Basic L2TP Virtual Private Dialup Network (VPDN) for Dialin and Dialout

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Introduction

This document provides a sample configuration for Layer 2 Tunneling Protocol (L2TP) for dialin and dialout calls.

Note: This setup does not involve an authentication, authorization, and accounting (AAA) server.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on Cisco IOS® Software Release 12.1.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Configure

In this section, you are presented with the information to configure the features described in this document.
Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only).

Network Diagram

This document uses this network setup:

![Network Diagram]

Configurations

This document uses these configurations:

- **Router remote1:**
  
  Loopback0: 17.17.17.1/32 Username: remote1@cisco.com ISDN number (BRI 0): 6122

- **Router remote2:**

  Loopback: 17.17.17.2/32 Username: remote2@cisco.com ISDN number (BRI 0): 6121

- **Router LAC:**

  Loopback: 18.18.18.1/32 ISDN number (E1 0): 8211 Serial interface (S0): 18.18.18.6/30

- **Router LNS:**

  Loopback: 18.18.18.2/32 Serial interface (S0): 18.18.18.5/30 Ethernet interface (E0): 10.200.20.24/24

- **Router local1:**

  Loopback: 17.17.17.3/32 Ethernet interface (E0): 10.200.20.32/24

Routers remote1@cisco.com and remote2@cisco.com use ISDN to access the L2TP Access Concentrator (LAC). A back-to-back serial link connects the LAC and the L2TP Network Server (LNS) in this setup. The local1 router and the LNS share the same Ethernet link.

Here is the process:

1. **L2TP Dialin:** The remote1@cisco.com client wants to communicate with the local1 router. The client generates an ISDN call to the LAC, which brings up an L2TP tunnel to the LNS and then the L2TP session. The LAC uses the domain name to bring up the tunnel with the LNS. The LNS authenticates the remote users locally.

2. **L2TP Dialout:** The local1 router wants to communicate with the remote2@cisco.com remote client. The LNS uses the existing tunnel with the LAC and creates a new L2TP session.
**LAC**

```plaintext
cisco@LAC# 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
capsulation 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 12tp
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 12tp
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
12tp 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 remotel@cisco.com
dialer string 6122

!--- ISDN number that the LAC uses to dialout the remote client remotel@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

Verify

This section provides information you can use to confirm your configuration is working properly.

Certain show commands are supported by the Output Interpreter Tool (registered customers only) , which
allows you to view an analysis of `show` command output.

- `show vpdn` displays information about active Level 2 Forwarding (L2F) protocol tunnel and message identifiers in a Virtual Private Dialup Network (VPDN).

```
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
```

**Verification**

**Dial In**

The `remote1@cisco.com` router initiates a call to the `local1` router.

```
LAC#
```

An ISDN call comes into the LAC.

```
Sep 29 02:25:42.923: ISDN Se0:15: Incoming call id = 0x011B, dsl 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)
```
The LAC sends a CHAP challenge to the client.

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"

The LAC receives a CHAP response but does not authenticate the user. The LNS performs the authentication.

Sep 29 02:25:43.295: Se0:17 CHAP: I RESPONSE id 7 len 38 from "remotel@cisco.com"
Sep 29 02:25:43.303: Se0:17 PPP: Phase is FORWARDING

The LAC checks whether the domain "cisco.com" exists, and then collects the information needed to bring up the tunnel with the LNS.

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: 12tp-busy-disconnect yes
Sep 29 02:25:43.359: Se0:17 VPDN/LAC/1: 12tp-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: curlv1 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: Tnl 45029 L2TP: SM State idle

The LAC brings up the tunnel with the LNS.

Sep 29 02:25:43.383: Tnl 45029 L2TP: O SCCRQ
Sep 29 02:25:43.391: Tnl 45029 L2TP: Tunnel state change from idle to wait-ctl-reply
Sep 29 02:25:43.395: Tnl 45029 L2TP: SM State wait-ctl-reply
Sep 29 02:25:43.399: Tnl 45029 L2TP: VPDN: Find LNS process created
Sep 29 02:25:43.403: Tnl 45029 L2TP: Forward to address 18.18.18.2
Sep 29 02:25:43.403: Tnl 45029 L2TP: Pending
Sep 29 02:25:43.411: Tnl 45029 L2TP: VPDN: Process created
Sep 29 02:25:43.463: Tnl 45029 L2TP: I SCCRP from LNS
Sep 29 02:25:43.467: Tnl 45029 L2TP: Got a challenge from remote peer, LNS
Sep 29 02:25:43.471: Tnl 45029 L2TP: Got a response from remote peer, LNS
Sep 29 02:25:43.475: Tnl 45029 L2TP: Tunnel Authentication success
Sep 29 02:25:43.479: Tnl 45029 L2TP: Tunnel state change from wait-ctl-reply to established
Sep 29 02:25:43.483: Tnl 45029 L2TP: O SCCCN to LNS tnlid 11407
Sep 29 02:25:43.487: Tnl 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 remotel@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: Tnl/C1 45029/291 L2TP: Session FS enabled
Sep 29 02:25:43.511: Tnl/C1 45029/291 L2TP: Session state change from idle to wait-for-tunnel
Sep 29 02:25:43.515: Se0:17 Tnl/C1 45029/291 L2TP: Create session
Sep 29 02:25:43.519: Tnl 45029 L2TP: SM State established

The LAC brings up the session for the user remotel@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

Dial Out

The local1 router initiates a call to the remote2@cisco.com router.

LAC#

The LAC receives a request from the LNS to bring up a new session for dialout.

The LAC uses ISDN to call the number 6121.
The LAC bounds the ISDN session se0:30 with the VPDN session.

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

<table>
<thead>
<tr>
<th>LocID</th>
<th>RemID</th>
<th>Remote Name</th>
<th>State</th>
<th>Remote Address</th>
<th>Port</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>45029</td>
<td>11407</td>
<td>LNS</td>
<td>est</td>
<td>18.18.18.2</td>
<td>1701</td>
<td>2</td>
</tr>
</tbody>
</table>

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

% No active L2F tunnels
LAC#

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Troubleshooting Commands

Certain show commands are supported by the Output Interpreter Tool (registered customers only), which allows you to view an analysis of show command output.

Note: Before issuing debug commands, please see Important Information on Debug Commands.

- debug dialer events displays debugging information about the packets received on a dialer interface.
- debug vpdn l2x−events displays messages about events that are part of normal tunnel establishment or shutdown.
- debug vpdn l2x−packets displays each protocol packet exchanged. This command can result in a large number of debug messages. Use this command only on a debug chassis with a single active session.
- debug vpdn l2x−errors displays errors that prevent the establishment of a tunnel or errors that cause an established tunnel to be closed.
- debug ppp negotiation causes the debug ppp command to display PPP packets transmitted during PPP startup, where PPP options are negotiated.
- debug ppp authentication causes the debug ppp command to display authentication protocol messages. The messages include Challenge Handshake Authentication Protocol (CHAP) packet exchanges and Password Authentication Protocol (PAP) exchanges.
- debug isdn events displays Integrated Services Digital Network (ISDN) events that occur on the user side (on the router) of the ISDN interface.
- debug isdn q931 displays information about call setup and teardown of ISDN network connections (layer 3) between the local router (user side) and the network.
- debug vtemplate displays cloning information for a virtual access interface from the time it is cloned from a virtual template to the time the virtual access interface comes down when the call ends.

Debug on the LNS
**Dial In**

The remote1@cisco.com router initiates a call to the local1 router.

The LNS receives a request from the LAC to bring up a tunnel.

```
Sep 29 02:25:44.531: L2TP: I SCCRQ from LAC tnl 45029
Sep 29 02:25:44.539: Tnl 11407 L2TP: Got a challenge in SCCRQ, LAC
Sep 29 02:25:44.543: Tnl 11407 L2TP: New tunnel created for remote LAC, address 18.18.18.1
Sep 29 02:25:44.547: Tnl 11407 L2TP: O SCCRP to LAC tnlid 45029
Sep 29 02:25:44.555: Tnl 11407 L2TP: Tunnel state change from idle to wait-ctl-reply
Sep 29 02:25:44.563: Tnl 11407 L2TP: Tunnel Authentication success
Sep 29 02:25:44.567: Tnl 11407 L2TP: Tunnel state change from wait-ctl-reply to established
```

The LNS receives a request from the LAC to bring up a session.

```
Sep 29 02:25:44.667: Tnl 11407 L2TP: I ICRQ from LAC tnl 45029
Sep 29 02:25:44.671: Tnl/Cl 11407/303 L2TP: Session FS enabled
Sep 29 02:25:44.679: Tnl/Cl 11407/303 L2TP: Session state change from idle to wait-connect
Sep 29 02:25:44.683: Tnl/Cl 11407/303 L2TP: New session created
Sep 29 02:25:44.689: Tnl/Cl 11407/303 L2TP: O ICRP to LAC 45029/291
Sep 29 02:25:44.791: Tnl/Cl 11407/303 L2TP: I ICCN from LAC tnl 45029, cl 291
Sep 29 02:25:44.799: Tnl/Cl 11407/303 L2TP: Session state change from wait-connect to established
```

The LNS clones the virtual-access for the user remote1@cisco.com.

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

```
The LNS receives the LCP layer that the LAC negotiated with the remote1@cisco.com client. Therefore, the LNS does not renegotiate LCP with the client.

Sep 29 02:25:47.019: Vi2 VPDN: PPP LCP accepted rcv CONACK
Sep 29 02:25:47.019: Vi2 VPDN: PPP LCP accepted sent CONACK
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: O 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: O SUCCESS id 7 len 4
Sep 29 02:25:47.055: Vi2 PPP: Phase is UP
Sep 29 02:25:47.059: Vi2 IPCP: O 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: O CONACK [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 CONACK [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

Dial Out

The local1 router initiates a call to the remote2@cisco.com router.

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: Tnl/Cl 11407/304 L2TP: Session FS enabled
Sep 29 02:26:20.559: Tnl/Cl 11407/304 L2TP: Session state change from idle to wait-for-tunnel
Sep 29 02:26:20.563: Tnl/Cl 11407/304 L2TP: Create dialout session
Sep 29 02:26:20.567: Tnl 11407 L2TP: SM State established

The LNS sends a request to the LAC for dialout.
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

The virtual−access 1 is bound to profile dialer 2 where the configuration for remote2@cisco.com is located.

Sep 29 02:26:21.335: %LINK−3−UPDOWN: Interface Virtual−Access1, changed state to up
Sep 29 02:26:21.339: Vi1 DDR: Dialer call has been placed

The PPP phase starts between the LNS and the remote2@cisco.com client.

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 02:26:21.439: Vi1 LCP: MRRU 1524 (0x110405F4)
Sep 29 02:26:21.443: Vi1 LCP: EndpointDisc 1 Local
Sep 29 02:26:21.447: Vi1 LCP: (0x13140172656D6F74653240636973636F)
Sep 29 02:26:21.451: Vi1 LCP: O CONFREJ [REQsent] id 79 len 28
Sep 29 02:26:21.455: Vi1 LCP: MRRU 1524 (0x110405F4)
Sep 29 02:26:21.459: Vi1 LCP: EndpointDisc 1 Local
Sep 29 02:26:21.463: Vi1 LCP: (0x13140172656D6F74653240636973636F)
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 CONFREQ [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 02:26:21.583: Vi1 PPP: Phase is AUTHENTICATING, by the peer
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
<table>
<thead>
<tr>
<th>LocID</th>
<th>RemID</th>
<th>TunID</th>
<th>Intf</th>
<th>Username</th>
<th>State</th>
<th>Last Chg</th>
<th>Fastswitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>304</td>
<td>292</td>
<td>11407</td>
<td>V11</td>
<td>est</td>
<td>00:00:16 enabled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>291</td>
<td>11407</td>
<td>V12</td>
<td><a href="mailto:remotel@cisco.com">remotel@cisco.com</a></td>
<td>est 00:00:52 enabled</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

% No active L2F tunnels

Related Information

- Dial Technology Support Pages
- Technical Support & Documentation – Cisco Systems