Reemplace un módulo de supervisor redundante fallido en los switches Catalyst serie 6500 que ejecutan CatOS (híbrido)

Contenido

Introducción

Este documento muestra cómo sustituir un módulo de supervisor redundante fallido en los switches Catalyst 6500 Series. Este documento explica el procedimiento para los módulos de supervisor que se ejecutan en código abierto híbrido.

Prerequisites

Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

- [Redundancia de configuración](#)
- [Configuración de NSF con Redundancia MSFC SSO](#)

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Switch Cisco Catalyst serie 6500
- Módulo supervisor: WS-SUP32-GE-3B
- SO híbrido: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.

Productos Relacionados

Este documento también puede utilizarse con estas versiones de software y hardware:

- Supervisor 720 que ejecuta el sistema operativo híbrido
- Supervisor 2 que ejecuta el sistema operativo híbrido

Convenciones

Consulte [Convenciones de Consejos TécnicosCisco para obtener más información sobre las convenciones del documento.](#)

Antecedentes

Estos son algunos de los puntos importantes relacionados con los módulos de supervisor redundantes:

- En el motor supervisor en espera, el puerto de la consola está inactivo, el estado del módulo se muestra como "en espera" y el estado de los puertos de link ascendente se muestra normalmente.
- Para permitirle controlar el arranque de cada Supervisor Engine por separado, los registros de configuración no se sincronizan entre los Supervisor Engines.
- Si las versiones de software de los dos motores supervisores son diferentes, o si la configuración NVRAM de los dos motores supervisores es diferente, el motor supervisor activo descarga automáticamente su imagen y configuración de software al motor supervisor en espera.
- Los motores supervisores utilizan dos imágenes flash: la imagen de inicio y la imagen en tiempo de ejecución. El nombre de archivo de la imagen de inicio, que se especifica en la variable de entorno BOOT, se almacena en NVRAM. La imagen en tiempo de ejecución es la imagen de inicio que utiliza el monitor ROM para iniciar el motor supervisor. Una vez que se inicia el sistema, la imagen en tiempo de ejecución reside en la RAM dinámica (DRAM).
- Los motores supervisores redundantes deben ser del mismo tipo con la misma tarjeta de función de modelo. Los modelos WS-X6K-SUP1-2GE y WS-X6K-SUP1A-2GE, que carecen de tarjetas de función de políticas (PFC), son compatibles con la redundancia. Para los motores supervisores con PFC, los PFC deben ser idénticos para la redundancia (dos PFC, dos PFC2, dos PFC3A, dos PFC3Bs o dos PFC3BXL).

Procedimiento Paso a Paso para Reemplazar el Módulo Supervisor - Mismo SO Híbrido

Esta sección proporciona el procedimiento paso a paso para reemplazar el Supervisor Module 32 en un Catalyst 6500 Series Switch. Este ejemplo utiliza un switch Cisco Catalyst 6509, que tiene dos módulos de supervisor en las ranuras 5 y 6. El módulo supervisor en la ranura 6 ha fallado. Se supone que el módulo supervisor fallido en la ranura 6 se quita del chasis. Puede ver el procedimiento para agregar el nuevo módulo supervisor en la ranura 6.

Si dispone de un switch Cisco Catalyst serie 6500 adicional, puede conectar el nuevo supervisor en el switch y actualizar o actualizar el sistema operativo híbrido al mismo nivel que el supervisor en la ranura 5 del switch de producción. Si tiene el mismo sistema operativo híbrido en el nuevo módulo supervisor, no necesita configurar nada en el nuevo módulo supervisor. Cuando agrega el módulo supervisor a la ranura 6, el motor supervisor activo sincroniza automáticamente la configuración. Esta sección muestra el proceso paso a paso y la lista de verificación durante el reemplazo del supervisor.

Este es el procedimiento paso a paso para reemplazar el Supervisor Module 32 en un Catalyst 6500 Series Switch:

1. Agregue el módulo supervisor a la ranura 6.Si tiene conexión de consola con el supervisor en la ranura 6, debería ver este resultado:

   !--- 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.

   Esta salida muestra la consola del supervisor activo en la ranura 5:
   ```
   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. Verifique el estado de redundancia del supervisor:

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

3. Verifique el estado de redundancia de MSFC:

```
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. Forzar el failover y la prueba del supervisor:

```
!--- 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. Conéctese al Supervisor 6 y verifique la configuración del supervisor y MSFC.

Procedimiento paso a paso para reemplazar el módulo supervisor - diferente sistema operativo híbrido

Esta sección explica el procedimiento paso a paso para reemplazar el Supervisor Module 32 en un Catalyst 6500 Series Switch. Este ejemplo utiliza un switch Cisco Catalyst 6509 que tiene dos módulos de supervisor en las ranuras 5 y 6. El módulo supervisor en la ranura 6 ha fallado. Se supone que el módulo supervisor fallido en la ranura 6 se quita del chasis. Puede ver el procedimiento para agregar el nuevo módulo supervisor en la ranura 6.

Si no tiene la opción de actualizar el nuevo Supervisor Hybrid OS a la misma versión que el supervisor activo, puede realizar este procedimiento para agregar el módulo supervisor y sincronizar el Hybrid OS y la configuración del switch. La mayor parte del procedimiento está automatizado. Este documento muestra el proceso paso a paso y la lista de verificación que se realizará durante el reemplazo del supervisor.

Verifique antes de agregar el nuevo módulo de supervisor

Esta sección muestra el resultado show del switch sin el supervisor en la ranura 6.

- Show module
- show version
- Variable de arranque

1. Mostrar salida del módulo:
```
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. Mostrar salida de versión:

```
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    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. Variable de arranque:

```
!--- 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)
```

[Agregar el nuevo módulo supervisor](#)

El módulo supervisor se inserta en la ranura 6. La salida de la consola de los módulos de supervisor activo y en espera cuando agrega el nuevo módulo de supervisor en espera al switch se muestra aquí:

1. Inserte el nuevo módulo supervisor en la ranura 6.Puede ver este mensaje de registro en el módulo supervisor activo:

   ```
   Access2> (enable) 2007 May 21 20:21:14 %SYS-5-MOD_INSERT:Module 6 has been
   inserted
   ```

   Si se ha concentrado en el supervisor en espera en 6, puede ver este proceso de inicio:

   ```
   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-sup32pfc3k8.8-4-5.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-sup32pfc3k8.8-4-5.bin


   Firmware compiled 02-Aug-05 16:08 by integ Build [100]


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

2. Puede verificar el estado de redundancia desde el módulo supervisor activo en la ranura 5.

   ```
   Access2> (enable) 2007 May 21 20:23:09 %SYS-5-SUP_MODSBY:Module 6 is in standby
   ```

```
mode
2007 May 21 20:23:11 %SYS-5-SUP_IMGSYNCSTART:Active supervisor is synchronizing
bootdisk:cat6000-sup32pfc3k8.8-5-8.bin

Access2> (enable) show system highavailability
Highavailability: enabled
Highavailability versioning: disabled
Highavailability Operational-status: OFF(standby-supervisor-image-incompatible)
```

El módulo supervisor activo copia el CatOS en el módulo supervisor en espera. También configura la variable de inicio del motor supervisor en espera en el nuevo CatOS.

```
Access2> (enable)
2007 May 21 20:24:23 %SYS-5-SUP_IMGSYNCFINISH:Active superviso
r has synchronized bootdisk:cat6000-sup32pfc3k8.8-5-8.bin
```

Después de copiar la imagen de CatOS al supervisor en espera, el módulo en espera 6 se recarga automáticamente con la nueva imagen.

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

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:RTSYNC_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: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. Una vez que el módulo en espera está activo, puede verificar el estado de redundancia desde el módulo supervisor activo.

```
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_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
```

Verifique el Módulo Supervisor después de agregar el Nuevo Módulo Supervisor

Siga estos pasos:

1. Mostrar salida del módulo:
```
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
6   6    9     1000BaseX Supervisor    WS-SUP32-GE-3B    yes standby
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. Verificar el historial de redundancia:

```
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:
```

Verifique el IOS MSFC

El CatOS se copia automáticamente durante el proceso SYNC. Sin embargo, el IOS en la MSFC no se copia automáticamente.

1. Verifique el IOS y la redundancia de la 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. Actualice el IOS en el MSFC en espera.Copie la imagen del IOS a la MSFC en espera:

```
LAB-Router#copy c6msfc2a-adventerprisek9_wan-mz.122-18.SXF7.bin slavebootflash:/
Destination filename [c6msfc2a-adventerprisek9_wan-mz.122-18.SXF7.bin]?
Copy in progress...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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#
```

Recargue el módulo supervisor en espera:

```
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. Verifique el IOS MSFC después de la actualización:

```
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#
```

Conmutación por fallas a Supervisor en Espera y Verificación

Ahora, puede conmutar por error el módulo supervisor por el módulo supervisor en espera recién agregado y probarlo.

1. Conmutar por error el módulo supervisor:
```
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. Conéctese al Supervisor 6, que es ahora el módulo activo.Estado de redundancia:

```
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
```

Mostrar versión:

```
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
```

Variable de arranque:

```
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. Verifique el 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.


cisco MSFC2A (R7000) processor (revision MSFC2A) with 458752K/65536K bytes of me
mory.
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
```

Cambiar el nombre del Catalyst OS

Puede ver que el nombre de CatOS en el módulo supervisor reemplazado comienza con RTSYNC. Puede dejar el sistema para que se ejecute tal cual. También puede cambiar el nombre del archivo y conservarlo como un nombre estándar, como se muestra aquí:

```
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)
```

Después de cambiar el nombre del archivo, debe cambiar la variable de inicio.

```
!--- 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
```

Información Relacionada

- Ejemplo de Configuración de Actualización de Imagen de Catalyst 6000/6500 Series Switches con Supervisor Engines Redundantes Software

- [Switches Catalyst de Cisco serie 6500 - Documentos de soporte](#)
- [Páginas de Soporte de Productos de LAN](#)
- [Página de Soporte de LAN Switching](#)
- [Soporte Técnico y Documentación - Cisco Systems](#)