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Введение

Примечание: Сведения в этом документе основываются на Версиях программного обеспечения Cisco IOS 11.2 и позже.

Когда Протокол аутентификации пароля (PAP) или Протокол аутентификации по квитированию вызова (CHAP) используются, этот документ исследует общие проблемы отладки на TACACS +. Стандартные настройки ПК для Microsoft Windows 95, Windows NT, Windows 98 и Windows 2000 предоставлены, а также примеры конфигураций и примеры пользы и неудачных отладок.

Предварительные условия

Требования

Для этого документа отсутствуют особые требования.

Используемые компоненты

Настоящий документ не имеет жесткой привязки к каким-либо конкретным версиям программного обеспечения и оборудования.

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 см. в документе Условные обозначения технических терминов Cisco.](#)

Общие параметры ПК

Windows 95

Выполните следующие действия:

1. В Окне "Dialup Networking" (Работа в сети через модем) выберите имя соединения, затем **File> Properties**.
2. На Вкладке Тип сервера посмотрите, проверено ли **Потребовать Поле зашифрованного пароля** ниже Типа Сервера Модемной связи. Если этот флажок установлен, ПК принимает только Аутентификацию CHAP. Если этот флажок не установлен, ПК принимает PAP или Аутентификацию CHAP.

Windows NT

Выполните следующие действия:

1. В окне Dial-Up Networking выберите имя соединения, и затем выберите **File> Properties**.
2. Проверьте параметры настройки на Вкладке Безопасность: Если **Принятие какой-либо аутентификации включая** коробку **открытого текста** проверено, ПК принимает PAP или CHAP. Если **Принятие только** флажок **зашифрованной проверки подлинности** установлен, ПК принимает только Аутентификацию CHAP.

Windows 98

Выполните следующие действия:

1. В окне Dial-Up Networking выберите имя соединения, и затем выберите **Properties**.
2. На вкладке Server Types проверьте параметры настройки в области Advanced Options: Если **Потребовать поле зашифрованного пароля** не проверено, ПК принимает PAP или Аутентификацию CHAP. Если **Потребовать поле зашифрованного пароля** проверено, ПК принимает только Аутентификацию CHAP.

Windows 2000

Выполните следующие действия:

1. В Сети и Подключениях удаленного доступа, выберите имя соединения, и затем выберите **Properties**.

2. На Вкладке Безопасность в Усовершенствованном> Параметры настройки> Позволяют им область протоколов:.. если Незашифрованный пароль (PAP) PAP, флажок установлен, ПК принимает Если флажок Протокола аутентификации по квитированию вызова (CHAP) установлен, ПК принимает CHAP на RFC 1994.. если Microsoft CHAP (MS-CHAP) Версию MS-CHAP 1 и не принимает CHAP на RFC 1994, флажок установлен, ПК принимает

Конфигурации и примеры отладки

Конфигурация - TACACS + и PAP

```
Current configuration:!  
version 11.2  
service timestamps  
debug uptime  
service timestamps log uptime  
no service password-encryption  
service udp-small-servers  
service tcp-small-servers!  
hostname rtpkrb!  
aaa new-model!  
!--- The following four lines of the !--- configuration are specific to !--- Cisco IOS 11.2 and later, until 11.3.3.T. !--- See below this configuration !--- for commands for other Cisco IOS releases.  
aaa  
authentication login default tacacs+ localaaa  
authentication ppp default if-needed tacacs+ localaaa  
authorization exec tacacs+ if-authenticatedaaa  
authorization network tacacs+ if-authenticated  
enable secret 5 $1$pkX.$JdAysRE1SbdbDe7bj0wyt0  
enable password ww!  
username john password 0 doe  
username cse password 0 csecseip  
host rtpkrb 10.31.1.5  
ip domain-name RTP.CISCO.COM  
ip name-server 171.68.118.103!  
interface Loopback0  
ip address 1.1.1.1 255.255.255.0!  
interface Ethernet0  
ip address 10.31.1.5 255.255.0.0  
no mop enabled!  
interface Serial0  
no ip address  
no ip mroute-cache  
shutdown!  
interface Serial1  
no ip address  
shutdown!  
interface Async1  
ip unnumbered Ethernet0  
encapsulation ppp  
async mode dedicated  
peer default ip address pool async  
no cdp enable  
ppp authentication pap!  
ip local pool async 15.15.15.15  
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 ciscosnmp-server community public RW  
snmp-server host 171.68.118.100 traps public!  
line con 0  
line 1  
session-timeout 20  
exec-timeout 20 0  
password ww  
autoselect during-login  
autoselect ppp modem InOut  
transport input all  
stopbits 1  
speed 38400  
flowcontrol hardware  
line 2  
modem InOut  
speed 38400  
flowcontrol hardware  
line 3  
16  
line aux 0  
line vty 0 4  
password ww!  
end
```

Команды для других версий Cisco IOS

Примечание: Для использования этих команд удалите команды полужирным из конфигурации и вставки в этих командах в, как продиктовано Cisco IOS Release.

Cisco IOS 11.3.3. T до 12.0.5. T

```
Current configuration:!  
version 11.2  
service timestamps  
debug uptime  
service timestamps log uptime  
no service password-encryption  
service udp-small-servers  
service tcp-small-servers!  
hostname rtpkrb!  
aaa new-model!  
!--- The following four lines of the !--- configuration are specific to !--- Cisco IOS 11.2 and later, until 11.3.3.T. !--- See below this configuration !--- for commands for other Cisco IOS releases.  
aaa authentication login default tacacs+ localaaa authentication
```

```

ppp default if-needed tacacs+ localaaa authorization exec tacacs+ if-authenticatedaaa
authorization network tacacs+ if-authenticatedenable secret 5
$1$pkX.$JdAysRE1SbdbDe7bj0wyt0enable password ww!username john password 0 doeusername cse
password 0 csecseip host rtpkrb 10.31.1.5ip domain-name RTP.CISCO.COMip name-server
171.68.118.103!interface Loopback0ip address 1.1.1.1 255.255.255.0!interface Ethernet0ip address
10.31.1.5 255.255.0.0no mop enabled!interface Serial0no ip addressno ip mroute-
cacheshutdown!interface Serial1no ip addressshutdown!interface Async1ip unnumbered
Ethernet0encapsulation pppasync mode dedicatedpeer default ip address pool asyncno cdp enableppp
authentication pap!ip local pool async 15.15.15.15ip classlessip route 0.0.0.0 0.0.0.0
10.31.1.1!tacacs-server host 171.68.118.101tacacs-server key ciscosnmp-server community public
RWSnmp-server host 171.68.118.100 traps public!line con 0line 1session-timeout 20 exec-timeout
20 0password wwautoselect during-loginautoselect pppmodem InOuttransport input allstopbits
1speed 38400flowcontrol hardwareline 2modem InOutspeed 38400flowcontrol hardwareline 3 16line
aux 0line vty 0 4password ww!end

```

[Cisco IOS 12.0.5. T и позже](#)

Current configuration:!

```

version 11.2service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers!hostname
rtpkrb!aaa new-model!!--- The following four lines of the !--- configuration are specific to !---
- Cisco IOS 11.2 and later, until 11.3.3.T. !--- See below this configuration !--- for commands
for other Cisco IOS releases.!aaa authentication login default tacacs+ localaaa authentication
ppp default if-needed tacacs+ localaaa authorization exec tacacs+ if-authenticatedaaa
authorization network tacacs+ if-authenticatedenable secret 5
$1$pkX.$JdAysRE1SbdbDe7bj0wyt0enable password ww!username john password 0 doeusername cse
password 0 csecseip host rtpkrb 10.31.1.5ip domain-name RTP.CISCO.COMip name-server
171.68.118.103!interface Loopback0ip address 1.1.1.1 255.255.255.0!interface Ethernet0ip address
10.31.1.5 255.255.0.0no mop enabled!interface Serial0no ip addressno ip mroute-
cacheshutdown!interface Serial1no ip addressshutdown!interface Async1ip unnumbered
Ethernet0encapsulation pppasync mode dedicatedpeer default ip address pool asyncno cdp enableppp
authentication pap!ip local pool async 15.15.15.15ip classlessip route 0.0.0.0 0.0.0.0
10.31.1.1!tacacs-server host 171.68.118.101tacacs-server key ciscosnmp-server community public
RWSnmp-server host 171.68.118.100 traps public!line con 0line 1session-timeout 20 exec-timeout
20 0password wwautoselect during-loginautoselect pppmodem InOuttransport input allstopbits
1speed 38400flowcontrol hardwareline 2modem InOutspeed 38400flowcontrol hardwareline 3 16line
aux 0line vty 0 4password ww!end

```

[Примеры отладки для TACACS+ и PAP](#)

Примечание: В выходных данных отладки полужирный текст выделяет проблемы в отладке. Обычный текст показывает хорошую отладку.

```

rtpkrb#show debugGeneral OS:TACACS access control debugging is onAAA Authentication debugging is
onAAA Authorization debugging is onPPP:PPP authentication debugging is onPPP protocol
negotiation debugging is onrtpkrb#3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to
up3d22h: As1 PPP: Treating connection as a dedicated line3d22h: As1 PPP: Phase is ESTABLISHING,
Active Open3d22h: As1 LCP: O CONFREQ [Closed] id 14 len 243d22h: As1 LCP: ACCM 0x000A0000
(0x0206000A0000)3d22h: As1 LCP: AuthProto PAP (0x0304C023)3d22h: As1 LCP: MagicNumber 0xF45FB7A7
(0x0506F45FB7A7)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)!--- PC insists on
doing CHAP !--- ("accept encrypted authentication only"), !--- but router is set up for PAP.As1
LCP: I CONFNAK [REQsent] id 27 len 12As1 LCP: AuthProto 0xC123 (0x0308C12301000001)As1 PPP:
Closing connection because remote won't authenticate3d22h: As1 LCP: Interface transitioned,
discarding packet3d22h: As1 LCP: I CONFACK [REQsent] id 14 len 243d22h: As1 LCP: ACCM 0x000A0000
(0x0206000A0000)3d22h: As1 LCP: AuthProto PAP (0x0304C023)3d22h: As1 LCP: MagicNumber 0xF45FB7A7
(0x0506F45FB7A7)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP:
TIMEout: Time 0x14417CC4 State ACKrcvd3d22h: As1 LCP: O CONFREQ [ACKrcvd] id 15 len 243d22h: As1
LCP: ACCM 0x000A0000 (0x0206000A0000)3d22h: As1 LCP: AuthProto PAP (0x0304C023)3d22h: As1 LCP:
MagicNumber 0xF45FB7A7 (0x0506F45FB7A7)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC
(0x0802)3d22h: As1 LCP: I CONFACK [REQsent] id 15 len 243d22h: As1 LCP: ACCM 0x000A0000
(0x0206000A0000)3d22h: As1 LCP: AuthProto PAP (0x0304C023)3d22h: As1 LCP: MagicNumber 0xF45FB7A7
(0x0506F45FB7A7)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: I
CONFREQ [ACKrcvd] id 0 len 203d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)3d22h: As1 LCP:
MagicNumber 0x000030A3 (0x0506000030A3)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC

```

(0x0802)3d22h: As1 LCP: O CONFACK [ACKrcvd] id 0 len 203d22h: As1 LCP: ACCM 0x00000000
(0x020600000000)3d22h: As1 LCP: MagicNumber 0x000030A3 (0x0506000030A3)3d22h: As1 LCP: PFC
(0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: State is Open3d22h: As1 PPP: Phase is
AUTHENTICATING, by this end3d22h: As1 PAP: I AUTH-REQ id 4 len 20 from "papuser"3d22h: As1 PAP:
Authenticating peer papuser3d22h: AAA/AUTHEN: create_user (0x16DAC0) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=13d22h: AAA/AUTHEN/START
(1190231344): port='Async1' list='' action=LOGIN service=PPP3d22h: AAA/AUTHEN/START
(1190231344): using "default" list3d22h: AAA/AUTHEN (1190231344): status = UNKNOWN3d22h:
AAA/AUTHEN/START (1190231344): Method=TACACS+3d22h: TAC+: send AUTHEN/START packet ver=193
id=11902313443d22h: TAC+: Using default tacacs server list.3d22h: TAC+: Opening TCP/IP to
171.68.118.101/49 timeout=5!--- *The TAC+ server is down, producing an error. !--- Since the user
is not in the local database, !--- the failover to local fails.*TAC+: TCP/IP open to
**171.68.118.101/49 failed -- Connection refused by remote hostAAA/AUTHEN (866823886): status =
ERRORAAA/AUTHEN/START (866823886): Method=LOCALAAA/AUTHEN (866823886): status = FAIL**3d22h: TAC+:
Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/493d22h: TAC+: 171.68.118.101 (1190231344)
AUTHEN/START/LOGIN/PAP queued3d22h: TAC+: (1190231344) AUTHEN/START/LOGIN/PAP processed!--- *The
key in the router does not match that of the server.*TAC+: **received bad AUTHEN packet: length =
68, expected 67857**TAC+: **Invalid AUTHEN/START packet (check keys)AAA/AUTHEN (1771887965): status
= ERROR** 3d22h: TAC+: ver=192 id=1190231344 received AUTHEN status = GETPASS3d22h: TAC+: Closing
TCP/IP 0x16C1F8 connection to 171.68.118.101/493d22h: TAC+: Opening TCP/IP to 171.68.118.101/49
timeout=53d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/493d22h: TAC+: Opened
171.68.118.101 index=13d22h: AAA/AUTHEN: create_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=13d22h: TAC+: rev0 inbound pap
login for id=1190231344 using id=31128966693d22h: TAC+: 171.68.118.101 (3112896669)
AUTHEN/START/LOGIN/PAP queued3d22h: TAC+: (3112896669) AUTHEN/START/LOGIN/PAP processed3d22h:
TAC+: ver=192 id=3112896669 received AUTHEN status = GETPASS3d22h: TAC+: send AUTHEN/CONT
packet3d22h: TAC+: 171.68.118.101 (3112896669) AUTHEN/CONT queued3d22h: TAC+: (3112896669)
AUTHEN/CONT processed!--- *The NT client sends the "DOMAIN\user" !--- and the TAC+ server expects
"user".*TAC+: **ver=192 id=260507389 received AUTHEN status = FAIL**TAC+: **rev0 inbound pap completed
for 1139034411 status=FAILAAA/AUTHEN: free_user (0x16CDD4) user='CISCO\papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1!--- *The TAC+ server refuses
the user !--- because the user is set up for PAP. !--- The user enters a bad password, !--- or
both the username and password are bad.*TAC+: **ver=192 id=691012958 received AUTHEN status =
FAIL**TAC+: **rev0 inbound pap completed for 3917384959 status=FAILAAA/AUTHEN: free user (0x15AD58)
user='idochap' ruser=''** port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=13d22h:
TAC+: ver=192 id=3112896669 received AUTHEN status = PASS3d22h: TAC+: rev0 inbound pap completed
for 1190231344 status=PASS3d22h: AAA/AUTHEN: free_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=13d22h: TAC+: Closing TCP/IP
0x16EF4C connection to 171.68.118.101/493d22h: AAA/AUTHEN (1190231344): status = PASS3d22h:
AAA/AUTHOR/LCP As1: Authorize LCP3d22h: AAA/AUTHOR/LCP: Async1: (1061976769):
user='papuser'3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): send AV service=ppp3d22h:
AAA/AUTHOR/LCP: Async1: (1061976769): send AV protocol=lcp3d22h: AAA/AUTHOR/LCP: Async1:
(1061976769): Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (1061976769): user=papuser3d22h:
AAA/AUTHOR/TAC+: (1061976769): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (1061976769): send AV
protocol=lcp3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: TAC+: Opened TCP/IP
handle 0x16C9E0 to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h: TAC+:
171.68.118.101 (1061976769) AUTHOR/START queued3d22h: TAC+: (1061976769) AUTHOR/START
processed!--- *The user passes authentication !--- (the username/password is good) !--- but fails
authorization !--- (the profile is not set up to authorize PPP).*TAC+: **(1793875816): received
author response status = FAIL**TAC+: **Closing TCP/IP 0x17054C connection to
171.68.118.101/49AAA/AUTHOR (1793875816): Post authorization status = FAILAAA/AUTHOR/LCP As1:
Denied**3d22h: TAC+: (1061976769): received author response status = PASS_ADD3d22h: TAC+: Closing
TCP/IP 0x16C9E0 connection to 171.68.118.101/493d22h: AAA/AUTHOR (1061976769): Post
authorization status = PASS_ADD3d22h: As1 PAP: O AUTH-ACK id 4 len 53d22h: As1 PPP: Phase is
UP3d22h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?3d22h: AAA/AUTHOR/FSM: Async1: (3602788894):
user='papuser'3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): send AV service=ppp3d22h:
AAA/AUTHOR/FSM: Async1: (3602788894): send AV protocol=ip3d22h: AAA/AUTHOR/FSM: Async1:
(3602788894): Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (3602788894): user=papuser3d22h:
AAA/AUTHOR/TAC+: (3602788894): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (3602788894): send AV
protocol=ip3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Async1, changed state to up3d22h: TAC+: Opened TCP/IP handle 0x17054C
to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h: TAC+: 171.68.118.101
(3602788894) AUTHOR/START queued3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 343d22h: As1 IPCP:
Address 0.0.0.0 (0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: As1**

```

IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h: As1 IPCP: SecondaryDNS 0.0.0.0
(0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)3d22h: TAC+: (3602788894)
AUTHOR/START processed3d22h: TAC+: (3602788894): received author response status =
PASS_ADD3d22h: TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/493d22h: AAA/AUTHOR
(3602788894): Post authorization status = PASS_ADD3d22h: AAA/AUTHOR/FSM As1: We can start
IPCP3d22h: As1 IPCP: O CONFREQ [Closed] id 10 len 103d22h: As1 IPCP: Address 10.31.1.5
(0x03060A1F0105)3d22h: As1 IPCP: I CONFACK [REQsent] id 10 len 103d22h: As1 IPCP: Address
10.31.1.5 (0x03060A1F0105)3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 343d22h: As1 IPCP:
Address 0.0.0.0 (0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: As1
IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h: As1 IPCP: SecondaryDNS 0.0.0.0
(0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)3d22h: AAA/AUTHOR/IPCP
As1: Start. Her address 0.0.0.0, we want 0.0.0.03d22h: AAA/AUTHOR/IPCP As1: Processing AV
service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip3d22h: AAA/AUTHOR/IPCP As1:
Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want
0.0.0.03d22h: As1 IPCP: Using pool 'async'3d22h: As1 IPCP: Pool returned 15.15.15.153d22h: As1
IPCP: O CONFREQ [ACKrcvd] id 1 len 223d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h:
As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0
(0x840600000000)3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 163d22h: As1 IPCP: Address 0.0.0.0
(0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: AAA/AUTHOR/IPCP As1:
Start. Her address 0.0.0.0, we want 15.15.15.153d22h: AAA/AUTHOR/IPCP As1: Processing AV
service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip3d22h: AAA/AUTHOR/IPCP As1:
Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want
15.15.15.153d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 163d22h: As1 IPCP: Address 15.15.15.15
(0x03060F0F0F0F)3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: As1 IPCP: I
CONFREQ [ACKrcvd] id 3 len 163d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)3d22h: As1
IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: AAA/AUTHOR/IPCP As1: Start. Her address
15.15.15.15, we want 15.15.15.153d22h: AAA/AUTHOR/IPCP: Async1: (3654974050):
user='papuser'3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV service=ppp3d22h:
AAA/AUTHOR/IPCP: Async1: (3654974050): send AV protocol=ip3d22h: AAA/AUTHOR/IPCP: Async1:
(3654974050): send AV addr*15.15.15.153d22h: AAA/AUTHOR/IPCP: Async1: (3654974050):
Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (3654974050): user=papuser3d22h: AAA/AUTHOR/TAC+:
(3654974050): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV protocol=ip3d22h:
AAA/AUTHOR/TAC+: (3654974050): send AV addr*15.15.15.153d22h: TAC+: Opening TCP/IP to
171.68.118.101/49 timeout=53d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/493d22h:
TAC+: Opened 171.68.118.101 index=13d22h: TAC+: 171.68.118.101 (3654974050) AUTHOR/START
queued3d22h: TAC+: (3654974050) AUTHOR/START processed3d22h: TAC+: (3654974050): received author
response status = PASS_ADD3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to
171.68.118.101/493d22h: AAA/AUTHOR (3654974050): Post authorization status = PASS_ADD3d22h:
AAA/AUTHOR/IPCP As1: Processing AV service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV
protocol=ip3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.153d22h: AAA/AUTHOR/IPCP As1:
Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15, we want
15.15.15.153d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 163d22h: As1 IPCP: Address 15.15.15.15
(0x03060F0F0F0F)3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: As1 IPCP:
State is Open3d22h: As1 IPCP: Install route to 15.15.15.15rtpkrb#

```

Конфигурация - TACACS + и CHAP

```

Current configuration:!version 11.2service timestamps
debug uptimeservice timestamps log uptimeno service
password-encryption service udp-small-servers service tcp-
small-servers!hostname rtpkrb!aaa new-model!-- The
following four lines of the configuration !--- are
specific to Cisco IOS 11.2 and later, until 11.3.3.T. !-
-- See below this configuration !--- for commands for
other Cisco IOS releases.!aaa authentication login
default tacacs+ localaaa authentication ppp default if-
needed tacacs+ localaaa authorization exec tacacs+ if-
authenticatedaaa authorization network tacacs+ if-
authenticatedenable secret 5
$1$pkX.$JdAySRE1SbdbDe7bj0wyt0enable password
ww!username john password 0 doeusername cse password 0
csecseip host rtpkrb 10.31.1.5ip name-server
171.68.118.103!interface Loopback0ip address 1.1.1.1
255.255.255.0!interface Ethernet0ip address 10.31.1.5
255.255.0.0no mop enabled!interface Serial0no ip

```

```
addressno ip mroute-cacheshutdown!interface Serial1no ip
addressshutdown!interface Async1ip unnumbered
Ethernet0encapsulation pppasync mode dedicatedpeer
default ip address pool asyncno cdp enableppp
authentication chap!ip local pool async 15.15.15.15ip
classlessip route 0.0.0.0 0.0.0.0 10.31.1.1!tacacs-
server host 171.68.118.101tacacs-server key ciscosnmp-
server community public Rwsnmp-server host
171.68.118.100 traps public!line con 0line 1session-
timeout 20 exec-timeout 20 0password wwautoselect
during-loginautoselect pppmodem InOuttransport input
allstopbits 1speed 38400flowcontrol hardwareline 2modem
InOutspeed 38400flowcontrol hardwareline 3 16line aux
0line vty 0 4password ww!end
```

[Команды для других версий Cisco IOS](#)

Примечание: Примечание: Для использования этих команд удалите команды полужирным из конфигурации и вставьте эти команды в, как продиктовано Cisco IOS Release.

[Cisco IOS 11.3.3. T до 12.0.5. T](#)

```
Current configuration:!version 11.2service timestamps debug uptimeservice timestamps log
uptimeno service password-encryptionsservice udp-small-serversservice tcp-small-servers!hostname
rtpkrb!aaa new-model!!--- The following four lines of the configuration !--- are specific to
Cisco IOS 11.2 and later, until 11.3.3.T. !--- See below this configuration !--- for commands
for other Cisco IOS releases.!aaa authentication login default tacacs+ localaaa authentication
ppp default if-needed tacacs+ localaaa authorization exec tacacs+ if-authenticatedaaa
authorization network tacacs+ if-authenticatedenable secret 5
$1$pkX.$JdAysRE1SbdbDe7bj0wyt0enable password ww!username john password 0 doeusername cse
password 0 csecseip host rtpkrb 10.31.1.5ip name-server 171.68.118.103!interface Loopback0ip
address 1.1.1.1 255.255.255.0!interface Ethernet0ip address 10.31.1.5 255.255.0.0no mop
enabled!interface Serial0no ip addressno ip mroute-cacheshutdown!interface Serial1no ip
addressshutdown!interface Async1ip unnumbered Ethernet0encapsulation pppasync mode dedicatedpeer
default ip address pool asyncno cdp enableppp authentication chap!ip local pool async
15.15.15.15ip classlessip route 0.0.0.0 0.0.0.0 10.31.1.1!tacacs-server host
171.68.118.101tacacs-server key ciscosnmp-server community public Rwsnmp-server host
171.68.118.100 traps public!line con 0line 1session-timeout 20 exec-timeout 20 0password
wwautoselect during-loginautoselect pppmodem InOuttransport input allstopbits 1speed
38400flowcontrol hardwareline 2modem InOutspeed 38400flowcontrol hardwareline 3 16line aux 0line
vty 0 4password ww!end
```

[Cisco IOS 12.0.5. T и позже](#)

```
Current configuration:!version 11.2service timestamps debug uptimeservice timestamps log
uptimeno service password-encryptionsservice udp-small-serversservice tcp-small-servers!hostname
rtpkrb!aaa new-model!!--- The following four lines of the configuration !--- are specific to
Cisco IOS 11.2 and later, until 11.3.3.T. !--- See below this configuration !--- for commands
for other Cisco IOS releases.!aaa authentication login default tacacs+ localaaa authentication
ppp default if-needed tacacs+ localaaa authorization exec tacacs+ if-authenticatedaaa
authorization network tacacs+ if-authenticatedenable secret 5
$1$pkX.$JdAysRE1SbdbDe7bj0wyt0enable password ww!username john password 0 doeusername cse
password 0 csecseip host rtpkrb 10.31.1.5ip name-server 171.68.118.103!interface Loopback0ip
address 1.1.1.1 255.255.255.0!interface Ethernet0ip address 10.31.1.5 255.255.0.0no mop
enabled!interface Serial0no ip addressno ip mroute-cacheshutdown!interface Serial1no ip
addressshutdown!interface Async1ip unnumbered Ethernet0encapsulation pppasync mode dedicatedpeer
default ip address pool asyncno cdp enableppp authentication chap!ip local pool async
15.15.15.15ip classlessip route 0.0.0.0 0.0.0.0 10.31.1.1!tacacs-server host
171.68.118.101tacacs-server key ciscosnmp-server community public Rwsnmp-server host
171.68.118.100 traps public!line con 0line 1session-timeout 20 exec-timeout 20 0password
wwautoselect during-loginautoselect pppmodem InOuttransport input allstopbits 1speed
```

```
38400flowcontrol hardwareline 2modem InOutspeed 38400flowcontrol hardwareline 3 16line aux 0line vty 0 4password ww!end
```

Примеры отладки - TACACS+ и CHAP

Примечание: В выходных данных отладки полужирный текст выделяет проблемы в отладке. Обычный текст показывает хорошую отладку.

```
General OS:TACACS access control debugging is onAAA Authentication debugging is onAAA
Authorization debugging is onPPP:PPP authentication debugging is onPPP protocol negotiation
debugging is onrtpkrb#3d22h: As1 LCP: I CONFREQ [Closed] id 0 len 203d22h: As1 LCP: ACCM
0x00000000 (0x020600000000)3d22h: As1 LCP: MagicNumber 0x000042C5 (0x0506000042C5)3d22h: As1
LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: Lower layer not up, discarding
packet3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to up3d22h: As1 PPP: Treating
connection as a dedicated line3d22h: As1 PPP: Phase is ESTABLISHING, Active Open3d22h: As1 LCP:
O CONFREQ [Closed] id 12 len 253d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)3d22h: As1 LCP:
AuthProto CHAP (0x0305C22305)3d22h: As1 LCP: MagicNumber 0xF45D776F (0x0506F45D776F)3d22h: As1
LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: I CONFACK [REQsent] id 12 len
253d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)3d22h: As1 LCP: AuthProto CHAP
(0x0305C22305)3d22h: As1 LCP: MagicNumber 0xF45D776F (0x0506F45D776F)3d22h: As1 LCP: PFC
(0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 203d22h: As1
LCP: ACCM 0x00000000 (0x020600000000)3d22h: As1 LCP: MagicNumber 0x000042C5
(0x0506000042C5)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC (0x0802)3d22h: As1 LCP: O
CONFACK [ACKrcvd] id 0 len 203d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)3d22h: As1 LCP:
MagicNumber 0x000042C5 (0x0506000042C5)3d22h: As1 LCP: PFC (0x0702)3d22h: As1 LCP: ACFC
(0x0802)3d22h: As1 LCP: State is Open3d22h: As1 PPP: Phase is AUTHENTICATING, by this end3d22h:
As1 CHAP: O CHALLENGE id 3 len 27 from "rtpkrb"3d22h: As1 CHAP: I RESPONSE id 3 len 29 from
"chapuser"3d22h: AAA/AUTHEN: create_user (0x15B394) user='chapuser' ruser='' port='Async1'
rem_addr='async' authen_type=CHAP service=PPP priv=13d22h: AAA/AUTHEN/START (2183639772):
port='Async1' list='' action=LOGIN service=PPP3d22h: AAA/AUTHEN/START (2183639772): using
"default" list3d22h: AAA/AUTHEN (2183639772): status = UNKNOWN3d22h: AAA/AUTHEN/START
(2183639772): Method=TACACS+3d22h: TAC+: send AUTHEN/START packet ver=193 id=21836397723d22h:
TAC+: Using default tacacs server list.3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49
timeout=5!--- The TAC+ server is down, producing an error. !--- Since the user is not in the
local database, !--- the failover to local fails.TAC+: TCP/IP open to 171.68.118.101/49 failed -
- Connection refused by remote hostAAA/AUTHEN (2546660185): status = ERRORAAA/AUTHEN/START
(2546660185): Method=LOCALAAA/AUTHEN (2546660185): status = FAILAs1 CHAP: Unable to validate
Response. Username chapuser: Authentication failure3d22h: TAC+: Opened TCP/IP handle 0x17054C to
171.68.118.101/493d22h: TAC+: 171.68.118.101 (2183639772) AUTHEN/START/LOGIN/CHAP queued3d22h:
TAC+: (2183639772) AUTHEN/START/LOGIN/CHAP processed!--- The key in the router does not match
that of the server.TAC+: received bad AUTHEN packet: length = 68, expected 67857TAC+: Invalid
AUTHEN/START packet (check keys)AAA/AUTHEN (1771887965): status = ERROR3d22h: TAC+: ver=192
id=2183639772 received AUTHEN status = GETPASS3d22h: TAC+: Closing TCP/IP 0x17054C connection to
171.68.118.101/493d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: TAC+: Opened
TCP/IP handle 0x16EF4C to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h:
AAA/AUTHEN: create_user (0x170940) user='chapuser' ruser='' port='Async1' rem_addr='async'
authen_type=CHAP service=PPP priv=13d22h: TAC+: rev0 inbound chap for id=2183639772 using
id=1667030293d22h: TAC+: 171.68.118.101 (166703029) AUTHEN/START/SENDPASS/CHAP queued3d22h:
TAC+: (166703029) AUTHEN/START/SENDPASS/CHAP processed!--- The NT client sends the "DOMAIN\user"
!--- and the TAC+ server expects "user".TAC+: ver=192 id=3373385106 received AUTHEN status =
FAILTAC+: rev0 inbound chap FAIL for id=2082151566AAA/AUTHEN: free_user (0x170940)
user='CISCO\chapuser' ruser='' port='Async1' rem_addr='async' authen_type=CHAP service=PPP
priv=1!--- The TAC+ server refuses the user !--- because the user is set up for PAP. !--- The
user enters a bad password, !--- or both the username and password are bad.TAC+: ver=192
id=1989464562 received AUTHEN status = PASSTAC+: rev0 inbound chap SENDPASS status=PASS for
id=3657266965TAC+: rev0 inbound chap MD5 compare FAILEDAAA/AUTHEN: free_user (0x170940)
user='chapuser' ruser='' port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1TAC+:
Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49AAA/AUTHEN (2082151566): status = FAILAs1
CHAP: Unable to validate Response. Username papuser: Authentication failure3d22h: TAC+: ver=192
id=166703029 received AUTHEN status = PASS3d22h: TAC+: rev0 inbound chap SENDPASS status=PASS
for id=21836397723d22h: TAC+: rev0 inbound chap MD5 compare OK3d22h: AAA/AUTHEN: free_user
(0x170940) user='chapuser' ruser='' port='Async1' rem_addr='async' authen_type=CHAP service=PPP
priv=13d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/493d22h: AAA/AUTHEN
```


(2183639772): status = PASS3d22h: AAA/AUTHOR/LCP As1: Authorize LCP3d22h: AAA/AUTHOR/LCP: Async1: (683360936): user='chapuser'3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV service=ppp3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV protocol=lcp3d22h: AAA/AUTHOR/LCP: Async1: (683360936): Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (683360936): user=chapuser3d22h: AAA/AUTHOR/TAC+: (683360936): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (683360936): send AV protocol=lcp3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: TAC+: Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h: TAC+: 171.68.118.101 (683360936) AUTHOR/START queued3d22h: TAC+: (683360936) AUTHOR/START processed!--- The user passes authentication !--- (the username/password is good) !--- but fails authorization !--- (the profile is not set up to authorize PPP).TAC+: (3803447096): received author response status = FAILTAC+: Closing TCP/IP 0x16C2A4 connection to 171.68.118.101/49AAA/AUTHOR (3803447096): Post authorization status = FAILAAA/AUTHOR/LCP As1: DeniedAAA/AUTHEN: free_user (0x15B2E8) user='noauth' ruser='' port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1As1 CHAP: O FAILURE id 9 len 24 msg is "Authorization failed"3d22h: TAC+: (683360936): received author response status = PASS_ADD3d22h: TAC+: Closing TCP/IP 0x16C1F8 connection to 171.68.118.101/493d22h: AAA/AUTHOR (683360936): Post authorization status = PASS_ADD3d22h: As1 CHAP: O SUCCESS id 3 len 43d22h: As1 PPP: Phase is UP3d22h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?3d22h: AAA/AUTHOR/FSM: Async1: (977509495): user='chapuser'3d22h: AAA/AUTHOR/FSM: Async1: (977509495): send AV service=ppp3d22h: AAA/AUTHOR/FSM: Async1: (977509495): send AV protocol=ip3d22h: AAA/AUTHOR/FSM: Async1: (977509495): Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (977509495): user=chapuser3d22h: AAA/AUTHOR/TAC+: (977509495): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (977509495): send AV protocol=ip3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h: TAC+: 171.68.118.101 (977509495) AUTHOR/START queued3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 343d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)3d22h: TAC+: (977509495) AUTHOR/START processed3d22h: TAC+: (977509495): received author response status = PASS_ADD3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/493d22h: AAA/AUTHOR (977509495): Post authorization status = PASS_ADD3d22h: AAA/AUTHOR/FSM As1: We can start IPCP3d22h: As1 IPCP: O CONFREQ [Closed] id 8 len 103d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)3d22h: As1 IPCP: I CONFACK [REQsent] id 8 len 103d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)3d22h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1, changed state to up3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 343d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 0.0.0.03d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 0.0.0.03d22h: As1 IPCP: Using pool 'async'3d22h: As1 IPCP: Pool returned 15.15.15.153d22h: As1 IPCP: O CONFREQ [ACKrcvd] id 1 len 223d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 163d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 15.15.15.153d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 15.15.15.153d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 163d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 3 len 163d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15, we want 15.15.15.153d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): user='chapuser'3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV service=ppp3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV protocol=ip3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV addr*15.15.15.153d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): Method=TACACS+3d22h: AAA/AUTHOR/TAC+: (3918374858): user=chapuser3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV service=ppp3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV protocol=ip3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV addr*15.15.15.153d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=53d22h: TAC+: Opened TCP/IP handle 0x16C9E0 to 171.68.118.101/493d22h: TAC+: Opened 171.68.118.101 index=13d22h: TAC+: 171.68.118.101 (3918374858) AUTHOR/START queued3d22h: TAC+: (3918374858) AUTHOR/START processed3d22h: TAC+: (3918374858): received author response status = PASS_ADD3d22h: TAC+: Closing TCP/IP 0x16C9E0 connection to

```
171.68.118.101/493d22h: AAA/AUTHOR (3918374858): Post authorization status = PASS_ADD3d22h:
AAA/AUTHOR/IPCP As1: Processing AV service=ppp3d22h: AAA/AUTHOR/IPCP As1: Processing AV
protocol=ip3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.153d22h: AAA/AUTHOR/IPCP As1:
Authorization succeeded3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15, we want
15.15.15.153d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 163d22h: As1 IPCP: Address 15.15.15.15
(0x03060F0F0F0F)3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)3d22h: As1 IPCP:
State is Open3d22h: As1 IPCP: Install route to 15.15.15.15rtpkrb#
```

команды "debug"

Эти команды отладки использовались для создания примера отладочных выходных данных в этом документе.

Примечание: [Прежде чем применять команды отладки, ознакомьтесь с разделом "Важные сведения о командах отладки"](#).

- **debug aaa authentication?** Показывает информацию на AAA authorization.
- **debug aaa authorization?** Отображает информацию на авторизации AAA.
- **debug tacacs +?** Показывает подробную отладочную информацию, ассоциированную с TACACS+.
- **"debug ppp negotiation"** – отображаются PPP-пакеты, передаваемые при запуске PPP с согласованием параметров.

Дополнительные сведения

- [TACACS+ в документации по IOS](#)
- [Страница поддержки TACACS+](#)
- [Cisco Systems – техническая поддержка и документация](#)