

# 验证在DFC线路卡的BFD硬件计数器7600个设备的

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## 简介

本文描述如何验证在分布式转发卡(DFC)线路卡的Bidireccional转发检测(BFD)硬件计数器7600个设备的。

## 先决条件

### 要求

Cisco 建议您具有以下主题的基础知识：

- 7600系列路由器配置和功能
- DFC线路卡模块配置

### 使用的组件

本文档中的信息根据7600 IOS版本15.3。

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。

## 背景信息

BFD是设计的网络协议检测通信的分秒的失败在任何系统(直接物理链路、虚拟电路、通道、MPLS LSP等等)之间的路径。

DFC代表DFC，DFC和CFC线路卡之间的主要区别是DFC线路卡有一个嵌入式子卡用L2引擎和L3/4引擎，这卸载在CFC线路卡将发送到在线路卡将执行的本地Supervisor的转发查找。

BFD数据包在硬件方面被对待方式他们不影响CPU，这意味着在此DFC的卡数据包总是接收并且转发，无需留下线路卡。

# 拓扑

R1(Te3/21)-----R2

## 故障排除方法

您能看到R1不启动与他的邻居的BFD邻接Tengig3/21的。

检查邻接详细资料：

```
R1# sh bfd nei det
```

```
IPv4 Sessions
```

NeighAddr	LD/RD	RH/RS	State	Int
172.31.11.34	1/0	Down	Down	Te3/21

```
Session Host: Hardware
```

```
OurAddr: 172.31.11.33
```

```
Handle: 1
```

```
Local Diag: 1, Demand mode: 0, Poll bit: 0
```

```
MinTxInt: 1000000, MinRxInt: 1000000, Multiplier: 5
```

```
Received MinRxInt: 200000, Received Multiplier: 5
```

```
Holddown (hits): 0(0), Hello (hits): 1000(0)
```

```
Rx Count: 37  Notice received packets are too low
```

```
Tx Count: 9401
```

```
Elapsed time watermarks: 0 0 (last: 0)
```

```
Registered protocols: ISIS CEF
```

```
Downtime: 02:36:34
```

```
Last packet: Version: 1 - Diagnostic: 0
```

```
State bit: Up - Demand bit: 0
```

```
Poll bit: 0 - Final bit: 0
```

```
C bit: 1
```

```
Multiplier: 5 - Length: 24
```

```
My Discr.: 77 - Your Discr.: 1
```

Min tx interval: 200000 - Min rx interval: 200000

Min Echo interval: 0

R1# sh bfd nei det

IPv4 Sessions

NeighAddr	LD/RD	RH/RS	State	Int
172.31.11.34	1/0	Down	Down	Te3/21

Session Host: Hardware

OurAddr: 172.31.11.33

Handle: 1

Local Diag: 1, Demand mode: 0, Poll bit: 0

MinTxInt: 1000000, MinRxInt: 1000000, Multiplier: 5

Received MinRxInt: 200000, Received Multiplier: 5

Holddown (hits): 0(0), Hello (hits): 1000(0)

Rx Count: 37 β-----Notice received packets are not incrementing

Tx Count: 9456 β----- Transmit packets are incrementing

Elapsed time watermarks: 0 0 (last: 0)

Registered protocols: ISIS CEF

Downtime: 02:36:34

Last packet: Version: 1 - Diagnostic: 0

State bit: Up - Demand bit: 0

Poll bit: 0 - Final bit: 0

C bit: 1

Multiplier: 5 - Length: 24

My Discr.: 77 - Your Discr.: 1

Min tx interval: 200000 - Min rx interval: 200000

Min Echo interval: 0

您能也检查同一命令给同一输出的硬件，RX没有接收。

R1#show bfd neighbors hardware details

IPv4 Sessions

NeighAddr	LD/RD	RH/RS	State	Int
172.31.11.34	1/0	Down	Down	Te3/21

Session Host: Hardware

OurAddr: 172.31.11.33

Handle: 1

Local Diag: 1, Demand mode: 0, Poll bit: 0

MinTxInt: 1000000, MinRxInt: 1000000, Multiplier: 5

Received MinRxInt: 200000, Received Multiplier: 5

Holddown (hits): 0(0), Hello (hits): 1000(0)

Rx Count: 37

Tx Count: 19337

Elapsed time watermarks: 0 0 (last: 0)

Registered protocols: ISIS CEF

Downtime: 05:22:16

Last packet: Version: 1 - Diagnostic: 0

State bit: Up - Demand bit: 0

Poll bit: 0 - Final bit: 0

C bit: 1

Multiplier: 5 - Length: 24

My Discr.: 77 - Your Discr.: 1

Min tx interval: 200000 - Min rx interval: 200000

Min Echo interval: 0

**R1#show bfd neighbors hardware details**

IPv4 Sessions

NeighAddr	LD/RD	RH/RS	State	Int
172.31.11.34	1/0	Down	Down	Te3/21

Session Host: Hardware

OurAddr: 172.31.11.33

Handle: 1

Local Diag: 1, Demand mode: 0, Poll bit: 0

MinTxInt: 1000000, MinRxInt: 1000000, Multiplier: 5

```
Received MinRxInt: 200000, Received Multiplier: 5
Holddown (hits): 0(0), Hello (hits): 1000(0)
Rx Count: 37
Tx Count: 19348
Elapsed time watermarks: 0 0 (last: 0)
Registered protocols: ISIS CEF
Downtime: 05:22:28
Last packet: Version: 1                - Diagnostic: 0
              State bit: Up            - Demand bit: 0
              Poll bit: 0              - Final bit: 0
              C bit: 1
              Multiplier: 5            - Length: 24
              My Discr.: 77            - Your Discr.: 1
              Min tx interval: 200000  - Min rx interval: 200000
```

在此以后，您能继续到检查计数器直接地在线路卡。

对于此您需要在show bfd邻接详细资料输出的本地分辨器(LD)值，为了此案件LD值是1。

LD，此值用于独特识别此会话，并且一定是唯一和非零，为此设备的所有BFD会话。

您执行**show module**并且看到线路卡3是DFC。

您附加您要检查BFD值的线路卡，在这种情况下它是线路卡3。

```
R1# attach 3
```

```
R1-dfc3# show platform npc bfd ld 1
```

```
bfd_pak_big 0
```

```
bfd_pak_authenticated 0
```

```
bfd_x40g_xlifid_ifnum0 0
```

```
bfd_wd_hash_table_retry_count 0
```

```
bfd_ld_hash_table_retry_count 0
```

```
x40g_sso_differ_ld_count 0
```

```
Current normal_event_qsize 0 and 0 paks crossed the limit.
```

```
****BFD Session info for ld(1) avlnode ld (1) ****
ifnum(25), slotunit(21), txtimer(1000000) detect_timer(0)
p bit(0), f bit(0), srcip(172.31.11.33) dstip(172.31.11.34)
wdog cnterid(65664) tags inner(0) outer(0) tx sess info(0x19F4B7E0)
ADJ registered(0x1) tag_count(0) tx sessid(830)
dmac(dccc.eeee.aaaa), smac(5033.eeeee.8888), rx statid(508546), tx statid(508545)
RX pkt count(5838365), TX pkt count (5208864) B----- Here
you can see the counters for the RX and TX
IPV6 SA(::), IPV6 DA(::), no_adj_retry_tx (0)
```

R1# **show platform npc bfd ld 1**

bfd\_pak\_big 0

bfd\_pak\_authenticated 0

bfd\_x40g\_xlifid\_ifnum0 0

bfd\_wd\_hash\_table\_retry\_count 0

bfd\_ld\_hash\_table\_retry\_count 0

x40g\_sso\_differ\_ld\_count 0

Current normal\_event\_qsize 0 and 0 paks crossed the limit.

```
****BFD Session info for ld(1) avlnode ld (1) ****
ifnum(25), slotunit(21), txtimer(1000000) detect_timer(0)
p bit(0), f bit(0), srcip(172.31.11.33) dstip(172.31.11.34)
wdog cnterid(65664) tags inner(0) outer(0) tx sess info(0x19F4B7E0)
ADJ registered(0x1) tag_count(0) tx sessid(830)
dmac(dccc.eeee.aaaa), smac(5033.eeeee.8888), rx statid(508546), tx statid(508545)
RX pkt count(5838365), TX pkt count (5208864) B----- RX is not increasing
IPV6 SA(::), IPV6 DA(::), no_adj_retry_tx (0)
```

这时，更加进一步您排除故障，并且SPAN捕获在相邻设备推荐发现该设备是否实际上发送数据包

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