

當遠端接收器觸發mLDP樹的連線時延遲5秒

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簡介

本檔案介紹當遠端接收器加入多點傳送群組以及輸入PE路由器執行Cisco IOS® XR時，在多點標籤發佈通訊協定(mLDP)樹上轉送多點傳送流量時的5秒延遲。

背景資訊

遠端接收器是從來源的角度透過mLDP骨幹線的接收器。

由於Cisco錯誤ID [CSCvb50266](#)，已故意引入5秒延遲。現有MVPN接收器時，向本地接收器傳送5秒mLDP轉發延遲。

此CDETS是為了解決Cisco錯誤ID [CSCtg68851問題而建立的](#) 對於LC多重路徑，從預設切換到Data MDT不是無中斷的。

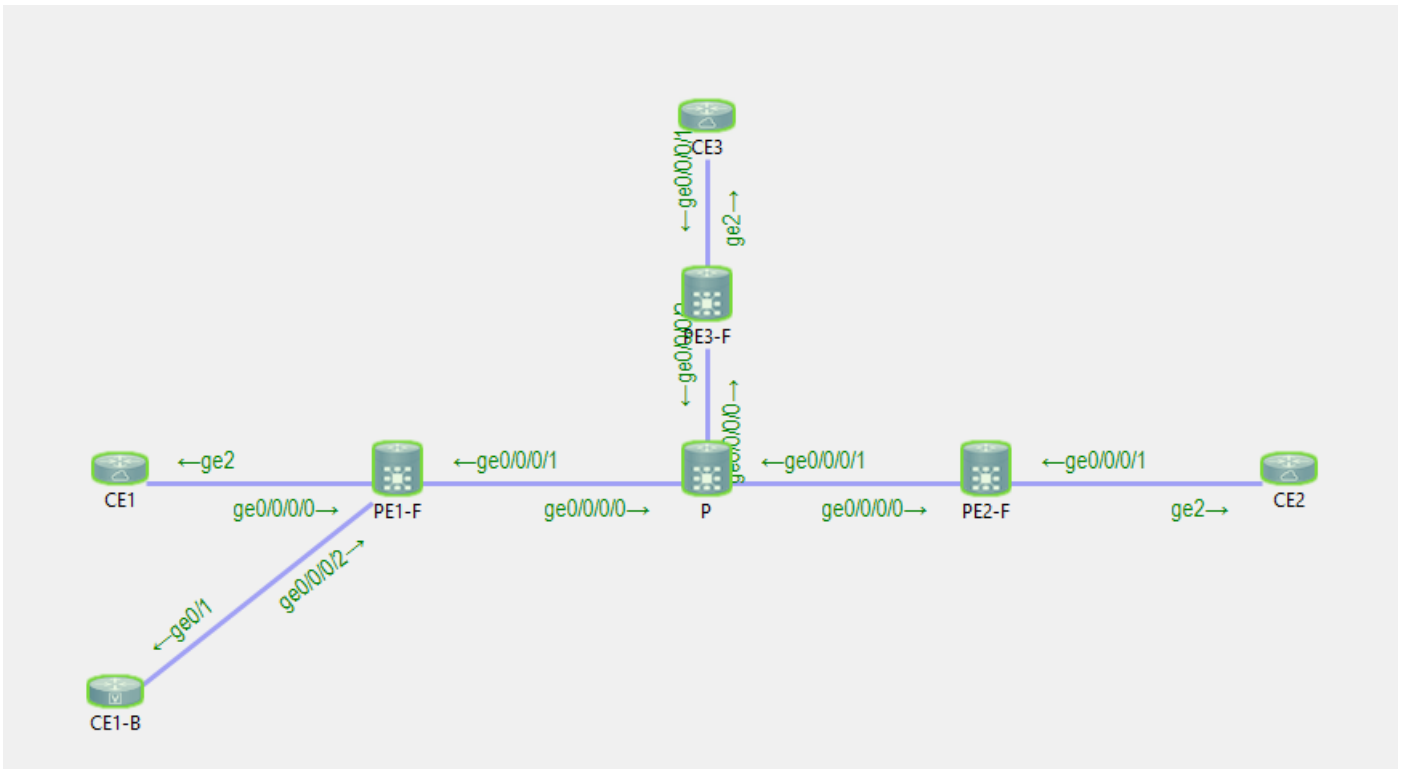
變更

- 如果輸入PE路由器在Cisco錯誤ID [CSCtg68851](#)之後執行IOS®-XR版本 5秒的延遲就在那裡。
- 如果輸入PE路由器在Cisco錯誤ID [CSCvb](#)之後運行IOS®-XR版50266，預設情況下會出現5秒延遲。

如果不希望這樣做，則可以通過隱藏配置命令加快組播流的轉發。

以下提供範例。

檢視圖1的測試拓撲。



CE1是組播流232.1.1.1的源10.100.1.5。

CE2和CE1-B是組播流232.1.1.1的接收器。

測試1.沒有本地接收器的遠端接收器加入

已啟用調試：

```
RP/0/0/CPU0:PE1#debug mrib vrf one route
RP/0/0/CPU0:PE1#debug mfib vrf one ipv4 encap
RP/0/0/CPU0:PE1#show debug
```

```
#### debug flags set from tty 'con0_0_CPU0' ####
ipv4 mfwd encap flag is ON with value '0x1##one'
ipv4 mrib route flag is ON with value 'one#'
```

輸入PE路由器PE1上沒有本地接收器：

```
RP/0/0/CPU0:PE1#sh mrib vrf one route 232.1.1.1 10.100.1.5
No matching route in MRIB route-DB
RP/0/0/CPU0:PE1#
```

遠端接收器CE1已聯機：

```
RP/0/0/CPU0:PE1#RP/0/0/CPU0:Feb 13 10:26:33.280 : mrib[1149]: [ 6] TID: 0xe0000010
(10.100.1.5,232.1.1.1) Added RPF* EID*, #A=1, #F=1, #MDT_A=0, RPF=10.2.1.5 [Lm F* LMI* TR*]
[Gi0/0/0/0 A*], Route Ver = 0x7ca
RP/0/0/CPU0:Feb 13 10:26:33.290 : ipv4_mfwd_partner[263]: Encap: encap id set eid: 1
(10.100.1.5,232.1.1.1)
RP/0/0/CPU0:Feb 13 10:26:33.300 : mrib[1149]: [ 6] TID: 0xe0000010 (10.100.1.5,232.1.1.1)
```

```

Updated RPF EID*, #A=1, #F=1, #MDT_A=0 [Lm F LMI* MA* TR], Route Ver = 0x7cc
RP/0/0/CPU0:Feb 13 10:26:33.310 : ipv4_mfwd_partner[263]: Encap:
ip_mfwd_mrrib_pre_process_encap_id_update: encap_id: 2, te_ole_cnt: 0, lsmid_ole_cnt: 1,
gre_ole_cnt: 0 ti_mofrr_ole_cnt: 0 flags: 0x0
RP/0/0/CPU0:Feb 13 10:26:33.310 : ipv4_mfwd_partner[263]: Encap: [2482] Encap entry created
(0xa10cb414) for eid 2 (stale N) flags 0x0
RP/0/0/CPU0:Feb 13 10:26:33.310 : ipv4_mfwd_partner[263]: Encap: [3039] RegDB entry 0xa08fd084
for LSMID 0x1d turnaround TRUE(new: Y ifh_changed N) ifhandle: b0
RP/0/0/CPU0:Feb 13 10:26:33.310 : ipv4_mfwd_partner[263]: Encap: [3533] Encap entry for eid 2
(0xa10cb414) proc done
RP/0/0/CPU0:Feb 13 10:26:33.310 : ipv4_mfwd_partner[263]: Encap: encap id update eid: 2
(10.100.1.5,232.1.1.1)

```

在輸入PE路由器上設定encap-ID沒有延遲。

這是在輸入PE路由器上建立的組播轉發條目：

```
RP/0/0/CPU0:PE1#show mrrib vrf one route 232.1.1.1 10.100.1.5
```

```

IP Multicast Routing Information Base
Entry flags: L - Domain-Local Source, E - External Source to the Domain,
C - Directly-Connected Check, S - Signal, IA - Inherit Accept,
IF - Inherit From, D - Drop, ME - MDT Encap, EID - Encap ID,
MD - MDT Decap, MT - MDT Threshold Crossed, MH - MDT interface handle
CD - Conditional Decap, MPLS - MPLS Decap, EX - Extranet
MoFE - MoFRR Enabled, MoFS - MoFRR State, MoFP - MoFRR Primary
MoFB - MoFRR Backup, RPFID - RPF ID Set, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
II - Internal Interest, ID - Internal Disinterest, LI - Local Interest,
LD - Local Disinterest, DI - Decapsulation Interface
EI - Encapsulation Interface, MI - MDT Interface, LVIF - MPLS Encap,
EX - Extranet, A2 - Secondary Accept, MT - MDT Threshold Crossed,
MA - Data MDT Assigned, LMI - mLDP MDT Interface, TMI - P2MP-TE MDT Interface
IRMI - IR MDT Interface

(10.100.1.5,232.1.1.1) RPF nbr: 10.2.1.5 Flags: RPF
Up: 00:02:29
Incoming Interface List
GigabitEthernet0/0/0/0 Flags: A, Up: 00:02:2
Outgoing Interface List
Lmdtone Flags: F LMI MA TR, Up: 00:02:29

```

```
RP/0/0/CPU0:PE1#show mfib vrf one route 232.1.1.1 10.100.1.5 detail
```

```

IP Multicast Forwarding Information Base
Entry flags: C - Directly-Connected Check, S - Signal, D - Drop,
IA - Inherit Accept, IF - Inherit From, EID - Encap ID,
ME - MDT Encap, MD - MDT Decap, MT - MDT Threshold Crossed,
MH - MDT interface handle, CD - Conditional Decap,
DT - MDT Decap True, EX - Extranet, RPFID - RPF ID Set,
MoFE - MoFRR Enabled, MoFS - MoFRR State, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
EG - Egress, EI - Encapsulation Interface, MI - MDT Interface,
EX - Extranet, A2 - Secondary Accept
Forwarding/Replication Counts: Packets in/Packets out/Bytes out
Failure Counts: RPF / TTL / Empty Olist / Encap RL / Other

(10.100.1.5,232.1.1.1), Flags: EID , FMA: 0x10000 ,
Up: 00:02:48
Last Used: 00:00:01

```

```
SW Forwarding Counts: 168/168/16800
SW Replication Counts: 168/0/0
SW Failure Counts: 0/0/0/0/0
Route ver: 0x7d0
MVPN Info :-
  Associated Table ID : 0xe0000000
  MDT Handle: 0x0, MDT Probe:Y [Y], Rate:Y, Acc:Y
  MDT SW Ingress Encap V4/V6, Egress decap: 0 / 0, 0
  Encap ID: 2, RPF ID: 0
  Local Receiver: False, Turnaround: False
Lmdtone Flags: F LMI TR, Up:00:02:48
GigabitEthernet0/0/0/0 Flags: A, Up:00:02:48
```

測試2.遠端接收器與本地接收器連線

輸入PE PE1處有一個本地接收器：

```
RP/0/0/CPU0:PE1#show mrib vrf one route 232.1.1.1 10.100.1.5
```

```
IP Multicast Routing Information Base
Entry flags: L - Domain-Local Source, E - External Source to the Domain,
  C - Directly-Connected Check, S - Signal, IA - Inherit Accept,
  IF - Inherit From, D - Drop, ME - MDT Encap, EID - Encap ID,
  MD - MDT Decap, MT - MDT Threshold Crossed, MH - MDT interface handle
  CD - Conditional Decap, MPLS - MPLS Decap, EX - Extranet
  MoFE - MoFRR Enabled, MoFS - MoFRR State, MoFP - MoFRR Primary
  MoFB - MoFRR Backup, RPFID - RPF ID Set, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
  NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
  II - Internal Interest, ID - Internal Disinterest, LI - Local Interest,
  LD - Local Disinterest, DI - Decapsulation Interface
  EI - Encapsulation Interface, MI - MDT Interface, LVIF - MPLS Encap,
  EX - Extranet, A2 - Secondary Accept, MT - MDT Threshold Crossed,
  MA - Data MDT Assigned, LMI - mLDP MDT Interface, TMI - P2MP-TE MDT Interface
  IRMI - IR MDT Interface
```

```
(10.100.1.5,232.1.1.1) RPF nbr: 10.2.1.5 Flags: RPF
Up: 00:57:15
Incoming Interface List
  GigabitEthernet0/0/0/0 Flags: A, Up: 00:57:15
Outgoing Interface List
  GigabitEthernet0/0/0/2 Flags: F NS, Up: 00:57:15
```

啟用調試：

```
RP/0/0/CPU0:PE1#debug mrib vrf one route
RP/0/0/CPU0:PE1#debug mfib vrf one ipv4 encap
```

```
RP/0/0/CPU0:PE1#show debug
```

```
#### debug flags set from tty 'con0_0_CPU0' ####
ipv4 mfwd encap flag is ON with value '0x1##one'
ipv4 mrib route flag is ON with value 'one#'
```

```
RP/0/0/CPU0:PE1#show mfib vrf one route 232.1.1.1 10.100.1.5 detail
```

```
IP Multicast Forwarding Information Base
Entry flags: C - Directly-Connected Check, S - Signal, D - Drop,
  IA - Inherit Accept, IF - Inherit From, EID - Encap ID,
```

ME - MDT Encap, MD - MDT Decap, MT - MDT Threshold Crossed,
MH - MDT interface handle, CD - Conditional Decap,
DT - MDT Decap True, EX - Extranet, RPFID - RPF ID Set,
MoFE - MoFRR Enabled, MoFS - MoFRR State, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
EG - Egress, EI - Encapsulation Interface, MI - MDT Interface,
EX - Extranet, A2 - Secondary Accept
Forwarding/Replication Counts: Packets in/Packets out/Bytes out
Failure Counts: RPF / TTL / Empty Olist / Encap RL / Other

(10.100.1.5,232.1.1.1), Flags: , FMA: 0x10001 ,
Up: 00:59:35
Last Used: 00:00:01
SW Forwarding Counts: 3566/3566/356600
SW Replication Counts: 3566/3566/356600
SW Failure Counts: 0/0/0/0/0
Route ver: 0x3410
MVPN Info :-
MDT Handle: 0x0, MDT Probe:N [N], Rate:Y, Acc:Y
MDT SW Ingress Encap V4/V6, Egress decap: 0 / 0, 0
EG count: 1
Encap ID: 0, RPF ID: 0
Local Receiver: True, Turnaround: False
GigabitEthernet0/0/0/0 Flags: A, Up:00:59:35
GigabitEthernet0/0/0/2 Flags: NS EG, Up:00:59:35

encap-ID為0，因為還沒有遠端接收器。

CE2，遠端接收器聯機：

```
RP/0/0/CPU0:PE1#RP/0/0/CPU0:Feb 13 09:13:34.390 : mrib[1149]: [ 6] TID: 0xe0000010  
(10.100.1.5,232.1.1.1) Updated RPF EID*, #A=1, #F=2, #MDT_A=0 [Lm F* LMI* TR*], Route Ver =  
0x3412  
RP/0/0/CPU0:Feb 13 09:13:34.390 : mrib[1149]: [ 22] Redistributed  
RP/0/0/CPU0:Feb 13 09:13:34.390 : ipv4_mfwd_partner[263]: Encap:  
ip_mfwd_mrib_pre_process_encap_id_update: encap_id: 6, te_ole_cnt: 0, lsmid_ole_cnt: 1,  
gre_ole_cnt: 0 ti_mofrr_ole_cnt: 0 flags: 0x1  
RP/0/0/CPU0:Feb 13 09:13:34.390 : ipv4_mfwd_partner[263]: Encap: [2482] Encap entry created  
(0xa08fd9d0) for eid 6 (stale N) flags 0x1  
RP/0/0/CPU0:Feb 13 09:13:34.390 : ipv4_mfwd_partner[263]: Encap: [3039] RegDB entry 0xa10b5404  
for LSMID 0x1 turnaround TRUE(new: N ifh_changed N) ifhandle: b0  
RP/0/0/CPU0:Feb 13 09:13:34.390 : ipv4_mfwd_partner[263]: Encap: [3533] Encap entry for eid 6  
(0xa08fd9d0) proc done  
RP/0/0/CPU0:Feb 13 09:13:34.410 : mrib[1149]: [ 6] TID: 0xe0000010 (10.100.1.5,232.1.1.1)  
Updated RPF EID*, #A=1, #F=2, #MDT_A=0 [Lm F LMI* MA* TR], Route Ver = 0x3414  
RP/0/0/CPU0:Feb 13 09:13:34.410 : mrib[1149]: [ 6] TID: 0xe0000010 (10.100.1.5,232.1.1.1)  
Updated RPF EID, #A=1, #F=2, #MDT_A=0 [Lm F LMI* MA TR], Route Ver = 0x3415  
RP/0/0/CPU0:Feb 13 09:13:34.410 : ipv4_mfwd_partner[263]: Encap:  
ip_mfwd_mrib_pre_process_encap_id_update: encap_id: 7, te_ole_cnt: 0, lsmid_ole_cnt: 1,  
gre_ole_cnt: 0 ti_mofrr_ole_cnt: 0 flags: 0x1  
RP/0/0/CPU0:Feb 13 09:13:34.410 : ipv4_mfwd_partner[263]: Encap: [2482] Encap entry created  
(0xa08fd8a8) for eid 7 (stale N) flags 0x1  
RP/0/0/CPU0:Feb 13 09:13:34.410 : ipv4_mfwd_partner[263]: Encap: [3039] RegDB entry 0xa08fd824  
for LSMID 0x1c turnaround TRUE(new: Y ifh_changed N) ifhandle: b0  
RP/0/0/CPU0:Feb 13 09:13:34.410 : ipv4_mfwd_partner[263]: Encap: [3533] Encap entry for eid 7  
(0xa08fd8a8) proc done  
RP/0/0/CPU0:Feb 13 09:13:34.500 : mrib[1149]: [ 6] TID: 0xe0000010 (10.100.1.5,232.1.1.1)  
Updated RPF EID, #A=1, #F=2, #MDT_A=0 [Lm F LMI* MA TR], Route Ver = 0x3416  
RP/0/0/CPU0:Feb 13 09:13:34.620 : mrib[1149]: [ 22] Redistributed  
RP/0/0/CPU0:Feb 13 09:13:34.620 : mrib[1149]: [ 6] TID: 0xe0000010 (10.100.1.5,232.1.1.1)  
Updated RPF EID, #A=1, #F=2, #MDT_A=0 [Lm F LMI* MA TR], Route Ver = 0x3417  
RP/0/0/CPU0:Feb 13 09:13:34.620 : ipv4_mfwd_partner[263]: Encap:
```

```
ip_mfwd_mrrib_pre_process_encap_id_update: encap_id: 7, te_ole_cnt: 0, lsmid_ole_cnt: 1,
gre_ole_cnt: 0 ti_mofrr_ole_cnt: 0 flags: 0x1
RP/0/0/CPU0:Feb 13 09:13:34.620 : ipv4_mfwd_partner[263]: Encap: [2482] Encap entry existing
(0xa08fd8a8) for eid 7 (stale N) flags 0x1
RP/0/0/CPU0:Feb 13 09:13:34.620 : ipv4_mfwd_partner[263]: Encap: [3533] Encap entry for eid 7
(0xa08fd8a8) proc done
RP/0/0/CPU0:Feb 13 09:13:39.570 : ipv4_mfwd_partner[263]: Encap: encap id set eid: 7
(10.100.1.5,232.1.1.1)
```

Encap-ID設定為7 (建立封裝ID後5秒) , 並且組播路由資訊庫(MRIB)已使用傳出介面清單(OIL)中用於虛擬路由和轉發(VRF)的標籤MDT(LMDT)介面進行更新。

```
RP/0/0/CPU0:PE1#show mrrib vrf one route 232.1.1.1 10.100.1.5
```

```
IP Multicast Routing Information Base
Entry flags: L - Domain-Local Source, E - External Source to the Domain,
C - Directly-Connected Check, S - Signal, IA - Inherit Accept,
IF - Inherit From, D - Drop, ME - MDT Encap, EID - Encap ID,
MD - MDT Decap, MT - MDT Threshold Crossed, MH - MDT interface handle
CD - Conditional Decap, MPLS - MPLS Decap, EX - Extranet
MoFE - MoFRR Enabled, MoFS - MoFRR State, MoFP - MoFRR Primary
MoFB - MoFRR Backup, RPFID - RPF ID Set, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
II - Internal Interest, ID - Internal Disinterest, LI - Local Interest,
LD - Local Disinterest, DI - Decapsulation Interface
EI - Encapsulation Interface, MI - MDT Interface, LVIF - MPLS Encap,
EX - Extranet, A2 - Secondary Accept, MT - MDT Threshold Crossed,
MA - Data MDT Assigned, LMI - mLDP MDT Interface, TMI - P2MP-TE MDT Interface
IRMI - IR MDT Interface
```

```
(10.100.1.5,232.1.1.1) RPF nbr: 10.2.1.5 Flags: RPF
Up: 01:04:11
Incoming Interface List
GigabitEthernet0/0/0/0 Flags: A, Up: 01:04:11
Outgoing Interface List
Lmdtone Flags: F LMI MA TR, Up: 00:03:33
GigabitEthernet0/0/0/2 Flags: F NS, Up: 01:04:11
```

```
RP/0/0/CPU0:PE1#show mfib vrf one route 232.1.1.1 10.100.1.5 detail
```

```
IP Multicast Forwarding Information Base
Entry flags: C - Directly-Connected Check, S - Signal, D - Drop,
IA - Inherit Accept, IF - Inherit From, EID - Encap ID,
ME - MDT Encap, MD - MDT Decap, MT - MDT Threshold Crossed,
MH - MDT interface handle, CD - Conditional Decap,
DT - MDT Decap True, EX - Extranet, RPFID - RPF ID Set,
MoFE - MoFRR Enabled, MoFS - MoFRR State, X - VXLAN
Interface flags: F - Forward, A - Accept, IC - Internal Copy,
NS - Negate Signal, DP - Don't Preserve, SP - Signal Present,
EG - Egress, EI - Encapsulation Interface, MI - MDT Interface,
EX - Extranet, A2 - Secondary Accept
Forwarding/Replication Counts: Packets in/Packets out/Bytes out
Failure Counts: RPF / TTL / Empty Olist / Encap RL / Other
```

```
(10.100.1.5,232.1.1.1), Flags: EID , FMA: 0x10001 ,
Up: 01:04:25
Last Used: 00:00:00
SW Forwarding Counts: 3856/3856/385600
SW Replication Counts: 3856/3856/385600
SW Failure Counts: 0/0/0/0/0
Route ver: 0x3417
MVPN Info :-
```

```
Associated Table ID : 0xe0000000
MDT Handle: 0x0, MDT Probe:Y [Y], Rate:Y, Acc:Y
MDT SW Ingress Encap V4/V6, Egress decap: 0 / 0, 0
EG count: 1
```

```
Encap ID: 7, RPF ID: 0
```

```
Local Receiver: True, Turnaround: False
```

```
Lmdtone Flags: F LMI TR, Up:00:03:47
```

```
GigabitEthernet0/0/0/0 Flags: A, Up:01:04:25
```

```
GigabitEthernet0/0/0/2 Flags: NS EG, Up:01:04:25
```

因此，遠端接收方在接收此組播流時有5秒的額外延遲。

附註： LMDT介面立即新增到MRIB中，LMDT介面也立即使用F標誌新增到MFIB中，但未設定封裝ID。

在5秒延遲後設定了MFIB中的封裝ID。

在Cisco錯誤ID [CSCvb50266](#)之後，當遠端接收器加入時，encap-ID的編程延遲為5秒。這是新的預設行為。

運行命令**show pim vrf <>context**以驗證行為：

```
RP/0/0/CPU0:PE1#show pim vrf one context
```

```
PIM context information for VRF one (0x12b70184)
```

```
VRF ID: 0x60000001
```

```
Table ID: 0xe0000010
```

```
Remote Table ID: 0xe0800010
```

```
MDT Default Group : 0.0.0.0
```

```
MDT Source : (10.100.1.1, Loopback0) Per-VRF
```

```
MDT Immediate Switch Not Configured
```

```
MDT handle: 0x0 (Null)
```

```
Context Active, ITAL Active
```

```
Routing Enabled
```

```
Registered with MRIB
```

```
Not owner of MDT Interface
```

```
Raw socket req: T, act: T, LPTS filter req: T, act: T
```

```
UDP socket req: T, act: T, UDP vbind req: T, act: T
```

```
Reg Inj socket req: T, act: T, Reg Inj LPTS filter req: T, act: T
```

```
Mhost Default Interface : GigabitEthernet0/0/0/0 (publish pending: F)
```

```
Remote MDT Default Group : 0.0.0.0
```

```
Backup MLC virtual interface: Null
```

```
Neighbor-filter: -
```

```
MDT Neighbor-filter: -
```

運行此隱藏命令**mdt immediate-switch**以刪除5秒的延遲。

```
RP/0/0/CPU0:PE1#conf t
```

```
RP/0/0/CPU0:PE1(config)#multicast-routing vrf one
```

```
RP/0/0/CPU0:PE1(config-mcast-one)#address-family ipv4
```

```
RP/0/0/CPU0:PE1(config-mcast-one-ipv4)#mdt immediate-switch
```

```
RP/0/0/CPU0:PE1(config-mcast-one-ipv4)#commit
```

附註： 自7.4.1起，命令不再隱藏。

```
RP/0/0/CPU0:PE1#show pim vrf one context
```

```
PIM context information for VRF one (0x12b70184)
```

```
VRF ID: 0x60000001
```

```
Table ID: 0xe0000010
```

```
Remote Table ID: 0xe0800010
```

```
MDT Default Group : 0.0.0.0
```

```
MDT Source : (10.100.1.1, Loopback0) Per-VRF
```

```
MDT Immediate Switch Configured
```

```
MDT handle: 0x0(Null)
```

```
Context Active, ITAL Active
```

```
Routing Enabled
```

```
Registered with MRIB
```

```
Not owner of MDT Interface
```

```
Raw socket req: T, act: T, LPTS filter req: T, act: T
```

```
UDP socket req: T, act: T, UDP vbind req: T, act: T
```

```
Reg Inj socket req: T, act: T, Reg Inj LPTS filter req: T, act: T
```

```
Mhost Default Interface : GigabitEthernet0/0/0/0 (publish pending: F)
```

```
Remote MDT Default Group : 0.0.0.0
```

```
Backup MLC virtual interface: Null
```

```
Neighbor-filter: -
```

```
MDT Neighbor-filter: -
```

此命令不會顯示在運行配置中：

```
RP/0/0/CPU0:PE1#show running-config multicast-routing vrf one
```

```
multicast-routing
```

```
 vrf one
```

```
 address-family ipv4
```

```
   interface GigabitEthernet0/0/0/0
```

```
     enable
```

```
   !
```

```
   interface GigabitEthernet0/0/0/2
```

```
     enable
```

```
   !
```

```
 mdt source Loopback0
```

```
 rate-per-route
```

```
 accounting per-prefix
```

```
 bgp auto-discovery mldp
```

```
 !
```

```
 mdt partitioned mldp ipv4 p2mp
```

```
 mdt data mldp 100 immediate-switch
```

```
 !
```

不支援使用*immediate-switch*關鍵字同時配置*mdt immediate-switch*和*mdt data*命令。

以下是此類組態範例：

```
RP/0/RP0/CPU0:PE1#conf t
```

```
RP/0/RP0/CPU0:PE1(config)#multicast-routing
```

```
RP/0/RP0/CPU0:PE1(config-mcast)#vrf one
```

```
RP/0/RP0/CPU0:PE1(config-mcast-one)#address-family ipv4
```

```
RP/0/RP0/CPU0:PE1(config-mcast-one-ipv4)#mdt data mldp 100 immediate-switch
```

```
RP/0/RP0/CPU0:PE1(config-mcast-one-ipv4)#mdt immediate-switch
```

```
RP/0/RP0/CPU0:PE1(config-mcast-one-ipv4)#commit
```

```
RP/0/RP0/CPU0:PE1(config-mcast-one-ipv4)#end
```

```
RP/0/RP0/CPU0:PE1#
```