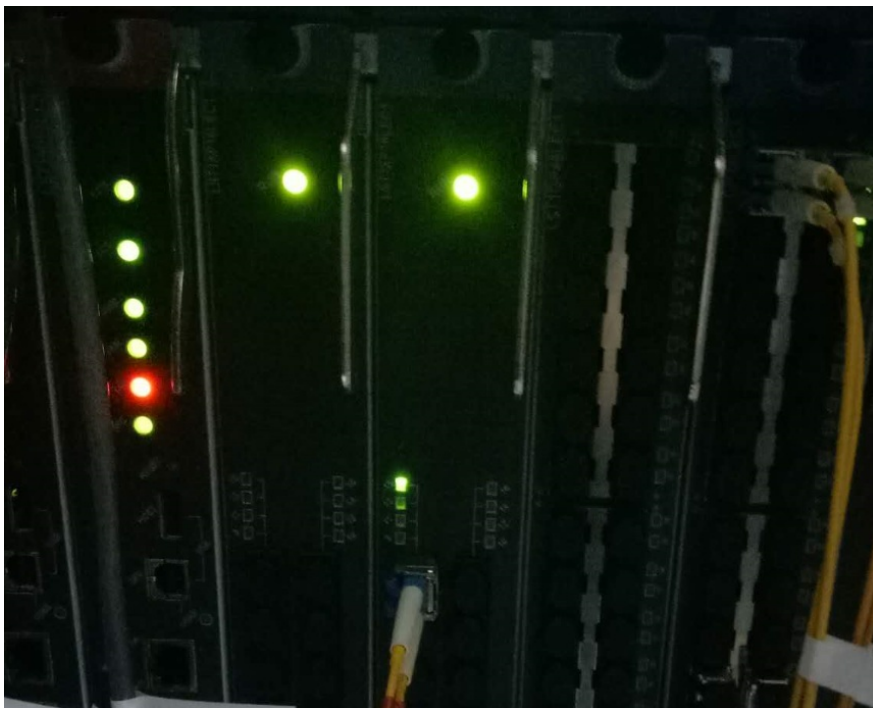


知 某局点S12500交换机多块业务单板状态为off问题排查经验案例

产品特性 其他硬件相关 赵跃 2017-05-20 发表

客户现网有两台独立的S12508设备，一台设备一块接口板状态为off，另一台设备两块状态为off。主控板上该接口板状态指示灯亮红灯。两个机框三块接口板重新插拔后，单板注册正常，状态变为正常的normal。



在诊断信息中的display device信息，看到单板状态为off。

SW1:

```
=====
=====display device verbose=====
=====
```

Slot No.	Brd Type	Brd Status	Software Version
0	LST1MRPNC1	Master	S12500-CMW520-R1825P01
1	LST1MRPNC1	Slave	S12500-CMW520-R1825P01
2	LST1XP16LEC1	Normal	S12500-CMW520-R1825P01
3	LST1XP16LEC1	Normal	S12500-CMW520-R1825P01
4	NONE	Off	NONE
5	LST1GP48LEC1	Normal	S12500-CMW520-R1825P01
6	NONE	Absent	NONE
7	NONE	Absent	NONE
8	LST1GT48LEC1	Normal	S12500-CMW520-R1825P01
9	LST1GT48LEC1	Normal	S12500-CMW520-R1825P01
10	LST2SF08C1	Normal	S12500-CMW520-R1825P01
11	LST2SF08C1	Normal	S12500-CMW520-R1825P01
12	LST2SF08C1	Normal	S12500-CMW520-R1825P01
13	LST2SF08C1	Normal	S12500-CMW520-R1825P01
14	LST2SF08C1	Normal	S12500-CMW520-R1825P01
15	LST2SF08C1	Normal	S12500-CMW520-R1825P01
16	LST2SF08C1	Normal	S12500-CMW520-R1825P01
17	LST2SF08C1	Normal	S12500-CMW520-R1825P01
18	LST2SF08C1	Normal	S12500-CMW520-R1825P01

SW2:

```
=====
=====display device verbose=====
=====
```

Slot No.	Brd Type	Brd Status	Software Version
0	LST1MRPNC1	Slave	S12500-CMW520-R1825P01
1	LST1MRPNC1	Master	S12500-CMW520-R1825P01

```

2  LST1XP16LEC1 Normal S12500-CMW520-R1825P01
3  LST1XP16LEC1 Normal S12500-CMW520-R1825P01
4  NONE Off NONE
5  LST1GP48LEC1 Normal S12500-CMW520-R1825P01
6  NONE Absent NONE
7  NONE Absent NONE
8  LST1GT48LEC1 Normal S12500-CMW520-R1825P01
9  NONE Off NONE
10 LST2SF08C1 Normal S12500-CMW520-R1825P01
11 LST2SF08C1 Normal S12500-CMW520-R1825P01
12 LST2SF08C1 Normal S12500-CMW520-R1825P01
13 LST2SF08C1 Normal S12500-CMW520-R1825P01
14 LST2SF08C1 Normal S12500-CMW520-R1825P01
15 LST2SF08C1 Normal S12500-CMW520-R1825P01
16 LST2SF08C1 Normal S12500-CMW520-R1825P01
17 LST2SF08C1 Normal S12500-CMW520-R1825P01
18 LST2SF08C1 Normal S12500-CMW520-R1825P01

```

1、从单板状态为off状态看，首先怀疑单板故障原因为接口板二次电源故障，导致接口板无法正常供电。如单板二次电源故障，可以在设备的诊断信息中看到，该单板三次主动上电后下电的信息记录。如下所示（0槽位为设备主用主控板，3槽位为状态off的单板）：

```

=====
=====Display devd board event of Slot 0=====
=====
Slot Flag OldState NewState SeqId Date Time
-----
3 Power PowerOn ->PowerOff 3a1e5 2015/09/25 12:40:37:746
3 Power PowerOn ->PowerOn 3a159 2015/09/25 12:38:16:383
3 Power PowerOn ->PowerOn 3a109 2015/09/25 12:36:55:575
3 Power PowerOn ->PowerOn 3a0f5 2015/09/25 12:36:35:342
3 Power WaitOn ->PowerOn 3a0d8 2015/09/25 12:36:06:361

```

但现网的两台设备诊断信息中均未发现上述信息记录，SW1和SW2该信息的记录如下：
SW1：

```

=====
=====Display devd board event of Slot 0=====
=====
Slot Flag OldState NewState SeqId Date Time
-----
4 Reg Normal ->CfgOver 1967f9d 2017/04/28 11:03:30:713
4 Reg SyncFin ->Normal 1967f94 2017/04/28 11:03:22:743
4 Reg RespOk ->SyncFin 1967f93 2017/04/28 11:03:22:608
4 Reg RegFin ->RespOk 1967f92 2017/04/28 11:03:22:404
4 Reg NotReg ->RegFin 1967f91 2017/04/28 11:03:22:403
4 Power WaitOn ->PowerOn 1967f56 2017/04/28 11:02:22:499
4 Exist Absent ->Exist 1967f56 2017/04/28 11:02:22:465
4 Reg Absent ->NotReg 1967f55 2017/04/28 11:02:22:464
4 Power Absent ->WaitOn 1967f55 2017/04/28 11:02:22:453
4 Power PowerOff->Absent 1967f0e 2017/04/28 11:01:11:470
4 Reg NotReg ->Absent 1967f0d 2017/04/28 11:01:11:469
4 Exist Exist ->Absent 1967f0d 2017/04/28 11:01:11:468
4 Reg Absent ->NotReg 40000056 2015/12/16 02:21:23:025
4 Exist Absent ->Exist 0 2015/12/15 18:23:04:234
4 Reg Absent ->NotReg 40000055 2014/11/17 17:04:37:738
4 Exist Absent ->Exist 0 2014/11/17 17:03:20:231
4 Reg Absent ->NotReg 40000056 2014/04/24 17:35:31:064
4 Exist Absent ->Exist 0 2014/04/24 17:34:25:231
4 Reg CfgOver ->NotReg 3f3673 2014/02/17 06:32:39:928
4 Power PowerOn ->PowerOff 3f3673 2014/02/17 06:32:39:925 //off时间点

```

SW2：

```

=====
=====Display devd board event of Slot 1=====
=====
Slot Flag OldState NewState SeqId Date Time
-----

```

4 Reg Normal ->CfgOver 41967748 2017/04/28 10:11:06:708
4 Reg SyncFin ->Normal 41967739 2017/04/28 10:10:52:425
4 Reg RespOk ->SyncFin 41967737 2017/04/28 10:10:52:277
4 Reg RegFin ->RespOk 41967736 2017/04/28 10:10:52:068
4 Reg NotReg ->RegFin 41967735 2017/04/28 10:10:52:067
4 Power WaitOn ->PowerOn 419676f9 2017/04/28 10:09:52:188
4 Exist Absent ->Exist 419676f9 2017/04/28 10:09:52:157
4 Reg Absent ->NotReg 419676f8 2017/04/28 10:09:52:156
4 Power Absent ->WaitOn 419676f8 2017/04/28 10:09:52:146
4 Power PowerOff->Absent 419676ce 2017/04/28 10:09:09:470
4 Reg NotReg ->Absent 419676cd 2017/04/28 10:09:09:469
4 Exist Exist ->Absent 419676cd 2017/04/28 10:09:09:468
4 Reg Absent ->NotReg 69 2015/12/16 02:16:41:516
4 Exist Absent ->Exist 0 2015/12/15 18:16:57:230
4 Reg Absent ->NotReg 6a 2014/11/17 16:50:52:980
4 Exist Absent ->Exist 0 2014/11/17 16:48:49:219
4 Reg Absent ->NotReg 69 2014/04/24 17:51:14:659
4 Exist Absent ->Exist 0 2014/04/24 17:49:49:220
4 Reg CfgOver ->NotReg 403f4c0e 2014/02/17 06:29:04:997
4 Power PowerOn ->PowerOff 403f4c0e 2014/02/17 06:29:04:994 //off时间点

9 Reg SyncFin ->Normal 419677b3 2017/04/28 10:12:50:503
9 Reg RespOk ->SyncFin 419677b2 2017/04/28 10:12:50:360
9 Reg RegFin ->RespOk 419677b1 2017/04/28 10:12:50:144
9 Reg NotReg ->RegFin 419677b0 2017/04/28 10:12:50:143
9 Power WaitOn ->PowerOn 41967775 2017/04/28 10:11:50:379
9 Exist Absent ->Exist 41967774 2017/04/28 10:11:50:346
9 Reg Absent ->NotReg 41967773 2017/04/28 10:11:50:345
9 Power Absent ->WaitOn 41967773 2017/04/28 10:11:49:832
9 Power PowerOff->Absent 4196772e 2017/04/28 10:10:45:059
9 Reg NotReg ->Absent 4196772d 2017/04/28 10:10:45:058
9 Exist Exist ->Absent 4196772d 2017/04/28 10:10:45:057
9 Reg Absent ->NotReg 69 2015/12/16 02:16:41:516
9 Exist Absent ->Exist 0 2015/12/15 18:16:57:230
9 Reg Absent ->NotReg 6a 2014/11/17 16:50:52:980
9 Exist Absent ->Exist 0 2014/11/17 16:48:49:219
9 Reg Absent ->NotReg 69 2014/04/24 17:51:14:659
9 Exist Absent ->Exist 0 2014/04/24 17:49:49:220
9 Reg CfgOver ->NotReg 403f4c16 2014/02/17 06:29:12:306
9 Power PowerOn ->PowerOff 403f4c16 2014/02/17 06:29:12:303 //off时间点

通过该信息判断，排除接口板二次电源故障可能性。

2、单板状态为off还有一种可能，由于工程师手工执行power-supply off slot X关闭单板电源导致。从上述诊断信息内容可以看到，三块单板power off的时间基本一致，为2014年2月17日06:29至06:33之间。三块单板直至2017年4月28日10:10分和11点02分左右经过现场工作人员插拔单板恢复上电。在两个时间点之间单板未主动尝试过上电。分析判断有工程师在2014年2月17日执行命令人为对单板下电导致问题。需收集设备的logfile信息分析进一步确认。

在SW1的logfile信息中可以看到故障时间点曾有工程师console登录执行power-supply off命令关闭slot4槽位电源。

```
%Feb 17 06:32:39:785 2014 SW1 SHELL/6/SHELL_CMD: -Task=co0-IPAddr=**-User=**; Command is power-supply off slot 4
```

```
%Feb 17 06:32:42:511 2014 SW1 DEVM/2/BOARD_STATE_FAULT: Board state changes to FAULT on Chassis 0 Slot 4, type is LST1XP16LEC1.
```

```
%Feb 17 06:32:42:612 2037 SW6 DEVD/2/BRD_ON_OFF: User powered off board chassis 0 slot 4!
```

同样查看SW2的logfile信息，也发现相同的现象。

```
%Feb 17 06:29:03:871 2014 SW2 SHELL/6/SHELL_CMD: -Task=co0-IPAddr=**-User=**; Command is power-supply off slot 4
```

```
%Feb 17 06:29:05:301 2014 SW2 DEVM/2/BOARD_STATE_FAULT: Board state changes to FAULT on Chassis 0 Slot 4, type is LST1XP16LEC1.
```

```
%Feb 17 06:29:05:402 2014 SW2 DEVD/2/BRD_ON_OFF: User powered off board chassis 0 slot 4!
```

```
%Feb 17 06:29:11:319 2014 SW2 SHELL/6/SHELL_CMD: -Task=co0-IPAddr=**-User=**; Command is power-supply off slot 9
```

```
%Feb 17 06:29:14:179 2014 SW2 DEVM/2/BOARD_STATE_FAULT: Board state changes to FAULT on Chassis 0 Slot 5, type is LST1GT48LEC1.
```

```
%Feb 17 06:29:14:280 2014 SW2 DEVD/2/BRD_ON_OFF: User powered off board chassis 0 slot 9!
```

从上述日志信息可以确认，两台设备单板off状态原因为人为执行命令手工下电导致，单板无硬件故障

。

- 1、可通过手动拔插单板，单板重新上电注册恢复；
- 2、可通过在用户视图下执行命令：power-supply on slot X恢复；