Problèmes courants du débogage de TACACS+, PAP et CHAP

Contenu

Introduction

Remarque : Les informations de ce document sont basées sur les versions 11.2 et ultérieures du logiciel Cisco IOS®.

Ce document examine les problèmes de débogage courants pour TACACS+ lorsque le protocole PAP (Password Authentication Protocol) ou le protocole CHAP (Challenge Handshake Authentication Protocol) sont utilisés. Des paramètres PC courants pour Microsoft Windows 95, Windows NT, Windows 98 et Windows 2000 sont fournis, ainsi que des exemples de configurations et des exemples de débogages bons et mauvais.

Conditions préalables

Conditions requises

Aucune spécification déterminée n'est requise pour ce document.

Components Used

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

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

Conventions

Pour plus d'informations sur les conventions utilisées dans ce document, reportez-vous à Conventions relatives aux conseils techniques Cisco.

Paramètres PC courants

Windows 95

Procédez comme suit :

1. Dans la fenêtre Dialup Networking, sélectionnez le nom de la connexion, puis **Fichier > Propriétés**.
2. Dans l'onglet Type de serveur, vérifiez si la case **Exiger un mot de passe chiffré** sous Type de serveur d'accès à distance est cochée.Si cette case est cochée, le PC accepte uniquement l'authentification CHAP.Si cette case n'est pas cochée, le PC accepte l'authentification PAP ou CHAP.

Windows NT

Procédez comme suit :

1. Dans la fenêtre Réseau à distance, sélectionnez le nom de la connexion, puis choisissez **Fichier > Propriétés**.
2. Vérifiez les paramètres de l'onglet Sécurité :Si la case **Accepter toute authentification, y compris en texte clair**, est cochée, le PC accepte PAP ou CHAP.Si la case **Accepter uniquement l'authentification chiffrée** est cochée, le PC accepte uniquement l'authentification CHAP.

Windows 98

Procédez comme suit :

1. Dans la fenêtre Réseau à distance, sélectionnez le nom de la connexion, puis sélectionnez **Propriétés**.
2. Dans l'onglet Types de serveur, vérifiez les paramètres de la zone Options avancées :Si la case **Exiger un mot de passe chiffré** n'est pas cochée, le PC accepte l'authentification PAP ou CHAP.Si la case **Exiger un mot de passe chiffré** est cochée, le PC accepte uniquement l'authentification CHAP.

Windows 2000

Procédez comme suit :

1. Dans Connexions réseau et accès à distance, sélectionnez le nom de la connexion, puis sélectionnez **Propriétés**.
2. Dans l'onglet Sécurité, dans la zone **Advanced > Settings > Allow this protocols** :Si la case **Mot de passe non chiffré (PAP)** est cochée, le PC accepte PAP.Si la case **CHAP (Challenge Handshake Authentication Protocol)** est cochée, le PC accepte CHAP par RFC 1994 .Si la case **CHAP Microsoft (MS-CHAP)** est cochée, le PC accepte MS-CHAP version 1 et n'accepte pas CHAP par RFC 1994.

Exemples de configurations et de débogage

Configuration - TACACS+ et 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+ local
aaa authentication ppp default if-needed tacacs+ local
aaa authorization exec tacacs+ if-authenticated
aaa authorization network tacacs+ if-authenticated
enable secret 5 $1$pkX.$JdAySRE1SbdbDe7bj0wyt0
enable password ww
!
username john password 0 doe
username cse password 0 csecse
ip 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 cisco
snmp-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
```

Commandes pour d'autres versions de Cisco IOS

Remarque : afin d'utiliser ces commandes, supprimez les commandes en gras de la configuration et collez ces commandes dans, comme indiqué dans votre version de Cisco IOS.

Cisco IOS 11.3.3.T jusqu'à 12.0.5.T

```
aaa authen login default tacacs+ local
aaa authen ppp default if-needed tacacs+ local
aaa authorization exec default tacacs+ if-authenticated
aaa authorization network default tacacs+ if-authenticated
```

Cisco IOS 12.0.5.T et versions ultérieures

```
aaa authen login default group tacacs+ local
```

```
aaa authen ppp default if-needed group tacacs+ local
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization network default group tacacs+ if-authenticated
```

Exemples de débogages - TACACS+ et PAP

Note : Dans la sortie de débogage, le texte en gras met en évidence les problèmes dans le débogage. Le texte brut indique un bon débogage.

```
rtpkrb#show debug
General OS:
TACACS access control debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
rtpkrb#
3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to up
3d22h: As1 PPP: Treating connection as a dedicated line
3d22h: As1 PPP: Phase is ESTABLISHING, Active Open
3d22h: As1 LCP: O CONFREQ [Closed] id 14 len 24
3d22h: 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 12**
As1 LCP: AuthProto 0xC123 (0x0308C12301000001)
As1 PPP: Closing connection because remote won't authenticate

```
3d22h: As1 LCP: Interface transitioned, discarding packet
3d22h: As1 LCP: I CONFACK [REQsent] id 14 len 24
3d22h: 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 ACKrcvd
3d22h: As1 LCP: O CONFREQ [ACKrcvd] id 15 len 24
3d22h: 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 24
3d22h: 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 20
3d22h: 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 20
3d22h: 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 Open
3d22h: As1 PPP: Phase is AUTHENTICATING, by this end
3d22h: As1 PAP: I AUTH-REQ id 4 len 20 from "papuser"
3d22h: As1 PAP: Authenticating peer papuser
3d22h: AAA/AUTHEN: create_user (0x16DAC0) user='papuser'
ruser='' port='Async1' rem_addr='async' authen_type=PAP
service=PPP priv=1
3d22h: AAA/AUTHEN/START (1190231344): port='Async1' list=''
 action=LOGIN service=PPP
3d22h: AAA/AUTHEN/START (1190231344): using "default" list
3d22h: AAA/AUTHEN (1190231344): status = UNKNOWN
3d22h: AAA/AUTHEN/START (1190231344): Method=TACACS+
3d22h: TAC+: send AUTHEN/START packet ver=193 id=1190231344
3d22h: 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 host
AAA/AUTHEN (866823886): status = ERROR
AAA/AUTHEN/START (866823886): Method=LOCAL
AAA/AUTHEN (866823886): status = FAIL

```
3d22h: TAC+: Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/49
3d22h: TAC+: 171.68.118.101 (1190231344) AUTHEN/START/LOGIN/PAP queued
3d22h: 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 = GETPASS
3d22h: TAC+: Closing TCP/IP 0x16C1F8 connection to 171.68.118.101/49
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: AAA/AUTHEN: create_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
3d22h: TAC+: rev0 inbound pap login for id=1190231344 using id=3112896669
3d22h: TAC+: 171.68.118.101 (3112896669) AUTHEN/START/LOGIN/PAP queued
3d22h: TAC+: (3112896669) AUTHEN/START/LOGIN/PAP processed
3d22h: TAC+: ver=192 id=3112896669 received AUTHEN status = GETPASS
3d22h: TAC+: send AUTHEN/CONT packet
3d22h: TAC+: 171.68.118.101 (3112896669) AUTHEN/CONT queued
3d22h: 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=FAIL
AAA/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=FAIL
AAA/AUTHEN: free_user (0x15AD58) user='idochap' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1

```
3d22h: TAC+: ver=192 id=3112896669 received AUTHEN status = PASS
3d22h: TAC+: rev0 inbound pap completed for 1190231344 status=PASS
3d22h: AAA/AUTHEN: free_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
```

```
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHEN (1190231344): status = PASS
3d22h: AAA/AUTHOR/LCP As1: Authorize LCP
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): user='papuser'
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): send AV service=ppp
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): send AV protocol=lcp
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (1061976769): user=papuser
3d22h: AAA/AUTHOR/TAC+: (1061976769): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (1061976769): send AV protocol=lcp
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16C9E0 to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (1061976769) AUTHOR/START queued
3d22h: 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 171.68.118.101/49
AAA/AUTHOR (1793875816): Post authorization status = FAIL
AAA/AUTHOR/LCP As1: Denied

```
3d22h: TAC+: (1061976769): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16C9E0 connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (1061976769): Post authorization status = PASS_ADD
3d22h: As1 PAP: O AUTH-ACK id 4 len 5
3d22h: As1 PPP: Phase is UP
3d22h: 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=ppp
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): send AV protocol=ip
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (3602788894): user=papuser
3d22h: AAA/AUTHOR/TAC+: (3602788894): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (3602788894): send AV protocol=ip
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
3d22h: TAC+: Opened TCP/IP handle 0x17054C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (3602788894) AUTHOR/START queued
3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 34
3d22h: 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 processed
3d22h: TAC+: (3602788894): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (3602788894): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/FSM As1: We can start IPCP
3d22h: As1 IPCP: O CONFREQ [Closed] id 10 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: As1 IPCP: I CONFACK [REQsent] id 10 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 34
3d22h: 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 0.0.0.0
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 0.0.0.0
3d22h: As1 IPCP: Using pool 'async'
3d22h: As1 IPCP: Pool returned 15.15.15.15
3d22h: As1 IPCP: O CONFREJ [ACKrcvd] id 1 len 22
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: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
3d22h: 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 15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 16
3d22h: 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 16
3d22h: 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 15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): user='papuser'
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV service=ppp
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV protocol=ip
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (3654974050): user=papuser
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV protocol=ip
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV addr*15.15.15.15
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (3654974050) AUTHOR/START queued
3d22h: TAC+: (3654974050) AUTHOR/START processed
3d22h: TAC+: (3654974050): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (3654974050): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: State is Open
3d22h: As1 IPCP: Install route to 15.15.15.15
rtpkrb#
```

Configuration - TACACS+ et CHAP
| ```
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+ local
aaa authentication ppp default if-needed tacacs+ local
aaa authorization exec tacacs+ if-authenticated
aaa authorization network tacacs+ if-authenticated
```
enable secret 5 $1$pkX.$JdAySRE1SbdbDe7bj0wyt0
enable password ww
!
username john password 0 doe
username cse password 0 csecse
ip host rtpkrb 10.31.1.5
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 chap
!
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 cisco
snmp-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
```

Commandes pour d'autres versions de Cisco IOS

Remarque : Remarque : Pour utiliser ces commandes, supprimez les commandes en gras de la configuration et collez ces commandes dans, comme indiqué dans votre version de Cisco IOS.

Cisco IOS 11.3.3.T jusqu'à 12.0.5.T

```
aaa authen login default tacacs+ local
aaa authen ppp default if-needed tacacs+ local
aaa authorization exec default tacacs+ if-authenticated
aaa authorization network default tacacs+ if-authenticated
```

Cisco IOS 12.0.5.T et versions ultérieures

```
aaa authen login default group tacacs+ local
aaa authen ppp default if-needed group tacacs+ local
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization network default group tacacs+ if-authenticated
```

Exemples de débogages - TACACS+ et CHAP

Note : Dans la sortie de débogage, le texte en gras met en évidence les problèmes dans le débogage. Le texte brut indique un bon débogage.

```
General OS:
TACACS access control debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
rtpkrb#
3d22h: As1 LCP: I CONFREQ [Closed] id 0 len 20
3d22h: 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 packet
```

```
3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to up
3d22h: As1 PPP: Treating connection as a dedicated line
3d22h: As1 PPP: Phase is ESTABLISHING, Active Open
3d22h: As1 LCP: O CONFREQ [Closed] id 12 len 25
3d22h: 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 25
3d22h: 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 20
3d22h: 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 20
3d22h: 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 Open
3d22h: As1 PPP: Phase is AUTHENTICATING, by this end
3d22h: 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=1
3d22h: AAA/AUTHEN/START (2183639772): port='Async1' list=''
action=LOGIN service=PPP
3d22h: AAA/AUTHEN/START (2183639772): using "default" list
3d22h: AAA/AUTHEN (2183639772): status = UNKNOWN
3d22h: AAA/AUTHEN/START (2183639772): Method=TACACS+
3d22h: TAC+: send AUTHEN/START packet ver=193 id=2183639772
3d22h: 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 host
AAA/AUTHEN (2546660185): status = ERROR
AAA/AUTHEN/START (2546660185): Method=LOCAL
AAA/AUTHEN (2546660185): status = FAIL
As1 CHAP: Unable to validate Response. Username chapuser: Authentication failure

```
3d22h: TAC+: Opened TCP/IP handle 0x17054C to 171.68.118.101/49
3d22h: TAC+: 171.68.118.101 (2183639772) AUTHEN/START/LOGIN/CHAP queued
3d22h: 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 67857
TAC+: Invalid AUTHEN/START packet (check keys)
AAA/AUTHEN (1771887965): status = ERROR

```
3d22h: TAC+: ver=192 id=2183639772 received AUTHEN status = GETPASS
3d22h: TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/49
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: AAA/AUTHEN: create_user (0x170940) user='chapuser' ruser=''
```

```
port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
3d22h: TAC+: rev0 inbound chap for id=2183639772 using id=166703029
3d22h: TAC+: 171.68.118.101 (166703029) AUTHEN/START/SENDPASS/CHAP queued
3d22h: 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 = FAIL**
TAC+: rev0 inbound chap FAIL for id=2082151566
AAA/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 = PASS**
TAC+: rev0 inbound chap SENDPASS status=PASS for id=3657266965
TAC+: rev0 inbound chap MD5 compare FAILED
AAA/AUTHEN: free_user (0x170940) user='chapuser' ruser=''
port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
AAA/AUTHEN (2082151566): status = FAIL
As1 CHAP: Unable to validate Response. Username papuser: Authentication failure

```
3d22h: TAC+: ver=192 id=166703029 received AUTHEN status = PASS
3d22h: TAC+: rev0 inbound chap SENDPASS status=PASS for id=2183639772
3d22h: TAC+: rev0 inbound chap MD5 compare OK
3d22h: AAA/AUTHEN: free_user (0x170940) user='chapuser' ruser=''
port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHEN (2183639772): status = PASS
3d22h: AAA/AUTHOR/LCP As1: Authorize LCP
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): user='chapuser'
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV service=ppp
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV protocol=lcp
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (683360936): user=chapuser
3d22h: AAA/AUTHOR/TAC+: (683360936): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (683360936): send AV protocol=lcp
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (683360936) AUTHOR/START queued
3d22h: 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 = FAIL**
TAC+: Closing TCP/IP 0x16C2A4 connection to 171.68.118.101/49
AAA/AUTHOR (3803447096): Post authorization status = FAIL
AAA/AUTHOR/LCP As1: Denied
AAA/AUTHEN: free_user (0x15B2E8) user='noauth' ruser='' port='Async1'
rem_addr='async' authen_type=CHAP service=PPP priv=1
As1 CHAP: O FAILURE id 9 len 24 msg is "Authorization failed"

```
3d22h: TAC+: (683360936): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16C1F8 connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (683360936): Post authorization status = PASS_ADD
3d22h: As1 CHAP: O SUCCESS id 3 len 4
3d22h: As1 PPP: Phase is UP
3d22h: 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=ppp
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): send AV protocol=ip
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (977509495): user=chapuser
```

```
3d22h: AAA/AUTHOR/TAC+: (977509495): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (977509495): send AV protocol=ip
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (977509495) AUTHOR/START queued
3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 34
3d22h: 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 processed
3d22h: TAC+: (977509495): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (977509495): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/FSM As1: We can start IPCP
3d22h: As1 IPCP: O CONFREQ [Closed] id 8 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: As1 IPCP: I CONFACK [REQsent] id 8 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 34
3d22h: 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 0.0.0.0
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 0.0.0.0
3d22h: As1 IPCP: Using pool 'async'
3d22h: As1 IPCP: Pool returned 15.15.15.15
3d22h: As1 IPCP: O CONFREJ [ACKrcvd] id 1 len 22
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: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
3d22h: 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 15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 16
3d22h: 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 16
3d22h: 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 15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): user='chapuser'
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV service=ppp
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV protocol=ip
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV addr*15.15.15.15
```

```
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (3918374858): user=chapuser
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV protocol=ip
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV addr*15.15.15.15
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16C9E0 to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (3918374858) AUTHOR/START queued
3d22h: TAC+: (3918374858) AUTHOR/START processed
3d22h: TAC+: (3918374858): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16C9E0 connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (3918374858): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: State is Open
3d22h: As1 IPCP: Install route to 15.15.15.15
rtpkrb#
```

Commandes de débogage

Ces commandes de débogage ont été utilisées pour produire l'exemple de sortie de débogage dans ce document.

Remarque : avant d'émettre des commandes debug, référez-vous à [Informations importantes sur les commandes Debug](#).

- **debug aaa authentication** - Affiche des informations sur l'authentification AAA.
- **debug aaa Authorization** : affiche des informations sur l'autorisation AAA.
- **debug tacacs+** : affiche les informations de débogage détaillées associées à TACACS+.
- **debug ppp negotiation** - Affiche les paquets PPP transmis lors du démarrage PPP, où les options PPP sont négociées.

Informations connexes

- [TACACS+ dans la documentation d'IOS](#)
- [Page d'assistance TACACS+](#)
- [Support et documentation techniques - Cisco Systems](#)