

Nexus 5000常见问题：NX-OS Ethalyzer中显示的VLAN ID与Cisco Nexus 5000系列交换机上的VLAN ID有何区别？

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简介

本文档介绍在Ethalyzer跟踪中看到的VLAN ID与Cisco Nexus 5000系列交换机上的VLAN ID之间的关系。

先决条件

要求

Cisco 建议您了解以下主题：

- 了解Cisco NX-OS CLI
- 以太网光纤通道(FCoE)知识

使用的组件

本文档中的信息基于Cisco Nexus 5000和5500系列交换机。

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。

NX-OS Ethalyzer中显示的VLAN ID与Cisco Nexus 5000系列交换机上的VLAN ID有何区别？

Ethalyzer不在802.1q报头的VID字段中显示实际FCoE VLAN ID。本节显示两个FCoE连接的跟踪。Qlogic CNA使用FCoE VLAN/VSAN 100，而Cisco P81E(Monterey Park Adapter)使用FCoE VLAN/VSAN 30。跟踪显示的VID分别为13和14。

QLOGIC FIP Keepalive (为FCoE VLAN/VSAN 100配置)

9	3.099768	Emulex_9c:fb:3d	Broadcom_01:00:02	FIP	60 VLAN Request
10	3.223472	Qlogic_15:d1:7d	Cisco_30:92:e0	FIP	60 Keep-Alive
11	3.599720	Emulex_9c:fb:3d	Broadcom_01:00:02	FIP	60 VLAN Request
12	4.099694	Emulex_9c:fb:3d	Broadcom_01:00:02	FIP	60 VLAN Request


```

Frame 10: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)
Ethernet II, Src: Qlogic_15:d1:7d (00:c0:dd:15:d1:7d), Dst: Cisco_30:92:e0 (54:7f:ee:30:92:e0)
802.1Q Virtual LAN, PRI: 3, CFI: 0, ID: 13
  011. .... = Priority: Excellent Effort (3)
  ...0 .... = CFI: Canonical (0)
  .... 0000 0000 1101 = ID: 13
  Type: FCoE Initialization Protocol (0x8914)
FIP Keep-Alive
  
```

Monterey Park(P81e)FIP请求 (为FCoE VLAN/VSAN 30配置)

109	31.480895	Cisco_4e:32:54	Broadcom_01:00:02	FIP	60 Solicitation
110	31.481190	Cisco_30:92:e0	Cisco_4e:32:54	FIP	2176 Advertisement
111	31.797653	Emulex_9c:fb:3d	Broadcom_01:00:02	FIP	60 VLAN Request


```

Frame 109: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)
Ethernet II, Src: Cisco_4e:32:54 (e8:b7:48:4e:32:54), Dst: Broadcom_01:00:02 (01:10:18:01:00:02)
802.1Q Virtual LAN, PRI: 3, CFI: 0, ID: 14
  011. .... = Priority: Excellent Effort (3)
  ...0 .... = CFI: Canonical (0)
  .... 0000 0000 1110 = ID: 14
  Type: FCoE Initialization Protocol (0x8914)
FIP Solicitation
  
```

Ethalyzer不会显示您在内联跟踪中看到的实际十进制VLAN ID值。Ethalyzer显示N5K内部规范VLAN ID(CVID)值。这里有一种方法可以追溯：

```
N5K# show system internal fcfwd fwcvidmap cvid
```

```
Canonical VLAN-ID based FWCVIDMAP table-(all values in hex)
```

```

-----
CVID Type UCD VID Bcast_Index Mcast_Index MVR_Ctrl_Index
-----
0x0001 enet 0x01 0x0fc8 0100.0000.000b 0100.0000.000c 0100.0000.0004
0x0002 enet 0x01 0x0fc9 0100.0000.0000 0100.0000.0000 0100.0000.0000
0x0003 enet 0x01 0x0fcb 0100.0000.0000 0100.0000.0000 0100.0000.0000
0x0004 enet 0x01 0x0001 0100.0000.001d 0100.0000.001d 0100.0000.0004
0x0005 enet 0x01 0x0000 0100.0000.0000 0100.0000.0000 0100.0000.0000
0x0006 enet 0x02 0x0000 0100.0000.000a 0100.0000.000a 0100.0000.000a
0x0007 enet 0x02 0x0001 0100.0000.000a 0100.0000.000a 0100.0000.000a
0x000d enet 0x01 0x0064 0100.0000.001e 0100.0000.001e 0100.0000.0004 - vlan 100
0x000e enet 0x01 0x001e 0100.0000.0020 0100.0000.0020 0100.0000.0004 - vlan 30
0x0fff enet 0x01 0x0fca 0100.0000.0002 0100.0000.0002 0100.0000.0ffd
0x0000 fc 0x0e 0x0000 0100.0000.0000 0100.0000.0000 0100.0000.0000
0x0008 fc 0x0e 0x0ffe 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x0009 fc 0x0e 0x0001 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000a fc 0x0e 0x0fef 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000c fc 0x0e 0x0005 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000d fc 0x0e 0x0064 0100.0000.0004 0100.0000.0004 0100.0000.0004 - vsan 100
0x000e fc 0x0e 0x001e 0100.0000.0004 0100.0000.0004 0100.0000.0004 - vsan 30
  
```

N5k# show flogi database

```
-----  
INTERFACE VSAN FCID PORT NAME NODE NAME  
-----
```

```
vfc1981      100   0xbc0000  21:00:00:c0:dd:15:d1:7d  20:00:00:c0:dd:15:d1:7d - Qlogic  
vfc1982      30    0xb90000  20:00:e8:b7:48:4e:32:54  10:00:e8:b7:48:4e:32:54 - Monterey Park
```

Total number of flogi = 2.

N5K# sh vlan fcoe

```
Original VLAN ID Translated VSAN ID Association State  
-----
```

```
30                                30                Operational  
100                               100               Operational
```

N5K# show platform fcfib vsan 30

(SD=S_ID/D_ID, SDO=S_ID/D_ID/OX_ID)

```
VSAN CVSAN State LoadBal IOD IOD_State
```

```
30(0x001e)   14(0x000e)  active   SDO      N      none
```

N5K# show platform fcfib vsan 100

(SD=S_ID/D_ID, SDO=S_ID/D_ID/OX_ID)

```
VSAN CVSAN State LoadBal IOD IOD_State
```

```
100(0x0064)  13(0x000d)  active   SDO      N      none
```

规范VLAN(CVID)13(0x000d)映射到FCoE VLAN 100(0x0064)，该VLAN映射到VSAN 100;和CVID 14(0x000e)映射到FCoE VLAN 30(0x001e)，该FCoE VLAN 30映射到VSAN 30。

同一CVID(0x000e?十进制14)用于表示外部FCoE VLAN和VSAN，无论它们使用的是相同的数字 (推荐) 还是不同的数字。例如：

将FCoE VLAN更改为VSAN映射，将FCoE VLAN 630更改为VSAN 30，而不是使用VLAN 30到VSAN 30。

N5K# show vlan fcoe

```
Original VLAN ID Translated VSAN ID Association State  
-----
```

```
100 100 Operational
```

```
630                                30                Operational
```

请注意，CVID(0x000e — 十进制14)是相同的数字：

N5K# show system internal fcfwd fwcvidmap cvid

Canonical VLAN-ID based FWCVIDMAP table- (All values in hex)

```
-----  
CVID Type UCD VID Bcast_Index Mcast_Index MVR_Ctrl_Index  
-----
```

```
0x0001 enet 0x01 0x0fc8 0100.0000.000b 0100.0000.000c 0100.0000.0004  
0x0002 enet 0x01 0x0fc9 0100.0000.0000 0100.0000.0000 0100.0000.0000  
0x0003 enet 0x01 0x0fcb 0100.0000.0000 0100.0000.0000 0100.0000.0000  
0x0004 enet 0x01 0x0001 0100.0000.001d 0100.0000.001d 0100.0000.0004  
0x0005 enet 0x01 0x0000 0100.0000.0000 0100.0000.0000 0100.0000.0000
```

```
0x0006 enet 0x02 0x0000 0100.0000.000a 0100.0000.000a 0100.0000.000a
0x0007 enet 0x02 0x0001 0100.0000.000a 0100.0000.000a 0100.0000.000a
0x000d enet 0x01 0x0064 0100.0000.001e 0100.0000.001e 0100.0000.0004
0x000e enet 0x01 0x0276 0100.0000.0024 0100.0000.0024 0100.0000.0004 - VLAN 630
0x0fff enet 0x01 0x0fca 0100.0000.0002 0100.0000.0002 0100.0000.0ffd
0x0000 fc 0x0e 0x0000 0100.0000.0000 0100.0000.0000 0100.0000.0000
0x0008 fc 0x0e 0x0ffe 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x0009 fc 0x0e 0x0001 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000a fc 0x0e 0x0fef 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000c fc 0x0e 0x0005 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000d fc 0x0e 0x0064 0100.0000.0004 0100.0000.0004 0100.0000.0004
0x000e fc 0x0e 0x001e 0100.0000.0004 0100.0000.0004 0100.0000.0004 - VSAN 30
```

以下是确定内部VLAN到外部VLAN映射的另一种方法：

```
N5k# show platform afm info global
```

```
Gatos Hardware version 0
```

```
Hardware instance mapping
```

```
-----
```

```
Hardware instance: 0 asic id: 0 slot num: 0
Hardware instance: 1 asic id: 1 slot num: 0
Hardware instance: 2 asic id: 2 slot num: 0
Hardware instance: 3 asic id: 3 slot num: 0
Hardware instance: 4 asic id: 4 slot num: 0
Hardware instance: 5 asic id: 5 slot num: 0
Hardware instance: 6 asic id: 6 slot num: 0
Hardware instance: 7 asic id: 0 slot num: 1
Hardware instance: 8 asic id: 1 slot num: 1
Hardware instance: 9 asic id: 0 slot num: 3
Hardware instance: 10 asic id: 1 slot num: 3
```

```
AFM Internal Status
```

```
-----
```

```
[unknown label ]: 324
[no free statistics counter ]: 2
[number of verify ]: 59
[number of commit ]: 59
[number of request ]: 6163
[tcam stats full ]: 2
```

```
Vlan mapping table
```

```
-----
```

```
Ext-vlan: 1 - Int-vlan: 66
Ext-vlan: 2 - Int-vlan: 62
Ext-vlan: 101 - Int-vlan: 61
Ext-vlan: 102 - Int-vlan: 60
Ext-vlan: 103 - Int-vlan: 59
Ext-vlan: 104 - Int-vlan: 58
Ext-vlan: 105 - Int-vlan: 57
Ext-vlan: 106 - Int-vlan: 56
Ext-vlan: 107 - Int-vlan: 55
Ext-vlan: 108 - Int-vlan: 54
Ext-vlan: 109 - Int-vlan: 53
Ext-vlan: 110 - Int-vlan: 52
Ext-vlan: 111 - Int-vlan: 51
Ext-vlan: 112 - Int-vlan: 50
```