

连结9000 TCAM值设置为0个丢弃的Arp , UDLD , LACP信息包

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简介

当端口沿着走由于UDLD错误时，本文解释如何排除故障，当连结9000 TCAM

它包括当前和普通的概念、故障排除方法和错误信息。

当端口沿着走由于UDLD错误时，本文的目的将帮助用户知道如何排除TCAM故障

Prerequisite

对Cisco NXOS命令的了解

[NXOS TCAM配置](#)

拓扑

问题能在简单拓扑看到

(N9k-1)Eth2/1-2 ————— (N9k-2) Eth2/1-2

1.1.1.1 /24 1.1.1.2/24

排除故障

工作的以下协议失败在控制层面：

ARP解决方法失败

在连结9000的端口报告在于下模块的1 & 2. UDLD错误。

```
N9K-1(config-if)# 2018 Oct 20 07:23:23 N9K-1 %ETHPORT-5-IF_ADMIN_UP: Interface port-channel100
is admin up .
2018 Oct 20 07:23:23 N9K-1 %ETHPORT-5-IF_DOWN_PORT_CHANNEL_MEMBERS_DOWN: Interface port-
channel100 is down (No operational members)
2018 Oct 20 07:23:23 N9K-1 last message repeated 1 time
2018 Oct 20 07:23:23 N9K-1 %ETHPORT-5-IF_DOWN_ERROR_DISABLED: Interface Ethernet2/2 is down
(Error disabled. Reason:UDLD empty echo)
2018 Oct 20 07:23:23 N9K-1 last message repeated 1 time
2018 Oct 20 07:23:23 N9K-1 %ETHPORT-5-IF_DOWN_ERROR_DISABLED: Interface Ethernet2/1 is down
(Error disabled. Reason:UDLD empty echo)
sh 2018 Oct 20 07:23:25 N9K-1 last message repeated 1 time
```

线卡发生故障由于对机箱的L2ACLRedirect诊断测试模块的1 & 2。

```
'Show module'
```

```
Mod  Online Diag Status
---  -----
1    Fail-----cleared the module 1 and 2 error .[show logging nvram]
2    Fail-----module 2 reloaded.
3    Pass
```

Module 1 and 2:

```
11) L2ACLRedirect-----> E
12) BootupPortLoopback: U
```

另一位方式用户能击中此状态是从T2 ASIC基本机箱的SUP/LC被移动向Tahoe基本机箱

注意：如果要知道关于请排除故障的ASIC的更多信息请与Cisco TAC联系

升级 从T2的[CSCvc36411](#)到Tahoe根据线卡/FM能导致诊断的故障和TCAM问题

分析

当TCAM值设置到0在N9K-2，此问题将被看到

```
'Show module'
```

```
Mod  Online Diag Status
---  -----
1    Fail-----cleared the module 1 and 2 error .[show logging nvram]
2    Fail-----module 2 reloaded.
3    Pass
```

Module 1 and 2:

```
11) L2ACLRedirect-----> E
12) BootupPortLoopback: U
```

对更加进一步的isolate请去除UDLD和，但是连接失败工作

ARP请求出去N9K-2

N9K-2# ethanalyzer local interface inband

Capturing on inband

```
2018-10-23 10:46:47.282551      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:47.286072 b0:aa:77:30:75:bf -> ff:ff:ff:ff:ff:ff ARP Who has 1.1.1.1? Tell
1.1.1.2
2018-10-23 10:46:49.284704      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:51.286150 b0:aa:77:30:75:bf -> ff:ff:ff:ff:ff:ff ARP Who has 1.1.1.1? Tell
1.1.1.2
2018-10-23 10:46:51.286802      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:53.288989      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:55.289920      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:57.292070      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:59.292568      1.1.1.1 -> 1.1.1.2      ICMP Echo (ping) request
2018-10-23 10:46:59.292818 b0:aa:77:30:75:bf -> ff:ff:ff:ff:ff:ff ARP Who has 1.1.1.1? Tell
1.1.1.2
```

10 packets captured

同带信号传输N9K-1# ethanalyzer的本地接口

Capturing on inband

```
2018-10-23 04:02:40.568119 b0:aa:77:30:75:bf -> ff:ff:ff:ff:ff:ff ARP Who has 1.1.1.1? Tell
1.1.1.2
2018-10-23 04:02:40.568558 cc:46:d6:af:ff:bf -> b0:aa:77:30:75:bf ARP 1.1.1.1 is at
cc:46:d6:af:ff:bf
2018-10-23 04:02:48.574800 b0:aa:77:30:75:bf -> ff:ff:ff:ff:ff:ff ARP Who has 1.1.1.1? Tell
1.1.1.2
2018-10-23 04:02:48.575230 cc:46:d6:af:ff:bf -> b0:aa:77:30:75:bf ARP 1.1.1.1 is at
cc:46:d6:af:ff:bf——arp reply packet sent by agg1.
```

N9K-2的伊拉姆有自N9K-1的ARP响应

注意：请与Cisco TAC联系验证伊拉姆捕获

module-2(TAH-elam-insel6)# reprot

Initting block addresses

SUGARBOWL ELAM REPORT SUMMARY

slot - 2, asic - 1, slice - 0

=====

Incoming Interface: Eth2/2

Src Idx : 0x42, Src BD : 4489

Outgoing Interface Info: dmod 0, dpid 0

Dst Idx : 0x0, Dst BD : 4489

Packet Type: ARP

Dst MAC address: B0:AA:77:30:75:BF

Src MAC address: CC:46:D6:AF:FF:BF

Target Hardware address: B0:AA:77:30:75:BF ----- Arp packet captured on Linecard

Sender Hardware address: CC:46:D6:AF:FF:BF

Target Protocol address: 1.1.1.2

Sender Protocol address: 1.1.1.1

ARP opcode: 2

Drop Info:

module-2(TAH-elam-insel6)#

烦扰ping仍然出故障

```
module-2(TAH-elam-insel6)# reprot
```

```
Initting block addresses
```

```
SUGARBOWL ELAM REPORT SUMMARY
```

```
slot - 2, asic - 1, slice - 0
```

```
=====
```

```
Incoming Interface: Eth2/2
```

```
Src Idx : 0x42, Src BD : 4489
```

```
Outgoing Interface Info: dmod 0, dpid 0
```

```
Dst Idx : 0x0, Dst BD : 4489
```

```
Packet Type: ARP
```

```
Dst MAC address: B0:AA:77:30:75:BF
```

```
Src MAC address: CC:46:D6:AF:FF:BF
```

```
Target Hardware address: B0:AA:77:30:75:BF ----- Arp packet  
captured on Linecard
```

```
Sender Hardware address: CC:46:D6:AF:FF:BF
```

```
Target Protocol address: 1.1.1.2
```

```
Sender Protocol address: 1.1.1.1
```

```
ARP opcode: 2
```

```
Drop Info:
```

```
module-2(TAH-elam-insel6)#
```

```
module-2(TAH-elam-insel6)# reprot
```

```
Initting block addresses
```

```
SUGARBOWL ELAM REPORT SUMMARY
```

```
slot - 2, asic - 1, slice - 0
```

```
=====
```

```
Incoming Interface: Eth2/2
```

```
Src Idx : 0x42, Src BD : 4489
```

```
Outgoing Interface Info: dmod 0, dpid 0
```

```
Dst Idx : 0x0, Dst BD : 4489
```

```
Packet Type: ARP
```

```
Dst MAC address: B0:AA:77:30:75:BF
```

```
Src MAC address: CC:46:D6:AF:FF:BF
```

```
Target Hardware address: B0:AA:77:30:75:BF ----- Arp packet  
captured on Linecard
```

```
Sender Hardware address: CC:46:D6:AF:FF:BF
```

```
Target Protocol address: 1.1.1.2
```

```
Sender Protocol address: 1.1.1.1
```

```
ARP opcode: 2
```

```
Drop Info:
```

```
module-2(TAH-elam-insel6)#
```

要查出arp问题请添加静态ARP条目并且禁用UDLD

在静态arp ping从1.1.1.2到1.1.1.1开始工作，但是后再将发生故障，如果UDLD是启用的

```
module-2(TAH-elam-insel6)# reprot
```

```
Initting block addresses
```

```
SUGARBOWL ELAM REPORT SUMMARY
```

```
slot - 2, asic - 1, slice - 0  
=====
```

```
Incoming Interface: Eth2/2  
Src Idx : 0x42, Src BD : 4489  
Outgoing Interface Info: dmod 0, dpid 0  
Dst Idx : 0x0, Dst BD : 4489
```

Packet Type: ARP

```
Dst MAC address: B0:AA:77:30:75:BF  
Src MAC address: CC:46:D6:AF:FF:BF  
Target Hardware address: B0:AA:77:30:75:BF ----- Arp packet  
captured on Linecard  
Sender Hardware address: CC:46:D6:AF:FF:BF  
Target Protocol address: 1.1.1.2  
Sender Protocol address: 1.1.1.1  
ARP opcode: 2
```

Drop Info:

```
module-2(TAH-elam-insel6)#
```

虽则ping在接口运作UDLD错误将被看到，当启用

没有CoPP丢包如下所示

```
module-2(TAH-elam-insel6)# reprot
```

```
Initting block addresses
```

```
SUGARBOWL ELAM REPORT SUMMARY
```

```
slot - 2, asic - 1, slice - 0  
=====
```

```
Incoming Interface: Eth2/2  
Src Idx : 0x42, Src BD : 4489  
Outgoing Interface Info: dmod 0, dpid 0  
Dst Idx : 0x0, Dst BD : 4489
```

Packet Type: ARP

```
Dst MAC address: B0:AA:77:30:75:BF  
Src MAC address: CC:46:D6:AF:FF:BF  
Target Hardware address: B0:AA:77:30:75:BF ----- Arp packet  
captured on Linecard  
Sender Hardware address: CC:46:D6:AF:FF:BF  
Target Protocol address: 1.1.1.2  
Sender Protocol address: 1.1.1.1  
ARP opcode: 2
```

Drop Info:

```
module-2(TAH-elam-insel6)#
```

[掠夺者](#)

往Sup的活动FM是模块22。在命令之下运行的Toverify

module-30# show mvdxn internal port-status

Switch type: Marvell 98DXN41 - 4 port switch

Port	Descr	Enable	Status	ANeg	Speed	Mode	InByte	OutByte	InPkts	OutPkts
6	Local AXP CPU	Yes	UP	No	2	6	781502852	1006219901	6868852	3506128
7	This SC BCM EOBC switch	Yes	UP	No	2	6	654791960	430206276	1833465	3523170
8	Other SC BCM EOBC switch	Yes	DOWN	No	2	6	72282	176	3	2
9	This SC EPC switch	Yes	UP	No	2	6	351355874	351309506	1672662	3345683

Switch type: Marvell 98DXN11 - 10 port switch

Port	Descr	Enable	Status	ANeg	Speed	Mode	InByte	OutByte	InPkts	OutPkts
0	FM6 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
1	FM5 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
2	SUP ALT EPC	Yes	DOWN	No	2	6	0	0	0	0
3	SUP PRI EPC	Yes	DOWN	No	2	6	0	0	0	0
4	FM4 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
5	FM3 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
6	FM2 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
7	FM1 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
8	Other SC EPC switch	Yes	UP	No	2	6	351356399	351310095	1672664	3345687
9	Local SC 4-port switch	Yes	UP	No	2	6	351310031	351356399	3345688	1672664

Rule Rule_name Match_ctr Pol_en Pol_idx inProfileBytes outOfProfileBytes

往Sup的活动FM是模块22。To verify运行下面的命令module-30#显示mvdxn内部端口

statusSwitch类型：Marvell 98DXN41 - 4端口连接孔Descr Enable (event)状态ANeg速度模式

InByte OutByte InPkts OutPkts-- -----
-- 是6个本地AXP CPU没有2 6 781502852 1006219901 6868852 3506128 7是此SC BCM EOBC交换机没有2 6 654791960 430206276 1833465 3523170其他8个SC BCM是EOBC交换机DOWN此SC EPC交换机没有2 6 351355874 351309506 1672662个3345683Switch是键入的没有2 6 72282 176 3 2 9 : Marvell 98DXN11 - 10端口连接孔Descr Enable (event)状态ANeg速度模式 InByte OutByte InPkts OutPkts-- -----
-- 0个FM6是EPC交换机DOWN没有2 6 0 0 0 0 1个FM5是EPC交换机DOWN没有2 6 0 0 0 0 2个SUP ALT EPC DOWN没有2 6 0 0 0 0 3个SUP PRI EPC是DOWN没有2 6 0 0 0 0 4个FM4 EPC交

交换机是DOWN没有2 6 0 0 0 5个FM3 EPC交换机是DOWN没有2 6 0 0 0 6个FM2 EPC交换机是DOWN没有2 6 0 0 0 7个FM1 EPC交换机是DOWN没有2 6 0 0 0 8其他SC EPC交换机是没有2 6 351356399 351310095 1672664 3345687 9本地SC是4端口交换机没有2 6 351310031 351356399 3345688 1672664Rule Rule_name Match_ctr Pol_en Pol_idx inProfile Bytes outOfProfileBytes-----

解决方案

TCAM值设置对0原因丢弃在线路卡的所有控制数据流。

在更改TCAM值以后到默认值udld出现，并且arp获得解决

配置添加到N9K-2解决问题

重新加载在配置更改以后是需要的

module-30# show mvdxn internal port-status

Switch type: Marvell 98DXN41 - 4 port switch

Port	Descr	Enable	Status	ANeg	Speed	Mode	InByte	OutByte	InPkts	OutPkts
6	Local AXP CPU	Yes	UP	No	2	6	781502852	1006219901	6868852	3506128
7	This SC BCM EOBC switch	Yes	UP	No	2	6	654791960	430206276	1833465	3523170
8	Other SC BCM EOBC switch	Yes	DOWN	No	2	6	72282	176	3	2
9	This SC EPC switch	Yes	UP	No	2	6	351355874	351309506	1672662	3345683

Switch type: Marvell 98DXN11 - 10 port switch

Port	Descr	Enable	Status	ANeg	Speed	Mode	InByte	OutByte	InPkts	OutPkts
0	FM6 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
1	FM5 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
2	SUP ALT EPC	Yes	DOWN	No	2	6	0	0	0	0
3	SUP PRI EPC	Yes	DOWN	No	2	6	0	0	0	0
4	FM4 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
5	FM3 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
6	FM2 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
7	FM1 EPC switch	Yes	DOWN	No	2	6	0	0	0	0
8	Other SC EPC switch	Yes	UP	No	2	6	351356399	351310095	1672664	3345687
9	Local SC 4-port switch	Yes	UP	No	2	6	351310031	351356399	3345688	1672664

Rule	Rule_name	Match_ctr	Pol_en	Pol_idx	inProfileBytes
outOfProfileBytes					

有用的命令

Show hardware访问列表TCAM区域

show run|公司TCAM”----输出不意味着TCAM设置为默认设置。

有用的链路

[连结9000 TCAM雕刻](#)