

VPDN) ةيره اظلا ةصاخلا لاصتالا ةكبش ةصاخلا L2TP لوكوتوربل ةيساسألا سمتلملاو يففاهلا لىصوتلل

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ةمدقملا

بلطو يففاه لاصتالا (L2TP) لوكوتوربل tunneling 2 ةقبطل لىكشت ةنيع ةقيثو اذه دورى
جراخ.

(AAA) ةبساملاو ضيوفتلاو ةقداصملا مداخ دادعإلا اذه نمضتلا ال :ةظحالم

ةيساسألا تابلطتملا

تابلطتملا

دنتسملا اذهل ةصاخ تابلطتم دجوت ال

ةمدختسملا تانوكملا

12.1 رادصإلا، Cisco IOS® Software جم انرب لىل دنتسملا اذه يف ةدراولا تامولعمل دنتست

ةصاخ ةي لمعم ةئيب يف ةدوجوملا ةزهجالا نم دنتسملا اذه يف ةدراولا تامولعمل عاشنإ مت
تناك اذا. (يضارتفا) حوسمم نيوكتب دنتسملا اذه يف ةمدختسملا ةزهجالا عيجم تادب
رما يأل لم تحملا ريثأتلل كمهف نم دكأتف، ةرشابم كتكبش

تاحالطصالا

تاحيملت تاحالطصا | عجرا ، تادنتسملا تاحالطصا لوح تامولعمل نم ديزم يلع لوصحلل
ةينقتل Cisco.

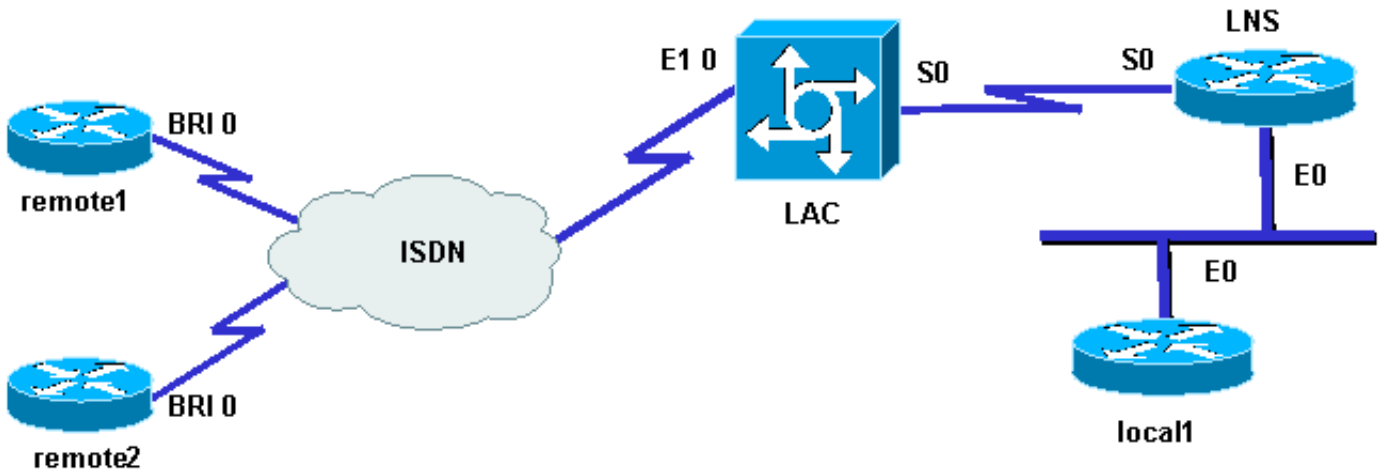
نيوكتلا

دنتسملا اذه يف ةحضورملا تازيمل نيوكت تامولعمل كل مّدقت ، مسقلا اذه يف

قادأ مدختسأ ، دنتسملا اذه يف ةمدختسملا رماوأل لوح ةيفاضا تامولعمل يلع روثعلل : ةظحالم
(طقف نيلاجسملا [المعلل](#)) [رماوأل شحب](#)

ةكبش لل يطيختلا مسرلا

يالاتلا ةكبشلا دادعإ دنتسملا اذه مدختسي



تانيوكتلا

يالاتلا تانيوكتلا دنتسملا اذه مدختسي

• remote1: هجوملا

loopback0: 17.17.17.1/32 username: remote1@cisco.com مقرر ISDN (BRI 0): 6122

• 2: ديعبلا هيحوتلا زاهج

• remote2@cisco.com: مدختسملا مسا 17.17.17.2/32: عاچرتسالا

• هجوملاب (LAC) طئاسولل لوصولا يف مكحتلا ةدحو

ISDN (E1 0): 8211 ةيلسلسلتلا ةهجالا: مقرر ISDN (E1 0): 18.18.18.1/32: عاچرتسالا
18.18.18.6/30

• LNS: هجوملا

18.18.18.5/30 (E0) تنرثي ةهجاو (S0) 18.18.18.2/32 ةيلسلسلتلا ةهجاو: عاجرتسالا
10.200.20.24/24

• 1: يلحملا هجوملا

10.200.20.32/24 (E0): 17.17.17.3/32 تنرثي ةهجاو: عاجرتسالا

زكرم ىلى لوصولل ISDN و remote1@cisco.com و remote2@cisco.com ناهجوملا مدختسي
ةكبش مداخو LAC فلخال ىلى فلخال نم يلسلسلت طابترا طبري. L2TP ل (LAC) لوصول
تنرثيالا طابترا في LNS هجوملاو 1 يلحملا هجوملا كراشتي. دادعالا اذه في L2TP نم (LNS)
هسفن

ةيلعمللا مكيلوا

1. ليلعمللا موقبي 1. يلحملا هجوملاب لاصلتالا remote1@cisco.com ليلعمللا دي ري: L2TP لاصلتالا
L2TP ةسلا مث لNS لىلى L2TP قفن بلجي يذلاو، LAC لىلى ISDN اعادتسا عاشناب
دعب نع نيلمدختسلا لNS قداصي. LNS عم قفنلا راهظال لاجملا مسا LAC مدختسي
ايلحم.

2. remote2@cisco.com. دي ليلعمللاب لاصلتالا 1 يلحملا هجوملا دي ري: L2TP لاصلتالا
ةديج L2TP ةسلا لىلى LNS و LAC عم دوجوملا قفنلا لNS مدختسي.

ةلصللا تاذا تاملعمللا ضرعل تانيوكتلا هذه عاطتقا متي: ةظحالم

```
كالا
hostname LAC
!
!
ip subnet-zero
no ip domain-lookup
!
vpdn enable
no vpdn logging
vpdn search-order domain

!--- VPDN tunnel authorization is based on the domain only.

!
vpdn-group 1
request-dialin

!--- Enables the LAC to make requests to the LNS for dialin.

protocol l2tp
domain cisco.com
accept-dialout

!--- Enables the LAC to accept requests from the LNS for dialout.

protocol l2tp
dialer 1

!--- Specifies the dialer used to dial out.
```

```
        terminate-from hostname LNS
        initiate-to ip 18.18.18.2
            local name LAC
l2tp tunnel password l2tptunnel
        source-ip 18.18.18.1
        !
        isdn switch-type primary-net5
        !
        !
        controller E1 0
        clock source line primary
        pri-group timeslots 1-31
        !
        interface Loopback0
ip address 18.18.18.1 255.255.255.255
        !
        interface Ethernet0
ip address 10.200.20.34 255.255.255.0
        no ip route-cache
        no ip mroute-cache
        no cdp enable
        !
        !
        interface Serial0
        description -- Connection to the LNS
ip address 18.18.18.6 255.255.255.252
        no fair-queue
        clockrate 64000
        no cdp enable
        !
        interface Serial0:15
        no ip address
        encapsulation ppp
        dialer rotary-group 1
        isdn switch-type primary-net5
        no cdp enable
        ppp authentication chap
        ppp chap hostname LAC
        !
        interface Dialer1
ip unnumbered Loopback0
        encapsulation ppp
        dialer in-band
        dialer aaa
```

!--- L2TP dialout functionality requires this command even if you do not use AAA.

```
        dialer-group 1
        no cdp enable
        ppp authentication chap
        ppp chap hostname LAC
        ppp chap password 7 1511021F0725
        !
        no ip http server
        ip classless
ip route 18.18.18.2 255.255.255.255 18.18.18.5
        !
        dialer-list 1 protocol ip permit
        no cdp run
```

LNS

```
hostname LNS
!  
vpdn enable  
vpdn-group 1  
accept-dialin
```

!--- Enables the LNS to accept request from the LAC for dialin.

```
protocol l2tp  
virtual-template 1
```

!--- For each user, a virtual-access is cloned from this virtual-template.

```
request-dialout
```

!--- Enables the LNS to request the LAC for dialout.

```
protocol l2tp  
pool-member 1
```

!--- Specifies the dialer profile to be used to dial out.

```
terminate-from hostname LAC  
initiate-to ip 18.18.18.1  
local name LNS  
l2tp tunnel password l2tptunnel  
source-ip 18.18.18.2
```

```
!  
!  
interface Loopback0  
ip address 18.18.18.2 255.255.255.255
```

```
!  
interface Ethernet0  
ip address 10.200.20.24 255.255.255.0  
no ip route-cache  
no ip mroute-cache
```

```
!  
interface Virtual-Template1  
ip unnumbered Loopback0  
no peer default ip address  
ppp chap hostname LNS
```

```
!  
interface Serial0  
description -- Connection to the LAC  
ip address 18.18.18.5 255.255.255.252  
no ip route-cache  
no ip mroute-cache
```

```
!  
interface Dialer1
```

!--- For each user, a dialer profile is configured.

```
ip unnumbered Loopback0  
encapsulation ppp  
dialer pool 1
```

!--- "dialer pool 1" must match "pool-member 1" in the VPDN-group.

```

dialer remote-name remote1@cisco.com
dialer string 6122

!--- ISDN number that the LAC uses to dialout the remote client remote1@cisco.com.

dialer vpdn

!--- Enables the dialer profile to use L2TP dialout, and so place a VPDN call.

dialer-group 1
ppp authentication chap callin
ppp chap hostname LNS
!
interface Dialer2
ip unnumbered Loopback0
encapsulation ppp
dialer pool 1
dialer remote-name remote2@cisco.com
dialer string 6121
dialer vpdn
dialer-group 1
no cdp enable
ppp authentication chap callin
ppp chap hostname LNS
!
no ip http server
ip classless
ip route 10.200.16.26 255.255.255.255 10.200.20.1
ip route 17.17.17.1 255.255.255.255 Dialer1
ip route 17.17.17.2 255.255.255.255 Dialer2
ip route 17.17.17.3 255.255.255.255 10.200.20.32
ip route 18.18.18.1 255.255.255.255 18.18.18.6
!
dialer-list 1 protocol ip permit
no cdp run

```

ةحصل لا نم ققحت لا

ححص لكشب لمعي نيوكتلا نا نم دكأتلل اهمادختسا كنكمي تامولعم مسقلا اذه رفوي

يتلاو، (طوقف نولجس ملءالمعلا) جارخالا مچرتم ةادأ ةطساوب ضرعلا رماوأ ضعب معد متي
ضرعلا رما جارخالا لي لحت ضرع لك حيتت

- طشنلا (L2F) 2 ىوتس ملءهيجوت ةداعل لوكتورب قفن لوح تامولعم ضرعي—show vpdn (VPDN) ةيره اظلال ةصاخلا لاصتالا ةكبش يف لئاسرلا تافرعمو

<#root>

LAC#

show debug

Dial on demand:
Dial on demand events debugging is on

```
VPN:
L2X protocol events debugging is on
  VPDN events debugging is on
  PPP:
    PPP authentication debugging is on
  PPP protocol negotiation debugging is on
  ISDN:
    ISDN events debugging is on

ISDN events debug DSLs. (On/Off/No DSL:1/0/-)
DSL 0 --> 1
      1 -

LNS#

show debug
```

```
Dial on demand:
Dial on demand events debugging is on
  VPN:
    L2X protocol events debugging is on
    VPDN events debugging is on
    PPP:
      PPP authentication debugging is on
    PPP protocol negotiation debugging is on
  VTEMPLATE:
    Virtual Template debugging is on
```

ققحتلا

يفتاه بلط

1. يلحمل ا هجوم لاب ةملاك م ادب remote1@cisco.com هجوم لا موقى

LAC#

مكحتلا ةقطنم يف ISDN اءءءس ا متى

```
Sep 29 02:25:42.923: ISDN Se0:15: Incoming call id = 0x011B, ds1 0
Sep 29 02:25:42.927: Negotiated CCB->int_id 0 B-chan 0, req->int_id 0, B-chan 18
      Sep 29 02:25:42.931: CCPRI_ReleaseChan CCB->B_Chan zero
      Sep 29 02:25:42.939: ISDN Se0:15: received CALL_INCOMING call_id 0x11B
Sep 29 02:25:42.939: ISDN Se0:15: CALL_INCOMING: call type is DATA , bchan = 17
      Sep 29 02:25:42.943: ISDN Se0:15: Event: Received a DATA call from 6122 on B17
      at 64 Kb/s
      Sep 29 02:25:42.947: ISDN Se0:15: RM returned call_type 0 resource type 0
      Sep 29 02:25:42.959: ISDN Se0:15: isdn_send_connect(): msg 74, call id 0x11B,
      ces 1 bchan 17, call type DATA
Sep 29 02:25:43.031: %LINK-3-UPDOWN: Interface Serial0:17, changed state to up
      Sep 29 02:25:43.059: Se0:17 PPP: Treating connection as a callin
      Sep 29 02:25:43.063: Se0:17 PPP: Phase is ESTABLISHING, Passive Open
```

```
Sep 29 02:25:43.067: Se0:17 LCP: State is Listen
Sep 29 02:25:43.127: ISDN Se0:15: received CALL_PROGRESSing call_id 0x11B
Sep 29 02:25:43.199: Se0:17 LCP: I CONFREQ [Listen] id 125 len 10
Sep 29 02:25:43.203: Se0:17 LCP: MagicNumber 0xEB818699 (0x0506EB818699)
Sep 29 02:25:43.207: Se0:17 LCP: O CONFREQ [Listen] id 7 len 15
Sep 29 02:25:43.211: Se0:17 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:25:43.215: Se0:17 LCP: MagicNumber 0x6BDE50CC (0x05066BDE50CC)
Sep 29 02:25:43.219: Se0:17 LCP: O CONFACK [Listen] id 125 len 10
Sep 29 02:25:43.223: Se0:17 LCP: MagicNumber 0xEB818699 (0x0506EB818699)
Sep 29 02:25:43.247: Se0:17 LCP: I CONFACK [ACKsent] id 7 len 15
Sep 29 02:25:43.251: Se0:17 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:25:43.255: Se0:17 LCP: MagicNumber 0x6BDE50CC (0x05066BDE50CC)
Sep 29 02:25:43.259: Se0:17 LCP: State is Open
Sep 29 02:25:43.259: Se0:17 PPP: Phase is AUTHENTICATING, by this end
```

CHAP لوكوتورب قي رط نع اي دحت نوبزل الى بي راكل او اي نيت الال الكيرم أة قطنم لسرتو

```
Sep 29 02:25:43.263: Se0:17 CHAP: Using alternate hostname LAC
Sep 29 02:25:43.267: Se0:17 CHAP: O CHALLENGE id 7 len 24 from "LAC"
```

ال اهنك لو CHAP لوكوتورب ربع ةباجتس اي بي راكل او اي نيت الال الكيرم أة قطنم يقلتت
ة قداصم ل اذي فنن ب LNS موق ي .مدختس م ل قداصت

```
Sep 29 02:25:43.295: Se0:17 CHAP: I RESPONSE id 7 len 38 from "remote1@cisco.com"
Sep 29 02:25:43.303: Se0:17 PPP: Phase is FORWARDING
Sep 29 02:25:43.303: Se0:17 VPDN: Got DNIS string 211
```

راهظ ال ةمزال ال تامول عمل ا عي مجت ب موق ي م ث ، ادوجوم "cisco.com" ل اجم ل ناك اذا ام LAC ققحتي
LNS عم قفن ل

```
Sep 29 02:25:43.307: Se0:17 VPDN: Looking for tunnel -- cisco.com --
Sep 29 02:25:43.347: Se0:17 VPDN/LAC/1: Got tunnel info for cisco.com
Sep 29 02:25:43.351: Se0:17 VPDN/LAC/1: LAC LAC
Sep 29 02:25:43.351: Se0:17 VPDN/LAC/1: source-ip 18.18.18.1
Sep 29 02:25:43.355: Se0:17 VPDN/LAC/1: l2tp-busy-disconnect yes
Sep 29 02:25:43.359: Se0:17 VPDN/LAC/1: l2tp-tunnel-password xxxxxx
Sep 29 02:25:43.359: Se0:17 VPDN/LAC/1: IP 18.18.18.2
Sep 29 02:25:43.371: Se0:17 VPDN/1: cur1v1 1 Address 0: 18.18.18.2, priority 1
Sep 29 02:25:43.375: Se0:17 VPDN/1: Select non-active address 18.18.18.2, priority 1
Sep 29 02:25:43.379: Tn1 45029 L2TP: SM State idle
```

LNS ل عم قفن ل ا ةئي هت ب LAC ل موق ي

```
Sep 29 02:25:43.383: Tn1 45029 L2TP: O SCCRQ
```



```

Sep 29 02:25:43.391: Tn1 45029 L2TP: Tunnel state change from idle to
wait-ctl-reply
Sep 29 02:25:43.395: Tn1 45029 L2TP: SM State wait-ctl-reply
Sep 29 02:25:43.399: Se0:17 VPDN: Find LNS process created
Sep 29 02:25:43.403: Se0:17 VPDN: Forward to address 18.18.18.2
Sep 29 02:25:43.403: Se0:17 VPDN: Pending
Sep 29 02:25:43.411: Se0:17 VPDN: Process created
Sep 29 02:25:43.463: Tn1 45029 L2TP: I SCCRP from LNS
Sep 29 02:25:43.467: Tn1 45029 L2TP: Got a challenge from remote peer, LNS
Sep 29 02:25:43.471: Tn1 45029 L2TP: Got a response from remote peer, LNS
Sep 29 02:25:43.475: Tn1 45029 L2TP: Tunnel Authentication success
Sep 29 02:25:43.479: Tn1 45029 L2TP: Tunnel state change from wait-ctl-reply
to established
Sep 29 02:25:43.483: Tn1 45029 L2TP: O SCCCN to LNS tn1id 11407
Sep 29 02:25:43.487: Tn1 45029 L2TP: SM State established
Sep 29 02:25:43.495: Se0:17 VPDN: Forwarding...
Sep 29 02:25:43.499: Se0:17 DDR: Authenticated host remote1@cisco.com with no
matching dialer map
Sep 29 02:25:43.503: Se0:17 VPDN: Bind interface direction=1
Sep 29 02:25:43.507: Tn1/C1 45029/291 L2TP: Session FS enabled
Sep 29 02:25:43.511: Tn1/C1 45029/291 L2TP: Session state change from idle to
wait-for-tunnel
Sep 29 02:25:43.515: Se0:17 Tn1/C1 45029/291 L2TP: Create session
Sep 29 02:25:43.519: Tn1 45029 L2TP: SM State established

```

() لمعت سمل اة سلج بي راكل رحب لة قطن موة ينيت الال الكيرم اة نجل ثدحت ست
remote1@cisco.com.

<#root>

```

Sep 29 02:25:43.523: Se0:17 Tn1/C1 45029/291 L2TP: O ICRQ to LNS 11407/0
Sep 29 02:25:43.531: Se0:17 Tn1/C1 45029/291 L2TP: Session state change from
wait-for-tunnel to wait-reply
Sep 29 02:25:43.535: Se0:17 VPDN: remote1@cisco.com is forwarded
Sep 29 02:25:43.635: Se0:17 Tn1/C1 45029/291 L2TP: O ICCN to LNS 11407/303
Sep 29 02:25:43.639: Se0:17 Tn1/C1 45029/291 L2TP: Session state change from
wait-reply to established
Sep 29 02:25:44.535: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0:17,
changed state to up
Sep 29 02:25:49.055: %ISDN-6-CONNECT: Interface Serial0:17 is now connected to
6122 remote1@cisco.com

```

LAC#

show vpdn

L2TP Tunnel and Session Information Total tunnels 1 sessions 1

LocID	RemID	Remote	Name	State	Remote	Address	Port	Sessions
	45029	11407	LNS	est	18.18.18.2	1701	1	

LocID	RemID	TunID	Intf	Username	State	Last	Chg	Fastswitch
291	303	45029	Se0:17	remote1@cisco.com	est	00:00:14		enabled

% No active L2F tunnels

يفتاه لاصتا

remote2@cisco.com هجوم لاصتا اب عملاكم ادبب 1 يلح مالا هجوم لاصتا موقوي

LAC#

دقع لجا نم ينطولا لاصتا الة رئا نم اب لطي بيبراك لاولا ويني تالالا الكيرم أة قطنم يقلت
عامت سالا لة دي دج ة سلج

```
Sep 29 02:26:19.479: Tn1 45029 L2TP: I OCRQ from LNS tn1 11407
Sep 29 02:26:19.483: Tn1/C1 45029/292 L2TP: Session FS enabled
Sep 29 02:26:19.487: Tn1/C1 45029/292 L2TP: New session created
Sep 29 02:26:19.491: 1D4C: Same state, 0
Sep 29 02:26:19.495: DSES 1D4C: Session create
Sep 29 02:26:19.499: L2TP: Send OCRP
Sep 29 02:26:19.503: Tn1/C1 45029/292 L2TP: Session state change from
idle to wait-cs-answer
```

6121 مقررلا اعادت سالا ISDN ةكبش بيبراك لاولا ويني تالالا الكيرم أة قطنم مدخت ستو

```
Sep 29 02:26:19.511: DSES 0x1D4C: Building dialer map
Sep 29 02:26:19.511: Dialout 0x1D4C: Next hop name is 6121
Sep 29 02:26:19.515: Se0:15 DDR: rotor dialout [priority]
Sep 29 02:26:19.519: Se0:15 DDR: Dialing cause dialer session 0x1D4C
Sep 29 02:26:19.523: Se0:15 DDR: Attempting to dial 6121
Sep 29 02:26:19.523: ISDN Se0:15: Outgoing call id = 0x8055, ds1 0
Sep 29 02:26:19.527: ISDN Se0:15: Event: Call to 6121 at 64 Kb/s
Sep 29 02:26:19.531: ISDN Se0:15: process_pri_call(): call id 0x8055,
number 6121, speed 64, call type DATA
Sep 29 02:26:19.539: building outgoing channel id for call nfas_int is 0 len is 0
Sep 29 02:26:19.623: ISDN Se0:15: received CALL_ACCEPT call_id 0x8055
Sep 29 02:26:19.623: ISDN Se0:15: PRI Event: CALL_ACCEPT, bchan = 30,
call type = DATA
Sep 29 02:26:20.043: ISDN Se0:15: received CALL_CONNECT call_id 0x8055
Sep 29 02:26:20.115: %LINK-3-UPDOWN: Interface Serial0:30, changed state to up
Sep 29 02:26:20.147: Di1: Session free, 1D4C
Sep 29 02:26:20.151: : 0 packets unqueued and discarded
Sep 29 02:26:20.155: Se0:30 VPDN: Bind interface direction=1
Sep 29 02:26:20.159: Se0:30 Tn1/C1 45029/292 L2TP: Session state change
from wait-cs-answer to established
Sep 29 02:26:20.163: L2TP: Send OCCN
```

ة سلج VPDN لجا عم se0:30 ة سلج isdn لجا LAC لجا ديقي

<#root>

```
Sep 29 02:26:20.167: Se0:30 VPDN: bound to vpdn session
Sep 29 02:26:20.175: ISDN Se0:15: received CALL_PROGRESSing call_id 0x8055
Sep 29 02:26:26.143: %ISDN-6-CONNECT: Interface Serial0:30 is now connected to 6121
LAC#
LAC#
```

show vpdn

L2TP Tunnel and Session Information Total tunnels 1 sessions 2

LocID	RemID	Remote Name	State	Remote Address	Port	Sessions
45029	11407	LNS	est	18.18.18.2	1701	2

LocID	RemID	TunID	Intf	Username	State	Last Chg	Fastswitch
291	303	45029	Se0:17	remote1@cisco.com	est	00:00:57	enabled
292	304	45029	Se0:30		est	00:00:20	enabled

% No active L2F tunnels
LAC#

اهالصالو ءاطخال فاشكسا

اهالصالو نيوكتال ءاطخال فاشكسالا اهمادختسا كنكمي تامولعم مسقلا اذه رفوي

اهالصالو ءاطخال فاشكسا رماو

يتلاو، (طقف نولجسملالءالمعلال) [جارخال مچرتم ءادا](#) ءطساوب ضرعلا رماو اضعب معد متي
ضرعلا [رماو جارخال لي لحت ضرع كل لحت](#)

[رماو يف ءمهملال تامولعملال](#) يلعل عالطالا يجرى، ءاطخال لحت رماو رادصال لبق: ءظحال م
[ءاطخال لحت](#)

- ءم لتسملال مزحلال لوح ءاطخال لحت تامولعم ضرعي — ءاطخال لحت بلالط اءاح
لصتملا ءهجالو يلعل
- يداعلال قفنلال ءاشنل نم ءزج يه يتلال اءاحلال لوح لئاسر ضرعي—`debug vpdn l2x-events`
هللغشت فاقيل و
- رمالا اذه يدوي نأ نكمي. اهلءاب ت متي لوكوتورب ءمزح لك ضرعي—`debug vpdn l2x-packet`
لحت لكتي ه يلعل طقف رمالا اذه مءختسا. ءاطخال لحت لئاسر نم ريبك دءع ل
ءءحاو ءطشن لمعل ءسلج عم ءاطخال
- قفن قلالغ ي ف ب بس ت ءاطخال و ا قفن ءاشنل عنمت ءاطخال ضرعي—`debug vpdn l2x-errors`
هؤاشنل م
- متي يتلال PPP مزح `debug ppp` رمالا ضرعي نأ ي ف ب بس تي—`debug ppp negotiation`
PPP تاراخي عم ضوافتلا متي لحت، PPP لئاسر ءءب ءاشنل اهالصالو
- ءءاصالو لوكوتورب لئاسر ضرعل `debug ppp` رمالا ب بس تي—`debug ppp authentication`
ءمي قبال لاصلتال ءي كءتل ءءاصالو لوكوتورب مزح لءاب ت لئاسرلل نمضت

(PAP) رورملا ةم لك ةقداصم لوكوتورب لدابت تاي لمعو (CHAP) يدحتلا

- يتلا (ISDN) ةلمكتملا تامدخلل ةيمقرلا ةكبشلا شادحأ ضرعي—debug isdn events
ISDN ةهجاول (هجوملا يلغ) مدختسملا بناج يلغ شدحت
- ISDN ةكبش تالاصتال اهئا هنا و تاملكملا دادع| لوح تامولعم ضرعي—debug isdn q931
ةكبشلا و (مدختسملا بناج) يلحملا هجوملا نيب (3 ةقبطالا)
- متي يذلا تقولا نم يرهاظلا لوصول ةهجاول خسنلا تامولعم ضرعي—debug vtemplate
لوصول ةهجاو فاقيل هي متي يذلا تقولا يل يرهاظ بلق نم هي ف اهخاسنتس
ءاعدتسال اهاتنا دنغ يرهاظلا

LNS يلغ ءاطخألا حيصت

يفتاه بلط

1. يلحملا هجوملاب ةملاك مدبب remote1@cisco.com هجوملا موقوي

قفن ءاشنإل LAC ل نم ابلط LNS ل يقلتلي

```
Sep 29 02:25:44.531: L2TP: I SCCRQ from LAC tn1 45029
Sep 29 02:25:44.539: Tn1 11407 L2TP: Got a challenge in SCCRQ, LAC
Sep 29 02:25:44.543: Tn1 11407 L2TP: New tunnel created for remote LAC,
address 18.18.18.1
Sep 29 02:25:44.547: Tn1 11407 L2TP: O SCCRP to LAC tn1id 45029
Sep 29 02:25:44.555: Tn1 11407 L2TP: Tunnel state change from idle to
wait-ctl-reply
Sep 29 02:25:44.623: Tn1 11407 L2TP: I SCCCN from LAC tn1 45029
Sep 29 02:25:44.627: Tn1 11407 L2TP: Got a Challenge Response in SCCCN from LAC
Sep 29 02:25:44.631: Tn1 11407 L2TP: Tunnel Authentication success
Sep 29 02:25:44.635: Tn1 11407 L2TP: Tunnel state change from wait-ctl-reply
to established
Sep 29 02:25:44.639: Tn1 11407 L2TP: SM State established
```

ةسلج دقع لجأ نم ةأرملا لينطولا سلجملا نم ابلط بتكملا يقلتلي و

```
Sep 29 02:25:44.667: Tn1 11407 L2TP: I ICRQ from LAC tn1 45029
Sep 29 02:25:44.671: Tn1/C1 11407/303 L2TP: Session FS enabled
Sep 29 02:25:44.679: Tn1/C1 11407/303 L2TP: Session state change from idle
to wait-connect
Sep 29 02:25:44.679: Tn1/C1 11407/303 L2TP: New session created
Sep 29 02:25:44.683: Tn1/C1 11407/303 L2TP: O ICRP to LAC 45029/291
Sep 29 02:25:44.791: Tn1/C1 11407/303 L2TP: I ICCN from LAC tn1 45029, c1 291
Sep 29 02:25:44.799: Tn1/C1 11407/303 L2TP: Session state change from wait-connect
to established
```

remote1@cisco.com مدختسملا ل يرهاظلا لوصولا خسن يلغ LNS ماظن لمعي

```

Sep 29 02:25:44.803: Vt1 VTEMPLATE: Unable to create and clone vaccess
Sep 29 02:25:44.803: Vi2 VTEMPLATE: Reuse Vi2, recycle queue size 1
Sep 29 02:25:44.807: Vi2 VTEMPLATE: Hardware address 0060.4780.ac23
Sep 29 02:25:44.807: Vi2 VPDN: Virtual interface created for remote1@cisco.com
Sep 29 02:25:44.811: Vi2 PPP: Phase is DOWN, Setup
Sep 29 02:25:44.815: Vi2 VPDN: Clone from Vtemplate 1 filterPPP=0 blocking
Sep 29 02:25:44.819: Vi2 VTEMPLATE: Has a new cloneblk vtemplate,
now it has vtemplate
Sep 29 02:25:44.827: Vi2 VTEMPLATE: ***** CLONE VACCESS2 *****
Sep 29 02:25:44.827: Vi2 VTEMPLATE: Clone from Virtual-Template1 interface
Virtual-Access2
encapsulation ppp
ip unnumbered loopback 0
ppp chap hostname LNS
ppp authentication chap
end

Sep 29 02:25:46.975: %LINK-3-UPDOWN: Interface Virtual-Access2,
changed state to up
Sep 29 02:25:46.995: Vi2 PPP: Using set call direction
Sep 29 02:25:46.999: Vi2 PPP: Treating connection as a callin
Sep 29 02:25:46.999: Vi2 PPP: Phase is ESTABLISHING, Passive Open
Sep 29 02:25:47.003: Vi2 LCP: State is Listen
Sep 29 02:25:47.007: Vi2 VPDN: Bind interface direction=2
Sep 29 02:25:47.007: Vi2 LCP: I FORCED CONFREQ len 11
Sep 29 02:25:47.011: Vi2 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:25:47.015: Vi2 LCP: MagicNumber 0x6BDE50CC (0x05066BDE50CC)

```

ليعمل عم بي بي راكل او ة ني ت ال ال اك يرم ا ه ل ع ت ض و ا ف ت ي ت ال ال LCP ة ق ب ط LNS ي ق ل ت ي
 ل ي م ع ل ع م ل C P ض و ا ف ت ال ال ة ا ع ا ب LNS م و ق ي ال ، ك ل ذ ل . remote1@cisco.com.

<#root>

```

Sep 29 02:25:47.019: Vi2 VPDN: PPP LCP accepted rcv CONFACK
Sep 29 02:25:47.019: Vi2 VPDN: PPP LCP accepted sent CONFACK
Sep 29 02:25:47.023: Vi2 PPP: Phase is AUTHENTICATING, by this end
Sep 29 02:25:47.023: Vi2 CHAP: Using alternate hostname LNS
Sep 29 02:25:47.027: Vi2 CHAP: 0 CHALLENGE id 8 len 24 from "LNS"
Sep 29 02:25:47.039: Vi2 CHAP: I RESPONSE id 7 len 38 from "remote1@cisco.com"
Sep 29 02:25:47.051: Vi2 CHAP: 0 SUCCESS id 7 len 4
Sep 29 02:25:47.055: Vi2 PPP: Phase is UP
Sep 29 02:25:47.059: Vi2 IPCP: 0 CONFREQ [Not negotiated] id 1 len 10
Sep 29 02:25:47.063: Vi2 IPCP: Address 18.18.18.2 (0x030612121202)
Sep 29 02:25:47.111: Vi2 IPCP: I CONFREQ [REQsent] id 110 len 10
Sep 29 02:25:47.115: Vi2 IPCP: Address 17.17.17.1 (0x030611111101)
Sep 29 02:25:47.119: Vi2 IPCP: 0 CONFACK [REQsent] id 110 len 10
Sep 29 02:25:47.123: Vi2 IPCP: Address 17.17.17.1 (0x030611111101)
Sep 29 02:25:47.127: Vi2 IPCP: I CONFACK [ACKsent] id 1 len 10
Sep 29 02:25:47.131: Vi2 IPCP: Address 18.18.18.2 (0x030612121202)
Sep 29 02:25:47.135: Vi2 IPCP: State is Open
Sep 29 02:25:47.143: Vi2 IPCP: Install route to 17.17.17.1
Sep 29 02:25:48.131: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Virtual-Access2, changed state to up

```

LNS#

show vpdn

L2TP Tunnel and Session Information Total tunnels 1 sessions 1

LocID	RemID	Remote Name	State	Remote Address	Port	Sessions
11407	45029	LAC	est	18.18.18.1	1701	1

LocID	RemID	TunID	Intf	Username	State	Last Chg	Fastswitch
303	291	11407	Vi2	remote1@cisco.com	est	00:00:22	enabled

% No active L2F tunnels

يفتاه لاصتا

remote2@cisco.com. هجوم ل ا ب ة م ل ا ك م ء د ب ب 1 ي ل ح م ل ا ه ج و م ل ا م و ق ي

LNS#
Sep 29 02:26:20.531: Vi1 VTEMPLATE: Reuse Vi1, recycle queue size 0
Sep 29 02:26:20.531: Vi1 VTEMPLATE: Hardware address 0060.4780.ac23
Sep 29 02:26:20.535: Vi1 PPP: Phase is DOWN, Setup
Sep 29 02:26:20.543: Vi1 VTEMPLATE: Has a new cloneblk dialer, now it has dialer
Sep 29 02:26:20.547: Vi1 DDR: Dialing cause ip (s=10.200.20.32, d=17.17.17.2)
Sep 29 02:26:20.551: Vi1 DDR: Attempting to dial 6121
Sep 29 02:26:20.555: Tn1/C1 11407/304 L2TP: Session FS enabled
Sep 29 02:26:20.559: Tn1/C1 11407/304 L2TP: Session state change from idle
to wait-for-tunnel
Sep 29 02:26:20.563: Tn1/C1 11407/304 L2TP: Create dialout session
Sep 29 02:26:20.567: Tn1 11407 L2TP: SM State established

ر ح ب ل ا ة ق ط ن م و ة ي ن ي ت ا ل ل ا ك ي ر م ا ة ق ط ن م ي ل ا ب ل ط ة ي ك ل س ا ل ل ا ة ي ل ح م ل ا ة ك ب ش ل ل ا س ر ت و
لاصتا يلع لوصح ل ل ي ب ي ر ا ك ل ل

Sep 29 02:26:20.571: L2TP: O OCRQ
Sep 29 02:26:20.575: Vi1 Tn1/C1 11407/304 L2TP: Session state change from
wait-for-tunnel to wait-reply
Sep 29 02:26:20.579: Vi1 VPDN: Bind interface direction=2
Sep 29 02:26:20.635: Vi1 Tn1/C1 11407/304 L2TP: I OCRP from LAC tn1 45029, cl 0
Sep 29 02:26:20.639: Vi1 Tn1/C1 11407/304 L2TP: Session state change from
wait-reply to wait-connect
Sep 29 02:26:21.299: Vi1 Tn1/C1 11407/304 L2TP: I OCCN from LAC tn1 45029, cl 292
Sep 29 02:26:21.303: Vi1 Tn1/C1 11407/304 L2TP: Session state change from
wait-connect to established
Sep 29 02:26:21.307: Vi1 VPDN: Connection is up, start LCP negotiation now
Sep 29 02:26:21.315: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Sep 29 02:26:21.335: Vi1 DDR: Dialer statechange to up

remote2@cisco.com. ني و ك ت د ج و ي ث ي ح 2 في ر ع ت ل ا ف ل م ب ل ا ط م ب 1 Virtual Access ط ب ت ر ي

Sep 29 02:26:21.335: %DIALER-6-BIND: Interface Vi1 bound to profile Di2
Sep 29 02:26:21.339: Vi1 DDR: Dialer call has been placed

remote2@cisco.com. ليم عمل او LNS ني ب PPP ةل حرم أدبت

<#root>

```
Sep 29 02:26:21.343: Vi1 PPP: Treating connection as a callout
Sep 29 02:26:21.343: Vi1 PPP: Phase is ESTABLISHING, Active Open
Sep 29 02:26:21.347: Vi1 PPP: No remote authentication for call-out
Sep 29 02:26:21.351: Vi1 LCP: O CONFREQ [Closed] id 1 len 10
Sep 29 02:26:21.355: Vi1 LCP: MagicNumber 0x6F87121F (0x05066F87121F)
Sep 29 02:26:21.427: Vi1 LCP: I CONFREQ [REQsent] id 79 len 39
Sep 29 02:26:21.431: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:26:21.435: Vi1 LCP: MagicNumber 0x059935DB (0x0506059935DB)
Sep 29 02:26:21.435: Vi1 LCP: MRRU 1524 (0x110405F4)
Sep 29 02:26:21.439: Vi1 LCP: EndpointDisc 1 Local
Sep 29 02:26:21.443: Vi1 LCP: (0x13140172656D6F74653240636973636F)
Sep 29 02:26:21.447: Vi1 LCP: (0x2E636F6D)
Sep 29 02:26:21.451: Vi1 LCP: O CONFREQ [REQsent] id 79 len 28
Sep 29 02:26:21.455: Vi1 LCP: MRRU 1524 (0x110405F4)
Sep 29 02:26:21.455: Vi1 LCP: EndpointDisc 1 Local
Sep 29 02:26:21.459: Vi1 LCP: (0x13140172656D6F74653240636973636F)
Sep 29 02:26:21.463: Vi1 LCP: (0x2E636F6D)
Sep 29 02:26:21.467: Vi1 LCP: I CONFACK [REQsent] id 1 len 10
Sep 29 02:26:21.471: Vi1 LCP: MagicNumber 0x6F87121F (0x05066F87121F)
Sep 29 02:26:21.559: Vi1 LCP: I CONFREQ [ACKrcvd] id 80 len 15
Sep 29 02:26:21.563: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:26:21.567: Vi1 LCP: MagicNumber 0x059935DB (0x0506059935DB)
Sep 29 02:26:21.571: Vi1 LCP: O CONFACK [ACKrcvd] id 80 len 15
Sep 29 02:26:21.575: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Sep 29 02:26:21.579: Vi1 LCP: MagicNumber 0x059935DB (0x0506059935DB)
Sep 29 02:26:21.583: Vi1 LCP: State is Open
Sep 29 02:26:21.647: Vi1 CHAP: I CHALLENGE id 8 len 38 from "remote2@cisco.com"
Sep 29 02:26:21.651: Vi1 CHAP: Using alternate hostname LNS
Sep 29 02:26:21.655: Vi1 CHAP: O RESPONSE id 8 len 24 from "LNS"
Sep 29 02:26:21.699: Vi1 CHAP: I SUCCESS id 8 len 4
Sep 29 02:26:21.703: Vi1 PPP: Phase is UP
Sep 29 02:26:21.707: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10
Sep 29 02:26:21.711: Vi1 IPCP: Address 18.18.18.2 (0x030612121202)
Sep 29 02:26:21.715: Vi1 IPCP: I CONFREQ [REQsent] id 40 len 10
Sep 29 02:26:21.719: Vi1 IPCP: Address 17.17.17.2 (0x030611111102)
Sep 29 02:26:21.723: Vi1 IPCP: O CONFACK [REQsent] id 40 len 10
Sep 29 02:26:21.727: Vi1 IPCP: Address 17.17.17.2 (0x030611111102)
Sep 29 02:26:21.775: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10
Sep 29 02:26:21.779: Vi1 IPCP: Address 18.18.18.2 (0x030612121202)
Sep 29 02:26:21.783: Vi1 IPCP: State is Open

Sep 29 02:26:21.791: Vi1 DDR: dialer protocol up
Sep 29 02:26:21.795: Di2 IPCP: Install route to 17.17.17.2
Sep 29 02:26:22.703: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Virtual-Access1, changed state to up
```

LNS#

show vpdn

L2TP Tunnel and Session Information Total tunnels 1 sessions 2

LocID	RemID	Remote Name	State	Remote Address	Port	Sessions
11407	45029	LAC	est	18.18.18.1	1701	2

LocID	RemID	TunID	Intf	Username	State	Last Chg	Fastswitch
304	292	11407	Vi1	est	00:00:16	enabled	
303	291	11407	Vi2	remote1@cisco.com	est	00:00:52	enabled

% No active L2F tunnels

قلم تاذ تام ول عم

- [بيل طلالا ةينقت معد تاح فص](#)
- [Cisco Systems - تادنت سمل او وينقت لامل معدلا](#)

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن مة و مچم مادختساب دن تسملا اذ ه Cisco ت مچرت
ملاعلاء نأ عي مچي ف ني م دختسم لل معد ي و ت م م ي دقتل ل ي رش ب ل و
امك ة ق ي ق د ن و ك ت ن ل ة ل آل ة مچرت ل ض ف أن ة ظ حال م ي ج ر ي . ة ص ا خ ل م ه ت غ ل ب
Cisco ي ل خ ت . ف ر ت م م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ا ل ا ة مچرت ل ل ع م ل ا ح ل ا و ه
ى ل ا م ئ ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ل ه ذ ه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco
Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص أ ل ا ي ز ي ل ج ن إ ل ا دن ت س م ل ا