

DCX-No ACK in 100 PDU錯誤資訊

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簡介

本檔案將說明以下錯誤訊息以及如何識別根本原因："%ETHPORT-2-IF_DOWN_ERROR_DISABLED:Interface Ethernet115/1/17 is down(Error disabled.原因100個PDU中的CX-No ACK)。"

必要條件

需求

思科建議您瞭解以下主題：

- Nexus CLI
- 乙太網路光纖通道(FCoE)通訊協定

採用元件

本檔案中的資訊是根據所有Nexus 5000和5500系列交換器平台。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

問題

資料中心橋接能力交換(DCBX)型別長度值(TLV)封裝在連結層探索通訊協定(LLDP)框架中，交換器與聚合網路配接器(CNA)之間交換。一個這樣的控制子TLV用於基於序列的確認(ACK)。例如，交換機傳送的SeqNo為1且AckNo為2的控制子TLV。主機應將其反向，並傳送一個LLDP幀，該幀的

SeqNo為2且AckNo為1的控制子TLV。有關詳細資訊，請參閱本文的資料包捕獲部分。

交換器預期每30秒從主機進行一次交換。如果交換器在3000秒或50分鐘的100個通訊協定資料單元(PDU)中看不到此交換，交換器就會停用並出現錯誤：

```
N5k %ETHPORT-2-IF_DOWN_ERROR_DISABLED: Interface Ethernet115/1/17 is down
(Error disabled. Reason:DCX-No ACK in 100 PDUs)
N5k %ETHPORT-2-IF_DOWN_ERROR_DISABLED: Interface Ethernet116/1/16 is down
(Error disabled. Reason:DCX-No ACK in 100 PDUs)
```

解決方案

如果禁用了LLDP，則可以解決此問題。但是，如果運行FCoE，則需要LLDP，因為如果沒有虛擬光纖通道埠，該埠不會啟動。要禁用LLDP，請輸入以下命令：

```
N5k(config)# interface E1/1
N5k(config-if)# no lldp receive
N5k(config-if)# no lldp send
```

交換機上的一些命令有助於縮小根源範圍。

```
N5k# show lldp interface ethernet 1/22
Interface Information:
  Enable (tx/rx/dcbx): Y/Y/Y      Port Mac address: 00:05:73:ab:29:bd

Peer's LLDP TLVs:
Type Length Value
----
001 007 040000c9 9d2372
002 007 030000c9 9d2372
003 002 0078
006 045 456d756c 6578204f 6e65436f 6e6e6563 74203130 4762204d 756c7469
2066756e 6374696f 6e204164 61707465 72
007 004 00800080
127 055 001b2102 020a0000 00000002 00000001 04110000 c0000001 00003232
00000000 00000206 060000c0 00080808 0a0000c0 00890600 1b2108
000 000
```

```
N5k# show lldp dcbx interface ethernet 1/22

Local DCBXP Control information:
Operation version: 00 Max version: 00 Seq no: 1 Ack no: 2 <<---Our sequence
# and Ack #
Type/
Subtype Version En/Will/Adv Config
003/000 000 Y/N/Y 0808
004/000 000 Y/N/Y 8906001b21 08
002/000 000 Y/N/Y 0001000032 32000000 00000002

Peer's DCBXP Control information:
Operation version: 00 Max version: 00 Seq no: 2 Ack no: 1 <<---Peer sequence #
and Ack # should be reversed.
Type/ Max/Oper
Subtype Version En/Will/Err Config
002/000 000/000 Y/Y/N 0001000032 32000000 00000002
003/000 000/000 Y/Y/N 0808
004/000 000/000 Y/Y/N 8906001b21 08
```

在大多數情況下，此問題的根本原因是CNA/伺服器行為錯誤或CNA上的韌體/驅動程式不正確。在5.2(1)N1(1)版及更新版本中為Nexus 5000系列交換器平台引入了命令，以便自動從該錯誤停用狀態中復原。

```
N5k(config)# errdisable recovery cause dcbx-no-ack
```

附註：思科錯誤ID [CSCtg30118](#)加強版：100個PDU中的DCX-No ACK已歸檔以提高功能以便解決此問題。此修復還允許客戶啟用從此情況恢復。

資料包檢視

SeqNo 1和AckNo 2的Nexus 5000傳送LLDP幀DCBX控制子TLV的內聯資料包捕獲

10 FR	08/29 20:03:10.575_052_649	00.706_750_925	GE Port(1,4,2)	LLDP
10 FR	08/29 20:03:39.867_113_179	29.292_060_530	GE Port(1,4,1)	LLDP
10 FR	08/29 20:03:40.576_388_319	00.709_275_140	GE Port(1,4,2)	LLDP
10 FR	08/29 20:04:09.865_923_214	29.289_534_895	GE Port(1,4,1)	LLDP
10 FR	08/29 20:04:10.577_700_451	00.711_777_238	GE Port(1,4,2)	LLDP
10 FR	08/29 20:04:39.864_735_359	29.287_034_907	GE Port(1,4,1)	LLDP
10 FR	08/29 20:04:40.579_057_684	00.714_322_325	GE Port(1,4,2)	LLDP
10 FR	08/29 20:05:09.863_548_219	29.284_490_535	GE Port(1,4,1)	LLDP
10 FR	08/29 20:05:10.580_492_379	00.716_944_160	GE Port(1,4,2)	LLDP
10 FR	08/29 20:05:39.862_363_081	29.281_870_702	GE Port(1,4,1)	LLDP
10 FR	08/29 20:05:40.581_813_856	00.719_450_775	GE Port(1,4,2)	LLDP
10 FR	08/29 20:06:09.861_173_574	29.279_359_718	GE Port(1,4,1)	LLDP

```

General
  ...interface number = 0x05000000
  ...OID string length = 0
  - DCBX TLV v1.01
    ...TLV type = 0x7F Organizationally Specific TLV (DCBX)
    ...TLV information string length = 55 Bytes
    ...organizationally unique identifier = Intel
    ...organizationally defined subtype = 0x02 DCBX is version 1.01
    - DCBX Control Sub-TLV
      ...type = 0x01 DCBX Control
      ...length = 10
      ...Oper_Version = 0
      ...Max_Version = 0
      ...SeqNo = 1
      ...AckNo = 2
    - Priority-based Flow Control Sub-TLV
      ...type = 0x03 Priority-based Flow Control
  
```

SeqNo 2和AckNo 1的CNA傳送LLDP訊框DCBX控制子TLV的內嵌封包擷取

10	FR	08/29 20:03:39.867_113_179	29.292_060_530	GE Port(1,4,1)	LLDP
10	FR	08/29 20:03:40.576_388_319	00.709_275_140	GE Port(1,4,2)	LLDP
10	FR	08/29 20:04:09.865_923_214	29.289_534_895	GE Port(1,4,1)	LLDP
10	FR	08/29 20:04:10.577_700_451	00.711_777_238	GE Port(1,4,2)	LLDP
10	FR	08/29 20:04:39.864_735_359	29.287_034_907	GE Port(1,4,1)	LLDP
10	FR	08/29 20:04:40.579_057_684	00.714_322_325	GE Port(1,4,2)	LLDP
10	FR	08/29 20:05:09.863_548_219	29.284_490_535	GE Port(1,4,1)	LLDP
10	FR	08/29 20:05:10.580_492_379	00.716_944_160	GE Port(1,4,2)	LLDP
10	FR	08/29 20:05:39.862_363_081	29.281_870_702	GE Port(1,4,1)	LLDP
10	FR	08/29 20:05:40.581_813_856	00.719_450_775	GE Port(1,4,2)	LLDP
10	FR	08/29 20:06:09.861_173_574	29.279_359_718	GE Port(1,4,1)	LLDP

General

Tree 10 Bit

DCBX TLV v1.01

- TLV type = 0x7F Organizationally Specific TLV (DCBX)
- TLV information string length = 55 Bytes
- organizationally unique identifier = Intel
- organizationally defined subtype = 0x02 DCBX is version 1.01
- DCBX Control Sub-TLV**
 - type = 0x01 DCBX Control
 - length = 10
 - Oper_Version = 0
 - Max_Version = 0
 - SeqNo = 2
 - AckNo = 1
- Priority Group Sub-TLV**
 - type = 0x02 Priority Groups
 - length = 17
 - Oper_Version = 0

Wireshark不會解碼LLDP子TLV。它們在LLDP報頭中顯示為「未知子型別」。使用上一節中命令的序列號，以便在Wireshark跟蹤中找到它們。以下是來自交換連線埠分析器(SPAN)作業階段的追蹤。

SeqNo 1和AckNo 2的Nexus 5000傳送LLDP幀DCBX控制子TLV的Wireshark捕獲

```
4 2011-08-31 08:23:58.483005390 Cisco_ab:29:bd
5 2011-08-31 08:24:00.217113680 Emulex_9d:23:72
6 2011-08-31 08:24:28.484536460 Cisco_ab:29:bd
7 2011-08-31 08:24:30.216221870 Emulex_9d:23:72
```

```
Interface Subtype: ifIndex (2)
Interface Number: 83886080
OID String Length: 0
```

▼ Unknown - Unknown

```
1111 111. .... .... = TLV Type: Organization Specific (127)
.... ...0 0011 0111 = TLV Length: 55
Organization Unique Code: Unknown (0x001b21)
```

```
Unknown Subtype Content: 02020a0000000000010000000206060000080000
```

▼ Unknown - Unknown

```
1111 111. .... .... = TLV Type: Organization Specific (127)
.... ...0 0000 0101 = TLV Length: 5
Organization Unique Code: Unknown (0x000142)
Unknown Subtype Content: 0101
```

▼ IEEE 802.1 - Port VLAN ID

```
1111 111. .... .... = TLV Type: Organization Specific (127)
.... ...0 0000 0110 = TLV Length: 6
Organization Unique Code: IEEE 802.1 (0x0080c2)
IEEE 802.1 Subtype: Port VLAN ID (0x01)
Port VLAN Identifier: 1 (0x0001)
```

▼ End of LLDPDU

```
0000 000. .... .... = TLV Type: End of LLDPDU (0)
.... ...0 0000 0000 = TLV Length: 0
```

SeqNo 2和AckNo 1的CNA傳送LLDP幀DCBX控制子TLV的Wireshark捕獲

```
5 2011-08-31 08:24:00.217113680 Emulex_9d:23:72
```

```
6 2011-08-31 08:24:28.484536460 Cisco_ab:29:bd
```

```
7 2011-08-31 08:24:30.216221870 Emulex_9d:23:72
```

```
.... ...0 0000 0010 = TLV Length: 2
```

```
Seconds: 120
```

```
▼ System Description = Emulex OneConnect 10Gb Multi function Adapter
```

```
0000 110. .... .... = TLV Type: System Description (6)
```

```
.... ...0 0010 1101 = TLV Length: 45
```

```
System Description = Emulex OneConnect 10Gb Multi function Adapter
```

```
▼ Capabilities
```

```
0000 111. .... .... = TLV Type: System Capabilities (7)
```

```
.... ...0 0000 0100 = TLV Length: 4
```

```
▼ Capabilities: 0x0080
```

```
.... .... 1... .... = Station only
```

```
▼ Enabled Capabilities: 0x0080
```

```
.... .... 1... .... = Station only
```

```
▼ Unknown - Unknown
```

```
1111 111. .... .... = TLV Type: Organization Specific (127)
```

```
.... ...0 0011 0111 = TLV Length: 55
```

```
Organization Unique Code: Unknown (0x001b21)
```

```
Unknown Subtype Content: 02020a0000000000020000000104110000c0000000
```

```
▼ End of LLDPDU
```

```
0000 000. .... .... = TLV Type: End of LLDPDU (0)
```

```
.... ...0 0000 0000 = TLV Length: 0
```

或者，也可以使用Nexus 5000系列交換機平台中的內建嗅探器來檢視LLDP幀。使用源MAC地址作為顯示過濾器。

Ethalyzer擷取CNA傳送LLDP訊框DCBX控制SeqNo 2和AckNo 1的子TLV。

```
N5k# ethalyzer local interface inbound-hi det display-filter eth.src==  
00:00:c9:9d:23:72
```

```
Capturing on eth4
```

```
Frame 1215 (152 bytes on wire, 152 bytes captured)
```

```
Arrival Time: Aug 31, 2011 09:06:25.549049000
```

```
[Time delta from previous captured frame: 0.021367000 seconds]
```

```
[Time delta from previous displayed frame: 1314795985.549049000 seconds]
```

```
[Time since reference or first frame: 1314795985.549049000 seconds]
```

```
Frame Number: 1215
```

```
Frame Length: 152 bytes
```

```
Capture Length: 152 bytes
```

```
[Frame is marked: False]
```

```
[Protocols in frame: eth:vlan:lldp]
```

```
Ethernet II, Src: 00:00:c9:9d:23:72 (00:00:c9:9d:23:72), Dst: 01:80:c2:00:00:0e
```

```

(01:80:c2:00:00:0e)
  Destination: 01:80:c2:00:00:0e (01:80:c2:00:00:0e)
    Address: 01:80:c2:00:00:0e (01:80:c2:00:00:0e)
      .... .1. .... = IG bit: Group address (multicast/broadcast)
      .... .0. .... = LG bit: Globally unique address (factory default)
  Source: 00:00:c9:9d:23:72 (00:00:c9:9d:23:72)
    Address: 00:00:c9:9d:23:72 (00:00:c9:9d:23:72)
      .... .0. .... = IG bit: Individual address (unicast)
      .... .0. .... = LG bit: Globally unique address (factory default)
  Type: 802.1Q Virtual LAN (0x8100)
802.1Q Virtual LAN
  000. .... = Priority: 0
  ...0 .... = CFI: 0
  .... 0000 0001 0100 = ID: 20
  Type: 802.1 Link Layer Discovery Protocol (LLDP) (0x88cc)
Link Layer Discovery Protocol
  Chassis Subtype = MAC address
    0000 001. .... = TLV Type: Chassis Id (1)
    .... .0 0000 0111 = TLV Length: 7
    Chassis Id Subtype: MAC address (4)
    Chassis Id: 00:00:c9:9d:23:72 (00:00:c9:9d:23:72)
  Port Subtype = MAC address
    0000 010. .... = TLV Type: Port Id (2)
    .... .0 0000 0111 = TLV Length: 7
    Port Id Subtype: MAC address (3)
    Port Id: 00:00:c9:9d:23:72 (00:00:c9:9d:23:72)
  Time To Live = 120 sec
    0000 011. .... = TLV Type: Time to Live (3)
    .... .0 0000 0010 = TLV Length: 2
    Seconds: 120
  System Description = Emulex OneConnect 10Gb Multi function Adapter
    0000 110. .... = TLV Type: System Description (6)
    .... .0 0010 1101 = TLV Length: 45
    System Description = Emulex OneConnect 10Gb Multi function Adapter
  Capabilities
    0000 111. .... = TLV Type: System Capabilities (7)
    .... .0 0000 0100 = TLV Length: 4
    Capabilities: 0x0080
      .... .1. .... = Station only
    Enabled Capabilities: 0x0080
      .... .1. .... = Station only
  Unknown - Unknown
    1111 111. .... = TLV Type: Organization Specific (127)
    .... .0 0011 0111 = TLV Length: 55
    Organization Unique Code: Unknown (0x001b21)
    Unknown Subtype Content: 02020A000000000002000000104110000C0000001000032... <<<<<
  End of LLDPDU
    0000 000. .... = TLV Type: End of LLDPDU (0)
    .... .0 0000 0000 = TLV Length: 0

```

N5k# 1 packets captured