

Équilibrage de charge et basculement L2TP avec protocole MPP à liaisons multiples

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[Introduction](#)

Ce document décrit la fonctionnalité d'utiliser l'Équilibrage de charge et le Basculement avec le Protocole point à point (PPP) de multilink sur le Layer 2 Tunneling Protocol (L2TP).

[Conditions préalables](#)

[Conditions requises](#)

Les lecteurs de ce document devraient avoir connaissance des sujets suivants :

- Réseau privé virtuel à accès commuté (VPDN)
- L2TP
- PPP
- Ppp multilink

[Composants utilisés](#)

Ce document n'est pas limité à des versions de matériel et de logiciel spécifiques.

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.

Conventions

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

Fond

Le PPP à liaisons multiples permet séparer, recombinaison et ordonnancement des datagrammes en s'exécutant à travers de plusieurs liens simultanés de PPP. Sur l'extrémité de transmission, le PPP à liaisons multiples prévoit la fragmentation d'un paquet simple dans des plusieurs paquets à transmettre à travers de plusieurs liens de PPP. Sur l'extrémité de réception, le PPP à liaisons multiples fournit le paquet rassemblement de plusieurs liens de PPP de nouveau dans son paquet d'origine. Pour négocier Multilien, les deux pairs doivent convenir qu'ils sont Multilien-capables, c.-à-d., capable combiner de plusieurs liens physiques dans un lien logique simple (souvent visé comme un « paquet »). L'option du Link Control Protocol (LCP) utilisée pour indiquer que le pair est Multilien activé est la Maximum-Recevoir-Reconstruire-unité (MRRU).

La table au-dessous de la sortie de débogage de logiciel de Cisco IOS® d'expositions de deux Multilien-a activé des périphériques pendant les phases finales de négociation LCP. Comme vous pouvez voir, chacun des deux envoient CONFACKS contenant l'option MRRU indiquant que Multilien sera utilisé pendant cette session PPP. Le discriminateur de point d'extrémité est également inclus, bien qu'il ne soit pas nécessaire de faire ainsi.

Remarque: Le discriminateur de point d'extrémité peut être utilisé dans nommer de l'ensemble multilien, bien que le comportement par défaut de logiciel de Cisco IOS soit d'utiliser le nom d'utilisateur authentifié seulement.

Si vous rencontrez la situation où le concentrateur d'accès L2TP (LAC) a utilisé l'Équilibrage de charge et a percé un tunnel les canaux B du pair de Multilien à de plusieurs points finaux de tunnel, vous voyez les exemples par-LNS de l'interface de maître d'ensemble multilien. Les débuts de pair pour fragmenter des paquets et pour envoyer ces derniers simultanément au-dessus des liaisons membres. Chaque LNS reçoit des fragments et des tentatives de recombinaison, ordonnancement échoue et des fragments perdus sont signalés. En conséquence, aucune données ne peuvent être passées. Dans ces circonstances, il y a une condition requise d'informer d'autres LNS impliqués dans l'Équilibrage de charge au sujet de l'état des utilisateurs de Multilien qui sont connectés. Pour faire ceci, le LNS doit être placé dans un PPP de Multichassis Multilink (MMP) « groupe de pile ». La capacité MMP est basée sur le groupe de pile des protocoles offrant Protocol (SGBP) et de l'expédition du niveau 2 (L2F) pour offrir et offre pour la propriété des appels multilien avant l'appel étant reçu. La commande de **vpdn multihop** est exigée pour permettre les paquets générés du serveur distant pour traverser plus d'un tunnel.

Quand le LNS reçoit un appel multilien avant de se terminer l'authentification, le nom d'utilisateur du distant (qu'est à dire nommer par défaut de logiciel de Cisco IOS pour le nom d'ensemble multilien) est transmis à SGBP. SGBP fournit un mécanisme pour questionner pour la propriété existante d'un appel dans le groupe de pile. Si le membre du groupe de pile qui reçoit l'appel n'est pas le propriétaire existant, SGBP emploie un processus d'offre pour résoudre la

propriété avec les autres membres de la pile. L'offre est pour un utilisateur particulier, pas la connexion individuelle. Par défaut, le membre du groupe de pile qui reçoit le premier appel toujours gagne le processus d'offre et contrôle la propriété de tous les appels ultérieurs de cet utilisateur. C'est indépendamment du LNS de terminaison (par configuration, il est possible de changer le comportement du processus d'offre SGBP, pour influencer qui gagnera le processus d'offre et possédera l'appel). Quand tous les appels de l'utilisateur sont déconnectés, la propriété principale est abandonnée. Un nouvel appel à partir du même utilisateur reprend le processus d'offre avec la résolution d'un nouveau maître.

Équilibrage de charge avec l'ordre de connexion de PPP à liaisons multiples

1. Un utilisateur distant '2500-1' de SoHo place un appel multiliasion, canal unique, dans le LAC. Un lien de PPP est établi.
2. LCP est négocié (MRRUs sont inclus dans le CONFACKS) et les informations de tunnel est téléchargé du RAYON avec les périphériques du tunnel à utiliser dans l'Équilibrage de charge. Le périphérique du tunnel '10.51.6.59' est sélectionné pendant que la première adresse inactive et la connexion est expédiée. Le tunnel et la session sont établis.
3. Le LNS crée l'interface d'accès virtuel 2 pour terminer le tunnel L2TP. · Seulement les commandes commençant par le `ppp`, la `keepalive`, le `mtu`, `se connecter` et le `par défaut` sont copiées du virtual-template. Le virtual-template 1 a le `ppp multilink` configuré. Les informations de configuration LCP fournies dans l'ICCN sont forcées sur la pile de PPP d'interface d'accès virtuel (ceci inclut le MRRU négocié par LAC).
4. Le LNS utilise la réponse AVP d'authentification de proxy - 33, livré dans l'ICCN, pour commencer le processus d'offre SGBP pour tous les ensembles multiliasions existants avec le nom '2500-1'. Une offre ouverte de requête d'autorité est envoyée pour le paquet '2500-1' avec l'offre par défaut de graine de 50. · Le `sgbp member '10.51.6.61'` répond avec une offre d'autorité de 0 (l'autorité est refusée) car il n'y a pas un paquet existant pour '2500-1'. · '10.51.6.59' (gens du pays) est maintenant principal pour '2500-1'. Une fin de requête d'autorité est envoyée, avec la valeur de demande d'offre d'autorité de 10000 une fois que la résolution de la propriété est complète.
5. L'authentification et l'autorisation AAA/PPP a lieu alors. Une access-demande de RAYON est envoyée.
6. L'interface d'accès virtuel 1 est créée pour le maître d'ensemble multiliasion et est copiée du virtual-template 1.
7. La négociation de PPP IPCP se termine et est OUVERTE avoué, une route hôte est installée. L'utilisateur distant est maintenant connecté, et la circulation peut débuter.
8. En raison des bandes passantes nécessaires, l'utilisateur distant '2500-1' de SoHo place un deuxième appel multiliasion au LAC.
9. Le RAYON est de nouveau questionné pour les informations de tunnel. Selon la logique d'Équilibrage de charge, le prochain périphérique du tunnel inactif '10.51.6.61' est sélectionné. Le tunnel et la session sont établis.
10. Le LNS crée l'interface d'accès virtuel 1 pour terminer le tunnel L2TP. · Le virtual-template 1 est utilisé pour copier (fait configurer le « `ppp multilink` »), les informations de configuration LCP fournies dans l'ICCN est forcé sur la pile de PPP d'interface d'accès virtuel (ceci inclut le MRRU négocié par LAC).
11. L'offre SGBP est commencée pour tous les ensembles multiliasions existants avec le nom '2500-1' en envoyant une offre de requête d'autorité pour le paquet '2500-1' avec l'offre par défaut de graine de 50.

12. As'10.51.6.59 est déjà principal pour '2500-1' que l'offre d'adhésion a une valeur de demande de 10000. '10.51.6.61' maintenant en avant la connexion PPP à '10.51.6.59'. Un tunnel L2F est ouvert de '10.51.6.61' à '10.51.6.59' (le protocole par défaut de Tunnellisation pour le PPP de Multichassis Multilink est L2F). Le tunnel est authentifié utilisant le nom d'utilisateur « CONNEXION MULTIPLE ENTRE DEUX NOEUDS » de sgbp group. Le tunnel et la session L2F sont ouverts.
13. La session PPP est L2F expédiée à '10.51.6.59'. L'interface d'accès virtuel 3 est créée pour terminer le tunnel L2F et est copiée du virtual-template 1.
14. L'état LCP négocié par LAC est rejoué sur la pile de PPP de virtuel-Access, et inclut l'option convenue MRRU.
15. L'authentification et l'autorisation AAA/PPP a lieu alors. Une access-demande de RAYON est envoyée.
16. L'authentification est terminée et l'interface d'accès virtuel 3 est ajoutée au maître d'ensemble multiliasion.

Essai en laboratoire - Équilibrage de charge LNS avec le PPP à liaisons multiples

Profil RADIUS

Ce document utilise ce profil d'utilisateur RADIUS et de tunnel sur le serveur Merit RADIUS 3.6B :

```
2500-1 Password = "cisco"
Service-Type = Framed,
Framed-Protocol = PPP,
Framed-IP-Address = 255.255.255.255
dnis:614629 Password = "cisco"
Service-Type = Outbound,
Cisco:Avpair = "vpdn:tunnel-type=l2tp",
Cisco:Avpair = "vpdn:tunnel-id=hgw",
Cisco:Avpair = "vpdn:ip-addresses=10.51.6.61,10.51.6.59",
Cisco:Avpair = "vpdn:l2tp-tunnel-password=hello"
```

Configuration LAC

Configuration LAC mêmes que la configuration précédente.

LNS - Configuration pour la CONNEXION MULTIPLE ENTRE DEUX NOEUDS de Stackgroup (10.51.6.59 et 10.51.6.61)

```
hostname nsa-7200-2 (10.51.6.61)
username MULTIHOP password 0 cisco
!--- The stack name/password is used to authenticate the SGBP connections between !--- all
member routers. As RADIUS has no concept of SendAuth , the stack name !--- password needs to be
defined locally. sgbp group MULTIHOP !--- The stack group is given a unique username, the name
'MULTIHOP' must be !--- unique within a domain and only one stack group is allowed per router.
sgbp member nsa-7200-3 10.51.6.59 !--- The stack member '10.51.6.59' is defined. vpdn multihop
!--- Enables the LNS to forward Multilink PPP links to Stack Group members that !--- already own
existing bundle Masters for that session. multilink virtual-template 1 !--- The Multilink Bundle
Interface will clone from the Virtual Template 1. interface Virtual-Templat1 ip unnumbered
Ethernet3/0 peer default ip address pool default ppp authentication chap vpdn ppp authorization
vpdn ppp chap hostname nsa-7200-2 ppp multilink hostname nsa-7200-3 (10.51.6.59) ! username
MULTIHOP password 0 cisco ! sgbp group MULTIHOP sgbp member nsa-7200-2 10.51.6.61 vpdn multihop
```

```
! multilink virtual-template 1 ! interface Virtual-Templatel ip unnumbered Ethernet3/0 peer
default ip address pool default ppp authentication chap vpdn ppp authorization vpdn ppp chap
hostname nsa-7200-3 ppp multilink
```

Debug pris du LAC

```
Jan 1 00:01:01.039: %LINK-3-UPDOWN: Interface Serial0:0,
changed state to up
Jan 1 00:01:01.235: Se0:0 PPP: Treating connection as a callin
Jan 1 00:01:01.235: Se0:0 PPP: Phase is ESTABLISHING, Passive Open
Jan 1 00:01:01.239: Se0:0 CHAP: Using alternate hostname 5300-1
Jan 1 00:01:01.239: Se0:0 LCP: State is Listen Jan 1 00:01:01.239: Se0:0 LCP: I CONFREQ [Listen]
id 22 len 23 Jan 1 00:01:01.239: Se0:0 LCP: MagicNumber 0x31BFC605 (0x050631BFC605) Jan 1
00:01:01.239: Se0:0 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:01.239: Se0:0 LCP: EndpointDisc 1
Local (0x130901323530302D31) Jan 1 00:01:01.239: Se0:0 LCP: O CONFREQ [Listen] id 27 len 28 Jan
1 00:01:01.239: Se0:0 LCP: AuthProto CHAP (0x0305C22305) Jan 1 00:01:01.239: Se0:0 LCP:
MagicNumber 0x15C13318 (0x050615C13318) Jan 1 00:01:01.239: Se0:0 LCP: MRRU 1524 (0x110405F4)
Jan 1 00:01:01.239: Se0:0 LCP: EndpointDisc 1 Local (0x130901353330302D31) Jan 1 00:01:01.239:
Se0:0 LCP: O CONFACK [Listen] id 22 len 23 Jan 1 00:01:01.239: Se0:0 LCP: MagicNumber 0x31BFC605
(0x050631BFC605) Jan 1 00:01:01.239: Se0:0 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:01.239: Se0:0
LCP: EndpointDisc 1 Local (0x130901323530302D31) Jan 1 00:01:01.287: Se0:0 LCP: I CONFACK
[ACKsent] id 27 len 28 Jan 1 00:01:01.287: Se0:0 LCP: AuthProto CHAP (0x0305C22305) Jan 1
00:01:01.287: Se0:0 LCP: MagicNumber 0x15C13318 (0x050615C13318) Jan 1 00:01:01.287: Se0:0 LCP:
MRRU 1524 (0x110405F4) Jan 1 00:01:01.287: Se0:0 LCP: EndpointDisc 1 Local
(0x130901353330302D31) Jan 1 00:01:01.287: Se0:0 LCP: State is Open Jan 1 00:01:01.287: Se0:0
PPP: Phase is AUTHENTICATING, by this end Jan 1 00:01:01.287: Se0:0 CHAP: Using alternate
hostname 5300-1 Jan 1 00:01:01.287: Se0:0 CHAP: O CHALLENGE id 17 len 27 from "5300-1" Jan 1
00:01:01.315: Se0:0 CHAP: I RESPONSE id 17 len 27 from "2500-1" Jan 1 00:01:01.315: Se0:0 PPP:
Phase is FORWARDING Jan 1 00:01:01.315: Se0:0 VPDN: Got DNIS string 614629 Jan 1 00:01:01.315:
Se0:0 VPDN: Looking for tunnel -- dnis:614629 -- Jan 1 00:01:01.315: Serial0:0 AAA/AUTHOR/VPDN
(552916761): Port='Serial0:0' list='default' service=NET Jan 1 00:01:01.315: AAA/AUTHOR/VPDN:
Serial0:0 (552916761) user='dnis:614629' Jan 1 00:01:01.315: Serial0:0 AAA/AUTHOR/VPDN
(552916761): send AV service=ppp Jan 1 00:01:01.315: Serial0:0 AAA/AUTHOR/VPDN (552916761): send
AV protocol=vpdn Jan 1 00:01:01.315: Serial0:0 AAA/AUTHOR/VPDN (552916761): found list "default"
Jan 1 00:01:01.315: Serial0:0 AAA/AUTHOR/VPDN (552916761): Method=NSA_LAB (radius) Jan 1
00:01:01.319: RADIUS: Initial Transmit Serial0:0 id 34 10.51.6.3:1645, Access-Request, len 112
Jan 1 00:01:01.319: Attribute 4 6 0A330644 Jan 1 00:01:01.319: Attribute 5 6 00000000 Jan 1
00:01:01.319: Attribute 26 17 00000009020B5365 Jan 1 00:01:01.319: Attribute 61 6 00000002 Jan 1
00:01:01.319: Attribute 1 13 646E6973 Jan 1 00:01:01.319: Attribute 30 8 36313436 Jan 1
00:01:01.319: Attribute 31 12 32303835 Jan 1 00:01:01.319: Attribute 2 18 B8DE6FA3 Jan 1
00:01:01.319: Attribute 6 6 00000005 Jan 1 00:01:01.323: RADIUS: Received from id 34
10.51.6.3:1645, Access-Accept, len 167 Jan 1 00:01:01.323: Attribute 6 6 00000005 Jan 1
00:01:01.323: Attribute 26 29 0000000901177670 Jan 1 00:01:01.323: Attribute 26 26
0000000901147670 Jan 1 00:01:01.323: Attribute 26 47 0000000901297670 Jan 1 00:01:01.327:
Attribute 26 39 0000000901217670 Jan 1 00:01:01.327: RADIUS: saved authorization data for user
620DAD68 at 619E9BC0 Jan 1 00:01:01.327: RADIUS: cisco AVPair "vpdn:tunnel-type=l2tp" Jan 1
00:01:01.327: RADIUS: cisco AVPair "vpdn:tunnel-id=hgw" Jan 1 00:01:01.327: RADIUS: cisco AVPair
"vpdn:ip-addresses= 10.51.6.61,10.51.6.59" Jan 1 00:01:01.327: RADIUS: cisco AVPair "vpdn:l2tp-
tunnel-password=hello" Jan 1 00:01:01.327: AAA/AUTHOR (552916761): Post authorization status =
PASS_ADD Jan 1 00:01:01.327: AAA/AUTHOR/VPDN: Processing AV service=ppp Jan 1 00:01:01.327:
AAA/AUTHOR/VPDN: Processing AV protocol=vpdn Jan 1 00:01:01.327: AAA/AUTHOR/VPDN: Processing AV
tunnel-type=l2tp Jan 1 00:01:01.327: AAA/AUTHOR/VPDN: Processing AV tunnel-id=hgw Jan 1
00:01:01.327: AAA/AUTHOR/VPDN: Processing AV ip-addresses= 10.51.6.61,10.51.6.59 Jan 1
00:01:01.327: AAA/AUTHOR/VPDN: Processing AV l2tp-tunnel-password=hello Jan 1 00:01:01.327:
Se0:0 VPDN/RPMS/: Got tunnel info for dnis:614629 Jan 1 00:01:01.327: Se0:0 VPDN/RPMS/: LAC hgw
Jan 1 00:01:01.327: Se0:0 VPDN/RPMS/: l2tp-busy-disconnect yes Jan 1 00:01:01.327: Se0:0
VPDN/RPMS/: l2tp-tunnel-password xxxxxx Jan 1 00:01:01.327: Se0:0 VPDN/RPMS/: 2 IP addresses Jan
1 00:01:01.327: Se0:0 VPDN/RPMS/: IP 10.51.6.61 Priority 1 Jan 1 00:01:01.327: Se0:0 VPDN/RPMS/:
IP 10.51.6.59 Priority 1 Jan 1 00:01:01.331: Se0:0 VPDN/: curlvl 1 Address 1: 10.51.6.59,
priority 1 Jan 1 00:01:01.331: Se0:0 VPDN/: Select non-active address 10.51.6.59, priority 1 Jan
1 00:01:01.331: Se0:0 VPDN: Find LNS process created Jan 1 00:01:01.331: Tnl 5105 L2TP: SM State
idle Jan 1 00:01:01.331: Tnl 5105 L2TP: O SCCRQ Jan 1 00:01:01.331: Tnl 5105 L2TP: Tunnel state
change from idle to wait-ctl-reply Jan 1 00:01:01.331: Tnl 5105 L2TP: SM State wait-ctl-reply
Jan 1 00:01:01.331: Se0:0 VPDN: Forward to address 10.51.6.59 Jan 1 00:01:01.331: Se0:0 VPDN:
```

Pending Jan 1 00:01:01.331: Se0:0 VPDN: Process created Jan 1 00:01:01.335: Tnl 5105 L2TP: I
SCCRP from l2tp-gw Jan 1 00:01:01.335: Tnl 5105 L2TP: Got a challenge from remote peer, l2tp-gw
Jan 1 00:01:01.335: Tnl 5105 L2TP: Got a response from remote peer, l2tp-gw Jan 1 00:01:01.335:
Tnl 5105 L2TP: Tunnel Authentication success **Jan 1 00:01:01.339: Tnl 5105 L2TP: Tunnel state
change from wait-ctl-reply to established** Jan 1 00:01:01.339: Tnl 5105 L2TP: O SCCCN to l2tp-gw
tnlid 24230 Jan 1 00:01:01.339: Tnl 5105 L2TP: SM State established Jan 1 00:01:01.339: Se0:0
VPDN: Forwarding... Jan 1 00:01:01.339: Tnl/Cl 5105/18 L2TP: Session FS enabled Jan 1
00:01:01.339: Tnl/Cl 5105/18 L2TP: Session state change from idle to wait-for-tunnel Jan 1
00:01:01.339: Se0:0 Tnl/Cl 5105/18 L2TP: Create session Jan 1 00:01:01.339: Tnl 5105 L2TP: SM
State established Jan 1 00:01:01.339: Se0:0 Tnl/Cl 5105/18 L2TP: O ICRQ to l2tp-gw 24230/0 Jan 1
00:01:01.339: Se0:0 Tnl/Cl 5105/18 L2TP: Session state change from wait-for-tunnel to wait-reply
Jan 1 00:01:01.339: Se0:0 VPDN: 2500-1 is forwarded Jan 1 00:01:01.343: Se0:0 Tnl/Cl 5105/18
L2TP: O ICCN to l2tp-gw 24230/41 **Jan 1 00:01:01.347: Se0:0 Tnl/Cl 5105/18 L2TP: Session state
change from wait-reply to established** Jan 1 00:01:02.343: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Serial0:0, changed state to up *!--- Second Multilink Call is placed by the remote
user.* Jan 1 00:01:03.123: %LINK-3-UPDOWN: Interface Serial0:1, changed state to up Jan 1
00:01:03.127: %ISDN-6-CONNECT: Interface Serial0:0 is now connected to 2085730592 2500-1 Jan 1
00:01:03.351: Se0:1 PPP: Treating connection as a callin Jan 1 00:01:03.351: Se0:1 PPP: Phase is
ESTABLISHING, Passive Open Jan 1 00:01:03.351: Se0:1 CHAP: Using alternate hostname 5300-1 **Jan 1
00:01:03.351: Se0:1 LCP: State is Listen** Jan 1 00:01:03.351: Se0:1 LCP: I CONFREQ [Listen] id 3
len 23 Jan 1 00:01:03.351: Se0:1 LCP: MagicNumber 0x31BFCE57 (0x050631BFCE57) Jan 1
00:01:03.351: Se0:1 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:03.351: Se0:1 LCP: EndpointDisc 1
Local (0x130901323530302D31) Jan 1 00:01:03.351: Se0:1 LCP: O CONFREQ [Listen] id 3 len 28 Jan 1
00:01:03.351: Se0:1 LCP: AuthProto CHAP (0x0305C22305) Jan 1 00:01:03.351: Se0:1 LCP:
MagicNumber 0x15C13B5D (0x050615C13B5D) **Jan 1 00:01:03.351: Se0:1 LCP: MRRU 1524 (0x110405F4)
Jan 1 00:01:03.351: Se0:1 LCP: EndpointDisc 1 Local (0x130901353330302D31)** Jan 1 00:01:03.355:
Se0:1 LCP: O CONFACK [Listen] id 3 len 23 Jan 1 00:01:03.355: Se0:1 LCP: MagicNumber 0x31BFCE57
(0x050631BFCE57) Jan 1 00:01:03.355: Se0:1 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:03.355: Se0:1
LCP: EndpointDisc 1 Local (0x130901323530302D31) Jan 1 00:01:03.403: Se0:1 LCP: I CONFACK
[ACKsent] id 3 len 28 Jan 1 00:01:03.403: Se0:1 LCP: AuthProto CHAP (0x0305C22305) Jan 1
00:01:03.403: Se0:1 LCP: MagicNumber 0x15C13B5D (0x050615C13B5D) **Jan 1 00:01:03.403: Se0:1 LCP:
MRRU 1524 (0x110405F4) Jan 1 00:01:03.403: Se0:1 LCP: EndpointDisc 1 Local
(0x130901353330302D31) Jan 1 00:01:03.403: Se0:1 LCP: State is Open** Jan 1 00:01:03.403: Se0:1
PPP: Phase is AUTHENTICATING, by this end Jan 1 00:01:03.403: Se0:1 CHAP: Using alternate
hostname 5300-1 Jan 1 00:01:03.407: Se0:1 CHAP: O CHALLENGE id 3 len 27 from "5300-1" Jan 1
00:01:03.435: Se0:1 CHAP: I RESPONSE id 3 len 27 from "2500-1" Jan 1 00:01:03.435: Se0:1 PPP:
Phase is FORWARDING **Jan 1 00:01:03.435: Se0:1 VPDN: Got DNIS string 614629 Jan 1 00:01:03.435:
Se0:1 VPDN: Looking for tunnel -- dnis:614629 --** Jan 1 00:01:03.435: Serial0:1 AAA/AUTHOR/VPDN
(4201608973): Port='Serial0:1' list='default' service=NET Jan 1 00:01:03.435: AAA/AUTHOR/VPDN:
Serial0:1 (4201608973) user='dnis:614629' Jan 1 00:01:03.435: Serial0:1 AAA/AUTHOR/VPDN
(4201608973): send AV service=ppp Jan 1 00:01:03.435: Serial0:1 AAA/AUTHOR/VPDN (4201608973):
send AV protocol=vpdn Jan 1 00:01:03.435: Serial0:1 AAA/AUTHOR/VPDN (4201608973): found list
"default" Jan 1 00:01:03.435: Serial0:1 AAA/AUTHOR/VPDN (4201608973): Method=NSA_LAB (radius)
Jan 1 00:01:03.439: RADIUS: Initial Transmit Serial0:1 id 35 10.51.6.3:1645, Access-Request, len
112 Jan 1 00:01:03.439: Attribute 4 6 0A330644 Jan 1 00:01:03.439: Attribute 5 6 00000001 Jan 1
00:01:03.439: Attribute 26 17 00000009020B5365 Jan 1 00:01:03.439: Attribute 61 6 00000002 Jan 1
00:01:03.439: Attribute 1 13 646E6973 Jan 1 00:01:03.439: Attribute 30 8 36313436 Jan 1
00:01:03.439: Attribute 31 12 32303835 Jan 1 00:01:03.439: Attribute 2 18 0FC856FB Jan 1
00:01:03.439: Attribute 6 6 00000005 Jan 1 00:01:03.443: RADIUS: Received from id 35
10.51.6.3:1645, Access-Accept, len 167 Jan 1 00:01:03.443: Attribute 6 6 00000005 Jan 1
00:01:03.443: Attribute 26 29 0000000901177670 Jan 1 00:01:03.443: Attribute 26 26
0000000901147670 Jan 1 00:01:03.443: Attribute 26 47 0000000901297670 Jan 1 00:01:03.443:
Attribute 26 39 0000000901217670 Jan 1 00:01:03.443: RADIUS: saved authorization data for user
62127900 at 61CD10A0 Jan 1 00:01:03.443: RADIUS: cisco AVPair "vpdn:tunnel-type=l2tp" Jan 1
00:01:03.443: RADIUS: cisco AVPair "vpdn:tunnel-id=hgw" **Jan 1 00:01:03.443: RADIUS: cisco AVPair
"vpdn:ip-addresses= 10.51.6.61,10.51.6.59"** Jan 1 00:01:03.443: RADIUS: cisco AVPair "vpdn:l2tp-
tunnel-password=hello" Jan 1 00:01:03.443: AAA/AUTHOR (4201608973): Post authorization status =
PASS_ADD Jan 1 00:01:03.443: AAA/AUTHOR/VPDN: Processing AV service=ppp Jan 1 00:01:03.443:
AAA/AUTHOR/VPDN: Processing AV protocol=vpdn Jan 1 00:01:03.443: AAA/AUTHOR/VPDN: Processing AV
tunnel-type=l2tp Jan 1 00:01:03.443: AAA/AUTHOR/VPDN: Processing AV tunnel-id=hgw Jan 1
00:01:03.443: AAA/AUTHOR/VPDN: Processing AV ip-addresses= 10.51.6.61,10.51.6.59 Jan 1
00:01:03.443: AAA/AUTHOR/VPDN: Processing AV l2tp-tunnel-password=hello Jan 1 00:01:03.443:
Se0:1 VPDN/RPMS/: Got tunnel info for dnis:614629 Jan 1 00:01:03.443: Se0:1 VPDN/RPMS/: LAC hgw
Jan 1 00:01:03.443: Se0:1 VPDN/RPMS/: l2tp-busy-disconnect yes Jan 1 00:01:03.443: Se0:1

VPDN/RPMS/: l2tp-tunnel-password xxxxxx Jan 1 00:01:03.443: Se0:1 VPDN/RPMS/: 2 IP addresses Jan 1 00:01:03.443: Se0:1 VPDN/RPMS/: IP 10.51.6.61 Priority 1 Jan 1 00:01:03.447: Se0:1 VPDN/RPMS/: IP 10.51.6.59 Priority 1 Jan 1 00:01:03.447: Se0:1 VPDN/: curlvl 1 Address 1: 10.51.6.59, priority 1 Jan 1 00:01:03.447: Se0:1 VPDN/: curlvl 1 Address 0: 10.51.6.61, priority 1 Jan 1 00:01:03.447: Se0:1 VPDN/: Select non-active address 10.51.6.61, priority 1 Jan 1 00:01:03.447: Se0:1 VPDN: Find LNS process created Jan 1 00:01:03.447: Tnl 49388 L2TP: SM State idle Jan 1 00:01:03.447: Tnl 49388 L2TP: O SCCRQ Jan 1 00:01:03.447: Tnl 49388 L2TP: Tunnel state change from idle to wait-ctl-reply Jan 1 00:01:03.447: Tnl 49388 L2TP: SM State wait-ctl-reply **Jan 1 00:01:03.447: Se0:1 VPDN: Forward to address 10.51.6.61** Jan 1 00:01:03.447: Se0:1 VPDN: Pending Jan 1 00:01:03.447: Se0:1 VPDN: Process created Jan 1 00:01:03.451: Tnl 49388 L2TP: I SCCRP from l2tp-gw Jan 1 00:01:03.451: Tnl 49388 L2TP: Got a challenge from remote peer, l2tp-gw Jan 1 00:01:03.451: Tnl 49388 L2TP: Got a response from remote peer, l2tp-gw Jan 1 00:01:03.451: Tnl 49388 L2TP: Tunnel Authentication success **Jan 1 00:01:03.451: Tnl 49388 L2TP: Tunnel state change from wait-ctl-reply to established** Jan 1 00:01:03.451: Tnl 49388 L2TP: O SCCCN to l2tp-gw tnlid 43591 Jan 1 00:01:03.455: Tnl 49388 L2TP: SM State established Jan 1 00:01:03.455: Se0:1 VPDN: Forwarding... Jan 1 00:01:03.455: Tnl/Cl 49388/19 L2TP: Session FS enabled Jan 1 00:01:03.455: Tnl/Cl 49388/19 L2TP: Session state change from idle to wait-for-tunnel Jan 1 00:01:03.455: Se0:1 Tnl/Cl 49388/19 L2TP: Create session Jan 1 00:01:03.455: Tnl 49388 L2TP: SM State established Jan 1 00:01:03.455: Se0:1 Tnl/Cl 49388/19 L2TP: O ICRQ to l2tp-gw 43591/0 Jan 1 00:01:03.455: Se0:1 Tnl/Cl 49388/19 L2TP: Session state change from wait-for-tunnel to wait-reply Jan 1 00:01:03.455: Se0:1 VPDN: 2500-1 is forwarded Jan 1 00:01:03.459: Se0:1 Tnl/Cl 49388/19 L2TP: O ICCN to l2tp-gw 43591/19 **Jan 1 00:01:03.463: Se0:1 Tnl/Cl 49388/19 L2TP: Session state change from wait-reply to established** Jan 1 00:01:04.455: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0:1, changed state to up Jan 1 00:01:09.127: %ISDN-6-CONNECT: Interface Serial0:1 is now connected to 2085730592 2500-1

Debugs pris du LNS - 10.51.6.59

Jan 1 00:01:01.783: L2TP: I SCCRQ from hgw tnl 5105
Jan 1 00:01:01.783: Tnl 24230 L2TP: Got a challenge in SCCRQ, hgw
Jan 1 00:01:01.783: Tnl 24230 L2TP: New tunnel created for remote hgw, address10.51.6.68
Jan 1 00:01:01.783: Tnl 24230 L2TP: O SCCRP to hgw tnlid 5105
Jan 1 00:01:01.783: Tnl 24230 L2TP: Tunnel state change from idle to wait-ctl-reply
Jan 1 00:01:01.787: Tnl 24230 L2TP: I SCCCN from hgw tnl 5105
Jan 1 00:01:01.787: Tnl 24230 L2TP: Got a Challenge Response in SCCCN from hgw
Jan 1 00:01:01.787: Tnl 24230 L2TP: Tunnel Authentication success
Jan 1 00:01:01.787: Tnl 24230 L2TP: Tunnel state change from wait-ctl-reply to established Jan 1 00:01:01.787: Tnl 24230 L2TP: SM State established Jan 1 00:01:01.791: Tnl 24230 L2TP: I ICRQ from hgw tnl 5105 Jan 1 00:01:01.791: Tnl/Cl 24230/41 L2TP: Session FS enabled Jan 1 00:01:01.791: Tnl/Cl 24230/41 L2TP: Session state change from idle to wait-connect Jan 1 00:01:01.791: Tnl/Cl 24230/41 L2TP: New session created Jan 1 00:01:01.791: Tnl/Cl 24230/41 L2TP: O ICRP to hgw 5105/18 Jan 1 00:01:01.795: Tnl/Cl 24230/41 L2TP: I ICCN from hgw tnl 5105, cl 18 **Jan 1 00:01:01.795: Tnl/Cl 24230/41 L2TP: Session state change from wait-connect to established** Jan 1 00:01:01.795: Vi2 VPDN: Virtual interface created for 2500-1 Jan 1 00:01:01.795: Vi2 PPP: Phase is DOWN, Setup Jan 1 00:01:01.799: Vi2 VTEMPLATE: Has a new cloneblk vtemplate, now it has vtemplate Jan 1 00:01:01.799: Vi2 VTEMPLATE: ***** CLONE VACCESS2 ***** Jan 1 00:01:01.799: Vi2 VTEMPLATE: Clone from Virtual-Templatel interface Virtual-Access2 default ip address ppp authentication chap vpdn ppp authorization vpdn **ppp multilink** pp chap hostname nsa-7200-3 end Jan 1 00:01:01.835: %LINK-3-UPDOWN: Interface Virtual-Access2, changed state to up Jan 1 00:01:01.835: Vi2 PPP: Using set call direction Jan 1 00:01:01.835: Vi2 PPP: Treating connection as a callin Jan 1 00:01:01.835: Vi2 PPP: Phase is ESTABLISHING, Passive Open Jan 1 00:01:01.835: Vi2 CHAP: Using alternate hostname nsa-7200-3 Jan 1 00:01:01.835: Vi2 LCP: State is Listen Jan 1 00:01:01.835: Vi2 LCP: I FORCED CONFREQ len 24 Jan 1 00:01:01.835: Vi2 LCP: AuthProto CHAP (0x0305C22305) Jan 1 00:01:01.835: Vi2 LCP: MagicNumber 0x15C13318 (0x050615C13318) **Jan 1 00:01:01.835: Vi2 LCP: MRRU 1524 (0x110405F4)** Jan 1 00:01:01.835: Vi2 LCP: **EndpointDisc 1 Local (0x130901353330302D31)** Jan 1 00:01:01.835: Vi2 VPDN: **PPP LCP accepted rcv CONFACK** Jan 1 00:01:01.835: Vi2 LCP: I FORCED CONFACK len 19 Jan 1 00:01:01.835: Vi2 LCP: MagicNumber 0x31BFC605 (0x050631BFC605) **Jan 1 00:01:01.835: Vi2 LCP: MRRU 1524 (0x110405F4)** Jan 1 00:01:01.835: Vi2 LCP: **EndpointDisc 1 Local (0x130901323530302D31)** Jan 1 00:01:01.835: Vi2 VPDN: **PPP LCP accepted sent CONFACK** Jan 1 00:01:01.835: Vi2 PPP: Phase is AUTHENTICATING, by this end Jan 1 00:01:01.835: Vi2 CHAP: Using alternate hostname nsa-7200-3 Jan 1 00:01:01.835: Vi2 CHAP: O CHALLENGE id 3 len 31 from "nsa-7200-3" Jan 1 00:01:01.835: Vi2

CHAP: I RESPONSE id 17 len 27 from "2500-1" Jan 1 00:01:01.835: Vi2 PPP: Phase is FORWARDING Jan 1 00:01:01.835: Vi2 VPDN: Looking for tunnel -- -- Jan 1 00:01:01.839: Vi2 VPDN: Looking for tunnel -- -- Jan 1 00:01:01.839: %SGBP-7-NEWL: Local query #53 for 2500-1, count 1, ourbid 50 Jan 1 00:01:01.839: Vi2 VPDN: Continue using SGBP for 2500-1 Jan 1 00:01:01.839: Vi2 VPDN: Pending Jan 1 00:01:01.839: Vi2 VPDN: Process created Jan 1 00:01:02.091: %SGBP-7-DONE: Query #53 for bundle 2500-1, count 1, master is local Jan 1 00:01:02.091: %SGBP-7-MQB: Bundle: 2500-1 State: Done OurBid: 10000 Jan 1 00:01:02.091: %SGBP-7-PB: 10.51.6.61 State: Rcvd Bid: 000 Retry: 0 Jan 1 00:01:02.091: Vi2 VPDN: Not forwarded Jan 1 00:01:02.091: Vi2 PPP: Phase is AUTHENTICATING Jan 1 00:01:02.091: Vi2 CHAP: I RESPONSE id 17 len 27 from "2500-1" Jan 1 00:01:02.091: AAA/AUTHEN/START (3376880111): port='Virtual-Access2' list='vpdn' action=LOGI service=PPP Jan 1 00:01:02.091: AAA/AUTHEN/START (3376880111): found list vpdn Jan 1 00:01:02.091: AAA/AUTHEN/START (3376880111): Method=radius (radius) Jan 1 00:01:02.091: RADIUS: Initial Transmit Virtual-Access2 id 15 10.51.6.3:1645, Access-Request, len 97 Jan 1 00:01:02.091: Attribute 4 6 0A33063B Jan 1 00:01:02.091: Attribute 5 6 00000002 Jan 1 00:01:02.091: Attribute 61 6 00000005 Jan 1 00:01:02.091: Attribute 1 8 32353030 Jan 1 00:01:02.091: Attribute 30 8 36313436 Jan 1 00:01:02.091: Attribute 31 12 32303835 Jan 1 00:01:02.091: Attribute 3 19 110F710D Jan 1 00:01:02.091: Attribute 6 6 00000002 Jan 1 00:01:02.091: Attribute 7 6 00000001 Jan 1 00:01:02.095: RADIUS: Received from id 15 10.51.6.3:1645, Access-Accept, len 38 Jan 1 00:01:02.095: Attribute 6 6 00000002 Jan 1 00:01:02.095: Attribute 7 6 00000001 Jan 1 00:01:02.095: Attribute 8 6 FFFFFFFF Jan 1 00:01:02.095: AAA/AUTHEN (3376880111): status = PASS Jan 1 00:01:02.095: Vi2 AAA/AUTHOR/LCP: Authorize LCP Jan 1 00:01:02.095: Vi2 AAA/AUTHOR/LCP (2242497288): Port='Virtual-Access2' list='vpdn' service=NET Jan 1 00:01:02.099: AAA/AUTHOR/LCP: Vi2 (2242497288) user='2500-1' Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/LCP (2242497288): send AV service=ppp Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/LCP (2242497288): send AV protocol=lcp Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/LCP (2242497288): found list "vpdn" Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/LCP (2242497288): Method=radius (radius) Jan 1 00:01:02.099: Vi2 AAA/AUTHOR (2242497288): Post authorization status = PASS_REPL Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/LCP: Processing AV service=ppp Jan 1 00:01:02.099: Vi2 CHAP: O SUCCESS id 17 len 4 Jan 1 00:01:02.099: Vi2 PPP: Phase is VIRTUALIZED Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/MLP (2616761311): Port='Virtual-Access2' list='vpdn' service=NET Jan 1 00:01:02.099: AAA/AUTHOR/MLP: Vi2 (2616761311) user='2500-1' Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/MLP (2616761311): send AV service=ppp Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/MLP (2616761311): send AV protocol=multilink Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/MLP (2616761311): found list "vpdn" Jan 1 00:01:02.099: Vi2 AAA/AUTHOR/MLP (2616761311): Method=radius (radius) Jan 1 00:01:02.099: Vi2 AAA/AUTHOR (2616761311): Post authorization status = PASS_REPL Jan 1 00:01:02.115: Vi1 VTEMPLATE: Set default settings with ip unnumbered Jan 1 00:01:02.115: Vi1 VTEMPLATE: Hardware address 0010.0ba5.f800 Jan 1 00:01:02.115: Vi1 PPP: Phase is DOWN, Setup Jan 1 00:01:02.119: Vi1 VTEMPLATE: Has a new cloneblk vtemplate, now it has vtemplate Jan 1 00:01:02.119: Vi1 VTEMPLATE: ***** CLONE VACCESS1 ***** Jan 1 00:01:02.119: Vi1 VTEMPLATE: Clone from Virtual-Templatel interface Virtual-Access1 default ip address no ip address encaps ppp ip unnumbered Ethernet5/0 peer default ip address pool default ppp authentication chap vpdn ppp authorization vpdn **ppp multilink** pp chap hostname nsa-7200-3 end Jan 1 00:01:02.179: Vi2 IPCP: Packet buffered while building MLP bundle interface Jan 1 00:01:02.179: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up Jan 1 00:01:02.179: Vi1 PPP: Treating connection as a dedicated line Jan 1 00:01:02.179: Vi1 PPP: Phase is ESTABLISHING, Active Open Jan 1 00:01:02.179: Vi1 CHAP: Using alternate hostname nsa-7200-3 Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially Jan 1 00:01:02.179: Vi1 LCP: O CONFREQ [Closed] id 1 len 32 Jan 1 00:01:02.179: Vi1 LCP: AuthProto CHAP (0x0305C22305) Jan 1 00:01:02.179: Vi1 LCP: MagicNumber 0x1F5A340B (0x05061F5A340B) Jan 1 00:01:02.179: Vi1 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:02.179: Vi1 LCP: EndpointDisc 1 Local (0x130D016E73612D373230302D33) Jan 1 00:01:02.179: AAA/AUTHOR/MLP Vi1: Processing AV service=ppp Jan 1 00:01:02.179: Vi1 VPDN: Virtual interface iteration Jan 1 00:01:02.179: Vi1 PPP: Phase is UP Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM: (0): Can we start IPCP? Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM (2530889481): Port='Virtual-Access2' list='vpdn' service=NET Jan 1 00:01:02.179: AAA/AUTHOR/FSM: Vi1 (2530889481) user='2500-1' Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM (2530889481): send AV service=ppp Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM (2530889481): send AV protocol=ip Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM (2530889481): found list "vpdn" Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM (2530889481): Method=radius (radius) Jan 1 00:01:02.179: RADIUS: allowing negotiated framed address Jan 1 00:01:02.179: Vi1 AAA/AUTHOR (2530889481): Post authorization status = PASS_REPL Jan 1 00:01:02.179: Vi1 AAA/AUTHOR/FSM: We can start IPCP Jan 1 00:01:02.183: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10 Jan 1 00:01:02.183: Vi1 IPCP: Address 10.51.6.59 (0x03060A33063B) Jan 1 00:01:02.183: Vi1 MLP: Added first link Vi2 to bundle 2500-1 Jan 1 00:01:02.183: Vi2 IPCP: Redirect packet to Vi1 Jan 1 00:01:02.183: Vi1 IPCP: I CONFREQ [REQsent] id 1 len 10 Jan 1 00:01:02.183: Vi1 IPCP: Address 10.10.53.2 (0x03060A0A3502) Jan 1

00:01:02.183: Vi1 AAA/AUTHOR/IPCP: Start. Her address 10.10.53.2, we want 0.0.0.0 Jan 1
00:01:02.183: Vi1 AAA/AUTHOR/IPCP (2777739044): Port='Virtual-Access2' list='vpdn' service=NET
Jan 1 00:01:02.183: AAA/AUTHOR/IPCP: Vi1 (2777739044) user='2500-1' Jan 1 00:01:02.183: Vi1
AAA/AUTHOR/IPCP (2777739044): send AV service=ppp Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP
(2777739044): send AV protocol=ip Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP (2777739044): send AV
addr*10.10.53.2 Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP (2777739044): found list "vpdn" Jan 1
00:01:02.183: Vi1 AAA/AUTHOR/IPCP (2777739044): Method=radius (radius) Jan 1 00:01:02.183:
RADIUS: allowing negotiated framed address 10.10.53.2 Jan 1 00:01:02.183: Vi1 AAA/AUTHOR
(2777739044): Post authorization status = PASS_REPL Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP:
Processing AV service=ppp Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP: Processing AV addr=10.10.53.2
Jan 1 00:01:02.183: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded Jan 1 00:01:02.183: Vi1
AAA/AUTHOR/IPCP: Done. Her address 10.10.53.2, we want 10.10.53.2 Jan 1 00:01:02.183: Vi1 IPCP:
O CONFACK [REQsent] id 1 len 10 Jan 1 00:01:02.183: Vi1 IPCP: Address 10.10.53.2
(0x03060A0A3502) Jan 1 00:01:02.211: Vi1 IPCP: I CONFACK [ACKsent] id 1 len 10 Jan 1
00:01:02.211: Vi1 IPCP: Address 10.51.6.59 (0x03060A33063B) Jan 1 00:01:02.211: Vi1 IPCP: State
is Open Jan 1 00:01:02.211: Vi1 AAA/AUTHOR/PER-USER: Event IP_UP Jan 1 00:01:02.211: Vi1
AAA/AUTHOR: IP_UP Jan 1 00:01:02.211: Vi1 AAA/PER-USER: processing author params. Jan 1
00:01:02.215: Vi1 IPCP: Install route to 10.10.53.2 Jan 1 00:01:03.099: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Virtual-Access2, changed state to up Jan 1 00:01:03.179: %LINEPROTO-
5-UPDOWN: Line protocol on Interface Virtual-Access1, changed state to up **Jan 1 00:01:04.163:**
%SGBP-7-NEWP: Peer query #54 for 2500-1, count 1, peerbid 50, ourbid 10000 Jan 1 00:01:04.363:
%SGBP-7-DONE: Query #54 for bundle 2500-1, count 0, master is local Jan 1 00:01:04.367: L2F:
L2F_CONF received Jan 1 00:01:04.367: Tnl 46 L2F: Received L2F-CONF from MULTIHOP Jan 1
00:01:04.367: AAA/AUTHEN/START (1546583827): port='' list='default' action=SENDAUTH service=PPP
Jan 1 00:01:04.367: AAA/AUTHEN/START (1546583827): found list default Jan 1 00:01:04.367:
AAA/AUTHEN/START (1546583827): Method=LOCAL Jan 1 00:01:04.367: AAA/AUTHEN (1546583827): status
= PASS Jan 1 00:01:04.367: AAA/AUTHEN/START (3291965384): port='' list='default' action=SENDAUTH
service=PPP Jan 1 00:01:04.367: AAA/AUTHEN/START (3291965384): found list default Jan 1
00:01:04.367: AAA/AUTHEN/START (3291965384): Method=LOCAL Jan 1 00:01:04.367: AAA/AUTHEN
(3291965384): status = PASS Jan 1 00:01:04.367: Tnl 46 L2F: Opened UDP socket to 10.51.6.61
using source 10.51.6.59 Jan 1 00:01:04.367: Tnl 46 L2F: Tunnel MULTIHOP state change from closed
state opening Jan 1 00:01:04.367: Tnl 46 L2F: Sending L2F-CONF to peer Jan 1 00:01:04.375: Tnl
46 L2F: L2F_OPEN received Jan 1 00:01:04.375: Tnl 46 L2F: OPEN from MULTIHOP received for tunnel
in state opening Jan 1 00:01:04.375: AAA/AUTHEN/START (3210024667): port='' list='default'
action=LOGIN service=PPP Jan 1 00:01:04.375: AAA/AUTHEN/START (3210024667): found list default
Jan 1 00:01:04.375: AAA/AUTHEN/START (3210024667): Method=LOCAL Jan 1 00:01:04.375: AAA/AUTHEN
(3210024667): status = PASS Jan 1 00:01:04.375: VPDN: Chap authentication succeeded for MULTIHOP
Jan 1 00:01:04.375: Tnl 46 L2F: Tunnel MULTIHOP state change from opening state open Jan 1
00:01:04.375: Tnl 46 L2F: Replying to MULTIHOP with L2F-OPEN Jan 1 00:01:04.379: Tnl 46 L2F:
L2F_OPEN received Jan 1 00:01:04.379: Tnl 46 L2F: New OPEN received for Session 12 Jan 1
00:01:04.379: 2500-1Tnl/Cl 46/12 L2F: Session state change from closed to opening Jan 1
00:01:04.379: Vi3 VTEMPLATE: Hardware address 0010.0ba5.f800 Jan 1 00:01:04.379: Vi3 VPDN:
Virtual interface created for 2500-1 bandwidth 64 Kbps Jan 1 00:01:04.379: Vi3 PPP: Phase is
DOWN, Setup Jan 1 00:01:04.379: Vi3 VTEMPLATE: Has a new cloneblk vtemplate, now it has
vtemplate Jan 1 00:01:04.379: Vi3 VTEMPLATE: ***** CLONE VACCESS3 ***** Jan
1 00:01:04.379: Vi3 VTEMPLATE: Clone from Virtual-Templatel interface Virtual-Access3 default ip
address ppp authentication chap vpdn ppp authorization vpdn ppp multilink pp chap hostname nsa-
7200-3 end Jan 1 00:01:04.419: %LINK-3-UPDOWN: Interface Virtual-Access3, changed state to up
Jan 1 00:01:04.419: Vi3 PPP: Using set call direction Jan 1 00:01:04.419: Vi3 PPP: Treating
connection as a callin Jan 1 00:01:04.419: Vi3 PPP: Phase is ESTABLISHING, Passive Open Jan 1
00:01:04.419: Vi3 CHAP: Using alternate hostname nsa-7200-3 Jan 1 00:01:04.419: Vi3 LCP: State
is Listen Jan 1 00:01:04.419: Vi3 LCP: I FORCED CONFREQ len 24 Jan 1 00:01:04.419: Vi3 LCP:
AuthProto CHAP (0x0305C22305) Jan 1 00:01:04.419: Vi3 LCP: MagicNumber 0x15C13B5D
(0x050615C13B5D) **Jan 1 00:01:04.419: Vi3 LCP: MRRU 1524 (0x110405F4) Jan 1 00:01:04.419: Vi3**
LCP: EndpointDisc 1 Local (0x130901353330302D31) Jan 1 00:01:04.419: Vi3 VPDN: PPP LCP accepted
rcv CONFACK Jan 1 00:01:04.419: Vi3 LCP: I FORCED CONFACK len 19 Jan 1 00:01:04.419: Vi3 LCP:
MagicNumber 0x31BFCE57 (0x050631BFCE57) **Jan 1 00:01:04.419: Vi3 LCP: MRRU 1524 (0x110405F4) Jan**
1 00:01:04.419: Vi3 LCP: EndpointDisc 1 Local (0x130901323530302D31) Jan 1 00:01:04.419: Vi3
VPDN: PPP LCP accepted sent CONFACK Jan 1 00:01:04.419: Vi3 PPP: Phase is AUTHENTICATING, by
this end Jan 1 00:01:04.419: Vi3 CHAP: Using alternate hostname nsa-7200-3 Jan 1 00:01:04.419:
Vi3 CHAP: O CHALLENGE id 3 len 31 from "nsa-7200-3" Jan 1 00:01:04.419: Vi3 Tnl/Cl 46/12 L2F:
Transfer NAS-Rate L2F/64000/64000 to LCP Jan 1 00:01:04.419: Vi3 CHAP: I RESPONSE id 3 len 27
from "2500-1" Jan 1 00:01:04.419: Vi3 PPP: Phase is FORWARDING Jan 1 00:01:04.423: Vi3 VPDN:
Looking for tunnel -- -- Jan 1 00:01:04.423: Vi3 VPDN: Looking for tunnel -- -- Jan 1

00:01:04.423: Vi3 VPDN: Multihop illegal for Multichassis Multilink !--- This debug message is generated as the Cisco IOS software checks to see !--- if the second and first hops are already an existing Multichassis tunnel. !--- If so, the tunnel is disallowed. Jan 1 00:01:04.423: Vi3 VPDN: Continue PPP authentication for 2500-1 Jan 1 00:01:04.423: Vi3 PPP: Phase is AUTHENTICATING Jan 1 00:01:04.423: Vi3 Tnl/Cl 46/12 L2F: Created VA for Mid, Replying with OPEN Jan 1 00:01:04.423: Vi3 Tnl/Cl 46/12 L2F: Session state change from opening to open Jan 1 00:01:04.423: AAA/AUTHEN/START (578160697): port='Virtual-Access3' list='vpdn' action=LOGIN service=PPP Jan 1 00:01:04.423: AAA/AUTHEN/START (578160697): found list vpdn Jan 1 00:01:04.423: AAA/AUTHEN/START (578160697): Method=radius (radius) Jan 1 00:01:04.423: RADIUS: Initial Transmit Virtual-Access3 id 16 10.51.6.3:1645, Access-Request, len 97 Jan 1 00:01:04.423: Attribute 4 6 0A33063B Jan 1 00:01:04.423: Attribute 5 6 00000003 Jan 1 00:01:04.423: Attribute 61 6 00000005 Jan 1 00:01:04.423: Attribute 1 8 32353030 Jan 1 00:01:04.423: Attribute 30 8 36313436 Jan 1 00:01:04.423: Attribute 31 12 32303835 Jan 1 00:01:04.423: Attribute 3 19 03A99FFB Jan 1 00:01:04.423: Attribute 6 6 00000002 Jan 1 00:01:04.423: Attribute 7 6 00000001 Jan 1 00:01:04.427: RADIUS: Received from id 16 10.51.6.3:1645, Access-Accept, len 38 Jan 1 00:01:04.427: Attribute 6 6 00000002 Jan 1 00:01:04.427: Attribute 7 6 00000001 Jan 1 00:01:04.427: Attribute 8 6 FFFFFFFF Jan 1 00:01:04.427: AAA/AUTHEN (578160697): status = PASS Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP: Authorize LCP Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP (2032781798): Port='Virtual-Access3' list='vpdn' service=NET Jan 1 00:01:04.427: AAA/AUTHOR/LCP: Vi3 (2032781798) user='2500-1' Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP (2032781798): send AV service=ppp Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP (2032781798): send AV protocol=lcp Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP (2032781798): found list "vpdn" Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP (2032781798): Method=radius (radius) Jan 1 00:01:04.427: Vi3 AAA/AUTHOR (2032781798): Post authorization status = PASS_REPL Jan 1 00:01:04.427: Vi3 AAA/AUTHOR/LCP: Processing AV service=ppp Jan 1 00:01:04.427: Vi3 CHAP: O SUCCESS id 3 len 4 Jan 1 00:01:04.427: Vi3 PPP: Phase is VIRTUALIZED Jan 1 00:01:04.427: Vi1 MLP: Added link Vi3 to bundle 2500-1 Jan 1 00:01:04.491: %SGBP-7-MQB: Bundle: 2500-1 State: Done OurBid:10000 Jan 1 00:01:04.491: %SGBP-7-PB: 10.51.6.61 State: Closed Bid: 050 Retry: 1 Jan 1 00:01:05.427: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access3, changed state to up

[Debugs pris du LNS - 10.51.6.61](#)

Jan 1 00:01:02.399: %SGBP-7-NEWP: Peer query #53 for 2500-1, count 1, peerbid 5 0, ourbid 0
Jan 1 00:01:04.411: L2TP: I SCCRQ from hgw tnl 49388
Jan 1 00:01:04.411: Tnl 43591 L2TP: Got a challenge in SCCRQ, hgw
Jan 1 00:01:04.411: Tnl 43591 L2TP: New tunnel created for remote hgw, address 10.51.6.68
Jan 1 00:01:04.411: Tnl 43591 L2TP: O SCCRP to hgw tnlid 49388
Jan 1 00:01:04.411: Tnl 43591 L2TP: Tunnel state change from idle to wait-ctl-reply
Jan 1 00:01:04.415: Tnl 43591 L2TP: I SCCCN from hgw tnl 49388
Jan 1 00:01:04.415: Tnl 43591 L2TP: Got a Challenge Response in SCCCN from hgw
Jan 1 00:01:04.415: Tnl 43591 L2TP: Tunnel Authentication success
Jan 1 00:01:04.415: Tnl 43591 L2TP: Tunnel state change from wait-ctl-reply to established
Jan 1 00:01:04.415: Tnl 43591 L2TP: SM State established
Jan 1 00:01:04.419: Tnl 43591 L2TP: I ICRQ from hgw tnl 49388
Jan 1 00:01:04.419: Tnl/Cl 43591/19 L2TP: Session FS enabled
Jan 1 00:01:04.419: Tnl/Cl 43591/19 L2TP: Session state change from idle to wait-connect
Jan 1 00:01:04.419: Tnl/Cl 43591/19 L2TP: New session created
Jan 1 00:01:04.419: Tnl/Cl 43591/19 L2TP: O ICRP to hgw 49388/19
Jan 1 00:01:04.423: Tnl/Cl 43591/19 L2TP: I ICCN from hgw tnl 49388, cl 19
Jan 1 00:01:04.423: Tnl/Cl 43591/19 L2TP: Session state change from wait-connect to established
Jan 1 00:01:04.423: Vi1 VTEMPLATE: Hardware address 0090.b121.0c00
Jan 1 00:01:04.423: Vi1 VPDN: Virtual interface created for 2500-1
Jan 1 00:01:04.423: Vi1 PPP: Phase is DOWN, Setup
Jan 1 00:01:04.423: Vi1 VTEMPLATE: Has a new cloneblk vtemplate, now it has vtemplate
Jan 1 00:01:04.423: Vi1 VTEMPLATE:
***** CLONE VACCESS1 *****

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Jan 1 00:01:04.423: Vi1 VTEMPLATE: Clone from Virtual-Templatel
interface Virtual-Access1
default ip address
ppp authentication chap vpdn
ppp authorization vpdn
ppp multilink
pp chap hostname nsa-7200-2
end

Jan 1 00:01:04.479: %LINK-3-UPDOWN: Interface Virtual-Access1,
changed state to up
Jan 1 00:01:04.479: Vi1 PPP: Using set call direction
Jan 1 00:01:04.479: Vi1 PPP: Treating connection as a callin
Jan 1 00:01:04.479: Vi1 PPP: Phase is ESTABLISHING, Passive Open
Jan 1 00:01:04.479: Vi1 CHAP: Using alternate hostname nsa-7200-2
Jan 1 00:01:04.479: Vi1 LCP: State is Listen
Jan 1 00:01:04.479: Vi1 VPDN: Bind interface direction=2
Jan 1 00:01:04.479: Vi1 LCP: I FORCED CONFREQ len 24
Jan 1 00:01:04.479: Vi1 LCP: AuthProto CHAP (0x0305C22305)
Jan 1 00:01:04.479: Vi1 LCP: MagicNumber 0x15C13B5D (0x050615C13B5D)
Jan 1 00:01:04.479: Vi1 LCP: MRRU 1524 (0x110405F4)
Jan 1 00:01:04.479: Vi1 LCP: EndpointDisc 1 Local (0x130901353330302D31)
Jan 1 00:01:04.479: Vi1 VPDN: PPP LCP accepted rcv CONFACK
Jan 1 00:01:04.479: Vi1 LCP: I FORCED CONFACK len 19
Jan 1 00:01:04.479: Vi1 LCP: MagicNumber 0x31BFCE57 (0x050631BFCE57)
Jan 1 00:01:04.479: Vi1 LCP: MRRU 1524 (0x110405F4)
Jan 1 00:01:04.479: Vi1 LCP: EndpointDisc 1 Local (0x130901323530302D31)
Jan 1 00:01:04.479: Vi1 VPDN: PPP LCP accepted sent CONFACK
Jan 1 00:01:04.479: Vi1 PPP: Phase is AUTHENTICATING, by this end
Jan 1 00:01:04.483: Vi1 CHAP: O CHALLENGE id 3 len 31 from "nsa-7200-2"
Jan 1 00:01:04.483: Vi1 CHAP: I RESPONSE id 3 len 27 from "2500-1"
Jan 1 00:01:04.483: Vi1 PPP: Phase is FORWARDING
Jan 1 00:01:04.483: Vi1 VPDN: Looking for tunnel -- --
Jan 1 00:01:04.483: Vi1 VPDN: Looking for tunnel -- --
Jan 1 00:01:04.483: %SGBP-7-NEWL: Local query #54 for 2500-1, count 1,
ourbid 50
Jan 1 00:01:04.483: Vi1 VPDN: Continue using SGBP for 2500-1
Jan 1 00:01:04.483: Vi1 VPDN: Pending
Jan 1 00:01:04.483: Vi1 VPDN: Process created
Jan 1 00:01:04.875: %SGBP-7-DONE: Query #54 for bundle 2500-1, count 1,
master is 10.51.6.59
Jan 1 00:01:04.875: %SGBP-7-MQB: Bundle: 2500-1 State: Done OurBid: 050
Jan 1 00:01:04.875: %SGBP-7-PB: 10.51.6.59 State: Closed Bid: 10000 Retry: 0
Jan 1 00:01:04.875: Vi1 VPDN: Forwarding...
Jan 1 00:01:04.875: Vi1 Tnl/Cl 46/12 L2F:
Session_create: Tunnel in closed state
Jan 1 00:01:04.875: Tnl 46 L2F:
UDP socket opened to 10.51.6.59 using source 10.51.6.61
Jan 1 00:01:04.875: Tnl 46 L2F:
Tunnel MULTIHOP state change from closed stateopening
Jan 1 00:01:04.875: Vi1 Tnl/Cl 46/12 L2F:
Session state change from closed to waiting_for_tunnel
Jan 1 00:01:04.875: Vi1 Tnl/Cl 46/12 L2F:
Session_create: Closed Tunnel being Re-Opened
Jan 1 00:01:04.875: Vi1 VPDN: 2500-1 is forwarded
Jan 1 00:01:04.879: Tnl 46 L2F: L2F_CONF received
Jan 1 00:01:04.879: Tnl 46 L2F: Received L2F-CONF from MULTIHOP
Jan 1 00:01:04.879: AAA/AUTHEN/START (3039224583):
port='' list='default' action=SENDAUTH service=PPP
Jan 1 00:01:04.883: AAA/AUTHEN/START (3039224583): found list default
Jan 1 00:01:04.883: AAA/AUTHEN/START (3039224583): Method=LOCAL
Jan 1 00:01:04.883: AAA/AUTHEN (3039224583): status = PASS
Jan 1 00:01:04.883: AAA/AUTHEN/START (3797117540):
port='' list='default' action=SENDAUTH service=PPP
```

Jan 1 00:01:04.883: AAA/AUTHEN/START (3797117540): found list default
Jan 1 00:01:04.883: AAA/AUTHEN/START (3797117540): Method=LOCAL
Jan 1 00:01:04.883: AAA/AUTHEN (3797117540): status = PASS
Jan 1 00:01:04.883: Tnl 46 L2F:
Tunnel MULTIHOPE state change from opening state open
Jan 1 00:01:04.883: Tnl 46 L2F:
Replying with L2F-OPEN, Tunnel in Open-Wait
Jan 1 00:01:04.887: Tnl 46 L2F: L2F_OPEN received
Jan 1 00:01:04.887: Tnl 46 L2F: OPEN from MULTIHOPE
received for tunnel in state open
Jan 1 00:01:04.887: AAA/AUTHEN/START (228147723):
port='' list='default' action=LOGIN service=PPP
Jan 1 00:01:04.887: AAA/AUTHEN/START (228147723): found list default
Jan 1 00:01:04.887: AAA/AUTHEN/START (228147723): Method=LOCAL
Jan 1 00:01:04.887: AAA/AUTHEN (228147723): status = PASS
Jan 1 00:01:04.887: VPDN: Chap authentication succeeded for MULTIHOPE
Jan 1 00:01:04.887: Tnl 46 L2F:
Tunnel MULTIHOPE state change from open state open
Jan 1 00:01:04.887: Vi1 Tnl/Cl 46/12 L2F:
Session state change from waiting_for_tunnel to opening
Jan 1 00:01:04.887: Vi1 Tnl/Cl 46/12 L2F:
Sending OPEN for Open-Waiting Session
Jan 1 00:01:04.935: Vi1 Tnl/Cl 46/12 L2F: L2F_OPEN received
Jan 1 00:01:04.935: Vi1 Tnl/Cl 46/12 L2F:
OPEN received for existing session in state opening
Jan 1 00:01:04.935: Vi1 Tnl/Cl 46/12 L2F:
Session state change from opening to open
Jan 1 00:01:04.935: Vi1 Tnl/Cl 46/12 L2F:
MID synced NAS/HG Clid=46/46 Mid=12
Jan 1 00:01:04.935: Vi1 PPP: Phase is FORWARDED
Jan 1 00:01:05.875: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Virtual-Access1, changed state to up

[Informations connexes](#)

- [Pages d'assistance sur la technologie de numérotation](#)
- [Support technique - Cisco Systems](#)