

# Настройка протокола туннелирования второго уровня, используя TACACS+

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## **Введение**

Этот документ описывает, как настроить протокол туннелирования на уровне 2 (L2TP) с TACACS +. Это включает примеры конфигурации для TACACS Концентратора доступа L2TP (LAC) + серверы, TACACS L2TP Network Server (LNS) + серверы и маршрутизаторы.

## **Предварительные условия**

### **Требования**

Для этого документа отсутствуют особые требования.

### **Используемые компоненты**

Сведения, содержащиеся в данном документе, касаются следующих версий программного обеспечения и оборудования:

- Два маршрутизатора Cisco 2511
- Cisco IOS® Software Release 12.0(2).T
- Cisco Secure UNIX, Windows Cisco Secure или TACACS + бесплатное программное обеспечение

Сведения, представленные в этом документе, были получены от устройств, работающих в специальной лабораторной среде. Все устройства, описанные в этом документе, были запущены с чистой (стандартной) конфигурацией. В рабочей сети необходимо изучить потенциальное воздействие всех команд до их использования.

## Условные обозначения

[Дополнительные сведения об условных обозначениях в документах см. Cisco Technical Tips Conventions.](#)

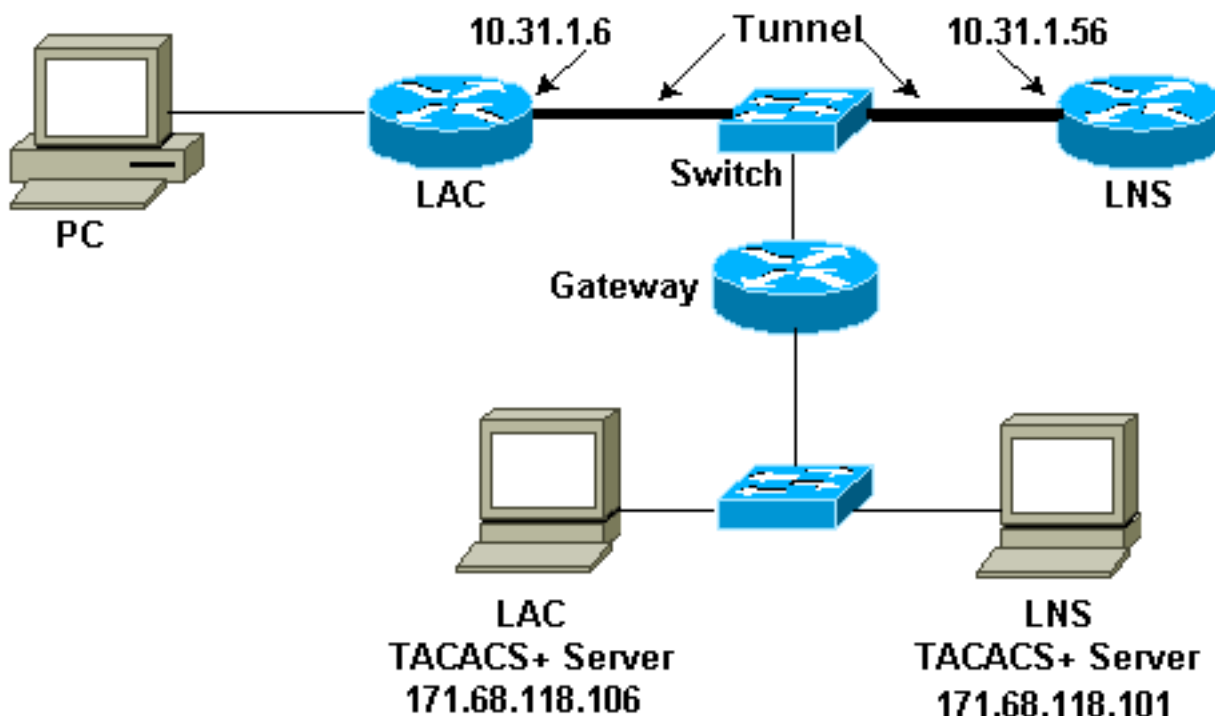
## Настройка

В этом разделе содержатся сведения о настройке функций, описанных в этом документе.

**Примечание:** [Поиск дополнительной информации о командах в данном документе можно выполнить с помощью средства "Command Lookup" \(Поиск команд\) \(только для зарегистрированных клиентов\).](#)

## Схема сети

В этом документе используются настройки сети, показанные на данной диаграмме.



## Конфигурации сервера TACACS+

### Конфигурация LAC - 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 {
}
}
}

```

### [Конфигурация LNS - 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 {
}
}
}

```

### [Конфигурация LAC - Windows Cisco Secure](#)

Выполните эти шаги для настройки LAC на Windows Cisco Secure:

1. Установите пользователя rtp\_tunnel как обычный пользователь PPP (пароль и/или пароль CHAP в Настройке пользователя).
2. Поместите пользователя в group\_1 и PPP/IP сервиса проверки. Проверьте PPP/LCP, если отображена та коробка.
3. Установите пользовательского rtp. cisco . com. Пароль - «do not care»."
4. Если некоторые варианты не показаны в параметрах группы, пойдите в Interface Configuration и выберите боксы, чтобы они появились.
5. Поместите пользователя в group\_2 и PPP/VPDN сервиса проверки. Туннельный

идентификатор является **rtp\_tunnel**, список IP-адресов **10.31.1.56**, и в прямоугольной коробке настраиваемого атрибута внизу, введите **tunnel-type=l2tp**.

## [Конфигурация LNS - Windows Cisco Secure](#)

Выполните эти шаги для настройки LNS для Windows Cisco Secure:

1. Установите пользователей 'ABCDE' и 'janedoe@rtp.cisco.com' как обычные пользователи PPP (пароль и/или пароль CHAP в настройке пользователя).
2. Поместите пользователей в group\_3 и PPP/IP сервиса проверки. Проверьте PPP/LCP, если отображена та коробка.

## [TACACS LAC + конфигурация микропрограммы](#)

```
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
}
}
```

## [TACACS LNS + конфигурация микропрограммы](#)

```
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
}
}
```

## [Конфигурации маршрутизатора](#)

### Конфигурация LAC-маршрутизатора

```
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
```

## Конфигурация маршрутизатора LNS

```
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.krpZl
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-Templat1
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
```

## Проверка

### Результаты команд show для обоих маршрутизаторов

В этом разделе содержатся сведения, которые помогают убедиться в надлежащей работе конфигурации.

**Некоторые команды show поддерживаются Средством интерпретации выходных данных(только зарегистрированные клиенты), которое позволяет просматривать аналитику выходных данных команды show.**

### Маршрутизатор LAC

```
LAC#show vpdn session L2TP Session Information (Total tunnels=1 sessions=1) LocID RemID TunID  
Intf Username State Last Chg 1 1 76 Asl 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
```

### Маршрутизатор LNS

```
LNS#show vpdn session L2TP Session Information (Total tunnels=1 sessions=1) LocID RemID TunID  
Intf Username State Last Chg 1 1 58 Vil 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
```

### Выходные данные команды "show version" по обоим маршрутизаторам

```
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-1.120-2.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

## [Отладочные данные от маршрутизатора LAC с иллюстрацией возможных сбоев](#)

Эти выходные данные отладки включают комментарии, где последовательность останавливается, когда неправильно сконфигурирован маршрутизатор.

```
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 SCCRQ 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#
```

## Отладочные данные от маршрутизатора LNS с иллюстрацией возможных сбоев

Эти выходные данные отладки включают комментарии, где последовательность останавливается, когда неправильно сконфигурирован маршрутизатор.

```
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: Vil  
VTEMPLATE: Reuse Vil, recycle queue size 0 Jan 30 12:17:11: Vil VTEMPLATE: Hardware address  
00e0.1e68.942c Jan 30 12:17:11: Vil VPDN: Virtual interface created for janedoe@rtp.cisco.com  
Jan 30 12:17:11: Vil VPDN: Set to Async interface Jan 30 12:17:11: Vil VPDN: Clone from  
Vtemplate 1 filterPPP=0 blocking Jan 30 12:17:11: Vil VTEMPLATE: Has a new cloneblk vtemplate,  
now it has vtemplate Jan 30 12:17:11: Vil VTEMPLATE: \*\*\*\*\* CLONE VACCESS1  
\*\*\*\*\* Jan 30 12:17:11: Vil VTEMPLATE: Clone from Virtual-Templatel 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:  
Vil AAA/AUTHOR/FSM: (0): LCP succeeds trivially Jan 30 12:17:13: Vil VPDN: Bind interface  
direction=2 Jan 30 12:17:13: Vil VPDN: PPP LCP accepted rcv CONFACK Jan 30 12:17:13: Vil VPDN:  
PPP LCP accepted sent CONFACK Jan 30 12:17:13: Vil 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 Vil user janedoe@rtp.cisco.com; Authentication failure Jan 30  
12:17:14: AAA/AUTHEN (562517969): status = PASS Jan 30 12:17:14: Vil AAA/AUTHOR/LCP: Authorize  
LCP Jan 30 12:17:14: AAA/AUTHOR/LCP Vil (413543389): Port='Virtual-Access1' list='' service=NET  
Jan 30 12:17:14: AAA/AUTHOR/LCP: Vil (413543389) user='janedoe@rtp.cisco.com' Jan 30 12:17:14:  
AAA/AUTHOR/LCP: Vil (413543389) send AV service=ppp Jan 30 12:17:14: AAA/AUTHOR/LCP: Vil  
(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: Vil (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: Vil AAA/AUTHOR/FSM: (0): Can we start IPCP?  
Jan 30 12:17:14: AAA/AUTHOR/FSM Vil (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#
```

## [Записи учета LNS](#)

Это находится на TACACS LNS + сервер.

```
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
```

## [Устранение неполадок](#)

В этом разделе описывается процесс устранения неполадок конфигурации.

### [Команды для устранения неполадок](#)

**Примечание:** Прежде чем применять команды отладки, ознакомьтесь с разделом "Важные сведения о командах отладки".

- `debug aaa authentication` — отображаются сведения при аутентификации AAA/TACACS+.
- `debug aaa authorization` — отображаются данные авторизации AAA/TACACS+.
- `debug aaa accounting`– выводит сведения по учетным событиям в порядке их возникновения. Информация, показанная этой командой, не зависит от протокола учета, используемого для передачи учетной информации на сервер.
- `debug tacacs +` — Отображает подробную отладочную информацию, привязанную к TACACS +.
- `debug vtemplate`– выводит информацию о клонировании интерфейса виртуального доступа с момента его клонирования из виртуального шаблона до момента отключения при завершении вызова.
- `debug vpdn error`– показывает ошибки, не позволяющие установить туннель или вызывающие закрытие установленного туннеля.
- `debug vpdn events`– выводит сообщения о событиях, свидетельствующих о нормальном ходе установления или закрытия туннеля PPP.
- `debug vpdn l2x-errors`– показывает ошибки протокола 2-го уровня, препятствующие установлению 2-го уровня или его нормальной работе.
- `debug vpdn l2x-events`– выводит сообщения о событиях, сопровождающих нормальный ход установления или закрытия туннеля PPP для 2-го уровня.

## Выходные данные отладки

### Нормальные отладочные данные от маршрутизатора LAC

```
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 SCCRQ 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#
```

## [Нормальные отладочные данные от маршрутизатора LNS](#)

```
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 SCCRQ 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 SCCRQ, 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: Vil VTEMPLATE: Reuse Vil, recycle queue size 0 Jan 30 12:17:11: Vil VTEMPLATE: Hardware address 00e0.1e68.942c Jan 30 12:17:11: Vil VPDN: Virtual interface created for janedoe@rtp.cisco.com Jan 30 12:17:11: Vil VPDN: Set to Async interface Jan 30 12:17:11: Vil VPDN: Clone from Vtemplate 1 filterPPP=0 blocking Jan 30 12:17:11: Vil VTEMPLATE: Has a new cloneblk vtemplate, now it has vtemplate Jan 30 12:17:11: Vil VTEMPLATE: \*\*\*\*\* CLONE VACCESS1 \*\*\*\*\* Jan 30 12:17:11: Vil VTEMPLATE: Clone from Virtual-Templatel 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: Vil AAA/AUTHOR/FSM: (0): LCP succeeds trivially Jan 30 12:17:13: Vil VPDN: Bind interface direction=2 Jan 30 12:17:13: Vil VPDN: PPP LCP accepted rcv CONFACK Jan 30 12:17:13: Vil VPDN: PPP LCP accepted sent CONFACK Jan 30 12:17:13: Vil 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 Jan 30 12:17:14: AAA/AUTHEN (562517969): status = PASS Jan 30 12:17:14: Vil AAA/AUTHOR/LCP: Authorize LCP Jan 30 12:17:14: AAA/AUTHOR/LCP Vil (413543389): Port='Virtual-Access1' list='' service=NET Jan 30 12:17:14: AAA/AUTHOR/LCP: Vil (413543389) user='janedoe@rtp.cisco.com' Jan 30 12:17:14: AAA/AUTHOR/LCP: Vil (413543389) send AV service=ppp Jan 30 12:17:14: AAA/AUTHOR/LCP: Vil (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: Vil (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: Vil AAA/AUTHOR/FSM: (0): Can we start IPCP? Jan 30 12:17:14: AAA/AUTHOR/FSM Vil (1358526470): Port='Virtual-Access1' list='' service=NET Jan 30 12:17:14: AAA/AUTHOR/FSM: Vil (1358526470) user='janedoe@rtp.cisco.com' Jan 30 12:17:14:

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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#
```

## [Дополнительные сведения](#)

- [Страница поддержки Cisco Secure UNIX](#)
- [Страница поддержки TACACS/TACACS+](#)
- [TACACS + в документации по Cisco IOS](#)
- [Страница поддержки Cisco Secure ACS для Windows](#)
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