请使用以太网数据包捕获功能排除故障高CPU利用率

目录

简介

本文描述使用以太网数据包捕获(EPC)功能为了捕获进程交换，生成本地-被踢的数据包，或者思科快速转发(CEF)。Supervisor引擎2T (Sup2T)不支持CPU带内交换机端口分析程序(SPAN)捕获。

> **Note**:在Sup2T的EPC功能不能捕获是交换的硬件的流量。为了获取硬件交换数据包，应该使用微型协议分析程序功能。*参考Catalyst 6500版本12.2SX软件配置指南的*微型协议分析程序部分欲知更多信息。

先决条件

要求

Cisco建议您有EPC功能和高CPU利用率的知识由于在Catalyst 6500系列交换机的中断。

使用的组件

本文档中的信息根据在Sup2T运行的Cisco Catalyst 6500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。

初始配置

这是初始配置。

```
6500#monitor capture buffer CAP_BUFFER
! Create a capture buffer

6500#monitor capture point ip cef CEF_PUNT punt
! Create capture point for cef punted traffic

6500#monitor capture point ip process-switched PROCESS_SW both
! Create capture point for process switched traffic

6500#monitor capture point ip process-switched LOCAL_TRAFFIC from-us
! Create capture point for locally generated traffic

6500#monitor capture point associate PROCESS_SW CAP_BUFFER
6500#monitor capture point associate LOCAL_TRAFFIC CAP_BUFFER
6500#monitor capture point associate CEF_PUNT CAP_BUFFER
! Associate capture points to capture buffer

6500#monitor cap buffer CAP_BUFFER  size 128
! Set packet dump buffer size (in Kbytes)

6500#monitor cap buffer CAP_BUFFER  max-size 512
! Set element size in bytes : 1024 bytes or less (default is 68 bytes)
```

配置

配置如下：

```
6500#show monitor capture buffer CAP_BUFFER parameters

Capture buffer CAP_BUFFER (linear buffer)
Buffer Size : 131072 bytes, Max Element Size : 512 bytes, Packets : 0
Allow-nth-pak : 0, Duration : 0 (seconds), Max packets : 0, pps : 0
Associated Capture Points:
Name : PROCESS_SW, Status : Inactive
Name : LOCAL_TRAFFIC, Status : Inactive
Name : CEF_PUNT, Status : Inactive
Configuration:
monitor capture buffer CAP_BUFFER size 128 max-size 512
monitor capture point associate PROCESS_SW CAP_BUFFER
monitor capture point associate LOCAL_TRAFFIC CAP_BUFFER
monitor capture point associate CEF_PUNT CAP_BUFFER
```

程序交换数据捕获

使用此步骤为了获取程序交换数据：

1. 启动捕获点PROCESS_SW。

```
6500#monitor capture point start PROCESS_SW
*Jun  1 06:26:51.237: %BUFCAP-6-ENABLE: Capture Point PROCESS_SW enabled.
```

2. 多快验证数据包计数增加。

```
6500#show monitor capture buffer CAP_BUFFER parameters
Capture buffer CAP_BUFFER (linear buffer)
Buffer Size : 131072 bytes, Max Element Size : 512 bytes, Packets : 20
Allow-nth-pak : 0, Duration : 0 (seconds), Max packets : 0, pps : 0
Associated Capture Points:
Name : PROCESS_SW, Status : Active
Name : LOCAL_TRAFFIC, Status : Inactive
Name : CEF_PUNT, Status : Inactive
Configuration:
monitor capture buffer CAP_BUFFER size 128 max-size 512
monitor capture point associate PROCESS_SW CAP_BUFFER
monitor capture point associate LOCAL_TRAFFIC CAP_BUFFER
monitor capture point associate CEF_PUNT CAP_BUFFER
```

3. 检查获取数据包为了验证他们是进程交换的合法数据包。

```
6500#show monitor capture buffer CAP_BUFFER dump

06:26:52.121 UTC Jun 1 2000 : IPv4 Process    : Gi1/3 None

0F6FE920:          01005E00 00020000 0C07AC02      ..^........,.
0F6FE930: 080045C0 00300000 00000111 CCF70A02  ..E@.0......Lw..
0F6FE940: 0202E000 000207C1 07C1001C 95F60000  ..`....A.A...v..
0F6FE950: 10030A64 02006369 73636F00 00000A02  ...d..cisco.....
0F6FE960: 020100                                ...

06:26:52.769 UTC Jun 1 2000 : IPv4 Process    : Gi1/3 None

0F6FE920:          01005E00 000A0019 AAC0B84B      ..^.....*@8K
0F6FE930: 080045C0 00420000 00000158 83E8AC10  ..E@.B.....X.h,.
0F6FE940: A8A1E000 000A0205 EDEB0000 00000000  (!`.....mk......
0F6FE950: 00000000 00000000 00CA0001 000C0100  .........J......
0F6FE960: 01000000 000F0004 00080C02 01020006  ................
0F6FE970: 0006000D 00                           .....
<snip>
```

4. 当您完成与捕获时，请终止捕获点并且清楚缓冲区。

```
6500#monitor capture point stop PROCESS_SW
*Jun  1 06:28:37.017: %BUFCAP-6-DISABLE: Capture Point PROCESS_SW disabled.
6500#monitor capture buffer CAP_BUFFER clear
```

本地产生的数据流捕获

使用此步骤为了捕获本地产生的数据流：

1. 启动捕获点LOCAL_TRAFFIC。

```
6500#monitor capture point start LOCAL_TRAFFIC
*Jun  1 06:29:17.597: %BUFCAP-6-ENABLE: Capture Point LOCAL_TRAFFIC enabled.
```

2. 多快验证数据包计数增加。

```
6500#show monitor capture buffer CAP_BUFFER parameters
Capture buffer CAP_BUFFER (linear buffer)
Buffer Size : 131072 bytes, Max Element Size : 512 bytes, Packets : 5
Allow-nth-pak : 0, Duration : 0 (seconds), Max packets : 0, pps : 0
Associated Capture Points:
Name : PROCESS_SW, Status : Inactive
Name : LOCAL_TRAFFIC, Status : Active
```

```
Name : CEF_PUNT, Status : Inactive
Configuration:
monitor capture buffer CAP_BUFFER size 128 max-size 512
monitor capture point associate PROCESS_SW CAP_BUFFER
monitor capture point associate LOCAL_TRAFFIC CAP_BUFFER
monitor capture point associate CEF_PUNT CAP_BUFFER
```

3. 检查获取数据包。

找到的流量此处由交换机是本地生成的。流量一些示例是控制协议、互联网控制消息协议(ICMP)和数据从交换机。

```
6500#show monitor capture buffer CAP_BUFFER dump

06:31:40.001 UTC Jun 1 2000 : IPv4 Process    : None Gi1/3

5616A9A0: 00020000 03F42800 03800000 76000000  .....t(.....v...
5616A9B0: 00000000 00000000 00000000 00000000  ................
5616A9C0: 001D4571 AC412894 0FFDE940 08004500  ..Eq,A(..}i@..E.
5616A9D0: 0064000A 0000FF01 29A8AC10 9215AC10  .d......)(,...,.
5616A9E0: A7B00800 2F230002 00000000 00000239  '0../#.........9
5616A9F0: 4CECABCD ABCDABCD ABCDABCD ABCDABCD  Ll+M+M+M+M+M+M+M
5616AA00: ABCDABCD ABCDABCD ABCDABCD ABCDABCD  +M+M+M+M+M+M+M+M
5616AA10: ABCDABCD ABCDABCD ABCDABCD ABCDABCD  +M+M+M+M+M+M+M+M
5616AA20: ABCDABCD ABCDABCD ABCDABCD ABCDABCD  +M+M+M+M+M+M+M+M
5616AA30: ABCD00                               +M.
<snip>
```

4. 终止捕获点并且清楚缓冲区，当完成与捕获。

```
6500#monitor capture point stop LOCAL_TRAFFIC
*Jun  1 06:33:08.353: %BUFCAP-6-DISABLE: Capture Point LOCAL_TRAFFIC disabled.

6500#monitor capture buffer CAP_BUFFER clear
```

CEF转出的流量捕获

使用此步骤为了捕获CEF转出的流量：

1. 启动捕获点CEF_PUNT。

```
6500#monitor capture point start CEF_PUNT
*Jun  1 06:33:42.657: %BUFCAP-6-ENABLE: Capture Point CEF_PUNT enabled.
```

2. 多快验证数据包计数增加。

```
6500#show monitor capture buffer CAP_BUFFER parameters

Capture buffer CAP_BUFFER (linear buffer)
Buffer Size : 131072 bytes, Max Element Size : 512 bytes, Packets : 8
Allow-nth-pak : 0, Duration : 0 (seconds), Max packets : 0, pps : 0
Associated Capture Points:
Name : PROCESS_SW, Status : Inactive
Name : LOCAL_TRAFFIC, Status : Inactive
Name : CEF_PUNT, Status : Active
Configuration:
monitor capture buffer CAP_BUFFER size 128 max-size 512
monitor capture point associate PROCESS_SW CAP_BUFFER
monitor capture point associate LOCAL_TRAFFIC CAP_BUFFER
monitor capture point associate CEF_PUNT CAP_BUFFER
```

3. 检查获取数据包。

找到的数据包此处将被踢对CPU由于为流编程的平底船邻接。检查CEF邻接并且为根本原因排除故障。

```
6504-E#show monitor capture buffer CAP_BUFFER dump

06:47:21.417 UTC Jun 1 2000 : IPv4 CEF Punt   : Gi1/1 None

5616B090: 01005E00 000A0019 AAC0B846 080045C0  ..^.....*@8F..E@
5616B0A0: 00420000 00000158 84E8AC10 A7A1E000  .B.....X.h,.'!`.
5616B0B0: 000A0205 EDEB0000 00000000 00000000  ....mk..........
5616B0C0: 00000000 00CA0001 000C0100 01000000  .....J..........
5616B0D0: 000F0004 00080C02 01020006 0006000D  ................
5616B0E0: 00                                    .
<snip>
```

4. 过滤获取数据包当必要时。

```
6500#show monitor capture buffer CAP_BUFFER dump filter input-interface gi1/3

06:47:21.725 UTC Jun 1 2000 : IPv4 CEF Punt   : Gi1/3 None
5607DCF0:          01005E00 0005001F 6C067102      ..^.....l.q.
5607DD00: 080045C0 004CD399 00000159 F8F60A02  ..E@.LS....Yxv..
5607DD10: 0202E000 00050201 002C0A02 02020000  ..`......,......
5607DD20: 0001D495 00000000 00000000 0000FFFF  ..T.............
5607DD30: FF00000A 12010000 00280A02 02020000  .........(......
5607DD40: 0000FFF6 00030001 00040000 000100    ...v...........

06:47:22.837 UTC Jun 1 2000 : IPv4 CEF Punt   : Gi1/3 None
5607DCF0:          01005E00 00020000 0C07AC02      ..^........,.
5607DD00: 080045C0 00300000 00000111 CCF70A02  ..E@.0......Lw..
5607DD10: 0202E000 000207C1 07C1001C 95F60000  ..`....A.A...v..
5607DD20: 10030A64 02006369 73636F00 00000A02  ...d..cisco.....
5607DD30: 020100                                ...
<snip>
```

5. 终止捕获点并且清楚缓冲区，当完成与捕获。

```
6500#monitor capture point stop CEF_PUNT
*Jun  1 06:36:01.285: %BUFCAP-6-DISABLE: Capture Point CEF_PUNT disabled.
6500#monitor capture buffer CAP_BUFFER clear
```

验证

参考在配置过程列出的验证步骤为了确认您的配置适当地工作。

故障排除

目前没有针对此配置的故障排除信息。