

示例配置 — 使用多鏈路PPP的反向MUX應用程式

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簡介

在某些環境中，可能需要捆綁多個串列鏈路來充當具有聚合頻寬的單個鏈路。本文檔介紹如何使用虛擬模板介面配置Cisco 4500路由器捆綁四個串列介面。

此配置可用於通過租用線路連線的路由器或具有通道服務單元/資料服務單元(CSU/DSU)的路由器。您可以根據需要為此配置新增其他功能。

必要條件

需求

本文件沒有特定需求。

採用元件

本檔案中的資訊是根據以下軟體和硬體版本。

- 實驗環境下的思科4500路由器，已清除配置。
- 兩台路由器上都運行了Cisco IOS®版本12.2(10b)。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您在即時網路中工作，請確保在使用任何命令之前瞭解其潛在影響。

相關產品

此配置還可以用於以下硬體和軟體版本。

- 任意兩台每台都有四個串列介面的路由器。
- 可以使用WIC-1T和WIC-2T串列介面。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

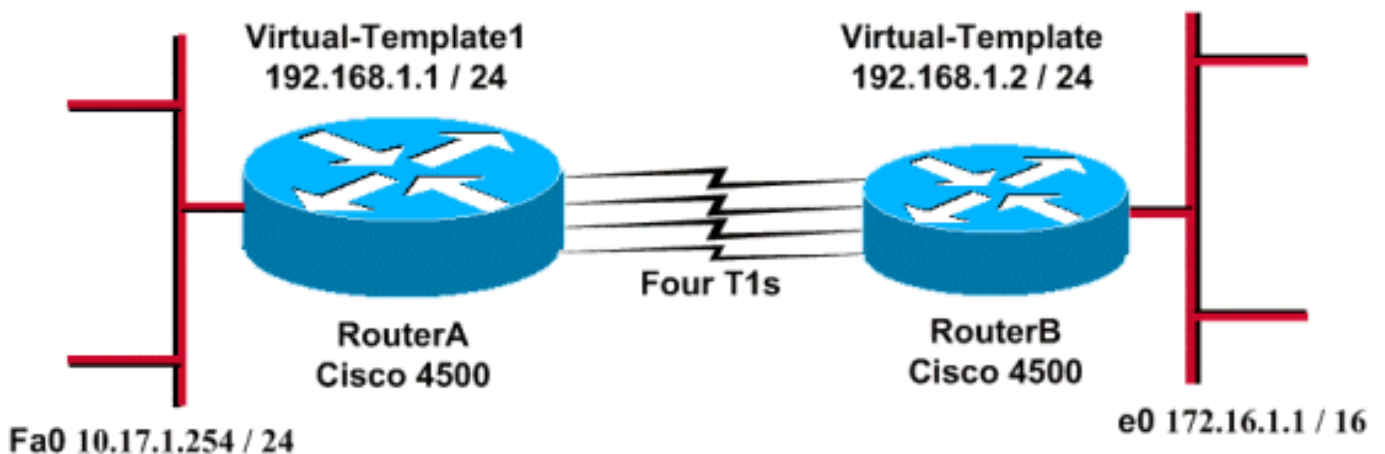
設定

本節提供用於設定本文件中所述功能的資訊。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)([僅限註冊客戶](#))。

網路圖表

本文檔使用下圖所示的網路設定。



組態

此配置已在4500系列路由器上使用Cisco IOS軟體版本12.2(10b)進行測試。相同的配置概念適用於類似的路由器拓撲或其他Cisco IOS版本。

本文檔使用如下所示的配置。

路由器 A

```
version 12.2
!
hostname RouterA
!
!
username RouterB password xxx
ip subnet-zero
multilink virtual-template 1
```

```
!  
interface loopback 0  
ip address 192.168.1.1 255.255.255.0  
!  
interface Virtual-Template1  
ip unnumbered loopback0  
ppp authentication chap  
ppp multilink  
!  
interface Serial0  
no ip address  
encapsulation ppp  
no fair-queue  
ppp multilink  
pulse-time 3  
!  
interface Serial1  
no ip address  
encapsulation ppp  
no fair-queue  
ppp multilink  
pulse-time 3  
!  
interface Serial2  
no ip address  
encapsulation ppp  
no fair-queue  
ppp multilink  
pulse-time 3  
!  
interface Serial3  
no ip address  
encapsulation ppp  
no fair-queue  
ppp multilink  
pulse-time 3  
!  
interface FastEthernet0  
ip address 10.17.1.254 255.255.255.0  
!  
router rip  
network 10.0.0.0  
network 192.168.1.0  
!  
end
```

路由器 B

```
version 12.2  
!  
hostname RouterB  
!  
username RouterA password xxx  
ip subnet-zero  
multilink virtual-template 1  
!  
interface loopback 0  
ip address 192.168.1.2 255.255.255.0  
!  
!  
interface Virtual-Template1  
ip unnumbered loopback0  
ppp authentication chap
```

```
ppp multilink
!
interface Serial0
 no ip address
 encapsulation ppp
 no fair-queue
 ppp multilink
 pulse-time 3
!
interface Serial1
 no ip address
 encapsulation ppp
 no fair-queue
 ppp multilink
 pulse-time 3
!
interface Serial2
 no ip address
 encapsulation ppp
 no fair-queue
 ppp multilink
 pulse-time 3
!
interface Serial3
 no ip address
 encapsulation ppp
 no fair-queue
 ppp multilink
 pulse-time 3
!
interface Ethernet0
 ip address 172.16.1.1 255.255.0.0
!
router rip
 network 172.16.0.0
 network 192.168.1.0
!
end
```

配置以下內容以實施上述配置：

- multilink virtual-template
- interface virtual-template
- 捆綁必須完成的每個串列介面中的PPP多鏈路。
- 作為IP路由協定的RIP

介面loopback 0配置為永不發生故障，而ip unnumbered loopback 0增強了具有相同IP地址的五個以上串列介面的捆綁。

當所有串列介面都處於開啟狀態並且要傳送使用者流量時，多鏈路PPP會建立一個虛擬訪問介面，並發生PPP協商。此虛擬訪問介面的配置從虛擬模板克隆。已啟動的串列介面數量捆綁在此虛擬訪問介面中，並建立一個聚合頻寬。

驗證

本節提供的資訊可用於確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

- show ip route
- show ip rip database
- show ppp multilink
- show interface virtual-access 1

RouterA#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
 D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
 N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
 i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
 * - candidate default, U - per-user static route, o - ODR
 P - periodic downloaded static route

Gateway of last resort is not set

R 172.16.0.0/16 [120/1] via 192.168.1.2, 00:00:19, Virtual-Access1
 10.0.0.0/24 is subnetted, 1 subnets
 C 10.17.1.0 is directly connected, FastEthernet0
 192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
 C 192.168.1.0/24 is directly connected, Loopback0
C 192.168.1.2/32 is directly connected, Virtual-Access1

RouterA#show ip route connected

10.0.0.0/24 is subnetted, 1 subnets
 C 10.17.1.0 is directly connected, FastEthernet0
 192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
 C 192.168.1.0/24 is directly connected, Loopback0
C 192.168.1.2/32 is directly connected, Virtual-Access1

RouterB#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
 D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
 N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
 i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
 * - candidate default, U - per-user static route, o - ODR
 P - periodic downloaded static route

Gateway of last resort is not set

C 172.16.0.0/16 is directly connected, Ethernet0
 R 10.0.0.0/8 [120/1] via 192.168.1.1, 00:00:18, Virtual-Access1
 192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.1.1/32 is directly connected, Virtual-Access1
 C 192.168.1.0/24 is directly connected, Loopback0

RouterB#show ip route connected

C 172.16.0.0/16 is directly connected, Ethernet0
 192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.1.1/32 is directly connected, Virtual-Access1
 C 192.168.1.0/24 is directly connected, Loopback0

RouterA#show ip rip database

10.0.0.0/8 auto-summary
 10.17.1.0/24 directly connected, FastEthernet0
 172.16.0.0/16 auto-summary
172.16.0.0/16
[1] via 192.168.1.2, 00:00:34, Virtual-Access1
 192.168.1.0/24 auto-summary

192.168.1.0/24 directly connected, Loopback0
192.168.1.2/32 directly connected, Virtual-Access1

RouterB#show ip rip database

10.0.0.0/8 auto-summary
10.0.0.0/8
 [1] via 192.168.1.1, 00:00:13, Virtual-Access
1172.16.0.0/16 auto-summary
172.16.0.0/16 directly connected, Ethernet0
192.168.1.0/24 auto-summary
192.168.1.0/24 directly connected, Loopback0
192.168.1.1/32 directly connected, Virtual-Access1

RouterA#show ppp multilink

Virtual-Access1, bundle name is RouterB
Bundle up for 17:01:59
0 lost fragments, 0 reordered, 0 unassigned
0 discarded, 0 lost received, 1/255 load
0xD3C received sequence, 0x1180 sent sequence
Member links: 4 (max not set, min not set)
 Serial0, since 17:01:59, last rcvd seq 000D38
 Serial1, since 17:01:50, last rcvd seq 000D39
 Serial2, since 17:01:46, last rcvd seq 000D3A
 Serial3, since 17:01:41, last rcvd seq 000D3B

RouterB#show ppp multilink

Virtual-Access1, bundle name is RouterA
Bundle up for 12:47:33
0 lost fragments, 0 reordered, 0 unassigned
0 discarded, 0 lost received, 1/255 load
0x1186 received sequence, 0xD40 sent sequence
Member links: 4 (max not set, min not set)
 Serial0, since 12:47:33, last rcvd seq 001184
 Serial1, since 12:47:27, last rcvd seq 001185
 Serial2, since 12:47:23, last rcvd seq 001182
 Serial3, since 12:47:20, last rcvd seq 001183

RouterA#show interface virtual-access 1

Virtual-Access1 is up, line protocol is up
Hardware is Virtual Access interface
Interface is unnumbered. Using address of Loopback0 (192.168.1.1)
MTU 1500 bytes, BW 6176 Kbit, DLY 100000 usec,
 reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set
Keepalive set (10 sec)
DTR is pulsed for 5 seconds on reset
LCP Open, multilink Open
Open: IPCP
Last input 00:00:00, output never, output hang never
Last clearing of "show interface" counters 17:05:41
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 1711 packets input, 163898 bytes, 0 no buffer
 Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
 2256 packets output, 211897 bytes, 0 underruns
 0 output errors, 0 collisions, 0 interface resets
 0 output buffer failures, 0 output buffers swapped out
 0 carrier transitions

```

RouterB#show interface virtual-access 1
Virtual-Access1 is up, line protocol is up
  Hardware is Virtual Access interface
  Interface is unnumbered. Using address of Loopback0 (192.168.1.2)
  MTU 1500 bytes, BW 6176 Kbit, DLY 100000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation PPP, loopback not set
  Keepalive set (10 sec)
  DTR is pulsed for 5 seconds on reset
  LCP Open, multilink Open
  Open: IPCP
  Last input 00:00:20, output never, output hang never
  Last clearing of "show interface" counters 12:54:17
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    2256 packets input, 216460 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    1714 packets output, 160624 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions

```

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

疑難排解指令

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

注意：發出debug指令之前，請先參閱[有關Debug指令的重要資訊](#)。

- **debug ppp negotiation** — 檢視客戶端是否正在傳遞PPP協商；此命令用於檢查地址協商。
- **debug ppp authentication** — 檢視客戶端是否正在傳遞身份驗證。如果您使用的是11.2之前的Cisco IOS軟體版本，請改用**debug ppp chap**命令。
- **debug ppp error** — 顯示與PPP連線協商和操作相關的協定錯誤和錯誤統計資訊。
- **debug vtemplate** — 顯示虛擬模板克隆以形成虛擬訪問介面。
- **debug ppp multilink events** — 檢視PPP多鏈路事件調試。顯示有關影響多連結組的事件的資訊。
- **show ppp multilink** — 檢視多鏈路捆綁的成員。

從Cisco 4500路由器獲得以下輸出。它們顯示建立多鏈路PPP連線的路由器。

```

RouterA#debug vtemplate
Virtual Template debugging is on

*Dec 1 17:24:16.519: Vi1 VTEMPLATE: Reuse Vi1, recycle queue size 0
*Dec 1 17:24:16.519: Vi1 VTEMPLATE: Set default settings with ip unnumbered
*Dec 1 17:24:16.539: Vi1 VTEMPLATE: Hardware address 00d0.bbfa.f579
*Dec 1 17:24:16.543: Vi1 VTEMPLATE: Has a new cloneblk vtemplate,
now it has vtemplate
*Dec 1 17:24:16.543: Vi1 VTEMPLATE: ***** CLONE VACCESS1 *****

```

```
*Dec 1 17:24:16.543: Vi1 VTEMPLATE: Clone from Virtual-Template1
interface Virtual-Access1
default ip address
no ip address
encap ppp
ip unnumbered loopback0
end
```

```
*Dec 1 17:24:16.595: %LINK-3-UPDOWN:
```

```
Interface Virtual-Access1, changed state to up
```

```
*Dec 1 17:24:17.515: %LINEPROTO-5-UPDOWN:
```

```
Line protocol on Interface Serial0, changed state to up
```

```
*Dec 1 17:24:17.595: %LINEPROTO-5-UPDOWN:
```

```
Line protocol on Interface Virtual-Access1, changed state to up
```

```
RouterA#debug ppp negotiation
```

```
PPP protocol negotiation debugging is on
```

```
Dec 11 19:39:14.523: %LINK-5-CHANGED: Interface Serial0, changed state to reset
Dec 11 19:39:14.523: Se0 LCP: State is Closed
Dec 11 19:39:14.627: %SYS-5-CONFIG_I: Configured from console by console
Dec 11 19:39:16.523: %LINK-3-UPDOWN: Interface Serial0, changed state to up
Dec 11 19:39:16.523: Se0 PPP: Treating connection as a dedicated line
Dec 11 19:39:16.523: Se0 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load]
Dec 11 19:39:16.523: Se0 LCP: O CONFREQ [Closed] id 25 len 24
Dec 11 19:39:16.523: Se0 LCP: MagicNumber 0xD4CBA693 (0x0506D4CBA693)
Dec 11 19:39:16.523: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:39:16.523: Se0 LCP: EndpointDisc 1 RouterA (0x130A01506F6D65726F6C)
Dec 11 19:39:16.535: Se0 LCP: I CONFREQ [REQsent] id 33 len 25
Dec 11 19:39:16.535: Se0 LCP: MagicNumber 0x03200E36 (0x050603200E36)
Dec 11 19:39:16.535: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:39:16.539: Se0 LCP: EndpointDisc 1 RouterB (0x130B0150756C6C69676E79)
Dec 11 19:39:16.539: Se0 LCP: O CONFACK [REQsent] id 33 len 25
Dec 11 19:39:16.539: Se0 LCP: MagicNumber 0x03200E36 (0x050603200E36)
Dec 11 19:39:16.539: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:39:16.539: Se0 LCP: EndpointDisc 1 RouterB (0x130B0150756C6C69676E79)
Dec 11 19:39:16.539: Se0 LCP: I CONFACK [ACKsent] id 25 len 24
Dec 11 19:39:16.539: Se0 LCP: MagicNumber 0xD4CBA693 (0x0506D4CBA693)
Dec 11 19:39:16.539: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:39:16.543: Se0 LCP: EndpointDisc 1 RouterA (0x130A01506F6D65726F6C)
Dec 11 19:39:16.543: Se0 LCP: State is Open
Dec 11 19:39:16.543: Se0 PPP: Phase is VIRTUALIZED [0 sess, 1 load]
Dec 11 19:39:16.555: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load]
Dec 11 19:39:16.587: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Dec 11 19:39:16.587: Vi1 PPP: Treating connection as a dedicated line
Dec 11 19:39:16.587: Vi1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load]
Dec 11 19:39:16.587: Vi1 LCP: O CONFREQ [Closed] id 1 len 29
Dec 11 19:39:16.587: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Dec 11 19:39:16.587: Vi1 LCP: MagicNumber 0xD4CBA6D4 (0x0506D4CBA6D4)
Dec 11 19:39:16.587: Vi1 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:39:16.587: Vi1 LCP: EndpointDisc 1 RouterA (0x130A01506F6D65726F6C)
Dec 11 19:39:16.587: Vi1 PPP: Phase is UP [0 sess, 1 load]
Dec 11 19:39:16.591: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10
Dec 11 19:39:16.591: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Dec 11 19:39:16.591: Vi1 MLP: Added first link Se0 to bundle RouterB
Dec 11 19:39:16.623: Vi1 IPCP: I CONFREQ [REQsent] id 1 len 10
Dec 11 19:39:16.623: Vi1 IPCP: Address 192.168.1.2 (0x0306C0A80102)
Dec 11 19:39:16.623: Vi1 IPCP: O CONFACK [REQsent] id 1 len 10
Dec 11 19:39:16.623: Vi1 IPCP: Address 192.168.1.2 (0x0306C0A80102)
Dec 11 19:39:16.623: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10
Dec 11 19:39:16.627: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Dec 11 19:39:16.627: Vi1 IPCP: State is Open
Dec 11 19:39:16.627: Vi1 IPCP: Install route to 192.168.1.2
Dec 11 19:39:17.543: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0,
```


changed state to up

Dec 11 19:39:17.587: %LINEPROTO-5-UPDOWN:

Line protocol on Interface Virtual-Access1, changed state to up

RouterB#debug ppp negotiation

PPP protocol negotiation debugging is on

Dec 11 19:38:08.975: **Se0 LCP: I CONFREQ [Closed] id 25 len 24**
Dec 11 19:38:08.975: Se0 LCP: MagicNumber 0xD4CBA693 (0x0506D4CBA693)
Dec 11 19:38:08.975: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:38:08.975: Se0 LCP: EndpointDisc 1 RouterA (0x130A01506F6D65726F6C)
Dec 11 19:38:08.975: Se0 LCP: Lower layer not up, Fast Starting
Dec 11 19:38:08.975: Se0 PPP: Treating connection as a dedicated line
Dec 11 19:38:08.979: **Se0 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load]**
Dec 11 19:38:08.979: **Se0 LCP: O CONFREQ [Closed] id 33 len 25**
Dec 11 19:38:08.979: Se0 LCP: MagicNumber 0x03200E36 (0x050603200E36)
Dec 11 19:38:08.979: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:38:08.979: Se0 LCP: EndpointDisc 1 RouterB (0x130B0150756C6C69676E79)
Dec 11 19:38:08.979: **Se0 LCP: O CONFACK [REQsent] id 25 len 24**
Dec 11 19:38:08.979: Se0 LCP: MagicNumber 0xD4CBA693 (0x0506D4CBA693)
Dec 11 19:38:08.979: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:38:08.979: Se0 LCP: EndpointDisc 1 RouterA (0x130A01506F6D65726F6C)
Dec 11 19:38:08.979: %LINK-3-UPDOWN: Interface Serial0, changed state to up
Dec 11 19:38:08.987: **Se0 LCP: I CONFACK [ACKsent] id 33 len 25**
Dec 11 19:38:08.987: Se0 LCP: MagicNumber 0x03200E36 (0x050603200E36)
Dec 11 19:38:08.987: Se0 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:38:08.987: Se0 LCP: EndpointDisc 1 RouterB (0x130B0150756C6C69676E79)
Dec 11 19:38:08.987: **Se0 LCP: State is Open**
Dec 11 19:38:08.987: Se0 PPP: Phase is VIRTUALIZED [0 sess, 1 load]
Dec 11 19:38:08.999: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load]
Dec 11 19:38:09.039: Se0 IPCP: Packet buffered while building MLP bundle interface
Dec 11 19:38:09.043: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Dec 11 19:38:09.043: Vi1 PPP: Treating connection as a dedicated line
Dec 11 19:38:09.043: Vi1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load]
Dec 11 19:38:09.043: Vi1 LCP: O CONFREQ [Closed] id 1 len 30
Dec 11 19:38:09.043: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Dec 11 19:38:09.043: Vi1 LCP: MagicNumber 0x03200E78 (0x050603200E78)
Dec 11 19:38:09.043: Vi1 LCP: MRRU 1524 (0x110405F4)
Dec 11 19:38:09.043: Vi1 LCP: EndpointDisc 1 RouterB (0x130B0150756C6C69676E79)
Dec 11 19:38:09.043: **Vi1 PPP: Phase is UP [0 sess, 1 load]**
Dec 11 19:38:09.043: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10
Dec 11 19:38:09.043: Vi1 IPCP: Address 192.168.1.2 (0x0306C0A80102)
Dec 11 19:38:09.047: **Vi1 MLP: Added first link Se0 to bundle RouterA**
Dec 11 19:38:09.047: Vi1 PPP: Pending ncpQ size is 1
Dec 11 19:38:09.047: Se0 IPCP: Redirect packet to Vi1
Dec 11 19:38:09.047: Vi1 IPCP: I CONFREQ [REQsent] id 1 len 10
Dec 11 19:38:09.047: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Dec 11 19:38:09.047: Vi1 IPCP: O CONFACK [REQsent] id 1 len 10
Dec 11 19:38:09.047: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Dec 11 19:38:09.051: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10
Dec 11 19:38:09.051: Vi1 IPCP: Address 192.168.1.2 (0x0306C0A80102)
Dec 11 19:38:09.051: **Vi1 IPCP: State is Open**
Dec 11 19:38:09.051: **Vi1 IPCP: Install route to 192.168.1.1**
Dec 11 19:38:09.987: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0,
changed state to up
Dec 11 19:38:10.043: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Virtual-Access1, changed state to up

RouterB#debug ppp multilink events

Multilink events debugging is on

Dec 11 19:41:30.239: %LINK-3-UPDOWN: Interface Serial0, changed state to up
Dec 11 19:41:30.243: Se0 MLP: Request add link to bundle
Dec 11 19:41:30.243: **Se0 MLP: Adding link to bundle**
Dec 11 19:41:30.255: **Vi1 MLP: VP: Clone from Vtemplate 1 block=1**

```
Dec 11 19:41:30.299: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Dec 11 19:41:30.299: Vi1 MLP: Added first link Se0 to bundle RouterA
Dec 11 19:41:31.243: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0,
changed state to up
Dec 11 19:41:31.243: Se0 MLP: cdp packet forwarded to wrong interface
Dec 11 19:41:31.299: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Virtual-Access1, changed state to up
```

[相關資訊](#)

- [顯示呼叫方統計資訊](#)
- [多重連結PPP RFC 1717](#)
- [使用撥號程式配置檔案配置對等DDR](#)
- [WAN技術支援頁面](#)
- [技術支援 - Cisco Systems](#)