Problemi comuni relativi al debug di RADIUS, PAP e CHAP

Sommario

Introduzione

In questo documento vengono esaminati i problemi di debug comuni relativi a RADIUS quando si utilizza il protocollo PAP (Password Authentication Protocol) o il protocollo CHAP (Challenge Handshake Authentication Protocol). Sono disponibili le impostazioni comuni per Microsoft Windows 95, Windows NT, Windows 98 e Windows 2000, nonché esempi di configurazioni ed esempi di debug corretti e non corretti.

Operazioni preliminari

Convenzioni

Per ulteriori informazioni sulle convenzioni usate, consultare il documento [Cisco sulle convenzioni nei suggerimenti tecnici](#).

Prerequisiti

Non sono previsti prerequisiti specifici per questo documento.

Componenti usati

Per questo documento, è stato usato il software Cisco IOS® versione 11.2 e successive.

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Impostazioni comuni del PC

Windows 95

Seguire le istruzioni fornite di seguito:

1. Nella finestra Connessione remota, selezionare il nome della connessione, quindi **File > Proprietà**.
2. Nella scheda Tipo server verificare se la casella **Richiedi password crittografata** al di sotto Tipo di server di connessione remota è selezionata.Se questa casella è selezionata, significa che il PC accetta solo l'autenticazione CHAP.Se questa casella non è selezionata, significa che il PC accetta l'autenticazione PAP o CHAP.

Windows NT

Seguire le istruzioni fornite di seguito:

1. Nella finestra Connessione remota, selezionare il nome della connessione, quindi selezionare **File > Proprietà**.
2. Verificare le impostazioni nella scheda Protezione:Se la casella di controllo **Accetta qualsiasi autenticazione** è selezionata, significa che il PC accetta PAP o CHAP.Se la casella di controllo **Accetta solo autenticazione crittografata** è selezionata, il PC accetta solo l'autenticazione CHAP.

Windows 98

Seguire le istruzioni fornite di seguito:

1. Nella finestra Connessione remota selezionare il nome della connessione e quindi **Proprietà**.
2. Nella scheda Tipi di server verificare le impostazioni nell'area Opzioni avanzate:Se la casella di controllo **Richiedi password crittografata** è deselezionata, il PC accetta l'autenticazione PAP o CHAP.Se la casella **Richiedi password crittografata** è selezionata, il PC accetta solo l'autenticazione CHAP.

Windows 2000

Seguire le istruzioni fornite di seguito:

1. In Rete e connessioni remote selezionare il nome della connessione e quindi **Proprietà**.
2. Nella scheda Protezione, controllare le impostazioni in **Avanzate > Impostazioni > Consenti questi protocolli** area:Se la casella **Password non crittografata (PAP)** è selezionata, il PC accetta PAP.Se la casella **CHAP (Challenge Handshake Authentication Protocol)** è selezionata, il PC accetta la protezione CHAP in base alla [RFC 1994](#).Se la casella **Microsoft CHAP (MS-CHAP)** è selezionata, il PC accetta MS-CHAP versione 1 e non accetta la protezione CHAP in base alla RFC 1994.

Configurazioni ed esempi di debug

RADIUS e PAP

Configurazione - RADIUS e 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
```

Comandi per altre versioni di Cisco IOS

Nota: per utilizzare questi comandi, rimuovere i comandi evidenziati dalla configurazione precedente e incollarli in, come richiesto dalla versione Cisco IOS in uso.

Cisco IOS 11.3.3.T fino a 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 e versioni successive

```
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
```

Debug di esempio - RADIUS e PAP

Nota: nell'output del comando debug, il testo in grassetto evidenzia i problemi relativi al comando debug. Il testo normale indica un debug corretto.

```
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 CONFREJ [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 e CHAP

Configurazione - RADIUS e CHAP
| ```
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
```

Comandi per altre versioni di Cisco IOS

Nota: per utilizzare questi comandi, rimuovere i comandi evidenziati dalla configurazione precedente e incollarli in, come richiesto dalla versione Cisco IOS in uso.

Cisco IOS 11.3.3.T fino a 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 e versioni successive

```
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
```

Debug di esempio - RADIUS e CHAP

Nota: nell'output del comando debug, il testo in grassetto e in corsivo evidenzia i problemi relativi al comando debug. Il testo normale indica un debug corretto.

```
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 "rtpkrb"
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: O 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: O 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: O CONFREJ [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: 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: (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#
```

Comandi debug

Per produrre l'output di esempio del comando debug in questo documento, sono stati usati i comandi **debug** riportati di seguito.

Nota: prima di usare i comandi di **debug**, consultare le informazioni importanti sui comandi di debug.

- **debug aaa authentication** - Visualizza informazioni sull'autenticazione AAA.
- **debug aaa authorization** - Visualizza le informazioni sull'autorizzazione AAA.
- **debug radius**: visualizza informazioni di debug dettagliate associate al server RADIUS (Remote Authentication Dial-In User Server).
- **debug ppp negotiation**: visualizza i pacchetti PPP trasmessi durante l'avvio del protocollo PPP, dove le opzioni PPP vengono negoziate.

Informazioni correlate

- Pagina di supporto RADIUS
- Supporto tecnico – Cisco Systems