

Risoluzione dei problemi relativi alle adiacenze IS-IS

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Introduzione

In questo documento viene descritto come risolvere i problemi relativi al protocollo IS-IS per le piattaforme Cisco IOS® XE.

Prerequisiti

Requisiti

Cisco raccomanda la conoscenza dei seguenti argomenti:

- Intermediate System to Intermediate System (IS-IS)
- Cisco IOS XE

Per ulteriori informazioni su questi argomenti, vedere:

- [Instradamento IP: Guida alla configurazione di ISIS](#)
- [Configura adiacenze IS-IS e tipi di area](#)

Componenti usati

Il riferimento delle informazioni contenute in questo documento è il software Cisco IOS XE.

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata

ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Adiacenza IS-IS in basso

Questa sezione fornisce una soluzione al problema comune di IS-IS inattivo. Questo diagramma di rete è utilizzato come esempio:



Topologia di base

IS-IS non è attivo tra DeviceA e DeviceB.

<#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

Diagnosticare il problema:

1. Verificare la connettività tra i dispositivi.

<#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. Esaminare la configurazione su entrambi i lati.

<#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. Convalida se l'adiacenza è attiva al CLNS (Connectionless Network Service). In questo modo viene fornito un riepilogo dei router adiacenti connessi al 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#
```

Gli indirizzi MAC elencati in ciascun router adiacente CLNS sono gli indirizzi MAC dei dispositivi remoti che eseguono il peer con il dispositivo locale.

<#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. Eseguire il comando `show clns interface`
per verificare se i parametri corrispondono al peer.

Assicurarsi che corrispondano a questi valori:

- MTU (Maximum Transmission Unit)
- Tipo di circuito

Periferica A
<pre><#root> DeviceA# show clns interface TenGigabitEthernet0/0/4</pre>

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

Periferica B

<#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

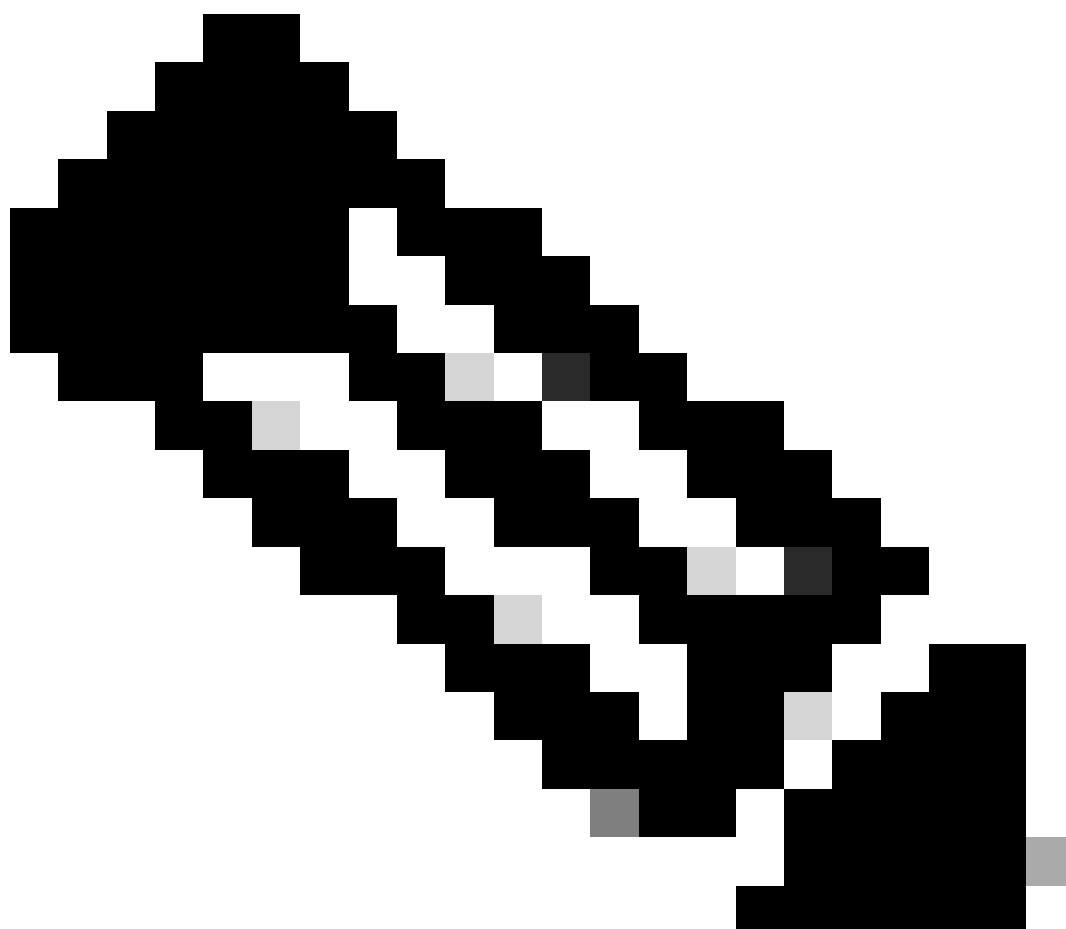
Circuit Type: level-1-2

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
```

In questo scenario, il problema è correlato alla mancata corrispondenza dell'MTU. Se il peer remoto non è accessibile, l'`debug isis adj-packets` host può visualizzare il valore MTU inviato e ricevuto.



Nota: Questa opzione si applica solo quando il comando `show clns interface` stampa `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:
...
```

Adiacenza ISIS inattiva (non correlata a MTU non corrispondente)

IS-IS non è attivo e l'MTU corrisponde sulle interfacce.

<#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. Convalidare la configurazione corrispondente al peer.
- 2. Assicurarsi che l'interfaccia fisica sia in buone condizioni per la trasmissione (nessun errore o problema di livelli di luce).
- 3. Verificare la connettività tra peer (test ping, aggiunta delle dimensioni MTU e del bit DF).
- 4. Convalidare i vicini CLNS tra i peer.
- 5. Verificare che entrambe le estremità abbiano la stessa MTU e lo stesso tipo di circuito insieme allo stato.

Periferica A
<#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

Periferica B

<#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

6. Abilitare debug isis adj-packet

e convalidare i pacchetti inviati e ricevuti.

<#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 1496
*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 1496
*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 1496
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
```

Entrambi i dispositivi stanno inviando, ma non ricevono il pacchetto Hello dai vicini.

7. Abilitare un'acquisizione per verificare che i pacchetti vengano inviati a ciascun router adiacente. Una volta completata l'acquisizione, esportarla su bootflash o flash come .pcap file e caricarla su un server TFTP per ulteriori dettagli.

```
<#root>
```

```
DeviceA#
```

```
show monitor cap cap parameter
```

```
monitor capture cap interface TenGigabitEthernet0/0/4 BOTH < Interface from where send and receive the packets >
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

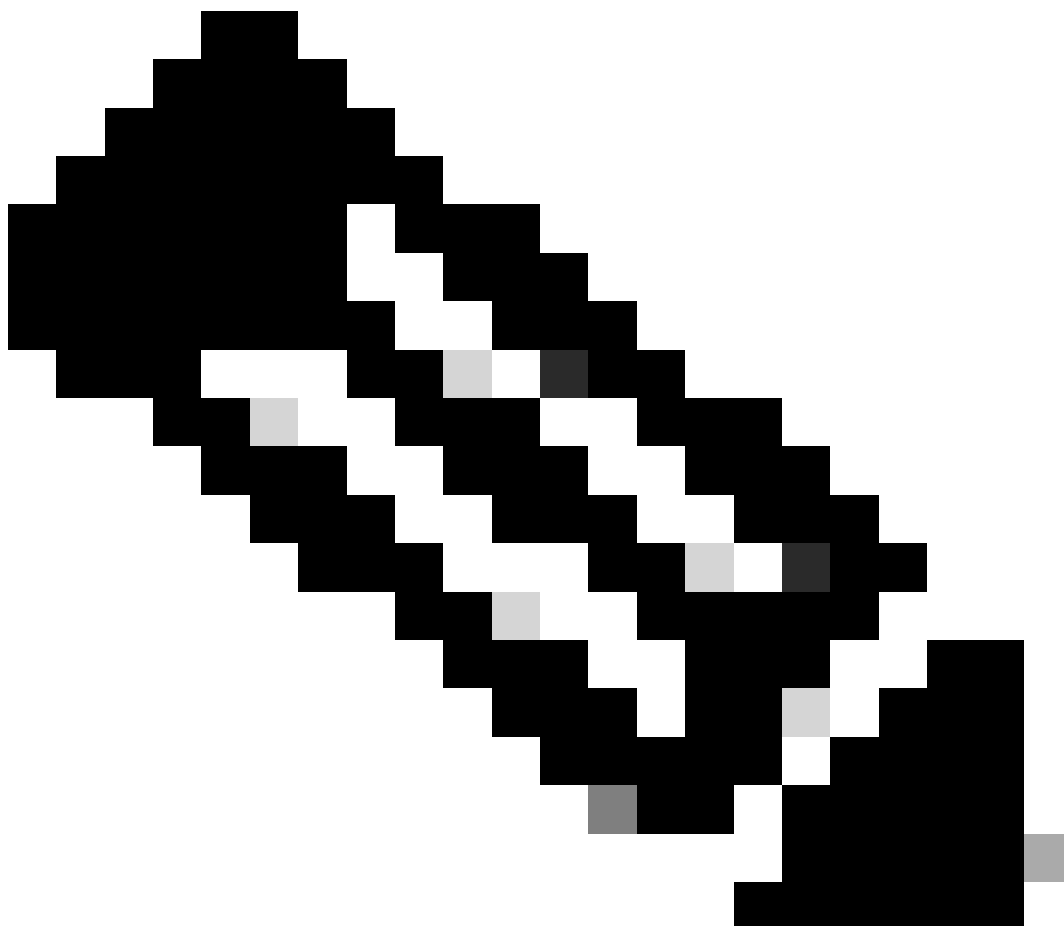
monitor capture cap interface TwentyFiveGigE1/0/9 BOTH < Interface from where send and receive the Hello >

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



Nota: L'EPC sugli switch Catalyst Cisco IOS XE acquisisce solo gli helper IS-IS in uscita e non i pacchetti in entrata. In alternativa, si consigliano le acquisizioni SPAN.

In questa tabella è riportato un riferimento ai pacchetti Hello.

Nome	Indirizzo Mac di destinazione
Tutti gli IS L1	0180.c200.0014
Tutti gli IS L2	0180.c200.0015
Tutti gli IS	0900.2b00.0005
Tutti gli ES	0900.2b00.0004

8. Esaminare la cattura esportata e assicurarsi che i pacchetti hello vengano scambiati tra vicini.

La periferica A invia i pacchetti hello aggiungendo il proprio ID di sistema (quadrato rosso). È previsto che riceva un pacchetto dal router adiacente con il relativo ID di sistema. In questa acquisizione, è possibile notare che DeviceB non inoltra questi pacchetti al peer.

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

Nr	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

ISIS Down Capture DeviceA

L'acquisizione DeviceB mostra che i pacchetti hello vengono inviati al router adiacente (quadrato rosso). Tuttavia, analogamente all'ultima acquisizione, non riceve i pacchetti Hello dal router adiacente.

eth.dst == 09:00:2b:00:00:05				
Nr	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	Hello packet Source MAC address (local Interface) Destination MAC IS-IS Point to Point
> 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 HELLO11 = 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)	

Acquisizione ISIS DeviceB inattiva

Il problema in questo scenario è dovuto a un dispositivo intermedio che non consente l'invio dei pacchetti hello. Se si verifica una situazione simile e si desidera risolvere ulteriormente il problema, aprire una richiesta Cisco TAC.

Adiacenza IS-IS instabile

In questa sezione viene fornita una soluzione al problema comune dei flap IS-IS.

Diagnosticare il problema:

IS-IS è instabile tra DeviceA e DeviceB.

<#root>

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. Verificare la connettività tra peer (test ping con dimensioni MTU e bit DF impostati).
2. Assicurarsi che l'interfaccia fisica sia in buone condizioni per la trasmissione (nessun errore o problema di livelli di luce).
3. Convalidare i vicini CLNS per l'invio di traffico tra loro con il comando **show clns traffic interface**

.

<#root>

DeviceA#

show clns traffic interface TenGigabitEthernet0/0/4

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

CLNS & ISIS 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

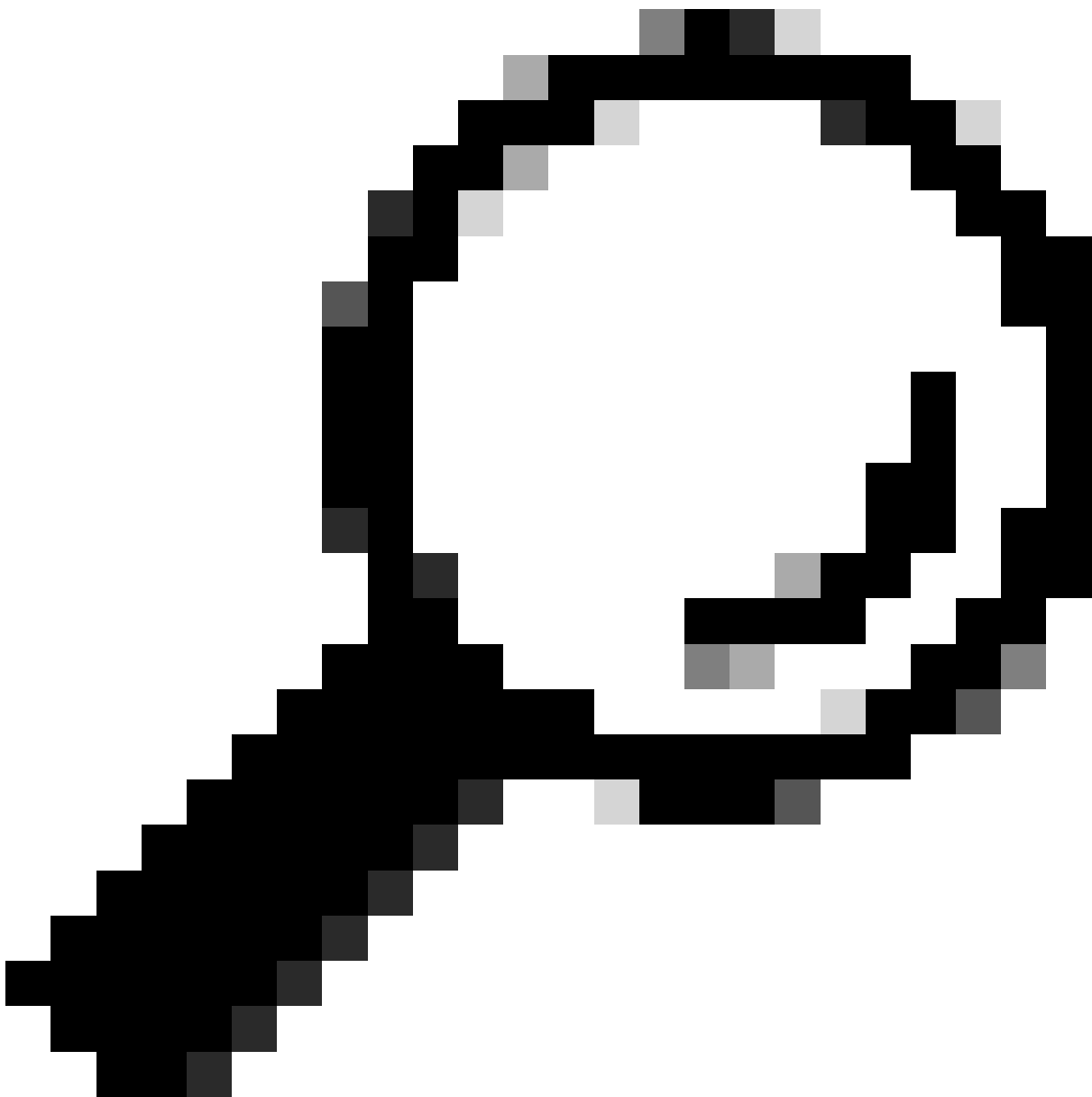
IS-IS: Level-2 CSNPs (sent/rcvd): 1/1

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



Suggerimento: Il comando `show isis traffic` visualizza l'elenco di disponibilità IS-IS in base al livello IS-IS e al tipo di rete IS-IS.

4. Abilitare `debug isis adj-packets`
per vedere quali pacchetti vengono scambiati tra vicini.

<#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. Abilitare un'acquisizione per verificare che i pacchetti vengano inviati a ciascun router adiacente. Al termine dell'acquisizione, esportare l'acquisizione nella memoria bootflash come .pcap file e caricarla su un server TFTP per ulteriori dettagli.

Il dispositivo A riceve un pacchetto dal dispositivo B (19:15.05) dopo aver ricevuto il pacchetto. Il dispositivo A invia il saluto corrispondente senza alcuna risposta dal vicino fino a quando non raggiunge il tempo di attesa scaduto, che per impostazione predefinita è 30 secondi (quadrato rosso).

In questo caso, il router dichiara l'adiacenza inattiva. Trascorso questo periodo, DeviceB invia il suo saluto e viene ricevuto da DeviceA e questi pacchetti vengono scambiati senza problemi (quadrato verde).

eth.dst == 09:00:2b:00:00:05				
Nr	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 instabile ISISA

La cattura dalla periferica B è simile al sintomo dal peer. Il dispositivo non riceve i pacchetti hello dal router adiacente. L'ultimo pacchetto viene inviato dalla periferica B senza risposta dalla periferica A finché non raggiunge il timer di attesa di 30 secondi. Questo interruttore considera l'adiacenza in basso. Dopo questo errore, lo switch riceve il saluto da DeviceA e avvia il vicinato.

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
	01:11:43.594828	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 instabile ISISB

Alla fine si verifica un problema con il trasporto e occorre verificare il motivo per cui i pacchetti vengono persi.

Adiacenza IS-IS instabile (lampi casuali)

IS-IS è instabile tra DeviceA e DeviceB. Il protocollo incontra flap casuali.

<#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>

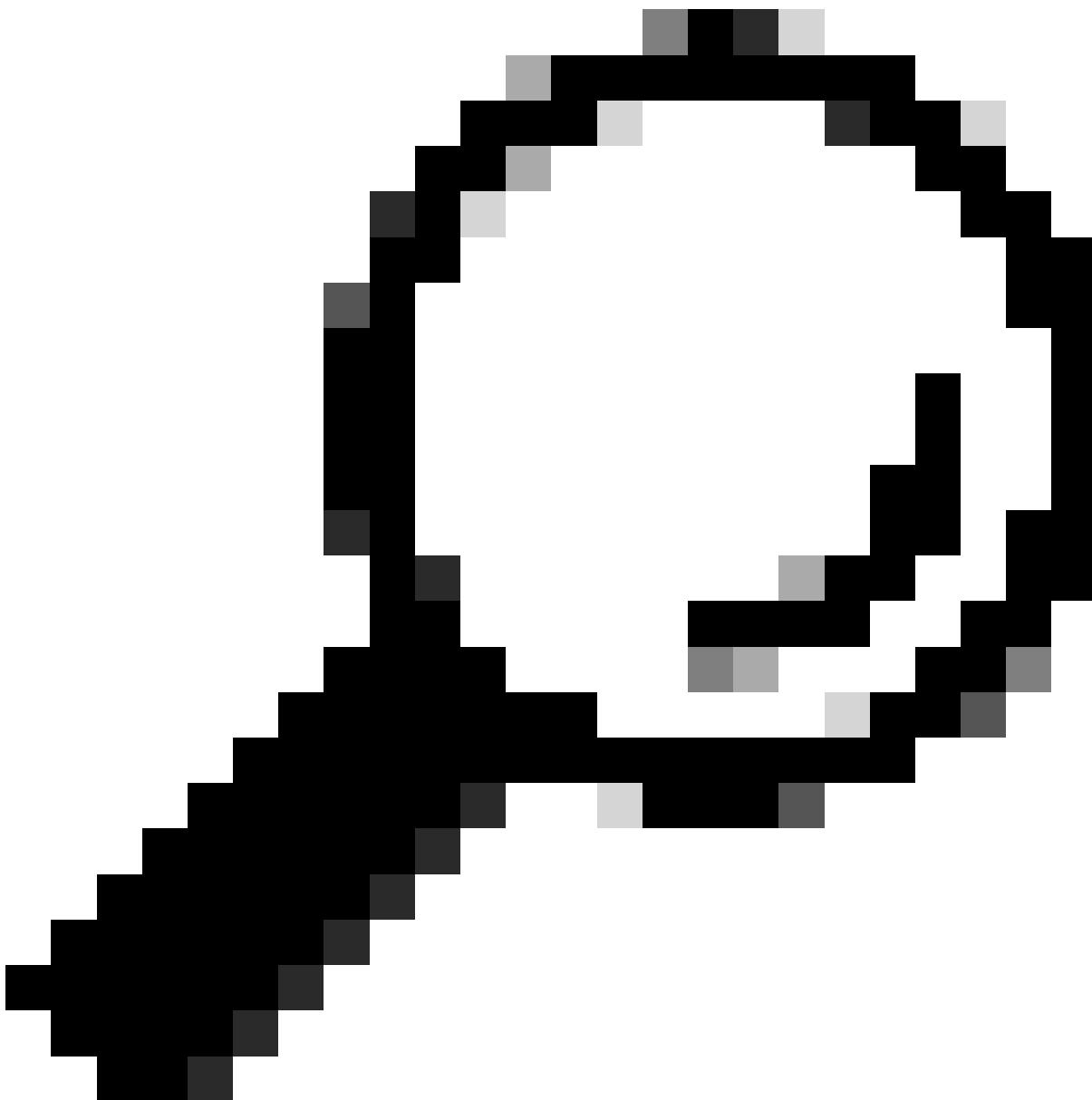
DeviceB#

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 si verifica il problema, assicurarsi di procedere come segue:

1. Verificare che la configurazione corrisponda al peer.
2. Assicurarsi che l'interfaccia fisica sia in buone condizioni per la trasmissione (nessun errore o problema di livelli di luce).
3. Verificare la connettività tra peer (eseguire il ping con le dimensioni MTU e il bit DF impostato).



Suggerimento: Non è facile risolvere questi problemi a causa delle condizioni dei risvolti casuali. Per risolvere questa situazione, è consigliabile utilizzare script per eseguire i comandi necessari e continuare con la risoluzione dei problemi.

-
4. Procedere con la configurazione di un'acquisizione per il monitoraggio con un elenco degli accessi per essere più specifici nella risoluzione dei problemi.
 5. Disabilitare la console di registrazione e abilitare `ildebug isis adj-packets`

`<#root>`

`DeviceA(config)#`

`no logging console`

```
DeviceA(config)#exit
DeviceA#

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

6. Abilitare l'acquisizione dei pacchetti sull'apparecchiatura e attivarla.

<#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. Configurare Embedded Event Manager (EEM) sul dispositivo Cisco. Una volta attivato il modello syslog, il problema genera log che vengono memorizzati nella memoria flash come .txt file. Per ulteriori informazioni, caricarle su un server TFTP.

<#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. Una volta attivato il problema, procedere all'esportazione dell'acquisizione su bootflash/flash e verificare che i file siano archiviati correttamente nella stessa posizione.

<#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. Caricare i file su un server TFTP in modo da confrontare i log tra i dispositivi.

<#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. Confrontare le clip e i log per verificare se i pacchetti sono stati inviati e ricevuti da entrambi i router.

Analisi dei registri IS-IS:

- Entrambe le interfacce IS-IS sono configurate con lo stesso tipo di rete L1-L2.
- Lo stato Interfacce (se non attivo) indica che entrambe le interfacce non ricevono il pacchetto hello.
- IS-IS: Mancata corrispondenza tra i pacchetti inviati e quelli ricevuti. Mentre il dispositivo A invia 205 pacchetti e riceve 199 dal peer, il dispositivo B ne ha 202 su 202. Ciò indica che il trasporto non è affidabile.

<#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
```

Il passaggio successivo è quello di confrontare i debug e le acquisizioni.

<#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

Analisi dei log di debug IS-IS:

- Il dispositivo A invia un pacchetto hello (22 lug 19:17:24), il dispositivo B risponde a questo pacchetto (22 lug 19:17:25), il dispositivo A riceve questa risposta (22 lug 19:17:31).

Periferica A

```
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)
```

Periferica B

```
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)
```

- Il dispositivo A invia un altro pacchetto hello (22 lug 19:17:33), il dispositivo B invia il suo pacchetto hello (22 lug 19:17:34) e due secondi dopo riceve il pacchetto dal peer.

Periferica A

```
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
```

Periferica B

```
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 il periodo in cui il dispositivo A non riceve il pacchetto inviato dal dispositivo B, il protocollo si dichiara inattivo dopo 30 secondi.

Periferica A

```
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, holdt
```

- Il dispositivo B non riceve alcun pacchetto dal peer. Trascorso il periodo di attesa predefinito, il protocollo si dichiara inattivo.

Periferica B

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

Acquisisce l'analisi:

Il dispositivo A riceve pacchetti dal dispositivo B, ma l'ultimo pacchetto che il router riceve dal peer è alle 13:17.31 (minuti). Il dispositivo A invia quindi pacchetti Hello

senza alcuna risposta da parte del peer.

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

L'acquisizione sul dispositivo B mostra una condizione simile: lo switch riceve l'ultimo pacchetto hello dal dispositivo peer, ma DeviceB inizia a inviare i pacchetti hello senza risposta.

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				

Dispositivo instabile ISISB

Nelle clip esportate, i pacchetti hello non vengono consegnati tra peer. Il problema sembra riguardare il trasporto.

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