

# Gemeenschappelijke problemen bij het afluisteren van RADIUS, PAP en CHAP

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## [Inleiding](#)

Dit document onderzoekt gemeenschappelijke problemen bij het fouterstel voor RADIUS bij het gebruik van een Wachtwoord-verificatieprotocol (PAP) of Challenge Handshake Authentication Protocol (CHAP). Gemeenschappelijke PC-instellingen voor Microsoft Windows 95, Windows NT, Windows 98 en Windows 2000 worden geleverd, evenals voorbeelden van configuraties en voorbeelden van goede en slechte versies.

## [Voordat u begint](#)

### [Conventies](#)

Zie de [Cisco Technical Tips Convention](#) voor meer informatie over documentconventies.

### [Voorwaarden](#)

Er zijn geen specifieke voorwaarden van toepassing op dit document.

## Gebruikte componenten

De informatie in dit document is gebaseerd op Cisco IOS® software releases 11.2 en hoger.

De informatie in dit document is gebaseerd op apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als u in een levend netwerk werkt, zorg er dan voor dat u de potentiële impact van om het even welke opdracht begrijpt alvorens het te gebruiken.

## Gemeenschappelijke PC-instelling

### Windows 95

Volg de onderstaande instructies:

1. Selecteer in het venster Netwerk voor uitgebreide informatie de verbindingsnaam en vervolgens **Bestand > Eigenschappen**.
2. Ga op het tabblad Server naar het vakje **Encrypt Password (Versleuteld wachtwoord)** onder Type inbelservers controleren. Als dit vakje wordt gecontroleerd, betekent dit dat de PC alleen de CHAP-verificatie accepteert. Als dit vakje niet is aangevinkt, betekent dit dat de PC PAP of CHAP authenticatie accepteert.

### Windows NT

Volg de onderstaande instructies:

1. Selecteer in het venster Inbelnetwerken de verbindingsnaam en selecteer vervolgens **Bestand > Eigenschappen**.
2. Controleer de instellingen op het tabblad Beveiliging: Als de optie **Elke verificatie inclusief een duidelijk tekstvak accepteren** is ingeschakeld, betekent dit dat de PC PAP of CHAP accepteert. Als het vakje **Alleen versleutelde verificatie accepteren** wordt ingeschakeld, accepteert de PC alleen CHAP-verificatie.

### Windows 98

Volg de onderstaande instructies:

1. Selecteer in het venster Inbelnetwerken de verbindingsnaam en selecteer vervolgens **Eigenschappen**.
2. Controleer de instellingen in het gebied Geavanceerde opties op het tabblad Server: Als het vak **Encrypt added files** niet is ingeschakeld, betekent dit dat de PC PAP of CHAP-verificatie accepteert. Als het vak **Encrypt added files** wordt ingeschakeld, betekent dit dat de PC alleen CHAP-verificatie accepteert.

### Windows 2000

Volg de onderstaande instructies:

1. Selecteer in Network and Dial-Up Connections de verbindingsnaam en selecteer vervolgens **Properties**.
2. Controleer in het tabblad Security de instellingen in het **Geavanceerd > Instellingen > Dit protocollen toestaan**: Als het vakje **Unencryptie wachtwoord (PAP)** is ingeschakeld, accepteert de PC PAP. Als het vakje **Challenge Handshake Authentication Protocol (CHAP)** is ingeschakeld, accepteert de PC CHAP per [RFC 1994](#). Als het vakje **Microsoft CHAP (MS-CHAP)** is ingeschakeld, accepteert de PC MS-CHAP versie 1 en aanvaardt CHAP niet per RFC 1994.

## Configuraties en voorbeelden debug

### RADIUS en PAP

#### Configuratie - RADIUS en PAP

```
Current configuration:
!
version 11.2
service timestamps debug uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
!
hostname rtpkrb
!
aaa new-model
!
!--- The following four command lines are specific to !-
-- Cisco IOS 11.2 and later, up until 11.3.3.T. !--- See
below this configuration for commands !--- for other
Cisco IOS releases. ! aaa authentication login default
radius local
aaa authentication ppp default if-needed radius local
aaa authorization exec radius if-authenticated
aaa authorization network radius 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
!
snmp-server community public RW
snmp-server host 171.68.118.100 traps public
radius-server host 171.68.118.101 auth-port 1645 acct-
port 1646
radius-server key cisco
!
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
exec-timeout 0 0
password ww
!
end

```

## [Opdrachten voor andere Cisco IOS-releases](#)

**Opmerking:** Als u deze opdrachten wilt gebruiken, verwijdert u de gemarkeerde opdrachten uit de bovenstaande configuratie en voegt u deze opdrachten toe, zoals door uw Cisco IOS-release bepaald.

### Cisco IOS 11.3.3.T tot 12.0.5.T

```

aaa authen login default radius local
aaa authen ppp default if-needed radius local
aaa authorization exec default radius if-authenticated

```

```
aaa authorization network default radius if-authenticated
```

## Cisco IOS 12.0.5.T en hoger

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

## Monsterverpakkingen - RADIUS en PAP

**N.B.:** In de debug uitvoer wijst de vet tekst op problemen in het debug. De vlektekst duidt op een goed debug.

```
rtpkrb#
rtpkrb#sho deb
General OS:
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
Radius protocol debugging is on
rtpkrb#
4d02h: As1 LCP: I CONFREQ [Closed] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x00001F67 (0x050600001F67)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: Lower layer not up, discarding packet
%LINK-3-UPDOWN: Interface Async1, changed state to up
4d02h: As1 PPP: Treating connection as a dedicated line
4d02h: As1 PPP: Phase is ESTABLISHING, Active Open
4d02h: As1 LCP: O CONFREQ [Closed] id 85 len 24
4d02h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
4d02h: As1 LCP: AuthProto PAP (0x0304C023)
4d02h: As1 LCP: MagicNumber 0xF54252D5 (0x0506F54252D5)
4d02h: As1 LCP: PFC (0x0702)
4d02h: 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 98 len 12
As1 LCP: AuthProto 0xC123 (0x0308C12301000001)
As1 LCP: O CONFREQ [REQsent] id 99 len 24
As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
As1 LCP: AuthProto PAP (0x0304C023)
As1 LCP: MagicNumber 0xF54D1AF8 (0x0506F54D1AF8)
As1 LCP: PFC (0x0702)
As1 LCP: ACFC (0x0802)
As1 LCP: I CONFREJ [REQsent] id 99 len 8
As1 LCP: AuthProto PAP (0x0304C023)
As1 PPP: Closing connection because remote won't authenticate
```

```
4d02h: As1 LCP: I CONFACK [REQsent] id 85 len 24
4d02h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
4d02h: As1 LCP: AuthProto PAP (0x0304C023)
```

```
4d02h: As1 LCP: MagicNumber 0xF54252D5 (0x0506F54252D5)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x00001F67 (0x050600001F67)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: O CONFACK [ACKrcvd] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x00001F67 (0x050600001F67)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: State is Open
4d02h: As1 PPP: Phase is AUTHENTICATING, by this end
4d02h: As1 PAP: I AUTH-REQ id 14 len 19 from "ddunlap"
4d02h: As1 PAP: Authenticating peer ddunlap
4d02h: AAA/AUTHEN: create_user (0x15AD58) user='ddunlap' ruser=''
      port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
4d02h: AAA/AUTHEN/START (1953436918): port='Async1' list=''
      action=LOGIN service=PPP
4d02h: AAA/AUTHEN/START (1953436918): using "default" list
4d02h: AAA/AUTHEN (1953436918): status = UNKNOWN
4d02h: AAA/AUTHEN/START (1953436918): Method=RADIUS
4d02h: RADIUS: Initial Transmit id 7 171.68.118.101:1645,
      Access-Request, len 77
4d02h: Attribute 4 6 0A1F0105
4d02h: Attribute 5 6 00000001
4d02h: Attribute 61 6 00000000
4d02h: Attribute 1 9 6464756E
4d02h: Attribute 2 18 7882E0A5
4d02h: Attribute 6 6 00000002
4d02h: Attribute 7 6 00000001
```

**Radius server is down - produces ERROR - since user is not  
in local database, failover to local FAILs**

```
As1 PAP: I AUTH-REQ id 16 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=16 already in progress
As1 PAP: I AUTH-REQ id 17 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=17 already in progress
RADIUS: Retransmit id 9
As1 PAP: I AUTH-REQ id 18 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=18 already in progress
As1 PAP: I AUTH-REQ id 19 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=19 already in progress
As1 PAP: I AUTH-REQ id 20 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=20 already in progress
RADIUS: Retransmit id 9
As1 PAP: I AUTH-REQ id 21 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=21 already in progress
As1 PAP: I AUTH-REQ id 22 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=22 already in progress
RADIUS: Retransmit id 9
As1 PAP: I AUTH-REQ id 23 len 19 from "ddunlap"
As1 AUTH: Duplicate authentication request id=23 already in progress
As1 LCP: I TERMREQ [Open] id 1 len 8 (0x000002CE)
As1 LCP: O TERMACK [Open] id 1 len 4
As1 PPP: Phase is TERMINATING
RADIUS: No response for id 9
%RADIUS-3-ALLDEADSERVER: No active radius servers found. Id 9.
RADIUS: No response from server
AAA/AUTHEN (3025998849): status = ERROR
AAA/AUTHEN/START (3025998849): Method=LOCAL
```

AAA/AUTHEN (3025998849): status = FAIL

Key in router does not match that of server:

RADIUS: Received from id 21 171.68.118.101:1645, Access-Reject, len 20

RADIUS: Reply for 21 fails decrypt

NT client sends 'DOMAIN\user' and Radius server expects 'user':

RADIUS: Received from id 11 171.68.118.101:1645, Access-Reject, len 20

AAA/AUTHEN (1406749115): status = FAIL

As1 PAP: O AUTH-NAK id 25 len 32 msg is "Password validation failure"

As1 PPP: Phase is TERMINATING

As1 LCP: O TERMREQ [Open] id 108 len 4

AAA/AUTHEN: free\_user (0xDA520) user='CISCO\ddunlap' ruser=''

port='Async1' rem\_addr='async' authen\_type=PAP service=PPP priv=1

Radius server refuses user because user user enters bad password,

or both userid & password are bad:

RADIUS: Received from id 12 171.68.118.101:1645, Access-Reject, len 20

AAA/AUTHEN (733718529): status = FAIL

As1 PAP: O AUTH-NAK id 26 len 32 msg is "Password validation failure"

As1 PPP: Phase is TERMINATING

As1 LCP: O TERMREQ [Open] id 111 len 4

AAA/AUTHEN: free\_user (0x15B030) user='ddunlap' ruser=''

= 'Async1' rem\_addr='async' authen\_type=PAP service=PPP priv=1

User passes authentication (i.e. username/password is good)

but fails authorization (profile not set up for Service-Type=Framed &  
Framed-Protocol=PPP):

RADIUS: Received from id 13 171.68.118.101:1645, Access-Accept, len 20

RADIUS: saved authorization data for user 15AD58 at 15ADF0

AAA/AUTHEN (56862281): status = PASS

AAA/AUTHOR/LCP As1: Authorize LCP

AAA/AUTHOR/LCP: Async1: (959162008): user='cse'

AAA/AUTHOR/LCP: Async1: (959162008): send AV service=ppp

AAA/AUTHOR/LCP: Async1: (959162008): send AV protocol=lcp

AAA/AUTHOR/LCP: Async1: (959162008): Method=RADIUS

RADIUS: no appropriate authorization type for user.

AAA/AUTHOR (959162008): Post authorization status = FAIL

AAA/AUTHOR/LCP As1: Denied

AAA/AUTHEN: free\_user (0x15AD58) user='cse' ruser=''

port='Async1' rem\_addr='async' authen\_type=PAP service=PPP priv=1

As1 PAP: O AUTH-NAK id 27 len 25 msg is "Authorization failed"

4d02h: RADIUS: Received from id 7 171.68.118.101:1645, Access-Accept, len 32

4d02h: Attribute 6 6 00000002

4d02h: Attribute 7 6 00000001

4d02h: RADIUS: saved authorization data for user 15AD58 at 16C7F4

4d02h: AAA/AUTHEN (1953436918): status = PASS

4d02h: AAA/AUTHOR/LCP As1: Authorize LCP

4d02h: AAA/AUTHOR/LCP: Async1: (2587233868): user='ddunlap'

4d02h: AAA/AUTHOR/LCP: Async1: (2587233868): send AV service=ppp

4d02h: AAA/AUTHOR/LCP: Async1: (2587233868): send AV protocol=lcp

4d02h: AAA/AUTHOR/LCP: Async1: (2587233868): Method=RADIUS

4d02h: AAA/AUTHOR (2587233868): Post authorization status = PASS\_REPL

4d02h: AAA/AUTHOR/LCP As1: Processing AV service=ppp

4d02h: As1 PAP: O AUTH-ACK id 14 len 5

4d02h: As1 PPP: Phase is UP

4d02h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?

4d02h: AAA/AUTHOR/FSM: Async1: (423372862): user='ddunlap'

4d02h: AAA/AUTHOR/FSM: Async1: (423372862): send AV service=ppp

```
4d02h: AAA/AUTHOR/FSM: Async1: (423372862): send AV protocol=ip
4d02h: AAA/AUTHOR/FSM: Async1: (423372862): Method=RADIUS
4d02h: AAA/AUTHOR (423372862): Post authorization status = PASS_REPL
4d02h: AAA/AUTHOR/FSM As1: We can start IPCP
4d02h: As1 IPCP: O CONFREQ [Closed] id 17 len 10
4d02h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
4d02h: As1 IPCP: I CONFREQ [REQsent] id 1 len 34
4d02h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
4d02h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
4d02h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
4d02h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
4d02h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 0.0.0.0
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 0.0.0.0
4d02h: As1 IPCP: Using pool 'async'
4d02h: As1 IPCP: Pool returned 15.15.15.15
4d02h: As1 IPCP: O CONFREQ [REQsent] id 1 len 22
4d02h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
4d02h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
4d02h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
4d02h: As1 IPCP: I CONFACK [REQsent] id 17 len 10
4d02h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
%LINEPROTO-5-UPDOWN: Line protocol on Interface Async1, changed state to up
4d02h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
4d02h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
4d02h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 15.15.15.15
4d02h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: As1 IPCP: I CONFREQ [ACKrcvd] id 3 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15, we want 15.15.15.15
4d02h: AAA/AUTHOR/IPCP: Async1: (4204275250): user='ddunlap'
4d02h: AAA/AUTHOR/IPCP: Async1: (4204275250): send AV service=ppp
4d02h: AAA/AUTHOR/IPCP: Async1: (4204275250): send AV protocol=ip
4d02h: AAA/AUTHOR/IPCP: Async1: (4204275250): send AV addr*15.15.15.15
4d02h: AAA/AUTHOR/IPCP: Async1: (4204275250): Method=RADIUS
4d02h: AAA/AUTHOR (4204275250): Post authorization status = PASS_REPL
4d02h: AAA/AUTHOR/IPCP As1: Reject 15.15.15.15, using 15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
4d02h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15, we want 15.15.15.15
4d02h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: As1 IPCP: State is Open
4d02h: As1 IPCP: Install route to 15.15.15.15
rtpkrb#
```

## [RADIUS en CHAP](#)

<b>Configuratie - RADIUS en CHAP</b>



```
Current configuration:
!
version 11.2
service timestamps debug uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
!
hostname rtpkrb
!
aaa new-model
!
!--- The following four command lines are specific to !-
-- Cisco IOS 11.2 and later, up until 11.3.3.T. !--- See
below this configuration for commands !--- for other
Cisco IOS releases. ! aaa authentication login default
radius local
aaa authentication ppp default if-needed radius local
aaa authorization exec radius if-authenticated
aaa authorization network radius 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
!
snmp-server community public RW
snmp-server host 171.68.118.100 traps public
radius-server host 171.68.118.101 auth-port 1645 acct-
port 1646
radius-server key cisco
!
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
exec-timeout 0 0
password ww
!
end
```

## Opdrachten voor andere Cisco IOS-releases

**Opmerking:** Als u deze opdrachten wilt gebruiken, verwijdert u de gemarkeerde opdrachten uit de bovenstaande configuratie en voegt u deze opdrachten toe, zoals door uw Cisco IOS-release bepaald.

### Cisco IOS 11.3.3.T tot 12.0.5.T

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

### Cisco IOS 12.0.5.T en hoger

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

## Monsterverpakkingen - RADIUS en CHAP

**N.B.:** In de debug uitvoer wijst de vet, cursief gemaakte tekst op problemen in het debug. De vlektekst duidt op een goed debug.

```
rtpkrb#show debug
General OS:
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
Radius protocol debugging is on
rtpkrb#
```

```

4d02h: As1 LCP: I CONFREQ [Closed] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x0000405F (0x05060000405F)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: Lower layer not up, discarding packet
%LINK-3-UPDOWN: Interface Async1, changed state to up
4d02h: As1 PPP: Treating connection as a dedicated line
4d02h: As1 PPP: Phase is ESTABLISHING, Active Open
4d02h: As1 LCP: O CONFREQ [Closed] id 87 len 25
4d02h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
4d02h: As1 LCP: AuthProto CHAP (0x0305C22305)
4d02h: As1 LCP: MagicNumber 0xF5445B55 (0x0506F5445B55)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: I CONFACK [REQsent] id 87 len 25
4d02h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
4d02h: As1 LCP: AuthProto CHAP (0x0305C22305)
4d02h: As1 LCP: MagicNumber 0xF5445B55 (0x0506F5445B55)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: I CONFREQ [ACKRcvd] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x0000405F (0x05060000405F)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: O CONFACK [ACKRcvd] id 0 len 20
4d02h: As1 LCP: ACCM 0x00000000 (0x020600000000)
4d02h: As1 LCP: MagicNumber 0x0000405F (0x05060000405F)
4d02h: As1 LCP: PFC (0x0702)
4d02h: As1 LCP: ACFC (0x0802)
4d02h: As1 LCP: State is Open
4d02h: As1 PPP: Phase is AUTHENTICATING, by this end
4d02h: As1 CHAP: O CHALLENGE id 11 len 27 from "rtprkb"
4d02h: As1 CHAP: I RESPONSE id 11 len 28 from "chapadd"
4d02h: AAA/AUTHEN: create_user (0x15AD58) user='chapadd' ruser=''
      port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
4d02h: AAA/AUTHEN/START (575703226): port='Async1' list=''
      action=LOGIN service=PPP
4d02h: AAA/AUTHEN/START (575703226): using "default" list
4d02h: AAA/AUTHEN (575703226): status = UNKNOWN
4d02h: AAA/AUTHEN/START (575703226): Method=RADIUS
4d02h: RADIUS: Initial Transmit id 8 171.68.118.101:1645,
      Access-Request, len 78
4d02h: Attribute 4 6 0A1F0105
4d02h: Attribute 5 6 00000001
4d02h: Attribute 61 6 00000000
4d02h: Attribute 1 9 63686170
4d02h: Attribute 3 19 0B895D57
4d02h: Attribute 6 6 00000002
4d02h: Attribute 7 6 00000001

```

**Radius server is down - produces ERROR - since user is not  
in local database, failover to local FAILs:**

```

As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
RADIUS: Retransmit id 15
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress

```

```
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
RADIUS: Retransmit id 15
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
RADIUS: Retransmit id 15
As1 CHAP: I RESPONSE id 12 len 28 from "chapadd"
As1 AUTH: Duplicate authentication request id=12 already in progress
As1 LCP: I TERMREQ [Open] id 1 len 8 (0x000002CE)
As1 LCP: O TERMACK [Open] id 1 len 4
As1 PPP: Phase is TERMINATING
RADIUS: id 15, requester hung up.
RADIUS: No response for id 15
RADIUS: No response from server
AAA/AUTHEN (1866705040): status = ERROR
AAA/AUTHEN/START (1866705040): Method=LOCAL
AAA/AUTHEN (1866705040): status = FAIL
As1 CHAP: Unable to validate Response. Username chapadd: Authentication failure
As1 CHAP: O FAILURE id 12 len 26 msg is "Authentication failure"
AAA/AUTHEN: free_user (0x1716B8) user='chapadd' ruser=''
    port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
```

Key in router does not match that of server:

```
RADIUS: Received from id 21 171.68.118.101:1645, Access-Reject, len 20
RADIUS: Reply for 21 fails decrypt
```

NT client sends 'DOMAIN\user' and Radius server expects 'user':

```
RADIUS: Received from id 16 171.68.118.101:1645, Access-Reject, len 20
AAA/AUTHEN (2974782384): status = FAIL
As1 CHAP: Unable to validate Response. Username CISCO\chapadd:
    Authentication failure
As1 CHAP: O FAILURE id 13 len 26 msg is "Authentication failure"
As1 PPP: Phase is TERMINATING
As1 LCP: O TERMREQ [Open] id 131 len 4
AAA/AUTHEN: free_user (0x171700) user='CISCO\chapadd' ruser=''
    port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
```

Radius server refuses user because user is set up for pap,

user enters bad password, or both userid & password are bad:

```
RADIUS: Received from id 17 171.68.118.101:1645, Access-Reject, len 20
AAA/AUTHEN (3898168391): status = FAIL
As1 CHAP: Unable to validate Response. Username ddunlap: Authentication failure
As1 CHAP: O FAILURE id 14 len 26 msg is "Authentication failure"
As1 PPP: Phase is TERMINATING
As1 LCP: O TERMREQ [Open] id 134 len 4
AAA/AUTHEN: free_user (0x1716B8) user='ddunlap' ruser=''
    port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1
```

User PASSES authentication (i.e. username/password is good)

but FAILS authorization (profile not set up for Service-Type=Framed & Framed-Protocol=PPP):

```
RADIUS: Received from id 19 171.68.118.101:1645, Access-Accept, len 20
AAA/AUTHEN (2006894701): status = PASS
AAA/AUTHOR/LCP As1: Authorize LCP
AAA/AUTHOR/LCP: Async1: (2370106832): user='noauth'
AAA/AUTHOR/LCP: Async1: (2370106832): send AV service=ppp
AAA/AUTHOR/LCP: Async1: (2370106832): send AV protocol=lcp
AAA/AUTHOR/LCP: Async1: (2370106832): Method=RADIUS
RADIUS: no appropriate authorization type for user.
AAA/AUTHOR (2370106832): Post authorization status = FAIL
```

**AAA/AUTHOR/LCP As1: Denied**

```
4d02h: RADIUS: Received from id 8 171.68.118.101:1645, Access-Accept, len 32
4d02h: Attribute 6 6 00000002
4d02h: Attribute 7 6 00000001
4d02h: AAA/AUTHEN (575703226): status = PASS
4d02h: AAA/AUTHOR/LCP As1: Authorize LCP
4d02h: AAA/AUTHOR/LCP: Async1: (4143416222): user='chapadd'
4d02h: AAA/AUTHOR/LCP: Async1: (4143416222): send AV service=ppp
4d02h: AAA/AUTHOR/LCP: Async1: (4143416222): send AV protocol=lcp
4d02h: AAA/AUTHOR/LCP: Async1: (4143416222): Method=RADIUS
4d02h: AAA/AUTHOR (4143416222): Post authorization status = PASS_REPL
4d02h: AAA/AUTHOR/LCP As1: Processing AV service=ppp
4d02h: As1 CHAP: 0 SUCCESS id 11 len 4
4d02h: As1 PPP: Phase is UP
4d02h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?
4d02h: AAA/AUTHOR/FSM: Async1: (1916451991): user='chapadd'
4d02h: AAA/AUTHOR/FSM: Async1: (1916451991): send AV service=ppp
4d02h: AAA/AUTHOR/FSM: Async1: (1916451991): send AV protocol=ip
4d02h: AAA/AUTHOR/FSM: Async1: (1916451991): Method=RADIUS
4d02h: AAA/AUTHOR (1916451991): Post authorization status = PASS_REPL
4d02h: AAA/AUTHOR/FSM As1: We can start IPCP
4d02h: As1 IPCP: 0 CONFREQ [Closed] id 19 len 10
4d02h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
4d02h: As1 IPCP: I CONFREQ [REQsent] id 1 len 34
4d02h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
4d02h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
4d02h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
4d02h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
4d02h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 0.0.0.0
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 0.0.0.0
4d02h: As1 IPCP: Using pool 'async'
4d02h: As1 IPCP: Pool returned 15.15.15.15
4d02h: As1 IPCP: 0 CONFREQ [REQsent] id 1 len 22
4d02h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
4d02h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
4d02h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
4d02h: As1 IPCP: I CONFACK [REQsent] id 19 len 10
4d02h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
4d02h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
4d02h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
4d02h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 15.15.15.15
4d02h: As1 IPCP: 0 CONFNAK [ACKrcvd] id 2 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: As1 IPCP: I CONFREQ [ACKrcvd] id 3 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15, we want 15.15.15.15
4d02h: AAA/AUTHOR/IPCP: Async1: (1096193147): user='chapadd'
4d02h: AAA/AUTHOR/IPCP: Async1: (1096193147): send AV service=ppp
4d02h: AAA/AUTHOR/IPCP: Async1: (1096193147): send AV protocol=ip
4d02h: AAA/AUTHOR/IPCP: Async1: (1096193147): send AV addr*15.15.15.15
4d02h: AAA/AUTHOR/IPCP: Async1: (1096193147): Method=RADIUS
4d02h: AAA/AUTHOR (1096193147): Post authorization status = PASS_REPL
4d02h: AAA/AUTHOR/IPCP As1: Reject 15.15.15.15, using 15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
```

```
4d02h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
4d02h: AAA/AUTHOR/IPCP As1: Authorization succeeded
4d02h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15, we want 15.15.15.15
4d02h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
4d02h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
4d02h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
4d02h: As1 IPCP: State is Open
%LINEPROTO-5-UPDOWN: Line protocol on Interface Async1, changed state to up
4d02h: As1 IPCP: Install route to 15.15.15.15
rtpkrb#
```

## Opdrachten debug

De volgende opdrachten debug werden gebruikt om de voorbeelduitvoer in dit document te definiëren.

**Opmerking:** Voordat u **debug**-opdrachten afgeeft, raadpleegt u [Belangrijke informatie over debug-opdrachten](#).

- **debug van verificatie** - Display informatie over AAA-verificatie.
- **debug a autorisatie** - Geef informatie over AAA-autorisatie weer.
- **debug straal** - Geef gedetailleerde zuiveringsinformatie weer die bij de afstandsverificatie is gekoppeld aan de inbel-gebruikersserver (RADIUS).
- **debug PPP-onderhandeling** - Hier worden PPP-pakketten weergegeven die tijdens PPP-start worden verzonden, waar PPP-opties worden onderhandeld.

## Gerelateerde informatie

- [RADIUS-ondersteuningspagina](#)
- [Technische ondersteuning - Cisco-systemen](#)