

DCX-No ACK in 100 PDUs-foutmelding

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Inleiding

Dit document beschrijft deze foutmelding en hoe u de basisoorzaak kunt identificeren: "%ETHPORT-2-IF_DOWN_FOUT_DISABLED: Interface Ethernet115/1/17 is uitgeschakeld (fout uitgeschakeld). Reden CX-No ACK in 100 PDU's)."

Voorwaarden

Vereisten

Cisco raadt kennis van de volgende onderwerpen aan:

- Nexus CLI
- Fibre Channel over Ethernet (FCoE)-protocol

Gebruikte componenten

De informatie in dit document is gebaseerd op alle Nexus 5000- en 5500 Series switchplatforms.

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

Probleem

Data Center Bridging Capability Exchange (DCBX) Type Length Values (TLV) worden verpakt in

een LLDP-frame (Link Layer Discovery Protocol) dat wordt uitgewisseld tussen de switch en de geconvergeerde netwerkadapter (CNA). Eén van deze vormen van Controle SubTLV wordt gebruikt voor ontvangstbevestiging (ACK), die op sequentie gebaseerd is. Bijvoorbeeld, de schakelaar stuurt een SubTLV van de Controle met een SeqNo van 1 en een AckNo van 2. De gastheer zou dit moeten omgekeerd, en een LLDP frame met een SubTLV van de Controle met een SeqNo van 2 en een AckNo van 1 moeten sturen. Verwijs naar de sectie van de Captures van Packet van dit artikel voor meer informatie.

De schakelaar verwacht deze uitwisseling van de gastheer elke 30 seconden. Als de schakelaar deze uitwisseling niet ziet voor 100 Protocol Data Units (PDU's), die 3000 seconden of 50 minuten is, schakelt de schakelaar met deze fout uit:

```
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)
```

Oplossing

U kunt dit probleem oplossen als u LLDP uitschakelt. Als u FCoE echter uitvoert, is LLDP vereist omdat de virtuele Fibre Channel-poort niet zonder deze gecreëerd is. Om LLDP uit te schakelen voert u deze opdrachten in:

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

Hier zijn een paar opdrachten in de schakelaar die helpen om de grondoorzaak te beperken.

```
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

De oorzaak van dit probleem is in de meeste gevallen gedrag van CNA/server of een onjuist firmware/stuurprogramma op CNA. Er is een opdracht geïntroduceerd voor de Nexus 5000 Series switchplatforms in release 5.2(1)N1(1) en later om automatisch te herstellen van deze fout-uitgeschakeld toestand.

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

Opmerking: Cisco Bug-id [CSCtg30118](#)-enh: DCX-No ACK in 100 PDU's is ingediend om de mogelijkheden te verbeteren om dit probleem op te lossen. Deze reparatie stelt klanten ook in staat om van deze voorwaarde te herstellen.

Packet View

Inline pakketvastlegging van Nexus 5000 verzenden van LLDP frame DCBX subTLV van SeqNo 1 en AckNo 2

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

Tree 10 Bit 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

```

Inline pakketvastlegging van CNA dat LLDP frame DCBX-besturingsplane voor subTLV van stap 2 en AckNo 1 verzenden

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 decodeert geen LLDP-subTLV's. Ze worden in de LLDP-header weergegeven als een 'Onbekend subtype'. Gebruik de sequentienummers van de opdrachten in de vorige sectie om ze in het Wireshark-spoor te vinden. Hier zijn sporen van een Switched Port Analyzer (SPAN) sessie.

Wireshark Capture of Nexus 5000 Sending LLDP Frame Relay Control Sub-TLV van SeqNo 1 en AckNo 2

```
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: 02020a0000000000010000000200606000080000
```

▼ 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
```

Wireshark Capture of CNA Sending LLDP Frame Relay Control Sub-TLV van SeqNo 2 en AckNo 1

```
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: 02020a0000000000020000000104110000c000000
```

```
▼ End of LLDPDU
```

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

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

In plaats hiervan kunt u ook de ingebouwde sniffer in het Nexus 5000 Series switchplatform gebruiken om ook de LLDP-frames te zien. Gebruik het bron-MAC-adres als een display filter.

Ethalyzer Capture of CNA Sending LLDP Frame DCBX Control sub-TLV van SeqNo 2 en AckNo 1.

```
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