

Multilink via Virtual-Template sur deux interfaces série

Contenu

[Introduction](#)

[Conditions préalables](#)

[Conditions requises](#)

[Composants utilisés](#)

[Produits connexes](#)

[Conventions](#)

[Configurez](#)

[Diagramme du réseau](#)

[Configurations](#)

[Vérifiez](#)

[Exemple de sortie avec show](#)

[Dépannez](#)

[Dépannage des ressources](#)

[Dépannage des commandes](#)

[Exemple de sortie de débogage](#)

[Informations connexes](#)

[Introduction](#)

Le PPP à liaisons multiples (MLP) équilibre le chargement au-dessus des interfaces de numérotation, telles que le RNIS, synchrone, et les interfaces asynchrones. MLP sépare des paquets et envoie les fragments au-dessus des circuits parallèles. De cette façon, MLP améliore le débit et réduit la latence entre les systèmes. MLP fournit une méthode pour séparer, recombinaison, et des datagrammes d'ordre à travers de plusieurs liaisons de données logiques. MLP permet à des paquets pour fragmenter, et aux fragments à envoyer en même temps au-dessus de plusieurs liens point par point à la même adresse distante.

Ce document montre une connexion multiliason entre les interfaces série par la configuration de modèle virtuel.

[Conditions préalables](#)

[Conditions requises](#)

Aucune spécification déterminée n'est requise pour ce document.

[Composants utilisés](#)

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

- Version de logiciel 11.2 ou ultérieures de Cisco IOS®.
- Deux Routeur Cisco 2503, qui ont deux interfaces série WAN chacune. Ces Logiciel Cisco IOS version 12.2(7b) de passage de Routeurs.

Les informations contenues dans ce document ont été créées à partir des périphériques d'un environnement de laboratoire spécifique. Tous les périphériques utilisés dans ce document ont démarré avec une configuration effacée (par défaut). Si votre réseau est opérationnel, assurez-vous que vous comprenez l'effet potentiel de toute commande.

Produits connexes

Cette configuration peut également être utilisée avec des ces matériel et versions de logiciel.

- Deux Routeurs quelconques qui ont deux interfaces série WAN. Vous pouvez utiliser WIC-1T, WIC-2T et interfaces série WAN fixes.

Conventions

Pour plus d'informations sur les conventions utilisées dans ce document, reportez-vous à [Conventions relatives aux conseils techniques Cisco](#).

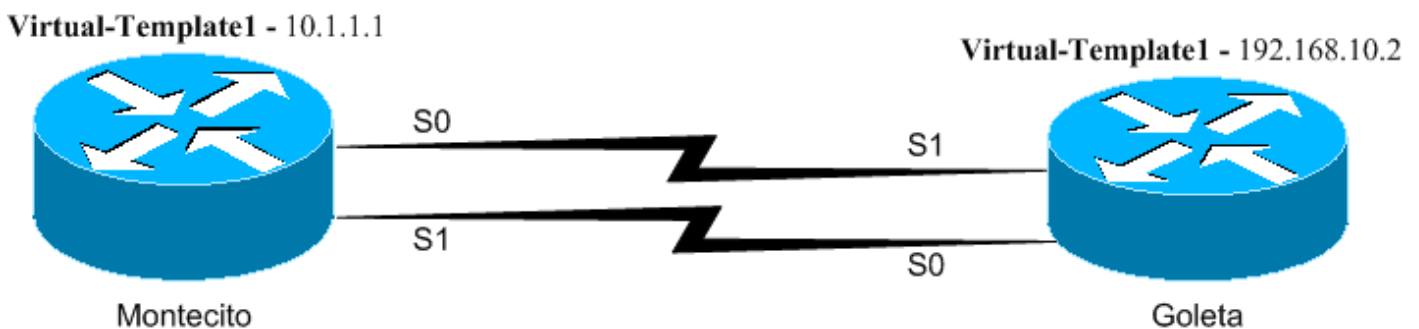
Configurez

Cette section vous fournit des informations pour configurer les fonctionnalités décrites dans ce document.

Remarque: Utilisez l'outil [Command Lookup Tool](#) (clients [enregistrés](#) seulement) pour trouver plus d'informations sur les commandes utilisées dans ce document.

Diagramme du réseau

Ce document utilise la configuration réseau suivante :



Les Routeurs Montecito et Goleta sont les interfaces traversantes dos à dos connectées Serial0 et Serial1. Cette configuration utilise un virtual-template sur chaque côté, Protocole point à point (PPP) de Multilien, et passerelles et conduit l'IP et l'IPX entre les Routeurs.

Configurations

Ce document utilise les configurations suivantes :

- [Montecito](#)
- [Goleta](#)

Montecito

```
Montecito#write terminal Building configuration...
Current configuration : 945 bytes ! version 12.2 service
timestamps debug uptime service timestamps log uptime no
service password-encryption ! hostname Montecito ! boot
system flash c2500-d-1.122-7b.bin no logging buffered !
ip subnet-zero no ip domain-lookup ! ! multilink
virtual-template 1 !--- Applies the virtual interface
template to the multilink bundle. !--- All multilink
calls have virtual-access interfaces cloned !--- from
virtual-template 1. ! ipx routing 0000.0c31.aac2 !
interface Loopback0 ip address 10.1.1.1 255.0.0.0 ipx
network BEEF ! interface Ethernet0 no ip address
shutdown ! ! !--- Virtual-template is a logical
interface that creates virtual access !--- interfaces
dynamically, and applies them to physical serial
interfaces. interface Virtual-Template1 !--- Assumes the
IP & IPX address of Loopback0. ip unnumbered Loopback0
ipx ppp-client Loopback0 ppp multilink !--- Enables
Multilink PPP on the interface. bridge-group 1 !
interface Serial0 no ip address encapsulation ppp no ip
route-cache no ip mroute-cache no fair-queue !---
Enables Multilink PPP on the interface. ppp multilink !
interface Serial1 no ip address encapsulation ppp no ip
route-cache no ip mroute-cache no fair-queue !---
Enables Multilink PPP on the interface. ppp multilink !
interface BRI0 no ip address shutdown ! no ip classless
! bridge 1 protocol ieee ! line con 0 line aux 0 line
vty 0 4 login ! end
```

Goleta

```
Goleta#write terminal Building configuration... Current
configuration : 960 bytes version 12.2 service
timestamps debug uptime service timestamps log uptime no
service password-encryption ! hostname Goleta ! ! ip
subnet-zero no ip domain-lookup ! ! !--- Applies the
virtual interface template to the multilink bundle. !---
Skip this step for ISDN or dialer interfaces. multilink
virtual-template 1 ipx routing 0000.0c47.4e9a ! ! !
interface Loopback0 ip address 192.168.10.2
255.255.255.0 ipx network BEEF ! interface Ethernet0 no
ip address shutdown ! !--- Virtual-template is a logical
interface that Creates virtual access !--- interfaces
dynamically and applies them to physical serial
interfaces. interface Virtual-Template1 !--- Assumes the
IP & IPX address of Loopback0. ip unnumbered Loopback0
ipx ppp-client Loopback0 ! !--- Enables Multilink PPP on
the interface. ppp multilink bridge-group 1 ! interface
Serial0 no ip address encapsulation ppp no fair-queue
clockrate 1000000 ! !--- Enables Multilink PPP on the
interface. ppp multilink ! interface Serial1 no ip
address encapsulation ppp no fair-queue clockrate
1000000 ! !--- Enables Multilink PPP on the interface.
ppp multilink ! interface BRI0 no ip address shutdown !
ip classless ! bridge 1 protocol ieee ! line con 0 line
aux 0 line vty 0 4 ! end
```

Vérifiez

Référez-vous à cette section pour vous assurer du bon fonctionnement de votre configuration.

L'[Outil Interpréteur de sortie](#) (clients [enregistrés](#) uniquement) (OIT) prend en charge certaines commandes **show**. Utilisez l'OIT pour afficher une analyse de la sortie de la commande **show**.

- **show ppp multilink** — affiche des informations sur les ensembles multiliasons qui sont en activité. Utilisez cette commande de vérifier la connexion multiliason.
- **affichez l'interface virtuel-Access** — état, données de trafic, et informations de configuration d'affichages au sujet d'une interface d'accès virtuelle spécifique.
- **affichez l'interface série d'interface** — te permet de dépanner tous les problèmes avec l'interface série

Exemple de sortie avec show

des commandes show sur Montecito après la connexion est faites

```
Montecito#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 (10.1.1.1) MTU 1500
bytes, BW 3088 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: BRIDGECP, IPCP, IPXCP Last input 00:00:00, output never, output
hang never Last clearing of "show interface" counters 00:02:09 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 22 packets input, 743 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 8 packets output, 124
bytes, 0 underruns 0 output errors, 0 collisions, 0 interface resets 0 output buffer failures, 0
output buffers swapped out 0 carrier transitions Montecito#show interface serial 0 Serial0 is
up, line protocol is up Hardware is HD64570 MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255 Encapsulation PPP, loopback not set Keepalive
set (10 sec) LCP Open, multilink Open Last input 00:00:00, output 00:00:06, output hang never
Last clearing of "show interface" counters 02:04:30 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 3320 packets input, 107170 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 1483 packets
output, 24622 bytes, 0 underruns 0 output errors, 0 collisions, 6 interface resets 0 output
buffer failures, 0 output buffers swapped out 8 carrier transitions DCD=up DSR=up DTR=up RTS=up
CTS=up Montecito#show interface serial 1 Serial1 is up, line protocol is up Hardware is HD64570
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set Keepalive set (10 sec) LCP Open, multilink Open Last input
00:00:00, output 00:00:00, output hang never Last clearing of "show interface" counters 02:04:32
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 3320 packets input, 107161 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 1482
packets output, 24646 bytes, 0 underruns 0 output errors, 0 collisions, 6 interface resets 0
output buffer failures, 0 output buffers swapped out 8 carrier transitions DCD=up DSR=up DTR=up
RTS=up CTS=up Montecito#show ppp multilink Virtual-Access1, bundle name is Goleta Bundle up for
00:01:39 0 lost fragments, 0 reordered, 0 unassigned 0 discarded, 0 lost received, 1/255 load
0x3D received sequence, 0xB sent sequence Member links: 2 (max not set, min not set) Serial1,
since 00:01:40, last rcvd seq 00003C Serial0, since 00:01:39, last rcvd seq 00003B
Montecito#show bridge group Bridge Group 1 is running the IEEE compatible Spanning Tree protocol
Port 10 (Virtual-Access1) of bridge group 1 is forwarding Port 9 (Virtual-Template1) of bridge
group 1 is down Montecito#
```

[des commandes show sur Goleta après la connexion est faites](#)

```
Goleta#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 (192.168.10.2) MTU
1500 bytes, BW 3088 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: BRIDGECP, IPCP, IPXCP Last input 00:00:10, output never, output
hang never Last clearing of "show interface" counters 00:02:18 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 4 packets input, 52 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 28 packets output, 892
bytes, 0 underruns 0 output errors, 0 collisions, 0 interface resets 0 output buffer failures, 0
output buffers swapped out 0 carrier transitions Goleta#show interface serial 0 Serial0 is up,
line protocol is up Hardware is HD64570 MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255 Encapsulation PPP, loopback not set Keepalive
set (10 sec) LCP Open, multilink Open Last input 01:52:28, output 00:00:00, output hang never
Last clearing of "show interface" counters 02:55:09 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 2364 packets input, 41972 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 4465 packets
output, 134689 bytes, 0 underruns 0 output errors, 0 collisions, 148 interface resets 0 output
buffer failures, 0 output buffers swapped out 294 carrier transitions DCD=up DSR=up DTR=up
RTS=up CTS=up Goleta#show interface serial 1 Serial1 is up, line protocol is up Hardware is
HD64570 MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, reliability 255/255, txload 1/255, rxload
1/255 Encapsulation PPP, loopback not set Keepalive set (10 sec) LCP Open, multilink Open Last
input 01:52:38, output 00:00:00, output hang never Last clearing of "show interface" counters
02:55:18 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 2366 packets input, 42030 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 4472 packets output, 134930 bytes, 0 underruns 0 output errors, 0 collisions,
147 interface resets 0 output buffer failures, 0 output buffers swapped out 289 carrier
transitions DCD=up DSR=up DTR=up RTS=up CTS=up Goleta#sh ppp multilink Virtual-Access1, bundle
name is Montecito Bundle up for 00:01:35 0 lost fragments, 0 reordered, 0 unassigned 0
discarded, 0 lost received, 1/255 load 0xB received sequence, 0x3B sent sequence Member links: 2
(max not set, min not set) Serial0, since 00:01:36, last rcvd seq 00000A Serial1, since
00:01:35, last rcvd seq 000009 Goleta#show bridge group Bridge Group 1 is running the IEEE
compatible Spanning Tree protocol Port 10 (Virtual-Access1) of bridge group 1 is forwarding Port
9 (Virtual-Templat1) of bridge group 1 is down
```

[Dépannez](#)

Utilisez cette section pour dépanner votre configuration.

[Dépannage des ressources](#)

Utilisez ces ressources en dépannage au besoin :

- [Dépannage des problèmes de ligne série](#)
- [Connexions dos à dos HDLC](#)
- Dépannage des lignes louées

[Dépannage des commandes](#)

L'[Outil Interpréteur de sortie](#) (clients [enregistrés](#) uniquement) (OIT) prend en charge certaines commandes **show**. Utilisez l'OIT pour afficher une analyse de la sortie de la commande **show**.

Remarque: Référez-vous aux [informations importantes sur les commandes de débogage](#) avant d'utiliser les commandes de débogage.

- **debug ppp negotiation** — indique si un client passe la négociation PPP. Vérifie également la négociation d'adresse.
- **debug ppp authentication** — indique si un client passe l'authentification. Utilisez cette commande si vous utilisez le Logiciel Cisco IOS version 11.2 ou les versions ultérieures.
- **debug ppp chap** — indique si un client passe l'authentification. Utilisez cette commande si vous utilisez une version logicielle de Cisco IOS plus tôt que la version 11.2.
- **debug ppp error** — erreurs de protocole et statistiques sur les erreurs d'affichages associées avec la négociation et l'exécution de connexion PPP.
- **debug vtemplate** — te permet de voir quelles configurations de modèle virtuel sont utilisées.
- **mettez au point vprofile** — te permet de voir quelles options de configuration sont appliquées à l'interface d'accès virtuel.

Exemple de sortie de débogage

Voici quelques sorties de débogage pour des appels réussis. Prêtez l'attention aux sections dans la police **grasse**. Comparez la sortie que vous obtenez avec le résultat affiché ici :

Le PPP met au point sur Montecito

```
Montecito#debug ppp negotiation PPP protocol negotiation debugging is on Montecito# 00:07:30:
%LINK-3-UPDOWN: Interface Serial1, changed state to up 00:07:30: Se1 PPP: Treating connection as
a dedicated line 00:07:30: Se1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 2 load]
00:07:30: Se1 LCP: O CONFREQ [Closed] id 4 len 26 00:07:30: Se1 LCP: MagicNumber 0x6063D57E
(0x05066063D57E) 00:07:30: Se1 LCP: MRRU 1524 (0x110405F4) 00:07:30: Se1 LCP: EndpointDisc 1
Montecito (0x130C014D6F6E74656369746F) 00:07:30: Se1 LCP: I CONFREQ [REQsent] id 101 len 23
00:07:30: Se1 LCP: MagicNumber 0x60944B81 (0x050660944B81) 00:07:30: Se1 LCP: MRRU 1524
(0x110405F4) 00:07:30: Se1 LCP: EndpointDisc 1 Goleta (0x130901476F6C657461) 00:07:30: Se1 LCP:
O CONFACK [REQsent] id 101 len 23 00:07:30: Se1 LCP: MagicNumber 0x60944B81 (0x050660944B81)
00:07:30: Se1 LCP: MRRU 1524 (0x110405F4) 00:07:30: Se1 LCP: EndpointDisc 1 Goleta
(0x130901476F6C657461) 00:07:30: Se1 LCP: I CONFACK [ACKsent] id 4 len 26 00:07:30: Se1 LCP:
MagicNumber 0x6063D57E (0x05066063D57E) 00:07:30: Se1 LCP: MRRU 1524 (0x110405F4) 00:07:30: Se1
LCP: EndpointDisc 1 Montecito (0x130C014D6F6E74656369746F) 00:07:30: Se1 LCP: State is Open
00:07:30: Se1 PPP: Phase is VIRTUALIZED [0 sess, 1 load] 00:07:31: Vi1 PPP: Phase is DOWN, Setup
[0 sess, 0 load] 00:07:31: Vi1 PPP: Phase is ESTABLISHING [0 sess, 0 load] 00:07:31: %LINK-3-
UPDOWN: Interface Serial0, changed state to up 00:07:31: Se0 PPP: Treating connection as a
dedicated line 00:07:31: Se0 PPP: Phase is ESTABLISHING, Active Open [0 sess, 0 load] 00:07:31:
Se0 LCP: O CONFREQ [Closed] id 4 len 26 00:07:31: Se0 LCP: MagicNumber 0x6063D8DC
(0x05066063D8DC) 00:07:31: Se0 LCP: MRRU 1524 (0x110405F4) 00:07:31: Se0 LCP: EndpointDisc 1
Montecito (0x130C014D6F6E74656369746F) 00:07:31: %LINK-3-UPDOWN: Interface Virtual-Access1,
changed state to up 00:07:31: Vi1 PPP: Treating connection as a dedicated line 00:07:31: Vi1
LCP: O CONFREQ [Closed] id 1 len 26 00:07:31: Vi1 LCP: MagicNumber 0x6063D8F9 (0x05066063D8F9)
00:07:31: Vi1 LCP: MRRU 1524 (0x110405F4) 00:07:31: Vi1 LCP: EndpointDisc 1 Montecito
(0x130C014D6F6E74656369746F) 00:07:31: Vi1 PPP: Phase is UP [0 sess, 0 load] 00:07:31: Vi1 BNCP:
O CONFREQ [Closed] id 1 len 4 00:07:31: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10 00:07:31: Vi1
IPCP: Address 10.1.1.1 (0x03060A010101) 00:07:31: Vi1 IPXCP: O CONFREQ [Closed] id 1 len 18
00:07:31: Vi1 IPXCP: Network 0x0000BEEF (0x01060000BEEF) 00:07:31: Vi1 IPXCP: Node
0000.0c31.aac2 (0x020800000C31AAC2) 00:07:31: Vi1 MLP: Added first link Se1 to bundle Goleta
00:07:31: Se0 LCP: I CONFREQ [REQsent] id 101 len 23 00:07:31: Se0 LCP: MagicNumber 0x60944EF7
(0x050660944EF7) 00:07:31: Se0 LCP: MRRU 1524 (0x110405F4) 00:07:31: Se0 LCP: EndpointDisc 1
Goleta (0x130901476F6C657461) 00:07:31: Se0 LCP: O CONFACK [REQsent] id 101 len 23 00:07:31: Se0
LCP: MagicNumber 0x60944EF7 (0x050660944EF7) 00:07:31: Se0 LCP: MRRU 1524 (0x110405F4) 00:07:31:
Se0 LCP: EndpointDisc 1 Goleta (0x130901476F6C657461) 00:07:31: Se1 BNCP: MLP bundle interface
is built, process packets now 00:07:31: Se1 BNCP: Redirect packet to Vi1 00:07:31: Vi1 BNCP: I
CONFREQ [REQsent] id 1 len 4 00:07:31: Vi1 BNCP: O CONFACK [REQsent] id 1 len 4 00:07:31: Vi1
```

```
IPCP: I CONFREQ [REQsent] id 1 len 10 00:07:31: Vi1 IPCP: Address 192.168.10.2 (0x0306C0A80A02)
00:07:31: Vi1 IPCP: O CONFACK [REQsent] id 1 len 10 00:07:31: Vi1 IPCP: Address 192.168.10.2
(0x0306C0A80A02) 00:07:31: Vi1 IPXCP: I CONFREQ [REQsent] id 1 len 18 00:07:31: Vi1 IPXCP:
Network 0x0000BEEF (0x01060000BEEF) 00:07:31: Vi1 IPXCP: Node 0000.0c47.4e9a
(0x020800000C474E9A) 00:07:31: Vi1 IPXCP: O CONFACK [REQsent] id 1 len 18 00:07:31: Vi1 IPXCP:
Network 0x0000BEEF (0x01060000BEEF) 00:07:31: Vi1 IPXCP: Node 0000.0c47.4e9a
(0x020800000C474E9A) 00:07:31: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1, changed
state to up 00:07:31: Se0 LCP: I CONFACK [ACKsent] id 4 len 26 00:07:31: Se0 LCP: MagicNumber
0x6063D8DC (0x05066063D8DC) 00:07:31: Se0 LCP: MRRU 1524 (0x110405F4) 00:07:31: Se0 LCP:
EndpointDisc 1 Montecito (0x130C014D6F6E74656369746F) 00:07:31: Se0 LCP: State is Open 00:07:31:
Se0 PPP: Phase is VIRTUALIZED [0 sess, 2 load] 00:07:31: Vi1 MLP: Added link Se0 to bundle
Goleta 00:07:31: Vi1 BNCP: I CONFACK [ACKsent] id 1 len 4 00:07:31: Vi1 BNCP: State is Open
00:07:31: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10 00:07:31: Vi1 IPCP: Address 10.1.1.1
(0x03060A010101) 00:07:31: Vi1 IPCP: State is Open 00:07:31: Vi1 IPXCP: I CONFACK [ACKsent] id 1
len 18 00:07:31: Vi1 IPXCP: Network 0x0000BEEF (0x01060000BEEF) 00:07:31: Vi1 IPXCP: Node
0000.0c31.aac2 (0x020800000C31AAC2) 00:07:31: Vi1 IPXCP: State is Open 00:07:31: Vi1 IPCP:
Install route to 192.168.10.2 00:07:32: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-
Access1, changed state to up 00:07:32: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0,
changed state to up Montecito# Montecito#ping 192.168.10.2 Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.2, timeout is 2 seconds: !!!!! Success rate is 100
percent (5/5), round-trip min/avg/max = 8/9/12 ms Montecito#ping ipx Target IPX address:
BEEF.0000.0c47.4e9a Repeat count [5]: Datagram size [100]: Timeout in seconds [2]: Verbose [n]:
Type escape sequence to abort. Sending 5, 100-byte IPX Novell Echoes to BEEF.0000.0c47.4e9a,
timeout is 2 seconds: !!!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 8/10/12
ms Montecito#
```

[Le PPP met au point sur Goleta](#)

```
Goleta#debug ppp negotiation PPP protocol negotiation debugging is on Goleta# 01:00:26: Se0 PPP:
Treating connection as a dedicated line 01:00:26: Se0 PPP: Phase is ESTABLISHING, Active Open [0
sess, 0 load] 01:00:26: Se0 LCP: O CONFREQ [Closed] id 101 len 23 01:00:26: Se0 LCP: MagicNumber
0x60944B81 (0x050660944B81) 01:00:26: Se0 LCP: MRRU 1524 (0x110405F4) 01:00:26: Se0 LCP:
EndpointDisc 1 Goleta (0x130901476F6C657461) 01:00:26: Se0 LCP: I CONFREQ [REQsent] id 4 len 26
01:00:26: Se0 LCP: MagicNumber 0x6063D57E (0x05066063D57E) 01:00:26: Se0 LCP: MRRU 1524
(0x110405F4) 01:00:26: Se0 LCP: EndpointDisc 1 Montecito (0x130C014D6F6E74656369746F) 01:00:26:
Se0 LCP: O CONFACK [REQsent] id 4 len 26 01:00:26: Se0 LCP: MagicNumber 0x6063D57E
(0x05066063D57E) 01:00:26: Se0 LCP: MRRU 1524 (0x110405F4) 01:00:26: Se0 LCP: EndpointDisc 1
Montecito (0x130C014D6F6E74656369746F) 01:00:26: Se0 LCP: I CONFACK [ACKsent] id 101 len 23
01:00:26: Se0 LCP: MagicNumber 0x60944B81 (0x050660944B81) 01:00:26: Se0 LCP: MRRU 1524
(0x110405F4) 01:00:26: Se0 LCP: EndpointDisc 1 Goleta (0x130901476F6C657461) 01:00:26: Se0 LCP:
State is Open 01:00:26: Se0 PPP: Phase is VIRTUALIZED [0 sess, 0 load] 01:00:26: Vi1 PPP: Phase
is DOWN, Setup [0 sess, 0 load] 01:00:26: Vi1 PPP: Phase is ESTABLISHING [0 sess, 0 load]
01:00:27: %LINK-3-UPDOWN: Interface Serial1, changed state to up 01:00:27: Se1 PPP: Treating
connection as a dedicated line 01:00:27: Se1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 0
load] 01:00:27: Se1 LCP: O CONFREQ [Closed] id 101 len 23 01:00:27: Se1 LCP: MagicNumber
0x60944EF7 (0x050660944EF7) 01:00:27: Se1 LCP: MRRU 1524 (0x110405F4) 01:00:27: Se1 LCP:
EndpointDisc 1 Goleta (0x130901476F6C657461) 01:00:27: %LINK-3-UPDOWN: Interface Virtual-
Access1, changed state to up 01:00:27: Vi1 PPP: Treating connection as a dedicated line
01:00:27: Vi1 LCP: O CONFREQ [Closed] id 1 len 23 01:00:27: Vi1 LCP: MagicNumber 0x60944F10
(0x050660944F10) 01:00:27: Vi1 LCP: MRRU 1524 (0x110405F4) 01:00:27: Vi1 LCP: EndpointDisc 1
Goleta (0x130901476F6C657461) 01:00:27: Vi1 PPP: Phase is UP [0 sess, 0 load] 01:00:27: Vi1
BNCP: O CONFREQ [Closed] id 1 len 4 01:00:27: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10 01:00:27:
Vi1 IPCP: Address 192.168.10.2 (0x0306C0A80A02) 01:00:27: Vi1 IPXCP: O CONFREQ [Closed] id 1 len
18 01:00:27: Vi1 IPXCP: Network 0x0000BEEF (0x01060000BEEF) 01:00:27: Vi1 IPXCP: Node
0000.0c47.4e9a (0x020800000C474E9A) 01:00:27: Vi1 MLP: Added first link Se0 to bundle Montecito
01:00:27: Se1 LCP: I CONFREQ [REQsent] id 4 len 26 01:00:27: Se1 LCP: MagicNumber 0x6063D8DC
(0x05066063D8DC) 01:00:27: Se1 LCP: MRRU 1524 (0x110405F4) 01:00:27: Se1 LCP: EndpointDisc 1
Montecito (0x130C014D6F6E74656369746F) 01:00:27: Se1 LCP: O CONFACK [REQsent] id 4 len 26
01:00:27: Se1 LCP: MagicNumber 0x6063D8DC (0x05066063D8DC) 01:00:27: Se1 LCP: MRRU 1524
(0x110405F4) 01:00:27: Se1 LCP: EndpointDisc 1 Montecito (0x130C014D6F6E74656369746F) 01:00:27:
Se0 BNCP: MLP bundle interface is built, process packets now 01:00:27: Se0 BNCP: Redirect packet
to Vi1 01:00:27: Vi1 BNCP: I CONFREQ [REQsent] id 1 len 4 01:00:27: Vi1 BNCP: O CONFACK
[REQsent] id 1 len 4 01:00:27: Se0 IPCP: MLP bundle interface is built, process packets now
```

```
01:00:27: Se0 IPCP: Redirect packet to Vi1 01:00:27: Vi1 IPCP: I CONFREQ [REQsent] id 1 len 10
01:00:27: Vi1 IPCP: Address 10.1.1.1 (0x03060A010101) 01:00:27: Vi1 IPCP: O CONFACK [REQsent] id
1 len 10 01:00:27: Vi1 IPCP: Address 10.1.1.1 (0x03060A010101) 01:00:27: Se0 IPXCP: MLP bundle
interface is built, process packets now 01:00:27: Se0 IPXCP: Redirect packet to Vi1 01:00:27:
Vi1 IPXCP: I CONFREQ [REQsent] id 1 len 18 01:00:27: Vi1 IPXCP: Network 0x0000BEEF
(0x01060000BEEF) 01:00:27: Vi1 IPXCP: Node 0000.0c31.aac2 (0x020800000C31AAC2) 01:00:27: Vi1
IPXCP: O CONFACK [REQsent] id 1 len 18 01:00:27: Vi1 IPXCP: Network 0x0000BEEF (0x01060000BEEF)
01:00:27: Vi1 IPXCP: Node 0000.0c31.aac2 (0x020800000C31AAC2) 01:00:27: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Serial0, changed state to up 01:00:27: Se1 LCP: I CONFACK [ACKsent]
id 101 len 23 01:00:27: Se1 LCP: MagicNumber 0x60944EF7 (0x050660944EF7) 01:00:27: Se1 LCP: MRRU
1524 (0x110405F4) 01:00:27: Se1 LCP: EndpointDisc 1 Goleta (0x130901476F6C657461) 01:00:27: Se1
LCP: State is Open 01:00:27: Se1 PPP: Phase is VIRTUALIZED [0 sess, 4 load] 01:00:27: Vi1 BNCP:
I CONFACK [ACKsent] id 1 len 4 01:00:27: Vi1 BNCP: State is Open 01:00:27: Vi1 MLP: Added link
Se1 to bundle Montecito 01:00:27: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10 01:00:27: Vi1 IPCP:
Address 192.168.10.2 (0x0306C0A80A02) 01:00:27: Vi1 IPCP: State is Open 01:00:27: Vi1 IPXCP: I
CONFACK [ACKsent] id 1 len 18 01:00:27: Vi1 IPXCP: Network 0x0000BEEF (0x01060000BEEF) 01:00:27:
Vi1 IPXCP: Node 0000.0c47.4e9a (0x020800000C474E9A) 01:00:27: Vi1 IPXCP: State is Open 01:00:27:
Vi1 IPCP: Install route to 10.1.1.1 01:00:28: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Virtual-Access1, changed state to up 01:00:28: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Serial1, changed state to up Goleta# Goleta#ping 10.1.1.1 Type escape sequence to abort. Sending
5, 100-byte ICMP Echos to 10.1.1.1, timeout is 2 seconds: !!!!! Success rate is 100 percent
(5/5), round-trip min/avg/max = 8/10/12 ms Goleta#ping ipx Target IPX address:
BEEF.0000.0c31.aac2 Repeat count [5]: Datagram size [100]: Timeout in seconds [2]: Verbose [n]:
Type escape sequence to abort. Sending 5, 100-byte IPX Novell Echoes to BEEF.0000.0c31.aac2,
timeout is 2 seconds: !!!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 8/10/12
ms
```

[Informations connexes](#)

- [Accès aux pages d'assistance technologique](#)
- [Support et documentation techniques - Cisco Systems](#)