“Line Cards Power Down due to Communication Failures（因通信故障而关闭线卡电源）”故障排除指南

目录

[简介](#)
[先决条件](#)
[要求](#)
[使用的组件](#)
[背景信息](#)
[查看日志](#)
[通信故障排除](#)

简介

本文档介绍如何对因Cisco Catalyst 6500系列交换机通信故障而断电的线卡进行故障排除。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于Cisco Catalyst 6500系列交换机，不限于特定软件版本。

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。

背景信息

安全复制协议(SCP)是用于从交换机处理器(SP)通过Catalyst 6500上的以太网带外通道(EOBC)到非分布式转发卡（非DFC）线卡通信的协议。SCP或保持连接轮询故障可能代表管理引擎和线卡之间的通信问题。

当模块断电时，请执行以下检查：

- 查看日志以确定模块是否因“SCP dnld”故障而关闭。
- 排除主控引擎和有问题的线卡之间的通信故障。

查看日志

检查日志以查看“SCP dnld”或保持连接轮询故障是否是模块断电的原因：

```
%C6KPWR-SP-4-DISABLED: power to module in slot 2 set off (Module Failed SCP dnld)
%C6KPWR-SP-4-DISABLED: power to module in slot 2 set off (Module not responding to
Keep Alive polling)
```

通信故障排除

此程序介绍如何排除Supervisor与线卡之间的通信故障。

1. 检查SP端的全局SCP计数器是否存在任何递增错误。

```
6500#remote command switch show scp counters
6500-sp#
received packets            = 586786
transmitted packets         = 584442
retransmitted packets       = 13        (increasing re-transmissions indicate
congested EOBC)
loop back packets           = 0
transmit failures           = 0         (increasing transmit failures indicate
congested/stuck EOBC)
recv pkts not for me        = 0
recv pkts to dead process   = 0
recv pkts not enqueuable    = 0         (increasing counters indicate lack of
EOBC buffers)
response has wrong opcode   = 0
response has wrong seqnum   = 0
response is not an ack      = 0
response is too big         = 0
```

2. 检查每个模块的SCP接收/传输计数器，并检查SCP重试次数是否增加。

```
6500#remote command switch show scp status
6500-sp#
Rx 586786 ,  Tx 584442 ,  Sap 15
Id     Channel name    current/peak/retry/total  time(queue/process)
-- ------------------ ------------------------  ------------------
0  SCP async: LCP#8     0/ 11/  1/   13            4/   4
1  SCP async: LCP#4     0/ 13/  0/  550           92/ 108
2  SCP async: LCP#2     0/ 34/  0/ 1540          628/ 456
3  SCP async: LCP#5     0/ 17/  1/  716         2228/1252
4  SCP async: LCP#1     0/ 29/  0/  137          200/ 452
5  SCP async: LCP#9     0/ 13/  0/  895          176/ 428
```

3. 检查从管理引擎到相关模块的SCP ping。

```
6500#remote command switch test scp ping 3
6500-sp#
pinging addr 5(0x5)
assigned sap 0x11
addr 5(0x5) is alive       (Communication between the supervisor and line
card is fine)

6500#remote command switch test scp ping 2
6500-sp#
pinging addr 11(0xB)
assigned sap 0x11
no response from addr 11(0xB)  (Communication between the supervisor
and linecard is broken)
```

4. 在线卡上配置在线诊断。

```
6500(config)#diagnostic level complete      (12.1(8a)EX or above)
```

5. 重新拔插线卡，并查看测试结果，以查看是否有测试失败。

```
6500#show diagnostic result module 2
Current Online Diagnostic Level = Complete
Online Diagnostic Result for Module 2 : PASS
Online Diagnostic Level when Module 2 came up = Complete
```

6. 可选：使用debug命令检查SCP下载事件。当线路卡联机时，可以运行这些调试来检查SCP下载事件。这是模块正常运行的示例。

```
6500#remote login switch
6500-sp#debug scp download module 2
6500-sp#show debug
<snip>
SCP download debugging for slot 2 is on
     start_timer_online_action: Start OIR online timer for slot: 2,
time: 1380 sec
    scp_dnld_module 2 : 0 : 0: during state enabled, got event 5(registered)
 @@@ scp_dnld_module 2 : 0 : 0: enabled -> wait_til_boot_ready
 Stop timer
 Start BOOT_RDY timer for 2 with 30000 msec
    scp_dnld_module 2 : 0 : 0: during state wait_til_boot_ready, got event
6(boot_ready)
 @@@ scp_dnld_module 2 : 0 : 0: wait_til_boot_ready -> wait_til_downloaded
 Stop timer
 Start DNLD timer for 2 with 120 sec
 (scp_start_download) 2/0
 (scp_start_download) 2/0: Started D/L Process, pid 512
 get_card_image: slot/proc 2/0: UBIN patch image on flash opened
(microcode:/LCP_CPGBIT)
 No download needed for card at slot 2

    scp_dnld_module 2 : 0 : 0: during state wait_til_downloaded, got event
4(dnld_completed)
 @@@ scp_dnld_module 2 : 0 : 0: wait_til_downloaded -> wait_til_ready
 Stop timer
 Start EXEC_CODE timer for 2 with 90 sec
 Received Run-ready from slot 2
 scp_download_process_teardown() mypid 512, slot/proc 2/0, image_fd -1
    scp_dnld_module 2 : 0 : 0: during state wait_til_ready, got event
8(ready)
 @@@ scp_dnld_module 2 : 0 : 0: wait_til_ready -> wait_til_running
```

```
 Stop timer
 Start RUN_RDY timer for 5 with 90 sec
    scp_dnld_module 2 : 0 : 0: during state wait_til_running, got
event 9(running)
 @@@ scp_dnld_module 2 : 0 : 0: wait_til_running -> wait_til_online
 Stop timer
<snip>
```