

Solucionar problemas de adjacência IS-IS

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Introdução

Este documento descreve como solucionar problemas do protocolo IS-IS para plataformas Cisco IOS® XE.

Pré-requisitos

Requisitos

A Cisco recomenda que você tenha conhecimento destes tópicos:

- Sistema intermediário para sistema intermediário (IS-IS)
- Cisco IOS XE

Para obter mais informações sobre esses tópicos, consulte:

- [ip routing: Guia de configuração do ISIS](#)
- [Configurar tipos de área e adjacência IS-IS](#)

Componentes Utilizados

As informações neste documento são baseadas no software Cisco IOS XE.

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma configuração (padrão) inicial. Se a rede estiver ativa, certifique-se de que você entenda o impacto potencial de qualquer comando.

Adjacência Inativa IS-IS

Esta seção fornece uma solução para o problema comum de IS-IS inoperante. Este diagrama de rede é usado como exemplo:



Topologia da linha de base

O IS-IS está desativado entre o dispositivo A e o dispositivo B.

<#root>

DeviceA#

show isis neighbors detail

System Id	Type Interface	IP Address	State Holdtime	Circuit Id
DeviceA#				

<#root>

DeviceB#

show isis neighbors detail

System Id	Type Interface	IP Address	State Holdtime	Circuit Id
DeviceA	L1L2 Twe1/0/9	192.0.2.1	DOWN 28	05
Area Address(es): 49.0001				
SNPA: a84f.b1c3.9484				
State Changed: never				
Format: Phase V				
Remote TID: 0				
Local TID: 0				
Interface name: TwentyFiveGigE1/0/9				
Neighbor Circuit Id: 5				
Adj sync: Full				

Faça o diagnóstico do problema:

1. Valide a conectividade entre os dispositivos.

<#root>

DeviceA#

ping 192.0.2.2 size 1500 df-bit

Type escape sequence to abort.

Sending 5, 1500-byte ICMP Echos to 192.0.2.2, timeout is 2 seconds:

Packet sent with the DF bit set

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

DeviceA#

<#root>

DeviceB#

ping 192.0.2.1 size 1500 df-bit

Type escape sequence to abort.

Sending 5, 1500-byte ICMP Echos to 192.0.2.1, timeout is 2 seconds:

Packet sent with the DF bit set

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

DeviceB#

2. Revise a configuração em ambos os lados.

<#root>

DeviceA#

show running-config | sec router isis

ip router isis

router isis

net 49.0001.0000.0000.000a.00

DeviceA#

<#root>

DeviceB#

show running-config | sec router isis

ip router isis

```
router isis
 net 49.0001.0000.0000.000b.00
DeviceB#
```

3. Valide se a adjacência está ativa no estado Serviço de rede sem conexão (CLNS). Isso fornece um resumo dos vizinhos conectados ao seu dispositivo.

<#root>

DeviceA#

show clns neighbors detail

System Id	Interface	SNPA	State	Holdtime	Type	Protocol
0000.0000.000B	Te0/0/4					
6c31.0edb.3b5f						

Up

257 IS ES-IS
Area Address(es): 49.0001

Uptime: 02:02:11

Interface name: TenGigabitEthernet0/0/4
DeviceA#

<#root>

DeviceB#

show clns neighbors detail

System Id	Interface	SNPA	State	Holdtime	Type	Protocol
0000.0000.000A	Twe1/0/9					
a84f.b1c3.9484						

Down

20 L1L2 IS-IS
Area Address(es): 49.0001
IP Address(es): 192.0.2.1*

Uptime: 02:02:09

NSF capable
Interface name: TwentyFiveGigE1/0/9
DeviceB#

Os endereços mac listados em cada vizinho CLNS são os endereços mac dos dispositivos remotos que fazem correspondência com o dispositivo local.

```
<#root>
DeviceA#
show interface TenGigabitEthernet0/0/4

TenGigabitEthernet0/0/4 is up, line protocol is up
  Hardware is 8xSFP+, address is
a84f.b1c3.9484 (bia a84f.b1c3.9484) < mac address appeared on SNPA DeviceB

  Internet address is 192.0.2.1/30
  MTU 1500 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
```

```
<#root>
DeviceB#
show interface TwentyFiveGigE1/0/9

TwentyFiveGigE1/0/9 is up, line protocol is up (connected)
  Hardware is Twenty Five Gigabit Ethernet, address is
6c31.0edb.3b5f (bia 6c31.0edb.3b5f) < mac address appeared on SNPA DeviceA

  Internet address is 192.0.2.2/30
  MTU 9216 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
```

4. Execute o comando `show clns interface` para validar se os parâmetros correspondem ao peer.

Certifique-se de corresponder a estes valores:

- Unidade máxima de transmissão (MTU)
- Tipo de circuito

DispositivoA
<#root> DeviceA# show clns interface TenGigabitEthernet0/0/4 TenGigabitEthernet0/0/4 is up, line protocol is up Attached to: isis Checksums enabled,

MTU 1497

, Encapsulation SAP
ERPDUs enabled, min. interval 10 msec.
CLNS fast switching disabled
CLNS SSE switching disabled
DEC compatibility mode OFF for this interface
Next ESH/ISH in 19 seconds
Routing Protocol: IS-IS

Circuit Type: level-1-2

Interface number 0x0, local circuit ID 0x5
Neighbor Extended Local Circuit ID: 0x0
Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-1 IPv6 Metric: 10
Number of active level-1 adjacencies: 0
Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-2 IPv6 Metric: 10
Number of active level-2 adjacencies: 0
Next IS-IS Hello in 908 milliseconds

if state DOWN

DispositivoB

<#root>

DeviceB#

show clns interface TwentyFiveGigE1/0/9

TwentyFiveGigE1/0/9 is up, line protocol is up
Attached to: isis
Checksums enabled,

MTU 9213

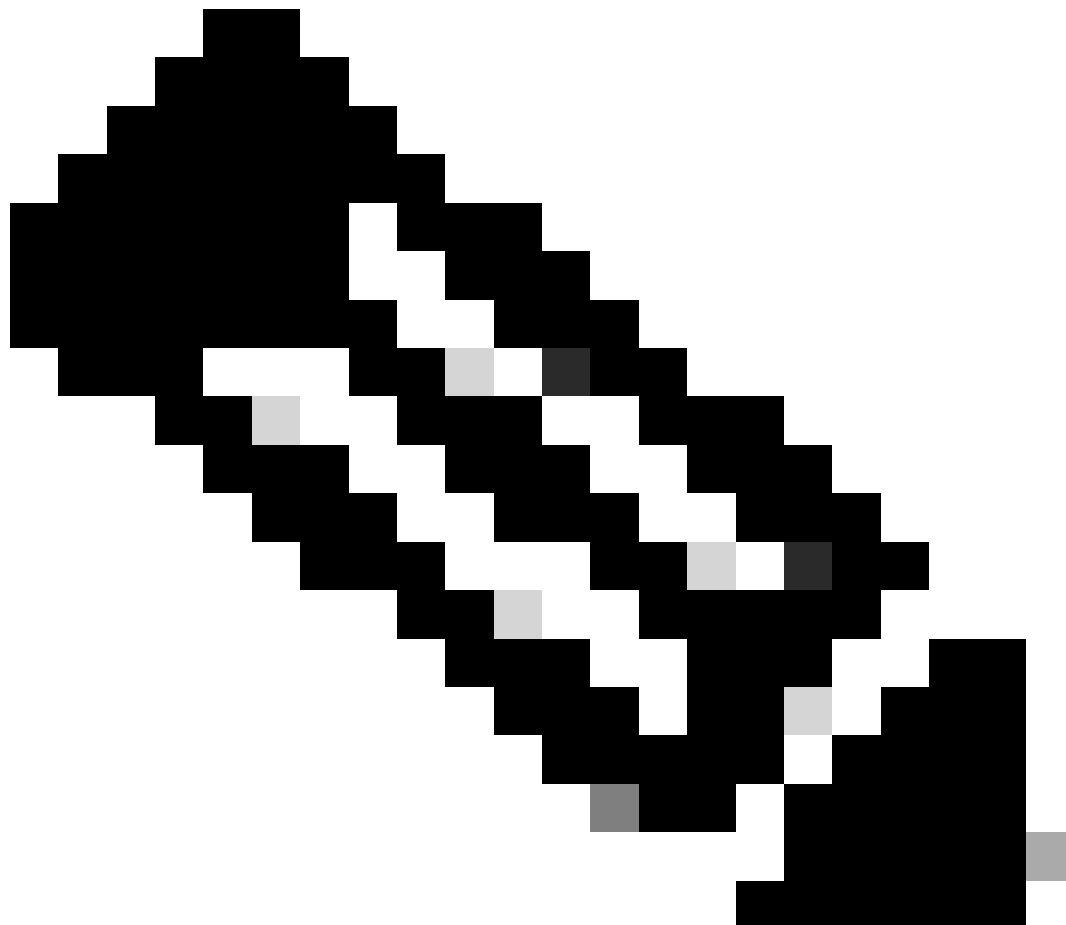
, Encapsulation SAP
ERPDUs enabled, min. interval 10 msec.
CLNS fast switching disabled
CLNS SSE switching disabled
DEC compatibility mode OFF for this interface
Next ESH/ISH in 8 seconds
Routing Protocol: IS-IS

Circuit Type: level-1-2

Interface number 0x0, local circuit ID 0xB
Neighbor Extended Local Circuit ID: 0x5
Neighbor System-ID: 0000.0000.000A
P2P retransmit queue size: 0
Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B
Level-1 IPv6 Metric: 10
Number of active level-1 adjacencies: 0
Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B
Level-2 IPv6 Metric: 10
Number of active level-2 adjacencies: 0
Next IS-IS Hello in 2 seconds

```
if state INIT
```

Neste cenário, o problema está relacionado à incompatibilidade de MTU. Se o peer remoto não estiver acessível, o `debug isis adj-packets` pode mostrar o valor de MTU que está sendo enviado e recebido.



Note: Isso se aplica somente quando o comando é `show clns interface impresso` if state INIT.

```
<#root>
```

```
DeviceA#
```

```
debug isis adj-packets TenGigabitEthernet 0/0/4
```

```
IS-IS Adjacency related packets debugging is on for router process null
```

```
*Jul 18 23:24:16.598: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
```

```
*Jul 18 23:24:16.599: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN,
```

length 1496 < MTU sent to the neighbor >

```
*Jul 18 23:24:25.189: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 18 23:24:25.189: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 18 23:24:34.057: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 18 23:24:34.057: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 18 23:24:42.866: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 18 23:24:42.866: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 18 23:24:51.646: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 18 23:24:51.646: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 18 23:24:59.606: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 18 23:24:59.606: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
```

<#root>

DeviceB#

debug isis adj-packets twentyFiveGigE 1/0/9

```
*Jul 18 23:53:22.420: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:INIT,
length 9212 < MTU sent to the neighbor >
```

```
*Jul 18 23:53:22.591: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)
*Jul 18 23:53:22.591: ISIS-Adj: cir type L1L2, cir id 05,
```

length 1496 < MTU received from neighbor >

```
*Jul 18 23:53:22.592: ISIS-Adj: rcvd state DOWN, old state INIT, new state INIT, nbr usable TRUE
*Jul 18 23:53:22.592: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x49000184 Length:5
*Jul 18 23:53:22.592: ISIS-Adj: Nghbr Ckt ID changed: FALSE
*Jul 18 23:53:22.592: ISIS-Adj: newstate:1, state_changed:0, going_up:0, going_down:0
*Jul 18 23:53:22.592: ISIS-Adj: Action = ACCEPT
*Jul 18 23:53:22.592: ISIS-Adj: ACTION_ACCEPT:
...
```

Adjacência ISIS Inativa (Não Relacionada à Incompatibilidade de MTU)

IS-IS está desativado e a MTU corresponde às interfaces.

<#root>

DeviceA#

show cns neighbors

System Id	Interface	SNPA	State	Holdtime	Type	Protocol
DeviceA#						

<#root>

DeviceB#

show clns neighbors

System Id	Interface	SNPA	State	Holdtime	Type	Protocol
DeviceB#						

1. Valide a configuração que corresponde ao par.
2. Certifique-se de que a interface física esteja em boas condições para transmitir (sem erros ou problema de níveis de luz).
3. Verifique a conectividade entre pares (teste de ping adicionando o tamanho da MTU e o bit df).
4. Valide os vizinhos CLNS entre os pares.
5. Certifique-se de que ambas as extremidades tenham o mesmo MTU e o mesmo tipo de circuito juntamente com o estado.

DispositivoA

<#root>

DeviceA#

show clns interface TenGigabitEthernet 0/0/4

TenGigabitEthernet0/0/4 is up, line protocol is up
Attached to: isis
Checksums enabled,

MTU 1497

, Encapsulation SAP
ERPDUs enabled, min. interval 10 msec.
CLNS fast switching disabled
CLNS SSE switching disabled
DEC compatibility mode OFF for this interface
Next ESH/ISH in 41 seconds
Routing Protocol: IS-IS

Circuit Type: level-1-2

Interface number 0x0, local circuit ID 0x5
Neighbor Extended Local Circuit ID: 0x0
Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-1 IPv6 Metric: 10
Number of active level-1 adjacencies: 0
Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-2 IPv6 Metric: 10
Number of active level-2 adjacencies: 0
Next IS-IS Hello in 2 seconds

if state DOWN

DispositivoB
<pre><#root> DeviceB# show clns interface twentyFiveGigE 1/0/9 TwentyFiveGigE1/0/9 is up, line protocol is up Attached to: isis Checksums enabled, MTU 1497 , Encapsulation SAP ERPDUs enabled, min. interval 10 msec. CLNS fast switching disabled CLNS SSE switching disabled DEC compatibility mode OFF for this interface Next ESH/ISH in 42 seconds Routing Protocol: IS-IS Circuit Type: level-1-2 Interface number 0x0, local circuit ID 0xB Neighbor Extended Local Circuit ID: 0x0 P2P retransmit queue size: 0 Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B Level-1 IPv6 Metric: 10 Number of active level-1 adjacencies: 0 Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B Level-2 IPv6 Metric: 10 Number of active level-2 adjacencies: 0 Next IS-IS Hello in 5 seconds if state DOWN</pre>

6. Ative debug isis adj-packet
e valide os pacotes que são enviados e recebidos.

```
<#root>
DeviceA#
debug isis adj-packets TenGigabitEthernet 0/0/4

IS-IS Adjacency related packets debugging is on for router process null
*Jul 19 13:32:52.788: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 19 13:32:52.788: ISIS-Adj:

Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length 1496

*Jul 19 13:33:00.708: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 19 13:33:00.709: ISIS-Adj:

Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length 1496
```

```
*Jul 19 13:33:09.726: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 19 13:33:09.726: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 19 13:33:18.376: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 19 13:33:18.376: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
*Jul 19 13:33:26.132: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
*Jul 19 13:33:26.132: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length
DeviceA#
```

<#root>

DeviceB#

debug isis adj-packets TwentyFiveGigE1/0/9

IS-IS Adjacency related packets debugging is on for router process null

```
*Jul 19 14:01:32.125: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
*Jul 19 14:01:32.125: ISIS-Adj:
```

Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496

```
*Jul 19 14:01:40.005: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
*Jul 19 14:01:40.005: ISIS-Adj:
```

Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496

```
*Jul 19 14:01:49.602: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
*Jul 19 14:01:49.602: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496
*Jul 19 14:01:58.284: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
*Jul 19 14:01:58.284: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496
```

Ambos os dispositivos estão enviando, mas não recebem o pacote Hello de seus vizinhos.

7. Ative uma captura para validar que os pacotes sejam enviados a cada vizinho. Quando a captura for concluída, exporte-a para o flash de inicialização ou flash como .pcap file um servidor e carregue-a para um servidor TFTP para obter mais detalhes.

<#root>

DeviceA#

show monitor cap cap parameter

```
monitor capture cap interface TenGigabitEthernet0/0/4 BOTH < Interface from where send and receive the H
monitor capture cap control-plane IN < Packets to be process and generated by the CPU >

monitor capture cap access-list TAC < ACL for capture only the IS-IS packets >

monitor capture cap buffer size 10
monitor capture cap limit pps 1000
```

DeviceA#

show access-list TAC

Extended MAC access list TAC

```
    permit host
a84f.b1c3.9484
    host
0900.2b00.0005 < Local MAC address towards the IS-IS Hello >
    permit host
6c31.0edb.3b5f host 0900.2b00.0005 < Remote MAC address towards the IS-IS Hello >
```

<#root>

DeviceB#

```
show monitor capture cap parameter
```

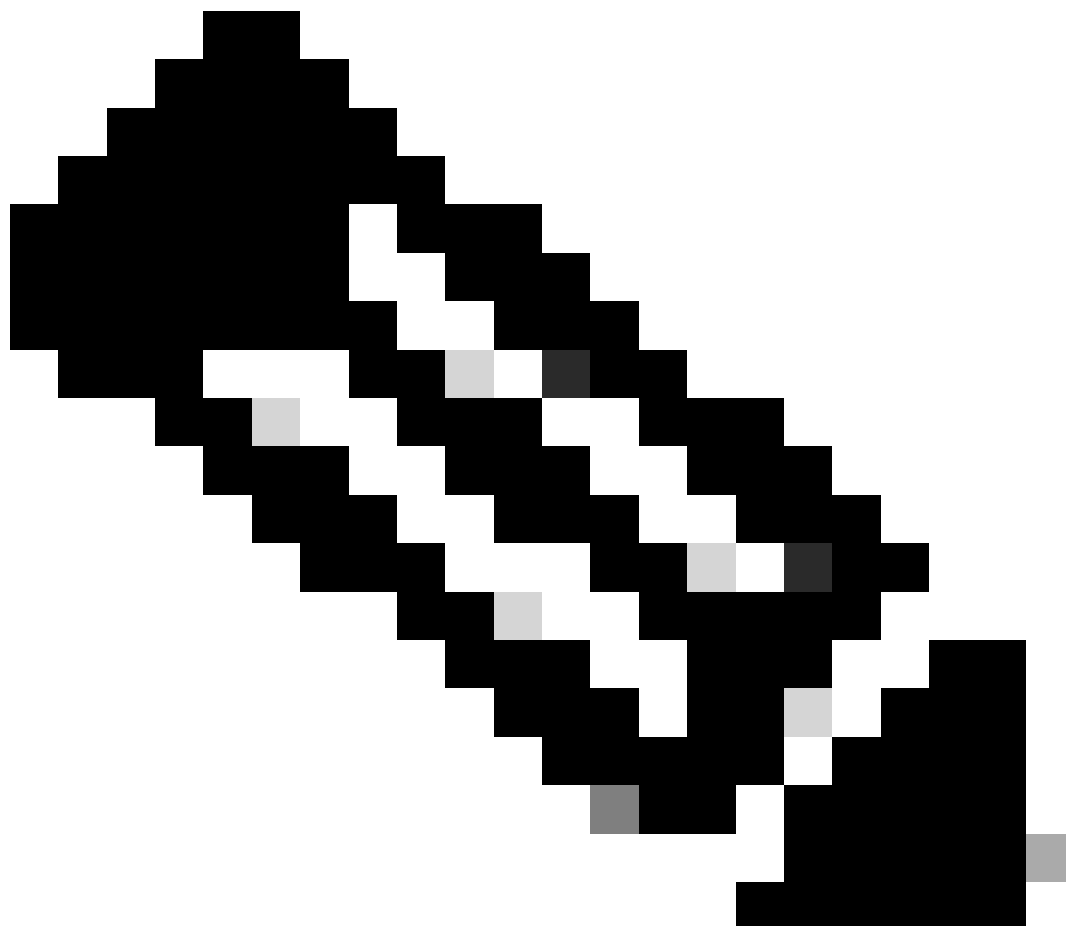
```
monitor capture cap interface TwentyFiveGigE1/0/9 BOTH < Interface from where send and receive the Hello >
```

```
monitor capture cap control-plane BOTH < Packets to be process and generated by the CPU >
```

```
    monitor capture
```

```
cap match any < match all the packets on the switch >
```

```
    monitor capture cap buffer size 10
```



Note: O EPC nos switches Catalyst Cisco IOS XE captura apenas saudações de saída IS-IS e não os pacotes de entrada. Como alternativa, as capturas de SPAN são recomendadas.

A referência aos pacotes Hello é mostrada nesta tabela.

Nome	Endereço Mac de destino
Todos os ISs L1	0180.c200.0014
Todos os ISs L2	0180.c200.0015
Todos os ISs	0900,2b00,0005
Todos os ESs	0900,2b00,0004

8. Revise a captura exportada e assegure-se de que os pacotes hello sejam trocados entre

vizinhos.

O DeviceA envia os pacotes hello adicionando sua ID de sistema (quadrado vermelho). Espera-se que ele receba um pacote de seu vizinho com seu ID de sistema. Nessa captura, você pode perceber que o DeviceB não encaminha esses pacotes ao peer.

eth.dst == 09:00:2b:00:00:05

Nº	Time	Source	Destination	seq
1	2023-07-19 08:31:55.703958	Cisco_c3:94:84	DEC-MAP-(or-OSI?)~...	P2P HELLO, System-ID: 0000.0000.000a
3	2023-07-19 08:32:05.236987	Cisco_c3:94:84	DEC-MAP-(or-OSI?)~...	P2P HELLO, System-ID: 0000.0000.000a
4	2023-07-19 08:32:14.076991	Cisco_c3:94:84	DEC-MAP-(or-OSI?)~...	P2P HELLO, System-ID: 0000.0000.000a
5	2023-07-19 08:32:23.127984	Cisco_c3:94:84	DEC-MAP-(or-OSI?)~...	P2P HELLO, System-ID: 0000.0000.000a

> Frame 3: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits)

IEEE 802.3 Ethernet

- > Destination: DEC-MAP-(or-OSI?)-Intermediate-System-Hello? (09:00:2b:00:00:05)
- > Source: Cisco_c3:94:84 (a8:4f:b1:c3:94:84)
- Length: 1499

Logical-Link Control

ISO 10589 ISIS InTRA Domain Routeing Information Exchange Protocol

- Intradomain Routing Protocol Discriminator: ISIS (0x83)
- Length Indicator: 20
- Version/Protocol ID Extension: 1
- ID Length: 0
- 000. = Reserved: 0x0
- ...1 0001 = PDU Type: P2P HELLO (17)
- Version: 1
- Reserved: 0
- Maximum Area Addresses: 0

ISIS HELLO

-11 = Circuit type: Level 1 and 2 (0x3)
- 0000 00.. = Reserved: 0x00
- SystemID {Sender of PDU}: 0000.0000.000a
- Holding timer: 30
- PDU length: 1496
- Local circuit ID: 5
- > Restart Signaling (t=211, l=3)
- > Point-to-point Adjacency State (t=240, l=5)
- > Protocols Supported (t=129, l=1)
- > Area address(es) (t=1, l=4)
- > IP Interface address(es) (t=132, l=4)
- > Padding (t=8, l=255)
- > Padding (t=8, l=255)
- > Padding (t=8, l=255)
- > Padding (t=8, l=255)
- > Padding (t=8, l=255)
- > Padding (t=8, l=162)

Hello packet

- Source from local interface(MAC)
- Destination MAC IS-IS Point to Point

System ID sent to the neighbor

Captura de DispositivoA ISIS Inativo

A captura do dispositivo B mostra que os pacotes hello são enviados ao seu vizinho (quadrado vermelho). No entanto, semelhante à última captura, ele não recebe os pacotes Hello de seu vizinho.

eth.dst == 09:00:2b:00:00:05				
Nº	Time	Source	Destination	seq
1	2023-07-19 09:00:28.028914	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2	2023-07-19 09:00:35.603384	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
3	2023-07-19 09:00:45.386207	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
4	2023-07-19 09:00:54.772284	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b

> Frame 1: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits) on interface /tmp/epc_ws/wif_to_ts_pipe, id 0	
✓ IEEE 802.3 Ethernet > Destination: DEC-MAP-(or-OSI?)-Intermediate-System-Hello? (09:00:2b:00:00:05) > Source: Cisco_db:3b:5f (6c:31:0e:db:3b:5f) - Length: 1499 > Logical-Link Control ✓ ISO 10589 ISIS InTRA Domain Routeing Information Exchange Protocol - Intradomain Routing Protocol Discriminator: ISIS (0x83) - Length Indicator: 20 - Version/Protocol ID Extension: 1 - ID Length: 0 000. = Reserved: 0x0 ...1 0001 = PDU Type: P2P HELLO (17) - Version: 1 - Reserved: 0 - Maximum Area Addresses: 0 ✓ ISIS HELLO 11 = Circuit type: Level 1 and 2 (0x3) 0000 00.. = Reserved: 0x00 - SystemID {Sender of PDU}: 0000.0000.000b - Holding timer: 30 - PDU length: 1496 - Local circuit ID: 11 > Restart Signaling (t=211, l=3) > Point-to-point Adjacency State (t=240, l=5) > Protocols Supported (t=129, l=1) > Area address(es) (t=1, l=4) > IP Interface address(es) (t=132, l=4) > Padding (t=8, l=255) > Padding (t=8, l=255) > Padding (t=8, l=255) > Padding (t=8, l=255) > Padding (t=8, l=255) > Padding (t=8, l=162)	Hello packet Source MAC address (local Interface) Destination MAC IS-IS Point to Point

Captura de DispositivoB ISIS Inativo

O problema nesse cenário é devido a um dispositivo intermediário que não permite enviar os pacotes hello. Se você observar uma situação semelhante e precisar solucionar um problema adicional, abra um caso no Cisco TAC.

Adjacência IS-IS instável

Esta seção fornece uma solução para o problema comum de flaps IS-IS.

Faça o diagnóstico do problema:

O IS-IS é instável entre o dispositivo A e o dispositivo B.

DeviceA#

show logging

Jul 19 15:05:03.623:

%CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold time expired

Jul 19 15:05:15.075: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad

Jul 19 15:07:04.575: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold

Jul 19 15:07:15.759: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad

Jul 19 15:09:04.983: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold

Jul 19 15:09:14.835: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad

<#root>

DeviceB#

show logging

Jul 19 15:05:02.316:

%CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold time expired

Jul 19 15:05:18.191: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace

Jul 19 15:07:09.280: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim

Jul 19 15:07:18.876: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace

Jul 19 15:09:06.080: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim

Jul 19 15:09:17.948: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace

1. Verifique a conectividade entre pares (teste de ping com o tamanho de MTU e o conjunto de bits df).

2. Verifique se a interface física está em boas condições de transmissão (sem erros ou problema de níveis de luz).

3. Valide os vizinhos CLNS enviarem tráfego entre si com o comando **show clns traffic interface**

.

<#root>

DeviceA#

show clns traffic interface TenGigabitEthernet0/0/4

CLNS: Time since last clear: 00:01:57

CLNS & ESIS Output: 3, Input: 21

Dropped Protocol not enabled on interface: 0

CLNS Local: 0, Forward: 0

Interface TenGigabitEthernet0/0/4:

IS-IS: Time since last clear: 00:01:57
IS-IS: Level-1 Hellos (sent/rcvd): 0/0
IS-IS: Level-2 Hellos (sent/rcvd): 0/0

IS-IS: PTP Hellos (sent/rcvd): 15/11 < DeviceA sends hello packets and receives less than its sends

IS-IS: Level-1 LSPs flooded (sent/rcvd): 2/2
IS-IS: Level-2 LSPs flooded (sent/rcvd): 2/2

IS-IS: Level-1 CSNPs (sent/rcvd): 1/1
IS-IS: Level-2 CSNPs (sent/rcvd): 1/1
IS-IS: Level-1 PSNPs (sent/rcvd): 1/1
IS-IS: Level-2 PSNPs (sent/rcvd): 1/1
IS-IS: Level-1 DR Elections: 0
IS-IS: Level-2 DR Elections: 0

<#root>

DeviceB#

show clns traffic interface TwentyFiveGigE1/0/9

CLNS: Time since last clear: 00:00:27
CLNS queue depth: 0/100, drops: 0, highest: 2
CLNS & ISIS Output: 1, Input: 14
Dropped Protocol not enabled on interface: 0
CLNS Local: 0, Forward: 0

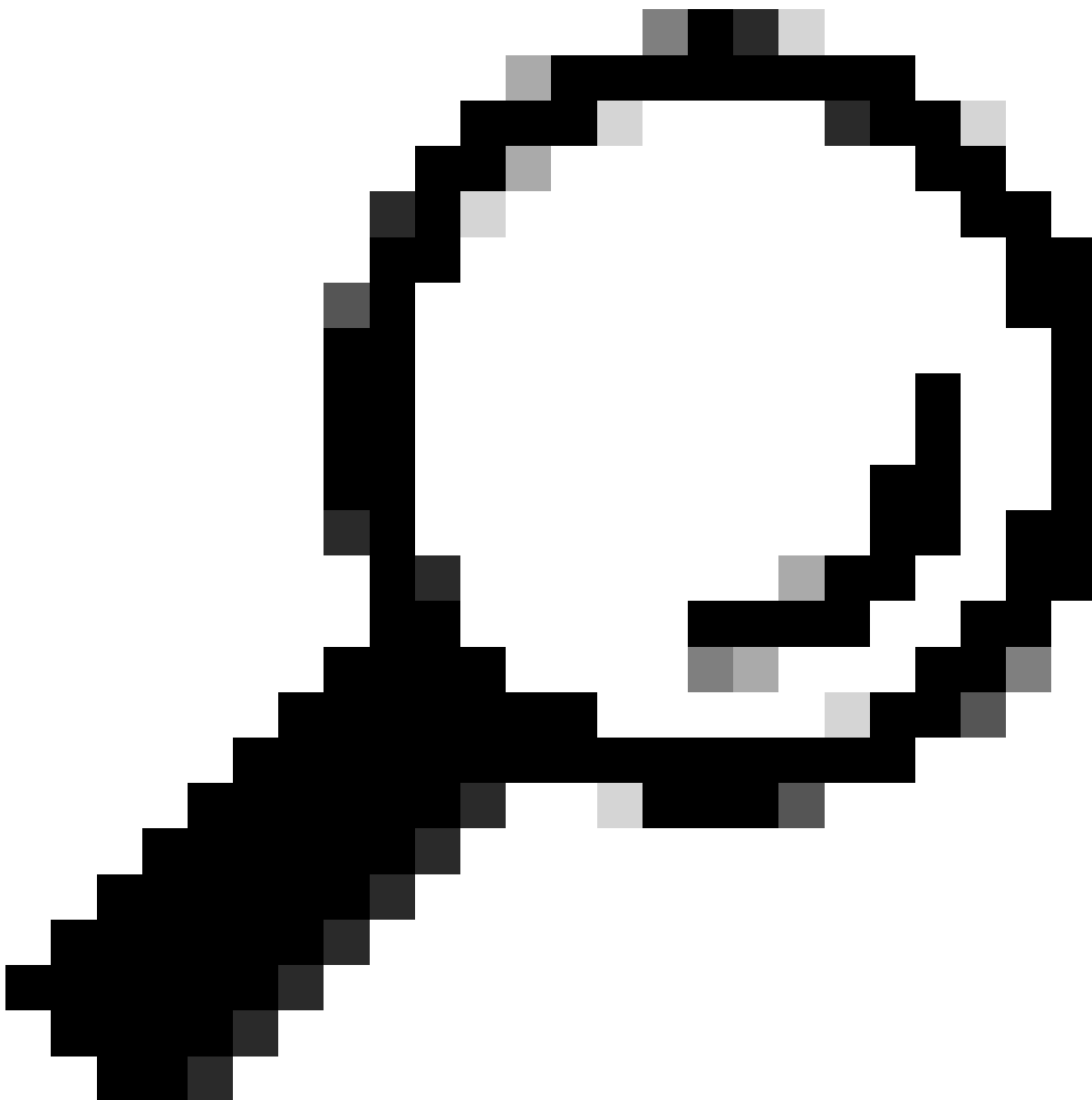
Interface TwentyFiveGigE1/0/9:

IS-IS: Time since last clear: 00:00:27
IS-IS: Level-1 Hellos (sent/rcvd): 0/0
IS-IS: Level-2 Hellos (sent/rcvd): 0/0

IS-IS: PTP Hellos (sent/rcvd): 4/5 < DeviceB, sends and receives a couple of hellos in comparison v

IS-IS: Level-1 LSPs flooded (sent/rcvd): 2/2
IS-IS: Level-2 LSPs flooded (sent/rcvd): 2/2

IS-IS: Level-1 CSNPs (sent/rcvd): 1/1
IS-IS: Level-2 CSNPs (sent/rcvd): 1/1
IS-IS: Level-1 PSNPs (sent/rcvd): 1/1
IS-IS: Level-2 PSNPs (sent/rcvd): 1/1
IS-IS: Level-1 DR Elections: 0
IS-IS: Level-2 DR Elections: 0



Tip: O comando `clsns traffic` exibe os Hellos IS-IS com base no nível IS-IS e no tipo de rede IS-IS.

4. Ative debug ISIS adj-packets
para ver quais pacotes são trocados entre vizinhos.

<#root>

DeviceA#

`show isis adj-packets TenGigabitEthernet0/0/4`

< Hellos sent to the DeviceB with no response >

Jul 19 18:58:34.779: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 19 18:58:34.779: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 19 18:58:42.719: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 19 18:58:42.719: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 19 18:58:50.430: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 19 18:58:50.430: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 19 18:58:58.356: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 19 18:58:58.356: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496

< IS-IS declares the protocol down >

Jul 19 18:59:01.879: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4)
Down, hold time expired

< IS-IS sends hellos to the neighbor and receives a response from DeviceB >

Jul 19 18:59:01.879: ISIS-Adj: L2 adj count 0
Jul 19 18:59:07.724: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
Jul 19 18:59:07.724: ISIS-Adj:

Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length 1496

Jul 19 18:59:15.894: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x0 Length:5
Jul 19 18:59:15.894: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:DOWN, length 1496
Jul 19 18:59:15.896: ISIS-Adj:

Rec serial IIH from 6c31.0edb.3b5f (TenGigabitEthernet0/0/4)

Jul 19 18:59:15.896: ISIS-Adj: cir type L2, cir id 0B, length 1496
Jul 19 18:59:15.896: ISIS-Adj:

RCV:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 19 18:59:15.896: ISIS-Adj: Nghbr Ckt ID changed: TRUE
Jul 19 18:59:15.896: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000A
Jul 19 18:59:15.896: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0x5
Jul 19 18:59:15.896: ISIS-Adj: newstate:1, state_changed:1, going_up:0, going_down:0
Jul 19 18:59:15.896: ISIS-Adj: Action = GOING UP, new type = L2

< DeviceA declares that the adjacency is UP and starts to establish the session >

Jul 19 18:59:15.896: ISIS-Adj: New serial adjacency
Jul 19 18:59:15.896: ISIS-Adj:

rcvd state INIT, old state DOWN, new state INIT, nbr usable TRUE

Jul 19 18:59:15.898: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 19 18:59:15.898: ISIS-Adj:

Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:INIT, length 1496

Jul 19 18:59:15.900: ISIS-Adj: Rec serial IIH from 6c31.0edb.3b5f (TenGigabitEthernet0/0/4)
Jul 19 18:59:15.900: ISIS-Adj: cir type L2, cir id 0B, length 1496
Jul 19 18:59:15.900: ISIS-Adj:

rcvd state UP, old state INIT, new state UP, nbr usable TRUE

Jul 19 18:59:15.900: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 19 18:59:15.900: ISIS-Adj: Nghbr Ckt ID changed: FALSE
Jul 19 18:59:15.900: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000A
Jul 19 18:59:15.900: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0x5
Jul 19 18:59:15.900: ISIS-Adj: newstate:0, state_changed:1, going_up:1, going_down:0
Jul 19 18:59:15.900: ISIS-Adj: Action = GOING UP, new type = L2
Jul 19 18:59:15.900: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4)

Up, new adjacency

<#root>

DeviceB#

debug isis adj-packets TwentyFiveGigE1/0/9

< Hello sent to the DeviceA with no response >

Jul 19 18:58:44.105: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 19 18:58:44.105: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
Jul 19 18:58:51.814: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 19 18:58:51.814: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
Jul 19 18:58:59.768: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 19 18:58:59.768: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496

< IS-IS declares the protocol down >

Jul 19 18:59:07.886: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9)

Down, hold time expired

< IS-IS sends hellos to the neighbor and receives a response from DeviceA >

Jul 19 18:59:07.887: ISIS-Adj: L2 adj count 0
Jul 19 18:59:08.422: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
Jul 19 18:59:08.422: ISIS-Adj:

Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496

Jul 19 18:59:16.144: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x0 Length:5
Jul 19 18:59:16.144: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:DOWN, length 1496
Jul 19 18:59:19.001: ISIS-Adj:

Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)

Jul 19 18:59:19.001: ISIS-Adj: cir type L2, cir id 05, length 1496
Jul 19 18:59:19.001: ISIS-Adj:

RCV:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0x49000184 Length:5

Jul 19 18:59:19.001: ISIS-Adj: Nghbr Ckt ID changed: TRUE
Jul 19 18:59:19.001: ISIS-Adj: newstate:1, state_changed:1, going_up:0, going_down:0
Jul 19 18:59:19.001: ISIS-Adj: Action = GOING UP, new type = L2

< DeviceB declares that the adjacency is UP and starts to establish the session >

Jul 19 18:59:19.001: ISIS-Adj: New serial adjacency

Jul 19 18:59:19.001: ISIS-Adj:

rcvd state DOWN, old state DOWN, new state INIT, nbr usable TRUE

Jul 19 18:59:19.002: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 19 18:59:19.002: ISIS-Adj:

Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:INIT, length 1496

Jul 19 18:59:19.004: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)

Jul 19 18:59:19.004: ISIS-Adj: cir type L2, cir id 05, length 1496

Jul 19 18:59:19.004: ISIS-Adj:

rcvd state INIT, old state INIT, new state UP, nbr usable TRUE

Jul 19 18:59:19.004: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15

Jul 19 18:59:19.004: ISIS-Adj: Nghbr Ckt ID changed: FALSE

Jul 19 18:59:19.004: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000B

Jul 19 18:59:19.004: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0xB

Jul 19 18:59:19.004: ISIS-Adj: newstate:0, state_changed:1, going_up:1, going_down:0

Jul 19 18:59:19.004: ISIS-Adj: Action = GOING UP, new type = L2

Jul 19 18:59:19.004: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9)

Up, new adjacency

5. Ative uma captura para validar que os pacotes sejam enviados a cada vizinho. Quando a captura for concluída, exporte a captura para o flash de inicialização como um .pcap file e carregue-a para um servidor TFTP para obter mais detalhes.

O DispositivoA recebe um pacote do DispositivoB (19:15.05) depois que esse pacote é recebido. O DeviceA envia sua saudação correspondente sem nenhuma resposta do vizinho até atingir o tempo de espera expirado, que é de 30 segundos por padrão (quadrado vermelho).

Isso ocorre quando esse roteador declara a adjacência inativa. Após esse período, o DeviceB envia sua saudação e é recebido pelo DeviceA e esses pacotes são trocados sem nenhum problema (quadrado verde).

eth.dst == 09:00:2b:00:00:05				
Nº	Time	Source	Destination	seq
1	19:14:48.784947	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2	19:14:49.664958	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
3	19:14:57.201985	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
4	19:14:57.520969	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
5	19:15:05.147987	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
6	19:15:06.439964	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
7	19:15:16.015990	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
8	19:15:25.153983	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
9	19:15:32.868943	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:15:35.149986	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:15:45.071987	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:15:51.718956	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:15:51.720955	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:15:51.721947	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:15:51.722954	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:15:51.723961	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:00.949947	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:01.164984	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:08.904951	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:09.835955	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:16.435966	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:19.244982	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:23.987940	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:28.034986	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:33.752951	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:37.050992	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:41.765951	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:44.948940	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:49.618956	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:16:53.623960	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:16:58.815952	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:17:01.182989	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:17:08.310973	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
	19:17:09.463965	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
	19:17:10.705954	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
> Frame 5: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits) > IEEE 802.3 Ethernet > Logical-Link Control > ISO 10589 ISIS InTRA Domain Routeing Information Exchange Protocol > ISIS HELLO				

Dispositivo instável ISISa

A captura do dispositivo B é semelhante ao sintoma do peer. O dispositivo não recebe os pacotes hello de seu vizinho. O último pacote é enviado do DeviceB sem resposta do DeviceA até atingir o temporizador de espera de 30 segundos. Esse switch considera a adjacência inativa. Após essa falha, o switch recebe a saudação do DeviceA e inicia a vizinhança.

eth.dst == 09:00:2b:00:00:05				
Nr	Time	Source	Destination	seq
4	01:11:27.332388	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
5	01:11:27.894819	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:11:34.859121	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:11:35.738192	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:11:43.274969	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:11:43.594820	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:11:51.221556	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:11:52.513395	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:11:59.401211	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:08.669824	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:17.078248	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:22.514746	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:31.351461	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:37.791466	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:37.793033	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:12:37.794384	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:37.794895	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:12:37.796641	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:47.022577	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:47.237364	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:12:54.976460	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:12:55.908343	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:02.507283	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:13:05.317018	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:10.059795	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:13:14.106249	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:19.824557	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:13:23.122303	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:27.837176	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:13:31.019915	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:35.690382	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
	01:13:39.695453	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
	01:13:44.887023	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b

```

> Frame 32: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits) on interface \Device\NPF_{D6BBE860-9886-4A6C-BDD5-8E2837C66FB0}, id 0
> IEEE 802.3 Ethernet
> Logical-Link Control
> ISO 10589 ISIS InTRA Domain Routeing Information Exchange Protocol
> ISIS HELLO

```

Dispositivo instável ISISb

Isso conclui que há um problema com o transporte e você deve revisar por que os pacotes estão sendo perdidos.

Adjacência IS-IS instável (Flaps aleatórios)

O IS-IS é instável entre o dispositivo A e o dispositivo B. O protocolo encontra oscilações aleatórias.

<#root>

DeviceA#

show logging

```

Jul 21 10:03:38.633: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold
Jul 21 10:05:10.272: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad
Jul 21 10:33:41.528: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold
Jul 21 10:35:07.979: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad
Jul 21 11:03:42.442: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold
Jul 21 11:05:08.469: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Up, new ad

```

<#root>

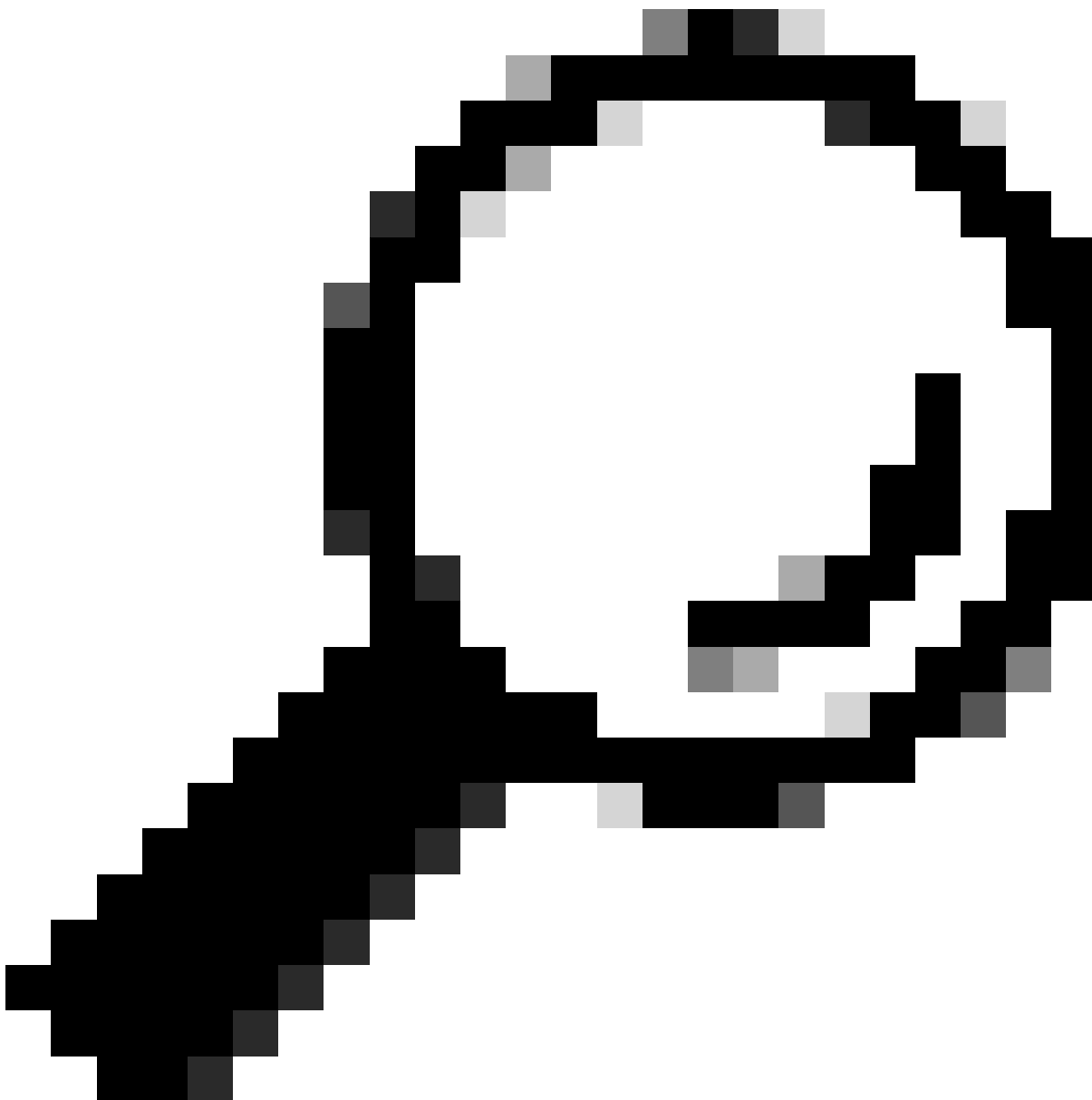
DeviceB#

show logging

```
Jul 21 10:03:44.535: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim
Jul 21 10:05:13.281: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace
Jul 21 10:33:38.408: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim
Jul 21 10:35:10.989: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace
Jul 21 11:03:39.291: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim
Jul 21 11:05:11.479: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Up, new adjace
```

Quando o problema ocorrer, certifique-se de prosseguir com estas ações:

1. Valide se a configuração corresponde ao par.
2. Certifique-se de que a interface física esteja em boas condições para transmitir (sem erros ou problema de níveis de luz).
3. Verifique a conectividade entre pares (teste de ping com tamanho de MTU e o conjunto de bits df).



Tip: Não é fácil solucionar esses tipos de problemas devido à condição dos flaps aleatórios. Para lidar com essa situação, considere o uso de scripts para executar os comandos necessários e continuar a solucionar problemas.

4. Continue para configurar uma captura de monitor com uma lista de acesso para ser mais específico na solução de problemas.

5. Desative o console de registro e ative `odebug isis adj-packets`

`<#root>`

`DeviceA(config)#`

`no logging console`

```
DeviceA(config)#exit
DeviceA#

debug isis adj-packets TenGigabitEthernet0/0/4
```

6. Ative a captura de pacotes no equipamento e ative-o.

<#root>

DeviceA#

show monitor capture cap parameter

```
monitor capture cap interface TenGigabitEthernet0/0/4 BOTH
monitor capture cap control-plane IN
monitor capture cap
```

access-list TAC > match only the packets allowed on the ACL

```
monitor capture cap buffer size 100
```

circular > when the capture reaches the size of 100 MB this overwrite the previous information.

```
monitor capture cap limit pps 1000
```

DeviceA#

show access-lists TAC

```
Extended MAC access list TAC
permit
```

```
host a84f.b1c3.9484 host 0900.2b00.0005 < Local MAC address towards the IS-IS Hello >
permit
```

```
host 6c31.0edb.3b5f host 0900.2b00.0005 < Remote MAC address towards the IS-IS Hello >
```

DeviceA#monitor capture cap start

7. Configure o Embedded Event Manager (EEM) no dispositivo Cisco. Quando o problema aciona o padrão syslog, ele gera logs que são armazenados na memória flash como um .txt arquivo. Continue a carregá-los em um servidor TFTP para obter mais informações.

<#root>

DeviceA#

show running-config | sec event

event manager applet ISIS_Flap authorization bypass

```
event syslog pattern "%CLNS-5-ADJCHANGE:.*hold time expired"
```

```
action 1.0 syslog msg "ISIS down Please wait - capturing the traffic"
action 1.1 cli command "enable"
action 1.2 cli command "show clns interface ten0/0/4 | append bootflash:ISIS_DeviceA.txt"
action 1.3 cli command "show clns traffic interface tenGigabitEthernet 0/0/4 |
```

```
append bootflash:ISIS_DeviceA.txt"
```

```
action 2.0 cli command "show logging | append bootflash:debug_DeviceA.txt"
action 2.1 cli command "undebg all"
action 2.2 cli command "monitor capture cap stop"
action 3.0 cli command "end"
```

For switches to append the logs it is necessary to use the

append flash:

, as example:

```
event manager applet ISIS_Flap authorization bypass
event syslog pattern "%CLNS-5-ADJCHANGE:.*hold time expired"
action 1.0 syslog msg "ISIS down Please wait - capturing the traffic"
action 1.1 cli command "enable"
action 1.2 cli command "show clns interface ten0/0/4 | append
flash:ISIS_DeviceB.txt"
```

```
action 3.0 cli command "end"
```

8. Quando o problema for acionado, continue para exportar a captura no flash de inicialização/flash e certifique-se de que os arquivos estejam armazenados corretamente no mesmo local.

<#root>

DeviceA#

```
monitor capture cap export bootflash:ISIS_DeviceA.pcap
```

Exported Successfully

DeviceA#

dir bootflash:*.txt

Directory of bootflash:/*.txt

Directory of bootflash:/

19 -rw- 6048 Jul 22 2023 13:33:40 +00:00

ISIS_DeviceA.txt

20 -rw- 103153 Jul 22 2023 13:33:40 +00:00

debug_DeviceA.txt

26975526912 bytes total (20527607808 bytes free)

DeviceB#

monitor capture cap export location flash:ISIS_DeviceB.pcap

Exported Successfully

DeviceB#

dir bootflash:*.txt

Directory of bootflash:/*.txt

Directory of bootflash:/

356939 -rw- 660 Jul 22 2023 13:33:42 +00:00

ISIS_DeviceB.txt

356943 -rw- 103283 Jul 22 2023 13:33:42 +00:00

debug_DeviceB.txt

9. Carregue os arquivos em um servidor TFTP para comparar os logs entre os dispositivos.

<#root>

DeviceA#

copy bootflash:ISIS_DeviceA.txt tftp:

Address or name of remote host []?

< TFTP IP address >

Destination filename [

ISIS_DeviceA.txt

]?

!!
18144 bytes copied in 0.095 secs (190989 bytes/sec)

10. Compare as capturas e registros para validar se os pacotes são enviados e recebidos de ambos os roteadores.

Análise dos registros IS-IS:

- Ambas as interfaces IS-IS são configuradas com o mesmo tipo de rede L1-L2.
- O estado Interfaces (if state DOWN) mostra que ambas as interfaces não recebem o pacote hello.
- IS-IS: O PTP Hellos tem uma incompatibilidade nos pacotes enviados e recebidos. Enquanto o DispositivoA envia 205 pacotes e recebe 199 do peer, o DispositivoB tem 202 de 202. Isso indica que o transporte não é confiável.

<#root>

DeviceA

TenGigabitEthernet0/0/4 is up, line protocol is up
Attached to: isis
Checksums enabled, MTU 1497, Encapsulation SAP
ERPDUs enabled, min. interval 10 msec.
CLNS fast switching disabled
CLNS SSE switching disabled
DEC compatibility mode OFF for this interface
Next ESH/ISH in 30 seconds
Routing Protocol: IS-IS

Circuit Type: level-1-2

Interface number 0x0, local circuit ID 0x5
Neighbor Extended Local Circuit ID: 0x0
Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-1 IPv6 Metric: 10
Number of active level-1 adjacencies: 0
Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceA.05
Level-2 IPv6 Metric: 10
Number of active level-2 adjacencies: 0
Next IS-IS Hello in 574 milliseconds

if state DOWN

CLNS: Time since last clear: 00:29:37
CLNS & ISIS Output: 33, Input: 241
Dropped Protocol not enabled on interface: 0
CLNS Local: 0, Forward: 0

Interface TenGigabitEthernet0/0/4:
IS-IS: Time since last clear: 00:29:37
IS-IS: Level-1 Hellos (sent/rcvd): 0/0
IS-IS: Level-2 Hellos (sent/rcvd): 0/0

IS-IS: PTP Hellos (sent/rcvd): 205/199
IS-IS: Level-1 LSPs flooded (sent/rcvd): 2/2
IS-IS: Level-2 LSPs flooded (sent/rcvd): 2/2

IS-IS: Level-1 CSNPs (sent/rcvd): 0/0
IS-IS: Level-2 CSNPs (sent/rcvd): 0/0
IS-IS: Level-1 PSNPs (sent/rcvd): 2/2
IS-IS: Level-2 PSNPs (sent/rcvd): 2/2
IS-IS: Level-1 DR Elections: 0
IS-IS: Level-2 DR Elections: 0

DeviceB

TwentyFiveGigE1/0/9 is up, line protocol is up
Attached to: isis
Checksums enabled, MTU 1497, Encapsulation SAP
ERPDUs enabled, min. interval 10 msec.
CLNS fast switching disabled
CLNS SSE switching disabled
DEC compatibility mode OFF for this interface
Next ESH/ISH in 20 seconds
Routing Protocol: IS-IS

Circuit Type: level-1-2

Interface number 0x0, local circuit ID 0xB
Neighbor Extended Local Circuit ID: 0x0
P2P retransmit queue size: 0
Level-1 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B
Level-1 IPv6 Metric: 10
Number of active level-1 adjacencies: 0
Level-2 Metric: 10, Priority: 64, Circuit ID: DeviceB.0B
Level-2 IPv6 Metric: 10
Number of active level-2 adjacencies: 0
Next IS-IS Hello in 7 seconds

if state DOWN

CLNS: Time since last clear: 00:29:34
CLNS queue depth: 0/100, drops: 0, highest: 1
CLNS & ISIS Output: 34, Input: 243
Dropped Protocol not enabled on interface: 0
CLNS Local: 0, Forward: 0

```
Interface TwentyFiveGigE1/0/9:
IS-IS: Time since last clear: 00:29:34
IS-IS: Level-1 Hellos (sent/rcvd): 0/0
IS-IS: Level-2 Hellos (sent/rcvd): 0/0

IS-IS: PTP Hellos      (sent/rcvd): 202/202
IS-IS: Level-1 LSPs flooded (sent/rcvd): 2/2
IS-IS: Level-2 LSPs flooded (sent/rcvd): 2/2

IS-IS: Level-1 CSNPs (sent/rcvd): 0/0
IS-IS: Level-2 CSNPs (sent/rcvd): 0/0
IS-IS: Level-1 PSNPs (sent/rcvd): 2/2
IS-IS: Level-2 PSNPs (sent/rcvd): 2/2
IS-IS: Level-1 DR Elections: 0
IS-IS: Level-2 DR Elections: 0
```

A próxima etapa é comparar as depurações e as capturas.

<#root>

DeviceA

```
Jul 22 19:17:24.929: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:24.929: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 22 19:17:31.685: ISIS-Adj: Rec serial IIH from 6c31.0edb.3b5f (TenGigabitEthernet0/0/4)

Jul 22 19:17:31.685: ISIS-Adj: cir type L1L2, cir id 0B, length 1496
Jul 22 19:17:31.685: ISIS-Adj: rcvd state UP, old state UP, new state UP, nbr usable TRUE
Jul 22 19:17:31.685: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:17:31.685: ISIS-Adj: Nghbr Ckt ID changed: FALSE
Jul 22 19:17:31.685: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000A
Jul 22 19:17:31.685: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0x5
Jul 22 19:17:31.685: ISIS-Adj: newstate:0, state_changed:0, going_up:0, going_down:0
Jul 22 19:17:31.685: ISIS-Adj: Action = ACCEPT
Jul 22 19:17:31.685: ISIS-Adj: ACTION_ACCEPT:

Jul 22 19:17:33.626: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:33.627: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 22 19:17:42.671: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:42.672: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496

Jul 22 19:17:52.008: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:52.008: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 22 19:18:01.475: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:18:01.475: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496

Jul 22 19:18:01.685: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold
Jul 22 19:18:01.685: ISIS-Adj: L1 adj count 0
Jul 22 19:18:01.685: ISIS-Adj: L2 adj count 0
```

DeviceB

```
Jul 22 19:17:25.693: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 22 19:17:25.693: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
```

Jul 22 19:17:27.882: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)

Jul 22 19:17:27.882: ISIS-Adj: cir type L1L2, cir id 05, length 1496
Jul 22 19:17:27.882: ISIS-Adj: rcvd state UP, old state UP, new state UP, nbr usable TRUE
Jul 22 19:17:27.882: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:27.882: ISIS-Adj: Nghbr Ckt ID changed: FALSE
Jul 22 19:17:27.882: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000B
Jul 22 19:17:27.882: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0xB
Jul 22 19:17:27.882: ISIS-Adj: newstate:0, state_changed:0, going_up:0, going_down:0
Jul 22 19:17:27.882: ISIS-Adj: Action = ACCEPT
Jul 22 19:17:27.882: ISIS-Adj: ACTION_ACCEPT:

Jul 22 19:17:34.637: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 22 19:17:34.637: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496

Jul 22 19:17:36.579: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)

Jul 22 19:17:36.579: ISIS-Adj: cir type L1L2, cir id 05, length 1496
Jul 22 19:17:36.579: ISIS-Adj: rcvd state UP, old state UP, new state UP, nbr usable TRUE
Jul 22 19:17:36.579: ISIS-Adj: RCV:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:36.579: ISIS-Adj: Nghbr Ckt ID changed: FALSE
Jul 22 19:17:36.579: ISIS-Adj: received Neighbor System-ID (must be our) 0000.0000.000B
Jul 22 19:17:36.579: ISIS-Adj: received Neighbor ext.circuit ID (must be our) 0xB
Jul 22 19:17:36.579: ISIS-Adj: newstate:0, state_changed:0, going_up:0, going_down:0
Jul 22 19:17:36.579: ISIS-Adj: Action = ACCEPT
Jul 22 19:17:36.579: ISIS-Adj: ACTION_ACCEPT:

Jul 22 19:17:43.270: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15

Jul 22 19:17:43.271: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496

Jul 22 19:17:51.658: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:17:51.658: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
Jul 22 19:18:00.248: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:18:00.248: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496

Jul 22 19:18:06.579: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold time

Jul 22 19:18:06.579: ISIS-Adj: L1 adj count 0
Jul 22 19:18:06.579: ISIS-Adj: L2 adj count 0

Análise de logs de depuração IS-IS:

- O dispositivoA envia um pacote hello (22 de julho de 19:17:24), o dispositivoB responde a esse pacote (22 de julho de 19:17:25) e o dispositivoA recebe essa resposta (22 de julho de 19:17:31).

DispositivoA

```
Jul 22 19:17:24.929: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:24.929: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 22 19:17:31.685: ISIS-Adj: Rec serial IIH from 6c31.0edb.3b5f (TenGigabitEthernet0/0/4)
```

DispositivoB

```
Jul 22 19:17:25.693: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:17:25.693: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
Jul 22 19:17:27.882: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)
```

- O DeviceA envia outro pacote hello (22 de julho 19:17:33), o DeviceB envia seu pacote hello (22 de julho 19:17:34) e dois segundos depois recebe o pacote de seu peer.

DispositivoA

```
Jul 22 19:17:33.626: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:33.627: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
```

DispositivoB

```
Jul 22 19:17:34.637: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:17:34.637: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496
Jul 22 19:17:36.579: ISIS-Adj: Rec serial IIH from a84f.b1c3.9484 (TwentyFiveGigE1/0/9)
```

- Durante o período em que o DeviceA não recebe o pacote enviado pelo DeviceB, o protocolo se declara inativo após 30 segundos.

DispositivoA

```
Jul 22 19:17:42.671: ISIS-Adj: SND:3way Adj. Local Ckt ID:0x5 Nghbr Ckt ID:0xB Length:15
Jul 22 19:17:42.672: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496

Jul 22 19:18:01.475: ISIS-Adj: Sending serial IIH on TenGigabitEthernet0/0/4, 3way state:UP, length 1496
Jul 22 19:18:01.685: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceB (TenGigabitEthernet0/0/4) Down, hold
```

- O DeviceB não recebe nenhum pacote de seu peer. Após o período de espera padrão, esse protocolo se declara inativo.

DispositivoB

Jul 22 19:17:43.270: ISIS-Adj: SND:3way Adj. Local Ckt ID:0xB Nghbr Ckt ID:0x5 Length:15
Jul 22 19:17:43.271: ISIS-Adj: Sending serial IIH on TwentyFiveGigE1/0/9, 3way state:UP, length 1496

<snip>

Jul 22 19:18:06.579: %CLNS-5-ADJCHANGE: ISIS: Adjacency to DeviceA (TwentyFiveGigE1/0/9) Down, hold tim

Captura a análise:

O DeviceA recebe pacotes do DeviceB, mas o último pacote que esse roteador recebe do peer é no minuto 13:17.31. Em seguida, o DeviceA envia pacotes Hello

sem qualquer resposta do peer.

eth.dst == 09:00:2b:00:00:05				
Nº	Time	Source	Destination	seq
2023-07-22	13:15:35.638959	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:15:43.516971	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:15:44.531970	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:15:51.320982	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:15:52.786946	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:15:59.511966	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:02.646954	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:09.329969	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:10.505970	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:17.169989	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:19.943936	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:25.480962	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:28.851945	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:34.616957	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:38.643963	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:42.579956	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:47.501972	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:50.839952	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:16:55.382975	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:16:59.049985	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:04.634961	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:17:07.215976	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:14.446967	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:17:15.226978	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:22.740958	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:17:24.928937	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:31.684962	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	13:17:33.626966	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:42.671962	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:17:52.007995	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	13:18:01.474966	Cisco_c3:94:84	DEC-MAP-(or-OSI?)...	P2P HELLO, System-ID: 0000.0000.000a
> Frame 679: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits)				
> IEEE 802.3 Ethernet				
> Logical-Link Control				
> ISO 10589 ISIS InTRA Domain Routeing Information Exchange Protocol				
> ISIS HELLO				

A captura do DeviceB mostra uma condição semelhante, o switch recebe o último pacote de hello de seu peer. No entanto, o DeviceB começa a enviar seus pacotes de hello sem resposta.

eth.dst == 09:00:2b:00:00:05				
Nr	Time	Source	Destination	seq
2023-07-22	19:12:55.830021	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:12:57.006588	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:03.670751	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:06.443750	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:11.981159	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:15.351570	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:21.116502	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:25.143430	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:29.080123	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:34.001185	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:37.340177	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:41.882512	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:45.549749	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:13:51.134064	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:13:53.715223	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:14:00.945408	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:01.725783	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:14:09.240033	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:11.428283	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:14:18.183708	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:20.125427	Cisco_c3:94:84	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000a
2023-07-22	19:14:26.817279	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:35.204661	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:43.794273	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
2023-07-22	19:14:50.126106	Cisco_db:3b:5f	DEC-MAP-(or-OSI?)--	P2P HELLO, System-ID: 0000.0000.000b
> Frame 1971: 1513 bytes on wire (12104 bits), 1513 bytes captured (12104 bits) on interface \Device\NPF_{D6BBE860-9886-4A6C-BDD5-8E2837C66FB0}, id 0 > IEEE 802.3 Ethernet > Destination: DEC-MAP-(or-OSI?)-Intermediate-System-Hello? (09:00:2b:00:00:05) > Source: Cisco_c3:94:84 (a8:4f:b1:c3:94:84) Length: 1499 > Logical-Link Control > ISO 10589 ISIS InTRA Domain Routing Information Exchange Protocol > ISIS HELLO				

Nas capturas exportadas, os pacotes hello não são entregues entre os peers. Este problema parece estar relacionado com o transporte.

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