Unable to start system configuration for
module 16

%SYS-5-SUP_IMGSYNSTART:Active supervisor is synchronizing bootdisk:
cat6000-sup32pfc3k8.8-5-8.bin

%SYS-5-SUP_IMGSYNCFINISH:Active supervisor has synchronized bootdisk:
cat6000-sup32pfc3k8.8-5-8.bin

```

```
Access2> (enable)
```

## 2. Verify the supervisor redundancy status:

```

Access2> (enable) show system highavailability
Highavailability: enabled
Highavailability versioning: disabled
Highavailability Operational-status: ON
Access2> (enable)

```

## 3. Verify the MSFC redundancy status:

```

Access2> (enable) session 15
Trying Router-15...
Connected to Router-15.
Escape character is '^]'.

LAB-Router>enable
LAB-Router#show redundancy
Redundant System Information :
-----
    Available system uptime = 10 minutes
    Switchovers system experienced = 0
        Standby failures = 0
    Last switchover reason = unsupported

    Hardware Mode = Duplex
    Configured Redundancy Mode = Stateful SwitchOver - SSO
    Operating Redundancy Mode = Stateful SwitchOver - SSO
    Maintenance Mode = Disabled
    Communications = Up

Current Processor Information :
-----
    Active Location = slot 5
    Current Software state = ACTIVE
    Uptime in current state = 10 minutes
    Image Version = Cisco Internetwork Operating System Software
IOS (tm) MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M),
Version 12.2(18)SXF7, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by cisco Systems, Inc.
Compiled Thu 23-Nov-06 01:03 by kellythw
    BOOT =

```



This module is now in standby mode.  
Console is disabled for standby supervisor

5. Console into Supervisor 6 and verify the supervisor and MSFC configuration.

## Step by Step Procedure to Replace the Supervisor Module – Different Hybrid OS

This section explains the step by step procedure to replace the Supervisor Module 32 in a Catalyst 6500 Series Switch. This example uses a Cisco Catalyst 6509 Switch which has two supervisor modules in slot 5 and 6. The supervisor module in slot 6 has failed. It is assumed that the failed supervisor module in slot 6 is removed from the chassis. You can see the procedure to add the new supervisor module into slot 6.

If you do not have an option to upgrade the new supervisor hybrid OS to the same version as the active supervisor, you can perform this procedure to add the supervisor module and synchronize the Hybrid OS and the switch configuration. Most of the procedure is automated. This document shows the step by step process and the checklist to be performed during the supervisor replacement.

### Verify Before You Add the New Supervisor Module

This section shows you the show output of the switch without the supervisor in slot 6.

- Show module
- Show version
- Boot variable

1. Show module output:

```
Access2> (enable) show module
Mod Slot Ports Module-Type Model Sub Status
-----
1 1 0 1000BaseX Ethernet no power-down
2 2 48 10/100BaseTX Ethernet WS-X6248-RJ-45 no ok
3 3 48 10/100BaseTX Ethernet WS-X6348-RJ-45 yes ok
4 4 48 10/100BaseTX Ethernet WS-X6348-RJ-45 yes ok
5 5 9 1000BaseX Supervisor WS-SUP32-GE-3B yes ok
15 5 1 Multilayer Switch Feature WS-F6K-MSFC2A no ok
7 7 5 Communication Media Mod. WS-SVC-CMM no ok
8 8 0 FXS no power-down
9 9 0 10/100BaseTX Ethernet no power-down
```

*!--- Output suppressed*

```
Mod Sub-Type Sub-Model Sub-Serial Sub-Hw Sub-Sw
-----
3 Inline Power Module WS-F6K-VPWR 1.0 1.1(1)
4 Inline Power Module WS-F6K-VPWR 1.0 1.1(1)
5 L3 Switching Engine III WS-F6K-PFC3B SAL1012GREU 2.1
Access2> (enable)
```

2. Show version output:

```
Access2> (enable) show version
WS-C6509 Software, Version NmpSW: 8.5(8)
Copyright (c) 1995-2006 by Cisco Systems
NMP S/W compiled on Dec 1 2006, 23:03:43
```

```
System Bootstrap Version: 12.2
```

System Boot Image File is 'bootdisk:cat6000-sup32pfc3k8.8-5-8.bin'  
System Configuration register is 0x2102

Hardware Version: 2.0 Model: WS-C6509 Serial #: SCA034500F5

PS1 Module: WS-CAC-6000W Serial #: AZS10130G7T

Mod	Port	Model	Serial #	Versions
2	48	WS-X6248-RJ-45	SAD03431007	Hw : 1.1 Fw : 4.2(0.24)VAI78 Sw : 8.5(8)
3	48	WS-X6348-RJ-45	SAD04150A2T	Hw : 1.1 Fw : 5.3(1) Sw : 8.5(8)
		WS-F6K-VPWR		Hw : 1.0 Sw : 1.1(1)
4	48	WS-X6348-RJ-45	SAD05070CNX	Hw : 2.0 Fw : 5.4(2) Sw : 8.5(8)
		WS-F6K-VPWR		Hw : 1.0 Sw : 1.1(1)
5	9	<b>WS-SUP32-GE-3B</b>	SAL1010F8KG	Hw : 4.2 Fw : 12.2 Fw1: 8.5(8) Sw : 8.5(8) Sw1: 8.5(8)
		WS-F6K-PFC3B	SAL1012GREU	Hw : 2.1 Sw :
7	5	WS-SVC-CMM	SAD100707YJ	Hw : 2.8 Fw : 12.4(7a), Sw : 12.4(7a),
15	1	WS-F6K-MSFC2A	SAL1012GG1X	Hw : 3.0 Fw : 12.2(18)SXF7 Sw : 12.2(18)SXF7

Module	DRAM			FLASH			NVRAM		
	Total	Used	Free	Total	Used	Free	Total	Used	Free
5	262144K	124421K	137723K	249772K	9796K	239976K	2048K	366K	1682K

Uptime is 0 day, 0 hour, 3 minutes  
Access2> (enable)

### 3. Boot variable:

*!--- Current working directory*

Access2> (enable) pwd  
bootdisk

*!--- Files in the bootdisk*

Access2> (enable) dir  
2 -rw- 10029260 Dec 13 2006 15:37:08 cat6000-sup32pfc3k8.8-5-8.bin

245735424 bytes available (10031104 bytes used)

*!--- Boot variable*

Access2> (enable) show boot  
BOOT variable = bootdisk:cat6000-sup32pfc3k8.8-5-8.bin,1;  
CONFIG\_FILE variable = bootflash:switch.cfg





```

mode
2007 May 21 20:26:23 %SYS-5-SUP_IMGSYNC:File synchronization process will start
in 120 seconds
2007 May 21 20:27:08 %SYS-1-SYS_LCPERR1:Module 16: RP requested reset of peer RP
: MSFC on module 16 will be reset
2007 May 21 20:27:24 %DIAG-6-RUN_MINIMUM:Module 6: Running Minimal Diagnostics..
.
2007 May 21 20:27:24 %DIAG-6-DIAG_OK:Module 6: Passed Online Diagnostics
2007 May 21 20:27:25 %SYS-3-TRANSCEIVER_NOTSUPP: Transceiver on port 6/1 is not
supported
2007 May 21 20:27:25 %SYS-3-TRANSCEIVER_NOTSUPP: Transceiver on port 6/2 is not
supported
2007 May 21 20:27:25 %SYS-5-PORT_SSUPOK:Ports on standby supervisor (module 6) a
re up
2007 May 21 20:27:25 %SYS-3-MOD_PORTINTFINSYNC:Port Interface in sync for Module
6
2007 May 21 20:28:24 %SYS-5-SUP_IMGSYNCSTART:Active supervisor
is synchronizing bootdisk:cat6000-sup32pfc3k8.8-5-8.bin
2007 May 21 20:28:25 %SYS-5-SUP_IMGSYNCFINISH:Active supervisor has synchronized
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin

```

```
Access2> (enable)
```

```
Access2> (enable) dir
```

```
2 -rw- 10029260 Dec 13 2006 15:37:08 cat6000-sup32pfc3k8.8-5-8.bin
```

```
245735424 bytes available (10031104 bytes used)
```

```
Access2> (enable) dir 6/
```

```
2 -rw- 9356096 May 11 2006 19:04:09 cat6000-sup32pfc3k8.8-4-5.bin
```

```
2287 -rw- 10029260 May 21 2007 20:24:10 RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin
```

```
!--- You can see the copied CatOS name starts with RTSYNC_
```

```
236900352 bytes available (19390464 bytes used)
```

```
Access2> (enable) show system highavailability
```

```
Highavailability: enabled
```

```
Highavailability versioning: disabled
```

```
Highavailability Operational-status: ON
```

## Verify the Supervisor Module After You add the New Supervisor Module

Perform these steps:

### 1. Show module output:

```
Access2> (enable) show module
```

Mod	Slot	Ports	Module-Type	Model	Sub	Status
1	1	0	1000BaseX Ethernet		no	power-down
2	2	48	10/100BaseTX Ethernet	WS-X6248-RJ-45	no	ok
3	3	48	10/100BaseTX Ethernet	WS-X6348-RJ-45	yes	ok
4	4	48	10/100BaseTX Ethernet	WS-X6348-RJ-45	yes	ok
5	5	9	<b>1000BaseX Supervisor</b>	<b>WS-SUP32-GE-3B</b>	<b>yes</b>	<b>ok</b>
15	5	1	<b>Multilayer Switch Feature</b>	<b>WS-F6K-MSFC2A</b>	<b>no</b>	<b>ok</b>
6	6	9	<b>1000BaseX Supervisor</b>	<b>WS-SUP32-GE-3B</b>	<b>yes</b>	<b>standby</b>
7	7	5	Communication Media Mod.	WS-SVC-CMM	no	ok
8	8	0	FXS		no	power-down
9	9	0	10/100BaseTX Ethernet		no	power-down

```
!--- Output suppressed
```

Mod	Sub-Type	Sub-Model	Sub-Serial	Sub-Hw	Sub-Sw
3	Inline Power Module	WS-F6K-VPWR		1.0	1.1(1)
4	Inline Power Module	WS-F6K-VPWR		1.0	1.1(1)
5	L3 Switching Engine III	WS-F6K-PFC3B	SAL1012GREU	2.1	
6	L3 Switching Engine III	WS-F6K-PFC3B	SAL1017L9WJ	2.1	

## 2. Verify redundancy-history:

```
Access2> (enable) show system redundancy-history
Maximum entries of switchover history table = 10
System cold start due to switchover failure = 4
Standby available time (secs*100)           = 33291

Redundant History Switchover Table:
```

## Verify the MSFC IOS

The CatOS is copied automatically during the SYNC process. However, IOS at the MSFC is not copied automatically.

### 1. Verify the IOS and redundancy of the MSFC:

```
!--- 1. Connect to MSFC
```

```
Access2> (enable) session 15
Trying Router-15...
Connected to Router-15.
Escape character is '^']'.
```

```
LAB-Router>enable
```

```
!--- 2. Verify the IOS file in the bootflash
```

```
LAB-Router#dir
Directory of bootflash:/
```

```
      1  -rwx   17966324  Dec 13 2006 15:12:29 +00:00  c6msfc2a-adventerprisek9_w
an-mz.122-18.SXF7.bin
```

```
65536000 bytes total (47569548 bytes free)
```

```
!--- 3. Show version output
```

```
LAB-Router#show version
Cisco Internetwork Operating System Software
IOS (tm) MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M), Version 12.2(18)SXF7,
RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by cisco Systems, Inc.
Compiled Thu 23-Nov-06 01:03 by kellythw
Image text-base: 0x40101040, data-base: 0x42638000
```

```
ROM: System Bootstrap, Version 12.2(17r)SX3, RELEASE SOFTWARE (fc1)
BOOTLDR: MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M), Version 12.2(18)SXF7,
RELEASE SOFTWARE (fc1)
```

```
LAB-Router uptime is 26 minutes
System returned to ROM by power-on
System image file is "bootflash:c6msfc2a-adventerprisek9_wan-mz.122-18.SXF7.bin"
```

*!--- 4. MSFC redundancy status*

LAB-Router#**show redundancy**

Redundant System Information :

-----  
Available system uptime = 4 minutes  
Switchovers system experienced = 0  
Standby failures = 0  
Last switchover reason = unsupported

Hardware Mode = Duplex  
**Configured Redundancy Mode = Stateful SwitchOver - SSO**  
**Operating Redundancy Mode = Route Processor Redundancy**

*!--- It is running in the RPR mode because the standby MSFC  
!--- is running different version of IOS.*

Maintenance Mode = Disabled  
Communications = Up

Current Processor Information :

-----  
**Active Location = slot 5**  
Current Software state = ACTIVE  
Uptime in current state = 4 minutes  
Image Version = Cisco Internetwork Operating System Software  
IOS (tm) MSFC2A Software (C6MSFC2A-**ADVENTERPRISEK9\_WAN-M**),  
**Version 12.2(18)SXF7**, RELEASE SOFTWARE (fc1)  
Technical Support: <http://www.cisco.com/techsupport>  
Copyright (c) 1986-2006 by cisco Systems, Inc.  
Compiled Thu 23-Nov-06 01:03 by kellythw  
BOOT =  
CONFIG\_FILE =  
BOOTLDR =  
Configuration register = 0x2102

Peer Processor Information :

-----  
**Standby Location = slot 6**  
Current Software state = STANDBY COLD  
Uptime in current state = 2 minutes  
Image Version = Cisco Internetwork Operating System Software  
IOS (tm) MSFC2A Software (C6MSFC2A-**IPBASE\_WAN-M**),  
**Version 12.2(18)SXF4**, RELEASE SOFTWARE (fc1)  
Technical Support: <http://www.cisco.com/techsupport>  
Copyright (c) 1986-2006 by cisco Systems, Inc.  
Compiled Thu 23-Mar-06 14:53 by tinhuang  
BOOT =  
CONFIG\_FILE =  
BOOTLDR =  
Configuration register = 0x2102

*!--- Note that the boot variable is blank. The MSFC boots the  
!--- first IOS image in the bootflash:*

LAB-Router#

LAB-Router#**exit**  
Access2> (enable)

## 2. Upgrade the IOS on the standby MSFC.

### a. Copy the IOS image to the standby MSFC:

LAB-Router#**copy c6msfc2a-adventerprisek9\_wan-mz.122-18.SXF7.bin slavebootflas**

```
Destination filename [c6msfc2a-adventerprisek9_wan-mz.122-18.SXF7.bin]?
Copy in progress...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
17966324 bytes copied in 44.180 secs (406662 bytes/sec)
LAB-Router#
```

```
!--- Delete the old IOS image. Because the boot variable is blank
!--- and the MSFC boots the first IOS image in the bootflash:
```

```
LAB-Router#cd slavebootflash:
```

```
LAB-Router#delete c6msfc2a-ipbase_wan-mz.122-18.SXF4.bin
Delete filename [c6msfc2a-ipbase_wan-mz.122-18.SXF4.bin]?
Delete slavebootflash:c6msfc2a-ipbase_wan-mz.122-18.SXF4.bin? [confirm]
LAB-Router#
```

### b. Reload the standby supervisor module:

```
LAB-Router#exit
```

```
Access2> (enable) reset 6
This command will reset module 6.
Do you want to continue (y/n) [n]? y
2007 May 21 21:14:03 %SYS-5-MOD_RESET:Module 6 reset from Console//
Resetting module 6...
```

```
Access2> (enable) show system highavailability
Highavailability: enabled
Highavailability versioning: disabled
Highavailability Operational-status: OFF(standby-supervisor-not-present)
Access2> (enable)
```

```
2007 May 21 21:16:01 %SYS-5-SUP_MODSBY:Module 6 is in standby
mode
2007 May 21 21:16:02 %SYS-5-SUP_IMGSYNC:File synchronization
process will start
in 120 seconds
2007 May 21 21:16:03 %DIAG-6-RUN_MINIMUM:Module 6: Running Minimal
Diagnostics..
.
2007 May 21 21:16:05 %DIAG-6-DIAG_OK:Module 6: Passed Online Diagnostics
2007 May 21 21:16:06 %SYS-3-TRANSCEIVER_NOTSUPP:
Transceiver on port 6/1 is not supported
2007 May 21 21:16:06 %SYS-3-TRANSCEIVER_NOTSUPP:
Transceiver on port 6/2 is not supported
2007 May 21 21:16:06 %SYS-5-PORT_SSUPOK:Ports on standby supervisor
(module 6) are up
2007 May 21 21:16:07 %SYS-3-MOD_PORTINTFINSYNC:Port Interface in
sync for Module
6
2007 May 21 21:16:49 %SYS-1-SYS_LCPERR1:Module 16: RP requeste
d reset of peer RP: MSFC on module 16 will be reset
```

```
Access2> (enable) show system highavailability
Highavailability: enabled
Highavailability versioning: disabled
Highavailability Operational-status: ON
Access2> (enable)
```

### 3. Verify the MSFC IOS after the upgrade:

```
Access2> (enable) session 15
```

```
Trying Router-15...
Connected to Router-15.
Escape character is '^]'.

LAB-Router>enable
```

```
LAB-Router#show redundancy
```

```
Redundant System Information :
```

```
-----
Available system uptime = 17 minutes
Switchovers system experienced = 0
Standby failures = 1
Last switchover reason = unsupported
```

```
Hardware Mode = Duplex
Configured Redundancy Mode = Stateful SwitchOver - SSO
Operating Redundancy Mode = Stateful SwitchOver - SSO
Maintenance Mode = Disabled
Communications = Up
```

```
Current Processor Information :
```

```
-----
Active Location = slot 5
Current Software state = ACTIVE
Uptime in current state = 17 minutes
Image Version = Cisco Internetwork Operating System Software
IOS (tm) MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M),
Version 12.2(18)SXF7, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by cisco Systems, Inc.
Compiled Thu 23-Nov-06 01:03 by kellythw
BOOT =
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102
```

```
Peer Processor Information :
```

```
-----
Standby Location = slot 6
Current Software state = STANDBY HOT
Uptime in current state = 0 minutes
Image Version = Cisco Internetwork Operating System Software
IOS (tm) MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M),
Version 12.2(18)SXF7, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by cisco Systems, Inc.
Compiled Thu 23-Nov-06 01:03 by kellythw
BOOT =
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102
```

```
LAB-Router#
```

## Failover to Standby Supervisor and Verify

Now, you can failover the supervisor module to the newly added standby supervisor module and test it.

### 1. Failover the supervisor module:

```
Access2> (enable) switch supervisor
This command will force a switch-over to the standby Supervisor module.
Do you want to continue (y/n) [n]? y
```



System Bootstrap Version: 12.2  
 System Boot Image File is 'bootdisk:RTSYNC\_cat6000-sup32pfc3k8.8-5-8.bin'  
 System Configuration register is 0x2102

c. Boot variable:

```
Access2> (enable) show boot
BOOT variable = bootdisk:RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin,1;bootdisk:cat6000-sup32pfc3k8.8-4-5.bin,1;
CONFIG_FILE variable = bootdisk:switch.cfg
```

```
Configuration register is 0x2102
ignore-config: disabled
auto-config: non-recurring, overwrite, sync disabled
ROMMON console baud: 9600
boot: image specified by the boot system commands
```

```
Image auto sync is enabled
Image auto sync timer is 120 seconds
```

d. Show module:

```
Access2> (enable) show module
```

Mod	Slot	Ports	Module-Type	Model	Sub Status
1	1		Unknown Card		power-down
2	2	48	10/100BaseTX Ethernet	WS-X6248-RJ-45	no ok
3	3	48	10/100BaseTX Ethernet	WS-X6348-RJ-45	yes ok
4	4	48	10/100BaseTX Ethernet	WS-X6348-RJ-45	yes ok
5	5	9	1000BaseX Supervisor	WS-SUP32-GE-3B	yes standby
6	6	9	1000BaseX Supervisor	WS-SUP32-GE-3B	yes ok
16	6	1	Multilayer Switch Feature	WS-F6K-MSFC2A	no ok
7	7	5	Communication Media Mod.	WS-SVC-CMM	no ok
8	8	0	FXS		no power-down
9	9		Unknown Card		power-down

!--- Output suppressed

Mod	Sub-Type	Sub-Model	Sub-Serial	Sub-Hw	Sub-Sw
3	Inline Power Module	WS-F6K-VPWR		1.0	1.1(1)
4	Inline Power Module	WS-F6K-VPWR		1.0	1.1(1)
5	L3 Switching Engine III	WS-F6K-PFC3B	SAL1012GREU	2.1	
6	L3 Switching Engine III	WS-F6K-PFC3B	SAL1017L9WJ	2.1	

Access2> (enable)

3. Verify the MSFC:

```
Access2> (enable) session 16
Trying Router-16...
Connected to Router-16.
Escape character is '^'.
```

```
LAB-Router>enable
```

```
LAB-Router#show version
Cisco Internetwork Operating System Software
IOS (tm) MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9_WAN-M),
Version 12.2(18)SXF7, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
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Compiled Thu 23-Nov-06 01:03 by kellythw
Image text-base: 0x40101040, data-base: 0x42638000
```

```
ROM: System Bootstrap, Version 12.2(17r)SX3, RELEASE SOFTWARE (fc1)
```

BOOTLDR: MSFC2A Software (C6MSFC2A-ADVENTERPRISEK9\_WAN-M), Version 12.2(18)SXF7,  
RELEASE SOFTWARE (fc1)

LAB-Router uptime is 7 minutes  
System returned to ROM by Stateful Switchover  
System image file is "**bootflash:c6msfc2a-adventerprisek9\_wan-mz.122-18.SXF7.bin**"

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cisco MSFC2A (R7000) processor (revision MSFC2A) with 458752K/65536K bytes of memory.

Processor board ID MSFC2A

R7000 CPU at 300Mhz, Implementation 0x27, Rev 3.3, 256KB L2, 1024KB L3 Cache

Last reset from power-on

SuperLAT software (copyright 1990 by Meridian Technology Corp).

X.25 software, Version 3.0.0.

Bridging software.

TN3270 Emulation software.

29 Virtual Ethernet/IEEE 802.3 interfaces

509K bytes of non-volatile configuration memory.

65536K bytes of Flash internal SIMM (Sector size 512K).

Configuration register is 0x2102

## Rename the Catalyst OS

You can see that the CatOS name in the replaced supervisor module starts with RTSYNC. You can leave the system to run as it is. You can also change the file name and keep it as a standard name as shown here:

```
Access2> (enable) rename RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin  
cat6000-sup32pfc3k 8.8-5-8.bin  
Access2> (enable) dir  
    2287   -rw-   10029260    May 21 2007 21:40:01 cat6000-sup32pfc3k8.8-5-8.bin  
  
236900352 bytes available (19390464 bytes used)  
Access2> (enable)
```

After you rename the file, you must change the boot variable.

*!--- Verify boot variable*

```
Access2> (enable) show boot  
BOOT variable = bootdisk:RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin,1;bootdisk:cat6000  
-sup32pfc3k8.8-4-5.bin,1;  
CONFIG_FILE variable = bootdisk:switch.cfg
```

Configuration register is 0x2102

ignore-config: disabled

auto-config: non-recurring, overwrite, sync disabled

```
ROMMON console baud: 9600
boot: image specified by the boot system commands
```

```
Image auto sync is enabled
Image auto sync timer is 120 seconds
```

*!--- Clear all the boot variables*

```
Access2> (enable) clear boot system all
BOOT variable =
Access2> (enable) 2007 May 21 21:41:56 %SYS-5-SUP_IMGSYNC:File synchronization p
rocess will start in 120 seconds
```

*!--- Configure the boot variable*

```
Access2> (enable) set boot system flash bootdisk:cat6000-sup32pfc3k8.8-5-8.bin
BOOT variable = bootdisk:cat6000-sup32pfc3k8.8-5-8.bin,1;
Access2> (enable) 2007 May 21 21:42:14 %SYS-5-SUP_IMGSYNC:File synchronization p
rocess will start in 120 seconds
```

*!--- Verify the boot variable*

```
Access2> (enable) show boot
BOOT variable = bootdisk:cat6000-sup32pfc3k8.8-5-8.bin,1;
CONFIG_FILE variable = bootdisk:switch.cfg
```

```
Configuration register is 0x2102
ignore-config: disabled
auto-config: non-recurring, overwrite, sync disabled
ROMMON console baud: 9600
boot: image specified by the boot system commands
```

```
Image auto sync is enabled
Image auto sync timer is 120 seconds
```

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## Related Information

- [Catalyst 6000/6500 Series Switches with Redundant Supervisor Engines Software Image Upgrade Configuration Example](#)
- [Cisco Catalyst 6500 Series Switches – Support Documents](#)
- [LAN Product Support Pages](#)
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