

# 替换 Cisco Catalyst 6500 虚拟交换系统 1440 中的 Supervisor 模块

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## 简介

本文提供一个逐步程序替换在思科Catalyst 6500虚拟交换系统的一个坏Supervisor。

虚拟交换系统(VSS)包括两个Catalyst 6500机箱。每个机箱配备有单个Supervisor引擎。如果其中一个Supervisor中断由于硬件故障，附有默认配置的替换Supervisor不自动地变为VSS成员。这个新的Supervisor最初在独立模式下启动，然后要求进行VSS配置以便在VSS模式下启动。

## 先决条件

### 要求

尝试进行此配置之前，请确保满足以下要求：

- 将主用 VSS Supervisor 中的有效映像复制到微型闪存设备中。
- 将主用 VSS 配置复制到微型闪存设备中（可为同一设备）。

### 使用的组件

本文档中的信息基于以下软件和硬件版本：

在Cisco IOS软件版本12.2(33)SXH1的Cisco Catalyst 6500虚拟交换系统1440或以上

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。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。

## 规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## 配置

本部分提供有关如何配置本文档所述功能的信息。

**注意：** 使用 [命令查找工具](#) ( [仅限注册用户](#) ) 可获取有关本部分所使用命令的详细信息。

新的 Supervisor 要求使用有效的映像和配置启动。可通过 TFTP 或微型闪存设备复制映像。如果没有微型闪存设备，也可通过 TFTP 复制软件映像和配置文件。

1. 将主用 VSS Supervisor 中的有效映像复制到微型闪存设备中。

```
VSS#dir sup-bootdisk:
Directory of sup-bootdisk:/
 1 -rwx 117668516 Jan 22 2008 11:53:58 +00:00 s72033-
    ipservices_wan-vz.122-33.SXH1
 2 -rwx 33554432 Aug 16 2007 12:40:22 +00:00 sea_log.dat
 3 -rwx 7366 Aug 22 2007 20:05:42 +00:00 default-config
```

请注意，在 VSS 模式下，主用 Supervisor 和备用 Supervisor 运行的软件映像版本相同。

```
VSS#copy sup-bootdisk:s72033-ipservices_wan-vz.122-33.SXH1 disk0:
Destination filename [s72033-ipservices_wan-vz.122-33.SXH1]?
Copy in progress...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
!--- Output suppressed.
```

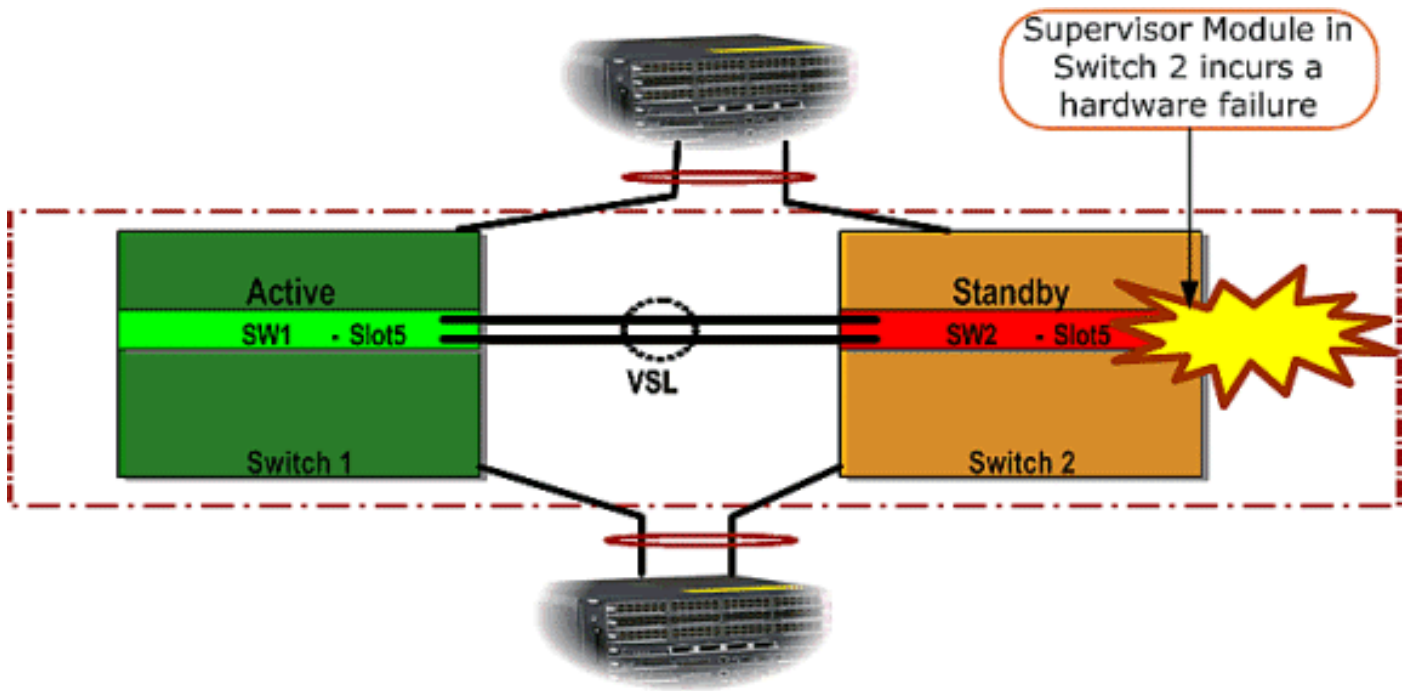
2. 将主用 VSS Supervisor 中的当前配置复制到微型闪存设备中。

```
VSS#copy running-config disk0:
Destination filename [startup-config]? <VSS.cfg>
11196 bytes copied in 0.712 secs (15725 bytes/sec)
```

## 网络图

本文档使用以下网络设置：

### 交换机 2 Supervisor 故障



## 安装和配置新的 Supervisor

完成这些步骤安装和配置新的 Supervisor :

1. 将新的 Supervisor 安装在机箱中，并且为防止 Supervisor 上行链路用于 VSL，请对这些链路进行物理连接。从微型闪存中启动映像。
2. 删除新的 Supervisor 的起始配置文件。为确保新的 Supervisor 中不存在过期配置，必须执行此步骤。
3. 复制以前复制到对新的 Supervisor 超级启动盘的微型闪存设备的软件镜像：

```
Router#copy disk0:s72033-ipservices_wan-vz.122-33.SXH1 sup-bootdisk:
Destination filename [s72033-ipservices_wan-vz.122-33.SXH1]?
Copy in progress ..CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
117668516 bytes copied in 332.283 secs (354121 bytes/sec)
!--- Output suppressed. !--- If you choose to download software image from a tftp server,
connect one of the switch interfaces to the network in order to have connectivity to the
tftp server. Configure IP address to the management interface; verify the connectivity
between the switch and the tftp server. !--- The management IP address should be different
from what is already assigned to active VSS switch. !--- Configure management IP address
Router(config)#interface gig 1/3 Router(config-if)#ip address 10.10.10.100 255.255.255.0
Router(config-if)#no shutdown
!--- verify Management interface status and configuration Router#show interface gig 1/3
GigabitEthernet1/3 is up, line protocol is up (connected)
Hardware is C6k 1000Mb 802.3, address is 0005.dce7.8180
(bia 0005.dce7.8180)
Internet address is 10.10.10.100/24
!--- Output omitted !--- If the TFTP server and switch management interface are not in the
same layer-3 subnet, add a (default) route. Router(config)#ip route 0.0.0.0 0.0.0.0
10.10.10.1
!--- verify IP connectivity between switch and TFTP server Router#ping 10.20.20.200

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.20.20.200, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms
!---Copy the new software image into supervisor bootflash: Router#copy tftp: sup-bootdisk:
Address or name of remote host []? 10.20.20.200
Source filename []? s72033-ipservices_wan-vz.122-33.SXH1
```

```
Destination filename [s72033-ipserVICES_wan-vz.122-33.SXH1]?
Copy in progress ..CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
!--- Output omitted
```

#### 4. 将先前已保存在微型闪存设备上的主用 Supervisor 配置复制到新的 startup-config 配置文件中

```
Router#copy disk0:VSS.cfg startup-config
Destination filename [startup-config]?
11196 bytes copied in 7.460 secs (1501 bytes/sec)
Router#
```

**注意：**此步骤非常关键，因为这样就添加了启动正确的 IOS 软件映像所需要的 VSS 配置及所有启动变量。

```
!--- Highlighted VSS configuration commands are critical to boot up the supervisor in VSS
mode. !--- Verify VSS configuration in the startup-config file Router#more nvram:startup-
config
```

```
!
hostname VSS
boot system flash sup-bootdisk:s72033-ipserVICES_wan-vz.122-33.SXH1
!--- Switch Virtual domain <id> is configured with respective switch priorities switch
virtual domain 1
switch mode virtual
!--- this command gets populated upon converting standalone switch to VSS mode. Make sure
this command is part the configuration. switch 1 priority 110
switch 2 priority 100
```

```
!--- Verify Virtual Switch Link (VSL) configuration interface Port-channel1 no switchport
no ip address switch virtual link 1
mls qos trust cos
no mls qos channel-consistency
!
interface Port-channel2
no switchport
no ip address
switch virtual link 2
mls qos trust cos
no mls qos channel-consistency
!--- Physical interfaces that are part of VSL interface TenGigabitEthernet1/1/4 no
switchport no ip address mls qos trust cos channel-group 1 mode on
```

```
interface TenGigabitEthernet1/1/5
no switchport
no ip address
mls qos trust cos
channel-group 1 mode on
```

```
interface TenGigabitEthernet2/1/4
no switchport
no ip address
mls qos trust cos
channel-group 2 mode on
```

```
interface TenGigabitEthernet2/1/5
no switchport
no ip address
mls qos trust cos
channel-group 2 mode on
```

#### 5. 配置用于在虚拟交换域中标识 Catalyst 6500 交换机的 VSS Switch\_ID。由于VSS只能包括两交换机，您需要选择1或2从属于什么值在活动交换机定义。不能使用 1 或 2 之外的任何值。

```

!--- Verify active Switch_ID on the active switch Router#switch read switch_num local
Read switch_num from Active rommon is 1
!--- Note that since Switch_ID=1 is used for active switch, we would define Switch_ID=2 in
the new supervisor.

!--- Configure the Switch_ID on the supervisor. !--- Below command sets a Switch_ID ROMMON
variable. It is used during VSS boot up to identify a switch within a VSS domain. !--- Note
that the Switch_ID doesn't dictate the state (active vs. standby) of the supervisor.
Router#switch set switch_num 2 local
Set rommon's switch_num to 2
!--- Verify the Switch_ID configuration on the new supervisor. Router#switch read
switch_num local
Read switch_num from Active rommon is 2

```

6. 重新加载交换机，以便在重新加载时，交换机以 VSS 模式启动。警告：此时不要将 running-config 保存为 startup-config。如果这样做，startup-config 将被默认配置覆盖，从而无法在 VSS 模式下启动交换机。CLI 输出示例：

```

Router# reload
System configuration has been modified. Save? [yes/no]: no
Proceed with reload? [confirm]
00:25:07: %SYS-5-RELOAD: Reload requested by console.
    Reload Reason: Reload Command.
00:26:49: %SYS-SP-3-LOGGER_FLUSHING:
    System pausing to ensure console debugging output.
00:26:49: %OIR-SP-6-CONSOLE:
    Changing console ownership to switch processor
!--- Output omitted !--- SP booting up, pay attention to the name of the image being loaded
by SP System Bootstrap, Version 8.5(1) Copyright (c) 1994-2006 by cisco Systems, Inc.
Cat6k-Sup720/SP processor with 1048576 Kbytes of main memory Autoboot executing command: "
boot system flash
    sup-bootflash:s72033-ipservices_wan-vz.122-33.SXH1"
Loading image, please wait ...
Initializing ATA monitor library...
Self decompressing the image :
#####
#####
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cisco Systems, Inc.
170 West Tasman Drive
San Jose, California 95134-1706
Cisco IOS Software, s72033_sp Software
    (s72033_sp-IPSERVICES_WAN-VM),
    Version 12.2(33)SXH1, RELEASE SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2008 by Cisco Systems, Inc.
Compiled Thu 17-Jan-08 04:38 by prod_rel_team
Image text-base: 0x01020150, data-base: 0x01021000
!--- VSS configuration pre-parsed during bootup System detected Virtual Switch
configuration...
Interface TenGigabitEthernet 2/8/4 is member of Portchannel 2

!--- output omitted Initializing as Virtual Switch STANDBY processor
!--- VSL module ( supervisor in this scenario) brought up and role is resolved as standby
since there is already a active VSS switch. 00:00:30: %VSL_BRINGUP-6-MODULE_UP:
    VSL module in slot 8 switch 2 brought up
00:00:57: %VSLP-5-VSL_UP:
    Ready for Role Resolution with Switch=1,

```

```
MAC=0014.1bc6.1c00 over 8/4
00:01:01: %VSLP-5-RRP_ROLE_RESOLVED:
  Role resolved as STANDBY by VSLP
00:01:01: %VSL-5-VSL_CNTRL_LINK: New VSL Control Link 8/4
!--- RP is booting up System Bootstrap, Version 12.2(17r)SX5, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport Copyright (c) 2006 by cisco Systems,
Inc. Cat6k-Sup720/RP platform with 1048576 Kbytes of main memory Download Start
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52.227-19 and subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013. cisco Systems, Inc. 170 West Tasman Drive San
Jose, California 95134-1706 Cisco IOS Software, s72033_rp Software (s72033_rp-
IPSERVICES_WAN-VM), Version 12.2(33)SXH1, RELEASE SOFTWARE (fc3) Technical Support:
http://www.cisco.com/techsupport Copyright (c) 1986-2008 by Cisco Systems, Inc. Compiled
Thu 17-Jan-08 04:04 by prod_rel_team Image text-base: 0x01020150, data-base: 0x01021000 !---
- output omitted Press RETURN to get started! !--- Look out for -- "%PFREDUN-SW2_SPSTBY-6-
STANDBY: Initializing for SSO mode" in the active console to make sure standby is running in
SSO mode. !--- After standby boots up it's console is locked
VSS-sdby>
Standby console disabled
VSS-sdby>
Standby console disabled
```

**注意：**为了配置在多个子网的VSS，备用配置在VSS没有必要。网关路由器应该设置作为VLAN SVI。

## 验证

当前没有可用于此配置的验证过程。

[命令输出解释程序 \( 仅限注册用户 \)](#) (OIT) 支持某些 show 命令。使用 OIT 可查看对 show 命令输出的分析。

## 故障排除

本部分提供的信息可用于对配置进行故障排除。

### Supervisor 引擎之间的软件不匹配

如果有Supervisor引擎之间的一软件不匹配，standby Supervisor在RPR冗余模式出现(不在SSO冗余模式)，并且VSS不充分地初始化。

要解决此问题，请确保备用 Supervisor 的闪存中存在所需的软件，而且启动语句指向正确的软件。重新加载备用 Supervisor，以使该 Supervisor 通过正确的软件启动并加入 VSS。

## 相关信息

- [Cisco Catalyst 6500 虚拟交换系统 1440](#)
- [LAN 产品支持](#)
- [LAN 交换技术支持](#)

- [技术支持和文档 - Cisco Systems](#)