Konfigurieren der Layer-2-Tunnelprotokollauthentifizierung mit TACACS+

Inhalt

Einführung

In diesem Dokument wird beschrieben, wie das Layer 2 Tunnel Protocol (L2TP) mit TACACS+ konfiguriert wird. Es enthält Beispielkonfigurationen für L2TP Access Concentrator (LAC) TACACS+-Server, L2TP Network Server (LNS) TACACS+-Server und -Router.

Voraussetzungen

Anforderungen

Für dieses Dokument bestehen keine speziellen Anforderungen.

Verwendete Komponenten

Die Informationen in diesem Dokument basieren auf den folgenden Software- und Hardwareversionen:

- Zwei Cisco 2511-Router
- Cisco IOS® Softwareversion 12.0(2).T
- Cisco Secure UNIX-, Cisco Secure Windows- oder TACACS+-Freeware

Die Informationen in diesem Dokument wurden von den Geräten in einer bestimmten Laborumgebung erstellt. Alle in diesem Dokument verwendeten Geräte haben mit einer leeren (Standard-)Konfiguration begonnen. Wenn Ihr Netzwerk in Betrieb ist, stellen Sie sicher, dass Sie die potenziellen Auswirkungen eines Befehls verstehen.

Konventionen

Weitere Informationen zu Dokumentkonventionen finden Sie unter Cisco Technical Tips Conventions.

Konfigurieren

In diesem Abschnitt erhalten Sie Informationen zum Konfigurieren der in diesem Dokument beschriebenen Funktionen.

Hinweis: Um weitere Informationen zu den in diesem Dokument verwendeten Befehlen zu erhalten, verwenden Sie das Command Lookup Tool (nur registrierte Kunden).

Netzwerkdiagramm

In diesem Dokument wird die in diesem Diagramm dargestellte Netzwerkeinrichtung verwendet.
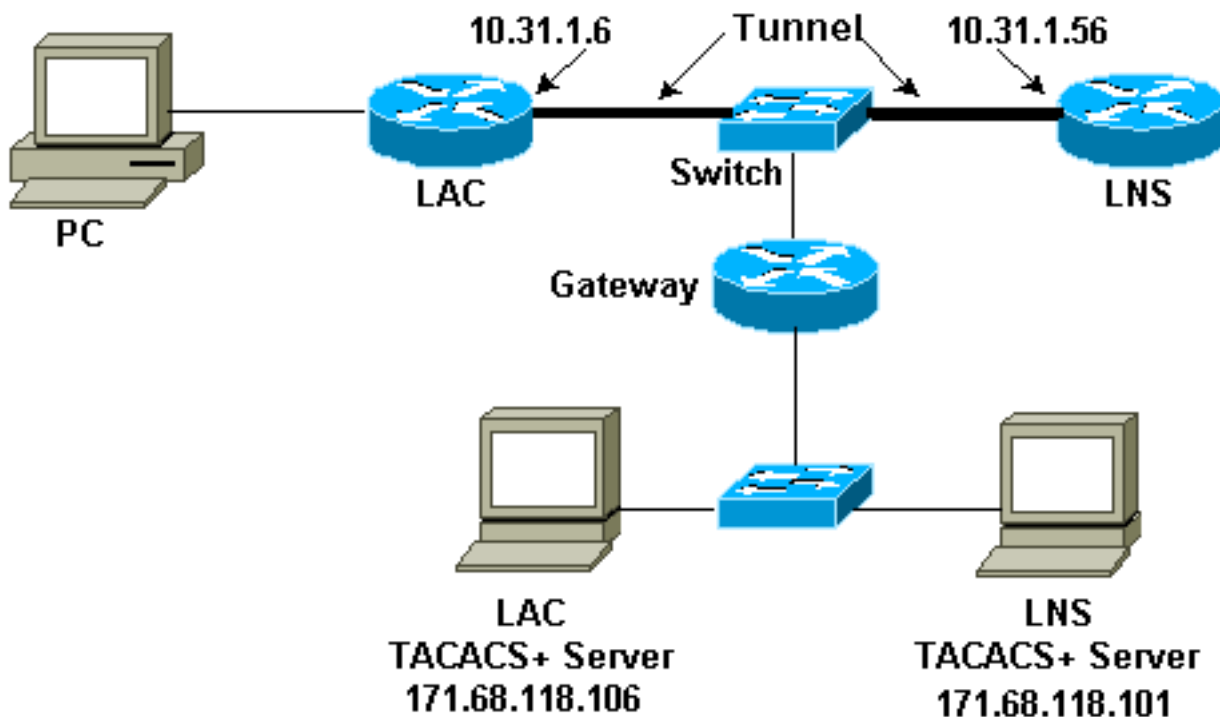
TACACS+-Serverkonfigurationen

LAC-Konfiguration - Cisco Secure UNIX

```
# ./ViewProfile -p 9900 -u rtp.cisco.com user = rtp.cisco.com{
service=ppp {
protocol=vpdn {
set tunnel-type=l2tp
set tunnel-id=rtp_tunnel
set ip-addresses="10.31.1.56"
}
}


}

# ./ViewProfile -p 9900 -u rtp_tunnel
user = rtp_tunnel{
password = chap "FGHIJ"
service=ppp {
protocol=lcp {
}
protocol=ip {
}
}


}
```

LNS-Konfiguration - Cisco Secure UNIX

```
# ./ViewProfile -p 9900 -u janedoe@rtp.cisco.com
user = janedoe@rtp.cisco.com{
password = chap "rtprules"
service=ppp {
protocol=lcp {
}
protocol=ip {
}
}


}
# ./ViewProfile -p 9900 -u ABCDE
user = ABCDE{
password = chap "FGHIJ"
service=ppp {
protocol=lcp {
}
protocol=ip {
}
}


}
```

LAC-Konfiguration - Cisco Secure Windows

Gehen Sie wie folgt vor, um die LAC in einem Cisco Secure Windows zu konfigurieren:

1. Richten Sie user rtp_tunnel als normalen PPP-Benutzer ein (Kennwort und/oder CHAP-Kennwort im User Setup).
2. Geben Sie den Benutzer in group_1 ein, und aktivieren Sie Service **PPP/IP**. Aktivieren Sie **PPP/LCP**, wenn dieses Feld angezeigt wird.
3. Richten Sie user rtp.cisco.com ein. Das Passwort ist "egal".
4. Wenn einige Optionen unter Gruppeneinstellungen nicht angezeigt werden, gehen Sie zu

Schnittstellenkonfiguration, und wählen Sie die Kontrollkästchen aus, um sie anzuzeigen.

5. Geben Sie den Benutzer in group_2 ein, und aktivieren Sie Service **PPP/VPDN**. Die tunnel-ID lautet **rtp_tunnel**, die IP-Adressenliste ist **10.31.1.56**, und geben Sie im rechteckigen Feld für benutzerdefinierte Attribute **tunnel-type=l2tp ein**.

LNS-Konfiguration - Cisco Secure Windows

Gehen Sie wie folgt vor, um das LNS für Cisco Secure Windows zu konfigurieren:

1. Richten Sie die Benutzer 'ABCDE' und 'janedoe@rtp.cisco.com' als normale PPP-Benutzer ein (Kennwort und/oder CHAP-Kennwort in der Benutzereinrichtung).
2. Geben Sie die Benutzer in group_3 ein, und aktivieren Sie Service **PPP/IP**. Aktivieren Sie **PPP/LCP**, wenn dieses Feld angezeigt wird.

LAC TACACS+-Freeware-Konfiguration

```
user = rtp.cisco.com {
service = ppp protocol = vpdn {
tunnel-type = l2tp
tunnel-id = rtp_tunnel
ip-addresses = "10.31.1.56"
}
}

user = rtp_tunnel {
chap = cleartext "FGHIJ"
service = ppp protocol = ip {
default attribute = permit
}
}
```

LNS TACACS+-Freeware-Konfiguration

```
key = "cisco"

user = janedoe@rtp.cisco.com {
chap = cleartext "rtprules"
service = ppp protocol = ip {
default attribute = permit
}
}

user = ABCDE {
chap = cleartext "FGHIJ"
service = ppp protocol = ip {
default attribute = permit
}
}
```

Router-Konfigurationen

Konfiguration des LAC-Routers
`version 12.0`

```
service timestamps debug datetime
service timestamps log uptime
no service password-encryption
!
hostname LAC
!
aaa new-model
aaa authentication ppp default if-needed tacacs+
aaa authorization network default tacacs+
aaa accounting network default start-stop tacacs+
enable secret level 7 5 $1$Dj3K$9jkyuJR6fJV2JO./Qt0lC1
enable password ww
!
username john password 0 doe
ip subnet-zero
no ip domain-lookup
!
vpdn enable
!
vpdn search-order domain
!
interface Loopback0
no ip address
no ip directed-broadcast
!
interface Ethernet0
ip address 10.31.1.144 255.255.255.0
no ip directed-broadcast
!
interface Serial0
no ip address
no ip directed-broadcast
no ip mroute-cache
shutdown
!
interface Serial1
no ip address
no ip directed-broadcast
shutdown
!
interface Async1
ip unnumbered Ethernet0
no ip directed-broadcast
ip tcp header-compression passive
encapsulation ppp
async mode dedicated
peer default ip address pool default
ppp authentication chap
!
ip local pool default 10.5.5.5 10.5.5.50
ip classless
ip route 0.0.0.0 0.0.0.0 10.31.1.1
!
tacacs-server host 171.68.118.106
tacacs-server key cisco
!
line con 0
transport input none
line 1
exec-timeout 0 0
autoselect during-login
autoselect ppp
modem Dialin
transport preferred none
```

```
transport output none
speed 38400
flowcontrol hardware
line 2 16
modem InOut
transport input all
speed 38400
flowcontrol hardware
line aux 0
line vty 0 4
password WW
!
end
```

Konfiguration des LNS-Routers

```
version 12.0
service timestamps debug datetime
service timestamps log uptime
no service password-encryption
!
hostname LNS
!
aaa new-model
aaa authentication ppp default if-needed tacacs+
aaa authorization network default tacacs+
aaa accounting network default start-stop tacacs+
enable secret 5 $1$wfMI$ixUG9hw7yhmsv.87.krpZ1
enable password WW
!
username john password 0 doe
ip subnet-zero
no ip domain-lookup


!
vpdn enable
!
vpdn-group 1
accept dialin l2tp virtual-template 1 remote rtp_tunnel
local name ABCDE
!
interface Ethernet0
ip address 10.31.1.56 255.255.255.0
no ip directed-broadcast
!
interface Virtual-Template1
ip unnumbered Ethernet0
no ip directed-broadcast
peer default ip address pool default
ppp authentication chap
!
interface Serial0
no ip address
no ip directed-broadcast
no ip mroute-cache
shutdown
!
interface Serial1
no ip address
no ip directed-broadcast
shutdown
!
interface Async1
```

```
ip unnumbered Ethernet0
no ip directed-broadcast
ip tcp header-compression passive
encapsulation ppp
async mode dedicated
peer default ip address pool setup_pool
ppp authentication chap pap
!
!
!
!
ip local pool default 10.6.1.1 10.6.1.2
ip classless
ip route 0.0.0.0 0.0.0.0 10.31.1.1
!
tacacs-server host 171.68.118.101
tacacs-server key cisco
!
line con 0
transport input none
line 1 8
autoselect during-login
autoselect ppp
modem Dialin
speed 115200
flowcontrol hardware
line aux 0
line vty 0 4
password WW
!
end
```

Überprüfen

Befehlsausgabe von beiden Routern anzeigen

Dieser Abschnitt enthält Informationen, mit denen Sie überprüfen können, ob Ihre Konfiguration ordnungsgemäß funktioniert.

Bestimmte **show**-Befehle werden vom Output Interpreter Tool unterstützt (nur registrierte Kunden), mit dem Sie eine Analyse der **show**-Befehlsausgabe anzeigen können.

LAC-Router

```
LAC#show vpdn session
L2TP Session Information (Total tunnels=1 sessions=1)

LocID RemID TunID Intf Username State Last Chg
1 1 76 As1 janedoe@rtp.c est 00:00:32

% No active L2F tunnels

LAC#show vpdn tunnel

L2TP Tunnel Information (Total tunnels=1 sessions=1)

LocID RemID Remote Name State Remote Address Port Sessions
```

```
76 58 ABCDE est 10.31.1.56 1701 1

% No active L2F tunnels
```
LNS-Router

```
LNS#show vpdn session

L2TP Session Information (Total tunnels=1 sessions=1)

LocID RemID TunID Intf Username State Last Chg
1 1 58 Vi1 janedoe@rtp.c est 00:01:55

% No active L2F tunnels

LNS#show vpdn tunnel

L2TP Tunnel Information (Total tunnels=1 sessions=1)

LocID RemID Remote Name State Remote Address Port Sessions
58 76 rtp_tunnel est 10.31.1.144 1701 1

% No active L2F tunnels
```
Versionsausgabe von beiden Routern anzeigen

```
LAC#show version
Cisco Internetwork Operating System Software
IOS (tm) 2500 Software (C2500-IS-L), Version 12.0(2)T, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-1998 by cisco Systems, Inc.
Compiled Wed 09-Dec-98 02:31 by dschwart
Image text-base: 0x030403B0, data-base: 0x00001000

ROM: System Bootstrap, Version 11.0(10c), SOFTWARE
BOOTFLASH: 3000 Bootstrap Software (IGS-BOOT-R), Version 11.0(10c), RELEASE SOFTWARE (fc1)

LAC uptime is 20 hours, 22 minutes
System restarted by reload at 16:13:55 UTC Fri Jan 29 1999
System image file is "flash:c2500-is-l.120-2.T"

cisco 2511 (68030) processor (revision M) with 14336K/2048K bytes of memory.
Processor board ID 07041186, with hardware revision 00000000
Bridging software.
X.25 software, Version 3.0.0.
1 Ethernet/IEEE 802.3 interface(s)
2 Serial network interface(s)
16 terminal line(s)
32K bytes of non-volatile configuration memory.
16384K bytes of processor board System flash (Read ONLY)
Configuration register is 0x2102
```
Fehler: Schlechtes Debuggen von LAC

Diese Debug-Ausgabe enthält Kommentare dazu, wo die Sequenz abbricht, wenn der Router falsch konfiguriert ist.

```
LAC#show debug
General OS:
AAA Authentication debugging is on
AAA Authorization debugging is on
```

```
AAA Accounting debugging is on
VPN:
L2X protocol events debugging is on
L2X protocol errors debugging is on
VPDN events debugging is on
VPDN errors debugging is on
VTEMPLATE:
Virtual Template debugging is on
LAC#
Jan 30 12:17:09: As1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
20:03:18: %LINK-3-UPDOWN: Interface Async1, changed state to up
Jan 30 12:17:09: As1 VPDN: Looking for tunnel -- rtp.cisco.com --
Jan 30 12:17:09: AAA: parse name=Async1 idb type=10 tty=1
Jan 30 12:17:09: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0 adapter=0
                 port=1 channel=0
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x278B90) user='rtp.cisco.com'
                 ruser='' port='Async1'
rem_addr='' authen_type=NONE service=LOGIN priv=0
Jan 30 12:17:09: AAA/AUTHOR/VPDN (898425447): Port='Async1'
                 list='default' service=NET
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) user='rtp.cisco.com'
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) send AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) send AV protocol=vpdn
Jan 30 12:17:09: AAA/AUTHOR/VPDN (898425447) found list "default"
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) Method=TACACS+
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): user=rtp.cisco.com
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): send AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): send AV protocol=vpdn
Jan 30 12:17:09: TAC+: (898425447): received author response status = PASS_ADD
Jan 30 12:17:09: AAA/AUTHOR (898425447): Post authorization status = PASS_ADD
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV protocol=vpdn
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV tunnel-type=l2tp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV tunnel-id=rtp_tunnel
```
 !--- If the wrong tunnel termination IP address !--- is in the profile: **Jan 30 12:56:30:**
AAA/AUTHOR/VPDN: Processing AV ip-addresses=1.1.1.1
```
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV ip-addresses=10.31.1.56
Jan 30 12:17:09: As1 VPDN: Get tunnel info for rtp.cisco.com with LAC
                 rtp_tunnel, IP 10.31.1.56
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x278B90) user='rtp.cisco.com'
                 ruser='' port='Async1'
rem_addr='' authen_type=NONE service=LOGIN priv=0
```
!--- If the wrong tunnel termination IP !--- address is in the profile: **Jan 30 12:56:30: As1**
VPDN: Forward to address 1.1.1.1
!--- The connection eventually drops on this end and no !--- debug is seen on the other end. Jan
30 12:17:09: As1 VPDN: Forward to address 10.31.1.56 Jan 30 12:17:09: As1 VPDN: Forwarding...
Jan 30 12:17:09: AAA: parse name=Async1 idb type=10 tty=1 Jan 30 12:17:09: AAA: name=Async1
flags=0x11 type=4 shelf=0 slot=0 adapter=0 port=1 channel=0 Jan 30 12:17:09: AAA/AUTHEN:
create_user (0x22CDEC) user='janedoe@rtp.cisco.com' ruser='' port='Async1' rem_addr='async'
authen_type=CHAP service=PPP priv=1 Jan 30 12:17:09: As1 VPDN: Bind interface direction=1 Jan 30
12:17:09: Tnl/Cl 74/1 L2TP: Session FS enabled Jan 30 12:17:09: Tnl/Cl 74/1 L2TP: Session state
change from idle to wait-for-tunnel Jan 30 12:17:09: As1 74/1 L2TP: Create session Jan 30
12:17:09: Tnl 74 L2TP: SM State idle Jan 30 12:17:09: Tnl 74 L2TP: O SCCRQ Jan 30 12:17:09: Tnl
74 L2TP: Tunnel state change from idle to wait-ctl-reply Jan 30 12:17:09: Tnl 74 L2TP: SM State
wait-ctl-reply Jan 30 12:17:09: As1 VPDN: janedoe@rtp.cisco.com is forwarded Jan 30 12:17:10:
Tnl 74 L2TP: I SCCRP from ABCDE Jan 30 12:17:10: Tnl 74 L2TP: Got a challenge from remote peer,
ABCDE Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1 Jan 30 12:17:10: AAA/AUTHEN:
create_user (0x23232C) user='rtp_tunnel' ruser='' port='' rem_addr='' authen_type=CHAP
service=PPP priv=1 Jan 30 12:17:10: AAA/AUTHEN/START (1598999635): port='' list='default'
action=SENDAUTH service=PPP Jan 30 12:17:10: AAA/AUTHEN/START (1598999635): found list default
Jan 30 12:17:10: AAA/AUTHEN (1598999635): status = UNKNOWN Jan 30 12:17:10: AAA/AUTHEN/START
(1598999635): Method=TACACS+ Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193
id=1598999635 Jan 30 12:17:10: TAC+: ver=192 id=1598999635 received AUTHEN status = ERROR Jan 30
12:17:10: AAA: parse name= idb type=-1 tty=-1 Jan 30 12:17:10: AAA/AUTHEN: create_user

```
(0x232470) user='rtp_tunnel' ruser='' port='' rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: TAC+: ver=192 id=3400389836 received AUTHEN status = PASS Jan 30 12:17:10:
AAA/AUTHEN: free_user (0x232470) user='rtp_tunnel' ruser='' port='' rem_addr='' authen_type=CHAP
service=PPP priv=1 Jan 30 12:17:10: AAA/AUTHEN (1598999635): status = PASS Jan 30 12:17:10:
AAA/AUTHEN: free_user (0x23232C) user='rtp_tunnel' ruser='' port='' rem_addr='' authen_type=CHAP
service=PPP priv=1 !--- Change the CHAP passwords. The password rtp_tunnel !--- in the LAC
TACACS+ users' file does not match the !--- password for "local name ABCDE" from the router !---
in the LNS TACACS+ users' file: Jan 30 13:24:23: Tnl 88 L2TP: Tunnel Authentication fails for
ABCDE
Jan 30 13:24:23: Tnl 88 L2TP: Expected 7C959CA96C1E4AAA68BB3D481249488B
Jan 30 13:24:23: Tnl 88 L2TP: Got E4118FB4C8C4467EA4BF8872276C20B2

Jan 30 12:17:10: Tnl 74 L2TP: Got a response from remote peer, ABCDE
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x22FBA4) user='rtp_tunnel'
                 ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): port='' list='default'
                 action=SENDAUTH service=PPP
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): found list default
Jan 30 12:17:10: AAA/AUTHEN (2964849625): status = UNKNOWN
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): Method=TACACS+
Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193 id=2964849625
20:03:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
          changed state to up
Jan 30 12:17:11: TAC+: ver=192 id=2964849625 received AUTHEN status = ERROR
Jan 30 12:17:11: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:11: AAA/AUTHEN: create_user (0x22FC8C) user='rtp_tunnel'
                  ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: As1 74/1 L2TP: Discarding data packet because tunnel is not open
Jan 30 12:17:11: As1 74/1 L2TP: Discarding data packet because tunnel is not open
Jan 30 12:17:11: TAC+: ver=192 id=1474818051 received AUTHEN status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x22FC8C) user='rtp_tunnel' ruser=''
                 port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: AAA/AUTHEN (2964849625): status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x22FBA4) user='rtp_tunnel' ruser=''
                  port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: Tnl 74 L2TP: Tunnel Authentication success
Jan 30 12:17:11: Tnl 74 L2TP: Tunnel state change from wait-ctl-reply to
                 established
Jan 30 12:17:11: Tnl 74 L2TP: O SCCCN to ABCDE tnlid 56
Jan 30 12:17:11: Tnl 74 L2TP: SM State established
Jan 30 12:17:11: As1 74/1 L2TP: O ICRQ to ABCDE 56/0
Jan 30 12:17:11: As1 74/1 L2TP: Session state change from wait-for-tunnel
                 to wait-reply
Jan 30 12:17:11: Tnl 74 L2TP: Dropping old CM, Ns 0, expected 1
Jan 30 12:17:11: As1 74/1 L2TP: O ICCN to ABCDE 56/1
Jan 30 12:17:11: As1 74/1 L2TP: Session state change from wait-reply to
                 established
LAC#
```

Fehler - Fehlerhafte Fehlerbehebung bei LNS

Diese Debug-Ausgabe enthält Kommentare dazu, wo die Sequenz abbricht, wenn der Router falsch konfiguriert ist.

```
LNS#show debug
General OS:
AAA Authentication debugging is on
```

```
AAA Authorization debugging is on
AAA Accounting debugging is on
VPN:
L2X protocol events debugging is on
L2X protocol errors debugging is on
VPDN events debugging is on
VPDN errors debugging is on
VTEMPLATE:
Virtual Template debugging is on
LNS#
Jan 30 12:17:09: L2TP: I SCCRQ from rtp_tunnel tnl 74
Jan 30 12:17:09: Tnl 56 L2TP: New tunnel created for remote rtp_tunnel,
address 10.31.1.144
```

*!--- Instead of the LAC sending the "rtp_tunnel" !--- (see the user profile on the TACACS+
server), it sends "junk". !--- We are expecting "rtp_tunnel" as in "accept dialin l2tp !---
virtual-template 1 remote rtp_tunnel" in this configuration:* **Jan 30 13:05:16: L2TP: I SCCRQ from
junk tnl 81**
Jan 30 13:05:16: L2X: Never heard of junk
Jan 30 13:05:16: L2TP: Could not find info block for junk

```
Jan 30 12:17:09: Tnl 56 L2TP: Got a challenge in SCCRQ, rtp_tunnel
Jan 30 12:17:09: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x21F6D0) user='ABCDE'
               ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): port='' list='default'
               action=SENDAUTH service=PPP
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): found list default
Jan 30 12:17:09: AAA/AUTHEN (3194595626): status = UNKNOWN
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): Method=TACACS+
Jan 30 12:17:09: TAC+: send AUTHEN/START packet ver=193 id=3194595626
Jan 30 12:17:09: TAC+: ver=192 id=3194595626 received AUTHEN status = ERROR
Jan 30 12:17:09: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x2281AC) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: TAC+: ver=192 id=3639011179 received AUTHEN status = PASS
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x2281AC) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: AAA/AUTHEN (3194595626): status = PASS
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x21F6D0) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: Tnl 56 L2TP: O SCCRP to rtp_tunnel tnlid 74
Jan 30 12:17:09: Tnl 56 L2TP: Tunnel state change from idle to wait-ctl-reply
Jan 30 12:17:10: Tnl 56 L2TP: O Resend SCCRP, flg TLF, ver 2, len 152,
               tnl 74, cl 0, ns 0, nr 1
Jan 30 12:17:10: Tnl 56 L2TP: I SCCCN from rtp_tunnel tnl 74
Jan 30 12:17:10: Tnl 56 L2TP: Got a Challenge Response in SCCCN from rtp_tunnel
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x227F3C) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN/STARTTranslating "rtp.cisco.com"
(4117701992): port='' list='default' action=SENDAUTH service=PPP
Jan 30 12:17:10: AAA/AUTHEN/START (4117701992): found list default
Jan 30 12:17:10: AAA/AUTHEN (4117701992): status = UNKNOWN
Jan 30 12:17:10: AAA/AUTHEN/START (4117701992): Method=TACACS+
Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193 id=4117701992
Jan 30 12:17:11: TAC+: ver=192 id=4117701992 received AUTHEN status = ERROR
Jan 30 12:17:11: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:11: AAA/AUTHEN: create_user (0x228E68) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: TAC+: ver=192 id=2827432721 received AUTHEN status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x228E68) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: AAA/AUTHEN (4117701992): status = PASS
```

```
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x227F3C) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: Tnl 56 L2TP: Tunnel Authentication success
Jan 30 12:17:11: Tnl 56 L2TP: Tunnel state change from wait-ctl-reply
                  to established
Jan 30 12:17:11: Tnl 56 L2TP: SM State established
Jan 30 12:17:11: Tnl 56 L2TP: I ICRQ from rtp_tunnel tnl 74
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session FS enabled
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from idle to
                  wait-for-tunnel
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: New session created
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: O ICRP to rtp_tunnel 74/1
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from wait-for-tunnel
                  to wait-connect
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: I ICCN from rtp_tunnel tnl 74, cl 1
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from wait-connect
                   to established
Jan 30 12:17:11: Vi1 VTEMPLATE: Reuse Vi1, recycle queue size 0
Jan 30 12:17:11: Vi1 VTEMPLATE: Hardware address 00e0.1e68.942c
Jan 30 12:17:11: Vi1 VPDN: Virtual interface created for janedoe@rtp.cisco.com
Jan 30 12:17:11: Vi1 VPDN: Set to Async interface
Jan 30 12:17:11: Vi1 VPDN: Clone from Vtemplate 1 filterPPP=0 blocking
Jan 30 12:17:11: Vi1 VTEMPLATE: Has a new cloneblk vtemplate, now it has
                  vtemplate
Jan 30 12:17:11: Vi1 VTEMPLATE: ************* CLONE VACCESS1 *****************
Jan 30 12:17:11: Vi1 VTEMPLATE: Clone from Virtual-Template1
interface Virtual-Access1
default ip address
no ip address
encap ppp
ip unnumbered Ethernet0
peer default ip address pool default
ppp authentication chap
ip unnum ethernet0
peer def ip address pool default
ppp authen chap
end

Jan 30 12:17:12: janedoe@rtp.cisco.com 56/1 L2TP: Session with no hwidb
20:12:14: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Jan 30 12:17:13: Vi1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
Jan 30 12:17:13: Vi1 VPDN: Bind interface direction=2
Jan 30 12:17:13: Vi1 VPDN: PPP LCP accepted rcv CONFACK
Jan 30 12:17:13: Vi1 VPDN: PPP LCP accepted sent CONFACK
Jan 30 12:17:13: Vi1 L2X: Discarding packet because of no mid/session
Jan 30 12:17:13: AAA: parse name=Virtual-Access1 idb type=21 tty=-1
Jan 30 12:17:13: AAA: name=Virtual-Access1 flags=0x11 type=5 shelf=0 slot=0
adapter=0 port=1 channel=0
Jan 30 12:17:13: AAA/AUTHEN: create_user (0x1F5100) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): port='Virtual-Access1' list=''
action=LOGIN service=PPP
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): using "default" list
Jan 30 12:17:13: AAA/AUTHEN (562517969): status = UNKNOWN
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): Method=TACACS+
Jan 30 12:17:13: TAC+: send AUTHEN/START packet ver=193 id=562517969
Jan 30 12:17:14: TAC+: ver=192 id=562517969 received AUTHEN status = GETPASS
Jan 30 12:17:14: AAA: parse name=Virtual-Access1 idb type=-1 tty=-1
Jan 30 12:17:14: AAA: name=Virtual-Access1 flags=0x11 type=6 shelf=0 slot=0
adapter=0 port=1 channel=0
Jan 30 12:17:14: AAA/AUTHEN: create_user (0x1F5270) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1
```

```
Jan 30 12:17:14: TAC+: ver=192 id=2384902384 received AUTHEN status = PASS
Jan 30 12:17:14: AAA/AUTHEN: free_user (0x1F5270) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1

 !--- Here, the tunnel is ok, but the user !--- enters a bad password in dialing: Jan 30
13:39:44: AAA/AUTHEN (1958732267): status = FAIL
21:34:45: %VPDN-6-AUTHENFAIL: L2F HGW 10.31.1.144, AAA authentication
            failure for Vi1 user
janedoe@rtp.cisco.com; Authentication failure
Jan 30 12:17:14: AAA/AUTHEN (562517969): status = PASS
Jan 30 12:17:14: Vi1 AAA/AUTHOR/LCP: Authorize LCP
Jan 30 12:17:14: AAA/AUTHOR/LCP Vi1 (413543389): Port='Virtual-Access1'
                list='' service=NET
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) user='janedoe@rtp.cisco.com'
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) send AV protocol=lcp
Jan 30 12:17:14: AAA/AUTHOR/LCP (413543389) found list "default"
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) Method=TACACS+
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): user=janedoe@rtp.cisco.com
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): send AV protocol=lcp
Jan 30 12:17:14: TAC+: (413543389): received author response status = PASS_ADD
Jan 30 12:17:14: AAA/AUTHOR (413543389): Post authorization status = PASS_ADD
Jan 30 12:17:14: AAA/ACCT/NET/START User janedoe@rtp.cisco.com, Port
                Virtual-Access1, List ""
Jan 30 12:17:14: AAA/ACCT/NET: Found list "default"
Jan 30 12:17:14: Vi1 AAA/AUTHOR/FSM: (0): Can we start IPCP?
Jan 30 12:17:14: AAA/AUTHOR/FSM Vi1 (1358526470): Port='Virtual-Access1'
                list='' service=NET
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) user='janedoe@rtp.cisco.com'
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) send AV protocol=ip
Jan 30 12:17:14: AAA/AUTHOR/FSM (1358526470) found list "default"
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) Method=TACACS+
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): user=janedoe@rtp.cisco.com
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): send AV protocol=ip
Jan 30 12:17:14: TAC+: (1358526470): received author response status = PASS_ADD
Jan 30 12:17:14: AAA/AUTHOR (1358526470): Post authorization status = PASS_ADD
Jan 30 12:17:14: Vi1 AAA/AUTHOR/FSM: We can start IPCP
Jan 30 12:17:14: TAC+: (1442592025): received acct response status = UNKNOWN
20:12:16: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1,
            changed state to up
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0,
                we want 0.0.0.0
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0,
                we want 10.6.1.1
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0,
                we want 10.6.1.1
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 10.6.1.1,
                 we want 10.6.1.1
Jan 30 12:17:16: AAA/AUTHOR/IPCP Vi1 (3572380713): Port='Virtual-Access1'
                list='' service=NET
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) user='janedoe@rtp.cisco.com'
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV service=ppp
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV protocol=ip
```

```
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV addr*10.6.1.1
Jan 30 12:17:16: AAA/AUTHOR/IPCP (3572380713) found list "default"
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) Method=TACACS+
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): user=janedoe@rtp.cisco.com
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV service=ppp
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV protocol=ip
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV addr*10.6.1.1
Jan 30 12:17:17: TAC+: (3572380713): received author response status = PASS_ADD
Jan 30 12:17:17: AAA/AUTHOR (3572380713): Post authorization status = PASS_ADD
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV addr*10.6.1.1
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Done. Her address 10.6.1.1,
                 we want 10.6.1.1
LNS#
```

LNS-Buchhaltungsbelege

Dies ist auf dem LNS TACACS+-Server.

```
Sat Jan 30 05:27:01 1999 10.31.1.56 janedoe@rtp.cisco.com
Virtual-Access1 unknown
start task_id=4 start_time=917700054 timezone=UTC service=ppp

Sat Jan 30 05:27:27 1999 10.31.1.56 janedoe@rtp.cisco.com
Virtual-Access1 unknown
stop task_id=4 start_time=917700054 timezone=UTC service=ppp
protocol=ip addr=10.6.1.1 disc-cause=2 disc-cause-ext=1011
pre-bytes-in=0 pre-bytes-out=8
pre-paks-in=0 pre-paks-out=2 bytes_in=862 bytes_out=142
paks_in=19 paks_out=8 pre-session-time=1
```

Fehlerbehebung

Dieser Abschnitt enthält Informationen zur Fehlerbehebung in Ihrer Konfiguration.

Befehle zur Fehlerbehebung

Hinweis: Bevor Sie **Debugbefehle** ausgeben, lesen Sie Wichtige Informationen über Debug-Befehle.

- **debug aaa authentication**: Zeigt Informationen zur AAA/TACACS+-Authentifizierung an.
- **debug aaa autorization**: Zeigt Informationen zur AAA/TACACS+-Autorisierung an.
- **debug aaa accounting**: Zeigt Informationen zu verantwortlichen Ereignissen an, während diese auftreten. Die von diesem Befehl angezeigten Informationen sind unabhängig vom Accounting-Protokoll, das zum Übertragen der Accounting-Informationen an einen Server verwendet wird.
- **debug tacacs+**: Zeigt detaillierte Debuginformationen zu TACACS+ an.
- **debug vtemplate**: Zeigt Informationen zum Klonen einer virtuellen Zugriffsschnittstelle an, vom Zeitpunkt des Klonens von einer virtuellen Vorlage bis hin zum Zeitpunkt des Abbruchs der virtuellen Zugriffsschnittstelle beim Beenden des Anrufs.
- **debug vpdn error (vpdn-Fehler debug)**: Zeigt Fehler an, die das Herstellen eines PPP-Tunnels verhindern, oder Fehler, die das Schließen eines etablierten Tunnels verursachen.
- **debug vpdn events**: Zeigt Meldungen über Ereignisse an, die Teil der normalen PPP-

Tunneleinrichtung oder des normalen Herunterfahrens sind.
- **debug vpdn l2x-errors**: Zeigt Layer-2-Protokollfehler an, die eine Layer-2-Einrichtung verhindern oder deren normalen Betrieb verhindern.
- **debug vpdn l2x-events**: Zeigt Meldungen über Ereignisse an, die Teil der normalen PPP-Tunneleinrichtung oder des Herunterfahrens für Layer 2 sind.

Debugausgabe

Gute Fehlerbehebung vom LAC-Router

```
LAC#show debug
General OS:
AAA Authentication debugging is on
AAA Authorization debugging is on
AAA Accounting debugging is on
VPN:
L2X protocol events debugging is on
L2X protocol errors debugging is on
VPDN events debugging is on
VPDN errors debugging is on
VTEMPLATE:
Virtual Template debugging is on
LAC#
Jan 30 12:17:09: As1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
20:03:18: %LINK-3-UPDOWN: Interface Async1, changed state to up
Jan 30 12:17:09: As1 VPDN: Looking for tunnel -- rtp.cisco.com --
Jan 30 12:17:09: AAA: parse name=Async1 idb type=10 tty=1
Jan 30 12:17:09: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0 adapter=0
port=1 channel=0
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x278B90) user='rtp.cisco.com'
ruser=''
port='Async1' rem_addr='' authen_type=NONE service=LOGIN priv=0
Jan 30 12:17:09: AAA/AUTHOR/VPDN (898425447): Port='Async1' list='default'
service=NET
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) user='rtp.cisco.com'
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) send AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) send AV protocol=vpdn
Jan 30 12:17:09: AAA/AUTHOR/VPDN (898425447) found list "default"
Jan 30 12:17:09: AAA/AUTHOR/VPDN: (898425447) Method=TACACS+
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): user=rtp.cisco.com
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): send AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/TAC+: (898425447): send AV protocol=vpdn
Jan 30 12:17:09: TAC+: (898425447): received author response status = PASS_ADD
Jan 30 12:17:09: AAA/AUTHOR (898425447): Post authorization status = PASS_ADD
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV service=ppp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV protocol=vpdn
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV tunnel-type=l2tp
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV tunnel-id=rtp_tunnel
Jan 30 12:17:09: AAA/AUTHOR/VPDN: Processing AV ip-addresses=10.31.1.56
Jan 30 12:17:09: As1 VPDN: Get tunnel info for rtp.cisco.com with LAC
rtp_tunnel, IP 10.31.1.56
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x278B90) user='rtp.cisco.com' ruser=''
port='Async1' rem_addr='' authen_type=NONE service=LOGIN priv=0
Jan 30 12:17:09: As1 VPDN: Forward to address 10.31.1.56
Jan 30 12:17:09: As1 VPDN: Forwarding...
Jan 30 12:17:09: AAA: parse name=Async1 idb type=10 tty=1
Jan 30 12:17:09: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0 adapter=0
port=1 channel=0
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x22CDEC) user='janedoe@rtp.cisco.com'
```

```
ruser='' port='Async1' rem_addr='async' authen_type=CHAP
service=PPP priv=1
Jan 30 12:17:09: As1 VPDN: Bind interface direction=1
Jan 30 12:17:09: Tnl/Cl 74/1 L2TP: Session FS enabled
Jan 30 12:17:09: Tnl/Cl 74/1 L2TP: Session state change from idle to
wait-for-tunnel
Jan 30 12:17:09: As1 74/1 L2TP: Create session
Jan 30 12:17:09: Tnl 74 L2TP: SM State idle
Jan 30 12:17:09: Tnl 74 L2TP: O SCCRQ
Jan 30 12:17:09: Tnl 74 L2TP: Tunnel state change from idle to wait-ctl-reply
Jan 30 12:17:09: Tnl 74 L2TP: SM State wait-ctl-reply
Jan 30 12:17:09: As1 VPDN: janedoe@rtp.cisco.com is forwarded
Jan 30 12:17:10: Tnl 74 L2TP: I SCCRP from ABCDE
Jan 30 12:17:10: Tnl 74 L2TP: Got a challenge from remote peer, ABCDE
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x23232C) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN/START (1598999635): port='' list='default'
action=SENDAUTH service=PPP
Jan 30 12:17:10: AAA/AUTHEN/START (1598999635): found list default
Jan 30 12:17:10: AAA/AUTHEN (1598999635): status = UNKNOWN
Jan 30 12:17:10: AAA/AUTHEN/START (1598999635): Method=TACACS+
Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193 id=1598999635
Jan 30 12:17:10: TAC+: ver=192 id=1598999635 received AUTHEN status = ERROR
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x232470) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: TAC+: ver=192 id=3400389836 received AUTHEN status = PASS
Jan 30 12:17:10: AAA/AUTHEN: free_user (0x232470) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN (1598999635): status = PASS
Jan 30 12:17:10: AAA/AUTHEN: free_user (0x23232C) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: Tnl 74 L2TP: Got a response from remote peer, ABCDE
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x22FBA4) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): port='' list='default'
action=SENDAUTH service=PPP
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): found list default
Jan 30 12:17:10: AAA/AUTHEN (2964849625): status = UNKNOWN
Jan 30 12:17:10: AAA/AUTHEN/START (2964849625): Method=TACACS+
Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193 id=2964849625
20:03:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
Jan 30 12:17:11: TAC+: ver=192 id=2964849625 received AUTHEN status = ERROR
Jan 30 12:17:11: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:11: AAA/AUTHEN: create_user (0x22FC8C) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: As1 74/1 L2TP: Discarding data packet because tunnel
is not open
Jan 30 12:17:11: As1 74/1 L2TP: Discarding data packet because tunnel
is not open
Jan 30 12:17:11: TAC+: ver=192 id=1474818051 received AUTHEN status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x22FC8C) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: AAA/AUTHEN (2964849625): status = PASS
```

```
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x22FBA4) user='rtp_tunnel'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: Tnl 74 L2TP: Tunnel Authentication success
Jan 30 12:17:11: Tnl 74 L2TP: Tunnel state change from wait-ctl-reply to
established
Jan 30 12:17:11: Tnl 74 L2TP: O SCCCN to ABCDE tnlid 56
Jan 30 12:17:11: Tnl 74 L2TP: SM State established
Jan 30 12:17:11: As1 74/1 L2TP: O ICRQ to ABCDE 56/0
Jan 30 12:17:11: As1 74/1 L2TP: Session state change from wait-for-tunnel
to wait-reply
Jan 30 12:17:11: Tnl 74 L2TP: Dropping old CM, Ns 0, expected 1
Jan 30 12:17:11: As1 74/1 L2TP: O ICCN to ABCDE 56/1
Jan 30 12:17:11: As1 74/1 L2TP: Session state change from wait-reply to
established
LAC#
```

Gute Fehlerbehebung vom LNS-Router

```
LNS#show debug
General OS:
AAA Authentication debugging is on
AAA Authorization debugging is on
AAA Accounting debugging is on
VPN:
L2X protocol events debugging is on
L2X protocol errors debugging is on
VPDN events debugging is on
VPDN errors debugging is on
VTEMPLATE:
Virtual Template debugging is on
LNS#
Jan 30 12:17:09: L2TP: I SCCRQ from rtp_tunnel tnl 74
Jan 30 12:17:09: Tnl 56 L2TP: New tunnel created for remote
rtp_tunnel, address 10.31.1.144
Jan 30 12:17:09: Tnl 56 L2TP: Got a challenge in SCCRQ, rtp_tunnel
Jan 30 12:17:09: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x21F6D0) user='ABCDE'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): port='' list='default'
action=SENDAUTH service=PPP
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): found list default
Jan 30 12:17:09: AAA/AUTHEN (3194595626): status = UNKNOWN
Jan 30 12:17:09: AAA/AUTHEN/START (3194595626): Method=TACACS+
Jan 30 12:17:09: TAC+: send AUTHEN/START packet ver=193 id=3194595626
Jan 30 12:17:09: TAC+: ver=192 id=3194595626 received AUTHEN status = ERROR
Jan 30 12:17:09: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:09: AAA/AUTHEN: create_user (0x2281AC) user='ABCDE'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: TAC+: ver=192 id=3639011179 received AUTHEN status = PASS
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x2281AC) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: AAA/AUTHEN (3194595626): status = PASS
Jan 30 12:17:09: AAA/AUTHEN: free_user (0x21F6D0) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:09: Tnl 56 L2TP: O SCCRP to rtp_tunnel tnlid 74
Jan 30 12:17:09: Tnl 56 L2TP: Tunnel state change from idle to
wait-ctl-reply
Jan 30 12:17:10: Tnl 56 L2TP: O Resend SCCRP, flg TLF, ver 2, len 152,
tnl 74, cl 0, ns 0, nr 1
Jan 30 12:17:10: Tnl 56 L2TP: I SCCCN from rtp_tunnel tnl 74
```

```
Jan 30 12:17:10: Tnl 56 L2TP: Got a Challenge Response in SCCCN from rtp_tunnel
Jan 30 12:17:10: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:10: AAA/AUTHEN: create_user (0x227F3C) user='ABCDE'
ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:10: AAA/AUTHEN/STARTTranslating "rtp.cisco.com"
(4117701992): port='' list='default' action=SENDAUTH service=PPP
Jan 30 12:17:10: AAA/AUTHEN/START (4117701992): found list default
Jan 30 12:17:10: AAA/AUTHEN (4117701992): status = UNKNOWN
Jan 30 12:17:10: AAA/AUTHEN/START (4117701992): Method=TACACS+
Jan 30 12:17:10: TAC+: send AUTHEN/START packet ver=193 id=4117701992
Jan 30 12:17:11: TAC+: ver=192 id=4117701992 received AUTHEN status = ERROR
Jan 30 12:17:11: AAA: parse name= idb type=-1 tty=-1
Jan 30 12:17:11: AAA/AUTHEN: create_user (0x228E68) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: TAC+: ver=192 id=2827432721 received AUTHEN status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x228E68) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: AAA/AUTHEN (4117701992): status = PASS
Jan 30 12:17:11: AAA/AUTHEN: free_user (0x227F3C) user='ABCDE' ruser='' port=''
rem_addr='' authen_type=CHAP service=PPP priv=1
Jan 30 12:17:11: Tnl 56 L2TP: Tunnel Authentication success
Jan 30 12:17:11: Tnl 56 L2TP: Tunnel state change from wait-ctl-reply
to established
Jan 30 12:17:11: Tnl 56 L2TP: SM State established
Jan 30 12:17:11: Tnl 56 L2TP: I ICRQ from rtp_tunnel tnl 74
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session FS enabled
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from idle to
wait-for-tunnel
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: New session created
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: O ICRP to rtp_tunnel 74/1
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from wait-for-tunnel
to wait-connect
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: I ICCN from rtp_tunnel tnl 74, cl 1
Jan 30 12:17:11: Tnl/Cl 56/1 L2TP: Session state change from wait-connect
to established
Jan 30 12:17:11: Vi1 VTEMPLATE: Reuse Vi1, recycle queue size 0
Jan 30 12:17:11: Vi1 VTEMPLATE: Hardware address 00e0.1e68.942c
Jan 30 12:17:11: Vi1 VPDN: Virtual interface created for janedoe@rtp.cisco.com
Jan 30 12:17:11: Vi1 VPDN: Set to Async interface
Jan 30 12:17:11: Vi1 VPDN: Clone from Vtemplate 1 filterPPP=0 blocking
Jan 30 12:17:11: Vi1 VTEMPLATE: Has a new cloneblk vtemplate, now it has vtemplate
Jan 30 12:17:11: Vi1 VTEMPLATE: ************* CLONE VACCESS1 *****************
Jan 30 12:17:11: Vi1 VTEMPLATE: Clone from Virtual-Template1
interface Virtual-Access1
default ip address
no ip address
encap ppp
ip unnumbered Ethernet0
peer default ip address pool default
ppp authentication chap
ip unnum ethernet0
peer def ip address pool default
ppp authen chap
end

Jan 30 12:17:12: janedoe@rtp.cisco.com 56/1 L2TP: Session with no hwidb
20:12:14: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Jan 30 12:17:13: Vi1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
Jan 30 12:17:13: Vi1 VPDN: Bind interface direction=2
Jan 30 12:17:13: Vi1 VPDN: PPP LCP accepted rcv CONFACK
Jan 30 12:17:13: Vi1 VPDN: PPP LCP accepted sent CONFACK
Jan 30 12:17:13: Vi1 L2X: Discarding packet because of no mid/session
Jan 30 12:17:13: AAA: parse name=Virtual-Access1 idb type=21 tty=-1
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Jan 30 12:17:13: AAA: name=Virtual-Access1 flags=0x11 type=5 shelf=0 slot=0
adapter=0 port=1 channel=0
Jan 30 12:17:13: AAA/AUTHEN: create_user (0x1F5100) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): port='Virtual-Access1' list=''
action=LOGIN service=PPP
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): using "default" list
Jan 30 12:17:13: AAA/AUTHEN (562517969): status = UNKNOWN
Jan 30 12:17:13: AAA/AUTHEN/START (562517969): Method=TACACS+
Jan 30 12:17:13: TAC+: send AUTHEN/START packet ver=193 id=562517969
Jan 30 12:17:14: TAC+: ver=192 id=562517969 received AUTHEN status = GETPASS
Jan 30 12:17:14: AAA: parse name=Virtual-Access1 idb type=-1 tty=-1
Jan 30 12:17:14: AAA: name=Virtual-Access1 flags=0x11 type=6 shelf=0 slot=0
adapter=0 port=1 channel=0
Jan 30 12:17:14: AAA/AUTHEN: create_user (0x1F5270) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1
Jan 30 12:17:14: TAC+: ver=192 id=2384902384 received AUTHEN status = PASS
Jan 30 12:17:14: AAA/AUTHEN: free_user (0x1F5270) user='janedoe@rtp.cisco.com'
ruser='' port='Virtual-Access1' rem_addr='' authen_type=CHAP
service=PPP priv=1
Jan 30 12:17:14: AAA/AUTHEN (562517969): status = PASS
Jan 30 12:17:14: Vi1 AAA/AUTHOR/LCP: Authorize LCP
Jan 30 12:17:14: AAA/AUTHOR/LCP Vi1 (413543389): Port='Virtual-Access1'
list='' service=NET
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) user='janedoe@rtp.cisco.com'
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) send AV protocol=lcp
Jan 30 12:17:14: AAA/AUTHOR/LCP (413543389) found list "default"
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vi1 (413543389) Method=TACACS+
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): user=janedoe@rtp.cisco.com
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (413543389): send AV protocol=lcp
Jan 30 12:17:14: TAC+: (413543389): received author response status = PASS_ADD
Jan 30 12:17:14: AAA/AUTHOR (413543389): Post authorization status = PASS_ADD
Jan 30 12:17:14: AAA/ACCT/NET/START User janedoe@rtp.cisco.com,
Port Virtual-Access1, List ""
Jan 30 12:17:14: AAA/ACCT/NET: Found list "default"
Jan 30 12:17:14: Vi1 AAA/AUTHOR/FSM: (0): Can we start IPCP?
Jan 30 12:17:14: AAA/AUTHOR/FSM Vi1 (1358526470): Port='Virtual-Access1'
list='' service=NET
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) user='janedoe@rtp.cisco.com'
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) send AV protocol=ip
Jan 30 12:17:14: AAA/AUTHOR/FSM (1358526470) found list "default"
Jan 30 12:17:14: AAA/AUTHOR/FSM: Vi1 (1358526470) Method=TACACS+
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): user=janedoe@rtp.cisco.com
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): send AV service=ppp
Jan 30 12:17:14: AAA/AUTHOR/TAC+: (1358526470): send AV protocol=ip
Jan 30 12:17:14: TAC+: (1358526470): received author response status = PASS_ADD
Jan 30 12:17:14: AAA/AUTHOR (1358526470): Post authorization status = PASS_ADD
Jan 30 12:17:14: Vi1 AAA/AUTHOR/FSM: We can start IPCP
Jan 30 12:17:14: TAC+: (1442592025): received acct response status = UNKNOWN
20:12:16: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1,
changed state to up
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 0.0.0.0
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 10.6.1.1
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
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Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 10.6.1.1
Jan 30 12:17:16: Vi1 AAA/AUTHOR/IPCP: Start. Her address 10.6.1.1, we want 10.6.1.1
Jan 30 12:17:16: AAA/AUTHOR/IPCP Vi1 (3572380713): Port='Virtual-Access1'
list='' service=NET
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) user='janedoe@rtp.cisco.com'
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV service=ppp
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV protocol=ip
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) send AV addr*10.6.1.1
Jan 30 12:17:16: AAA/AUTHOR/IPCP (3572380713) found list "default"
Jan 30 12:17:16: AAA/AUTHOR/IPCP: Vi1 (3572380713) Method=TACACS+
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): user=janedoe@rtp.cisco.com
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV service=ppp
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV protocol=ip
Jan 30 12:17:16: AAA/AUTHOR/TAC+: (3572380713): send AV addr*10.6.1.1
Jan 30 12:17:17: TAC+: (3572380713): received author response status = PASS_ADD
Jan 30 12:17:17: AAA/AUTHOR (3572380713): Post authorization status = PASS_ADD
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Processing AV addr*10.6.1.1
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
Jan 30 12:17:17: Vi1 AAA/AUTHOR/IPCP: Done. Her address 10.6.1.1, we want 10.6.1.1
LNS#
```

Zugehörige Informationen

- Support-Seite für Cisco Secure UNIX
- Support-Seite für TACACS/TACACS+
- TACACS+ in Cisco IOS-Dokumentation
- Support-Seite für Cisco Secure ACS für Windows
- Technischer Support - Cisco Systems