

# 在运行CatOS (混合)的Catalyst 6500系列交换机上替换失败的冗余Supervisor模块

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## 简介

本文档显示如何更换 Catalyst 6500 系列交换机中出现故障的冗余 Supervisor 模块。本文档说明的步骤适用于在混合 OS 中运行的 Supervisor 模块。

## 先决条件

### 要求

Cisco 建议您了解以下主题：

- [配置冗余](#)
- [配置 NSF 的 SSO MSFC 冗余](#)

### 使用的组件

本文档中的信息基于以下软件和硬件版本：

- Cisco Catalyst 6500 系列交换机

- Supervisor 模块：WS-SUP32-GE-3B
- 混合 OS：Catalyst OS (CatOS) 8.5(8)MSFC IOS® 12.2(18)SXF7

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## [相关产品](#)

本文档也可用于以下硬件和软件版本：

- 运行混合 OS 的 Supervisor 720
- 运行混合 OS 的 Supervisor 2

## [规则](#)

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## [背景信息](#)

下面是与冗余 Supervisor 模块相关的一些要点：

- 在备用 Supervisor 引擎上，控制台端口处于非活动状态，模块状态显示为“备用”，上行链路端口的状态正常显示。
- 为使您能够分别控制每个 Supervisor 引擎的引导，Supervisor 引擎之间的配置寄存器未同步。
- 如果两个 Supervisor 引擎的软件版本不同，或两个 Supervisor 引擎的 NVRAM 配置不同，活动 Supervisor 引擎会自动将其软件镜像和配置下载到备用 Supervisor 引擎。
- Supervisor 引擎使用以下两个闪存镜像：引导镜像和运行时镜像。在 BOOT 环境变量中指定的引导镜像文件名存储在 NVRAM 中。运行时镜像是 ROM 监视器用于引导 Supervisor 引擎的引导镜像。系统启动后，运行时镜像驻留在动态 RAM (DRAM) 中。
- 冗余 Supervisor 引擎与同型号的特性卡必须具有相同类型。同样不带策略特性卡 (PFC) 的 WS-X6K-SUP1-2GE 和 WS-X6K-SUP1A-2GE 具有冗余兼容性。对于带有 PFC 的 Supervisor 引擎，PFC 必须相同（两个 PFC、两个 PFC2、两个 PFC3A、两个 PFC3B 或两个 PFC3BXL）才能实现冗余。

## [更换 Supervisor 模块的详细步骤 - 同一混合 OS](#)

本部分提供更换 Catalyst 6500 系列交换机中的 Supervisor 模块 32 的详细步骤。此示例使用 Cisco Catalyst 6509 交换机，带有两个 Supervisor 模块，分别位于插槽 5 和 6 中。插槽 6 中的 Supervisor 模块出现故障。假定已将插槽 6 中发生故障的 Supervisor 模块从机箱中卸除。您将看到将新的 Supervisor 模块添加到插槽 6 中的步骤。

如果另外还有一台 Cisco Catalyst 6500 系列交换机，则可以将新的 Supervisor 连接到该交换机，然后将混合 OS 升级或降级为生产交换机插槽 5 中 Supervisor 的级别。如果新的 Supervisor 模块中使用同样的混合 OS，则不需要对新的 Supervisor 模块进行任何配置。当您添加 Supervisor 模块到插槽 6 中时，活动 Supervisor 引擎会自动进行配置同步。本部分介绍更换 Supervisor 过程中的详细步骤和核对清单。

下面是更换 Catalyst 6500 系列交换机中的 Supervisor 模块 32 的详细步骤：

# 1. 将 Supervisor 模块添加到插槽 6 中。如果与插槽 6 中的 Supervisor 有控制台连接，则应看到以下输出：

```
!--- Supervisor module at slot 6 System Bootstrap, Version 12.2(18r)SX2, RELEASE SOFTWARE
(fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 2004 by cisco
Systems, Inc. Cat6k-Sup32 platform with 524288 Kbytes of main memory Autoboot executing
command: "boot bootdisk:cat6000-sup32pfc3k8.8-5-8.bin" Self decompressing the image :
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
##### [OK] System Power On Diagnostics DRAM
Size .....512 MB Testing DRAM .....Passed Verifying
Text Segment .....Passed NVRAM Size .....2048 KB Level2 Cache
.....Present Level3 Cache .....Absent System Power On
Diagnostics Complete Currently running ROMMON from S (Gold) region Boot image:
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin Firmware compiled 01-Dec-06 12:57 by integ Build
[100] This module is now in standby mode. Console is disabled for standby supervisor. 以下
输出显示插槽 5 中活动 Supervisor 的控制台：Access2> (enable)
Access2> (enable)
Access2> (enable) 2007 May 22 19:17:48 %SYS-5-MOD_INSERT:Module
6 has been inserted

Access2> (enable)
Access2> (enable)
Access2> (enable)
%SYS-5-SUP_MODSBY:Module 6 is in standby mode

%SYS-5-SUP_IMGSYNC:File synchronization process will start in 120 seconds

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

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

%SYS-3-TRANSCEIVER_NOTSUPP: Transceiver on port 6/1 is not supported

%SYS-3-TRANSCEIVER_NOTSUPP: Transceiver on port 6/2 is not supported

%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_IMGSYNCSTART: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. 验证 Supervisor 冗余状态 : Access2> (enable) **show system highavailability** Highavailability: enabled Highavailability versioning: disabled Highavailability **Operational-status: ON**  
Access2> (enable)

3. 验证 MSFC 冗余状态 : 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 = CONFIG\_FILE = BOOTLDR =  
Configuration register = 0x2102 Peer Processor Information : -----  
**Standby Location = slot 6 Current Software state = STANDBY HOT** Uptime in current state = 2  
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#

4. 强制执行 Supervisor 故障切换并进行测试 :  
!--- *Supervisor in slot 5* 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** 2007 May  
21 20:40:37 %SYS-5-MOD\_RESET:Module 5 reset from Console// Access2> (enable) System  
Bootstrap, Version 12.2(18r)SX2, RELEASE SOFTWARE (fc1) Technical Support:  
http://www.cisco.com/techsupport Copyright (c) 2004 by cisco Systems, Inc. Cat6k-Sup32  
platform with 262144 Kbytes of main memory Autoboot executing command: "boot  
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin" Self decompressing the image :  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
##### [OK] System Power On Diagnostics DRAM  
Size .....256 MB Testing DRAM .....Passed Verifying  
Text Segment .....Passed NVRAM Size .....2048 KB Level2 Cache  
.....Present Level3 Cache .....Absent System Power On  
Diagnostics Complete Currently running ROMMON from S (Gold) region Boot image:  
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin Firmware compiled 01-Dec-06 12:57 by integ Build  
[100] **This module is now in standby mode. Console is disabled for standby supervisor**

5. 通过控制台连接到 Supervisor 6 并验证 Supervisor 和 MSFC 配置。

## [更换 Supervisor 模块的详细步骤 - 不同混合 OS](#)

本部分介绍更换 Catalyst 6500 系列交换机中的 Supervisor 模块 32 的详细步骤。此示例使用 Cisco Catalyst 6509 交换机，带有两个 Supervisor 模块，分别位于插槽 5 和 6 中。插槽 6 中的 Supervisor 模块出现故障。假定已将插槽 6 中发生故障的 Supervisor 模块从机箱中卸除。您将看到将新的 Supervisor 模块添加到插槽 6 中的步骤。

如果没有将新 Supervisor 的混合 OS 升级为活动 Supervisor 版本的选项，则可以执行下列步骤，添加 Supervisor 模块并实现混合 OS 和交换机配置的同步。其中大部分步骤是自动进行的。本文档显示要在 Supervisor 更换过程中执行的详细步骤和核对清单。

## [在添加新的 Supervisor 模块之前进行验证](#)

本部分显示插槽 6 中没有 Supervisor 的交换机的显示输出。

- Show module
- Show version
- 引导变量

1. Show module 输出 : Access2> (enable) **show module**

```
Mod Slot Ports Module-Type Model Sub
Status --- ---
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 输出 : 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 ---
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 WS-SUP32-GE-3B 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 DRAM
FLASH NVRAM Module 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. 引导变量 :

```
!--- 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 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
Access2> (enable)
```

## [添加新的 Supervisor 模块](#)

Supervisor 模块已插入插槽 6 中。下面显示将新的备用 Supervisor 模块添加到交换机时活动和备用 Supervisor 模块的控制台输出 :



```
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
##### [OK]
```

```
System Power On Diagnostics  
DRAM Size .....512 MB  
Testing DRAM .....Passed  
Verifying Text Segment .....Passed  
NVRAM Size .....2048 KB  
Level2 Cache .....Present  
Level3 Cache .....Absent  
System Power On Diagnostics Complete
```

```
Currently running ROMMON from S (Gold) region  
Boot image: bootdisk:RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin
```

```
Firmware compiled 01-Dec-06 12:57 by integ Build [100]
```

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

### 3. 备用模块启动后，便可以验证通过活动 Supervisor 模块验证冗余状态。Access2> (enable)

```
2007 May 21 20:26:22 %SYS-5-SUP_MODSBY:Module 6 is in standby  
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_PORTINTFINISYNC: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
```





```

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#重新载入备用 Supervisor 模块 : 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-TRANSCIVER_NOTSUPP: Transceiver on port 6/1 is not supported 2007 May 21
21:16:06 %SYS-3-TRANSCIVER_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_PORTINTFINFINSYNC: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. 在升级后验证 MSFC IOS : 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#

```

## 故障切换至备用 Supervisor 并进行验证

现在，您可以将 Supervisor 模块故障切换至新添加的备用 Supervisor 模块并对其进行测试。

1. 对 Supervisor 模块进行故障切换 : 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**  
2007 May 21 20:40:37 %SYS-5-MOD\_RESET:Module 5 reset from Console// Access2> (enable)  
System Bootstrap, Version 12.2(18r)SX2, RELEASE SOFTWARE (fc1) Technical Support:  
http://www.cisco.com/techsupport Copyright (c) 2004 by cisco Systems, Inc. Cat6k-Sup32  
platform with 262144 Kbytes of main memory Autoboot executing command: "boot  
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin" Self decompressing the image :  
#####

```
#####
#####
#####
#####
#####
#####
#####
#####
#####
##### [OK] System Power On Diagnostics DRAM
Size .....256 MB Testing DRAM .....Passed Verifying
Text Segment .....Passed NVRAM Size .....2048 KB Level2 Cache
.....Present Level3 Cache .....Absent System Power On
Diagnostics Complete Currently running ROMMON from S (Gold) region Boot image:
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin Firmware compiled 01-Dec-06 12:57 by integ Build
[100] This module is now in standby mode. Console is disabled for standby supervisor
```

## 2. 通过控制台连接到当前的活动模块 Supervisor 6。冗余状态 : Access2> (enable) show system

```
highavailability Highavailability: enabled Highavailability versioning: disabled
Highavailability Operational-status: ON 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) = 98984 Redundant History Switchover Table:
Index: 1 Previous active supervisor module: 5 Current active supervisor module : 6
Switchover reason : user initiated Switchover time : Mon May 21 2007, 20:40:37 Show
```

```
version : 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:RTSYNC_cat6000-sup32pfc3k8.8-5-8.bin'
```

```
System Configuration register is 0x2102 引导变量 : 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 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. 验证 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 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 7 minutes System returned to ROM by Stateful Switchover
System image file is "bootflash:c6msfc2a-adventerprisek9_wan-mz.122-18.SXF7.bin" This
product contains cryptographic features and is subject to United States and local country
laws governing import, export, transfer and use. Delivery of Cisco cryptographic products
does not imply third-party authority to import, export, distribute or use encryption.
```

Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately. A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wwl/export/crypto/tool/stqrg.html> If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com). 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

## 重命名 Catalyst OS

可以看到更换的 Supervisor 模块中的 CatOS 名称以 RTSYNC 开头。可以使系统保持原样运行。您也可以更改该文件名并将其保留为标准名称，如下所示：

```
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)
```

重命名文件后，必须更改引导变量。

```
!--- 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 process 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 process 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
```

## 相关信息

- [带有冗余 Supervisor 引擎的 Catalyst 6000/6500 系列交换机的软件镜像升级配置示例](#)
- [Cisco Catalyst 6500 系列交换机 - 支持文档](#)
- [LAN 产品支持页](#)
- [LAN 交换技术支持页](#)
- [技术支持和文档 - Cisco Systems](#)