

AAA 제공 콜백 문자열로 ISDN을 통한 PPP 콜백 구성

목차

[소개](#)

[사전 요구 사항](#)

[요구 사항](#)

[사용되는 구성 요소](#)

[표기 규칙](#)

[배경 정보](#)

[구성](#)

[네트워크 다이어그램](#)

[구성](#)

[다음을 확인합니다.](#)

[문제 해결](#)

[문제 해결 명령\(선택 사항\)](#)

[디버그 출력 샘플](#)

[관련 정보](#)

소개

이 문서에서는 두 Cisco 라우터 간의 PPP 콜백을 위한 샘플 컨피그레이션을 제공합니다.

사전 요구 사항

요구 사항

이 문서에 대한 특정 요건이 없습니다.

사용되는 구성 요소

이 문서의 정보는 다음 소프트웨어 및 하드웨어 버전을 기반으로 합니다.

- Cisco IOS® 소프트웨어 릴리스 12.0(3)T 이상

참고: AAA 서버 할당 콜백 문자열의 도움을 받아 PPP 콜백을 구성하려면 Cisco IOS Software Release 12.0(3)T 이상에서 사용할 수 있는 **dialer aaa** 명령을 사용해야 합니다. 그러나 Cisco IOS 버전 12.1(4)T, 12.2(1)T 이상에서 이 명령은 AAA 서버에 지정된 콜백 문자열로 PPP 콜백에는 필요하지 않습니다.

참고: 다이얼러 **aaa** 명령은 레거시 DDR에서만 지원됩니다([그림1](#)과 같이).

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 현재 네트워크가 작동 중인 경우, 모든 명령어의 잠재적인 영향을 미리 숙지하시기 바랍니다.

[표기 규칙](#)

문서 표기 규칙에 대한 자세한 내용은 [Cisco 기술 팁 표기 규칙을 참조하십시오](#).

[배경 정보](#)

TACACS+(AAA 서버)는 콜백 서버에 콜백 다이얼문자열을 제공하는 데 사용됩니다. 그러나 RADIUS를 사용하여 콜백 문자열을 제공할 수도 있습니다. 로컬 인증, 권한 부여 및 계정 관리 (AAA)를 사용하여 PPP 콜백을 구성하려면 ISDN을 통한 [PPP 콜백 구성을 참조하십시오](#).

이 샘플 컨피그레이션에서는 콜백이 PPP와 RFC 1570에 지정된 시설을 사용합니다. ISDN 회로의 PPP 콜백은 다음 순서로 완료됩니다.

1. 콜백 클라이언트가 시작되고 콜백 서버 라우터에 ISDN 연결을 가져옵니다.
2. 콜백 클라이언트 및 콜백 서버는 LCP(PPP 링크 제어 프로토콜)를 협상합니다. LCP 협상에서는 콜백이 요청, 협상 및 동의됩니다.
3. 콜백 클라이언트 및 콜백 서버는 PPP PAP(Password Authentication Protocol) 또는 CHAP(Challenge Handshake Authentication Protocol)를 사용하여 서로를 인증합니다. 그러나 ppp authentication chap callin 명령을 통해 콜백 서버를 인증하지 않도록 콜백 클라이언트를 구성할 수 있습니다.
4. 콜백 서버는 AAA 서버에서 콜백 다이얼 문자열(클라이언트의 전화 번호)과 같은 필요한 콜백 특성을 가져옵니다.
5. 두 라우터 모두 ISDN 연결을 삭제합니다.
6. 콜백 서버가 클라이언트에 대한 콜백을 시작합니다. 통화가 연결되면 라우터는 서로 인증하며 링크가 설정됩니다.

[구성](#)

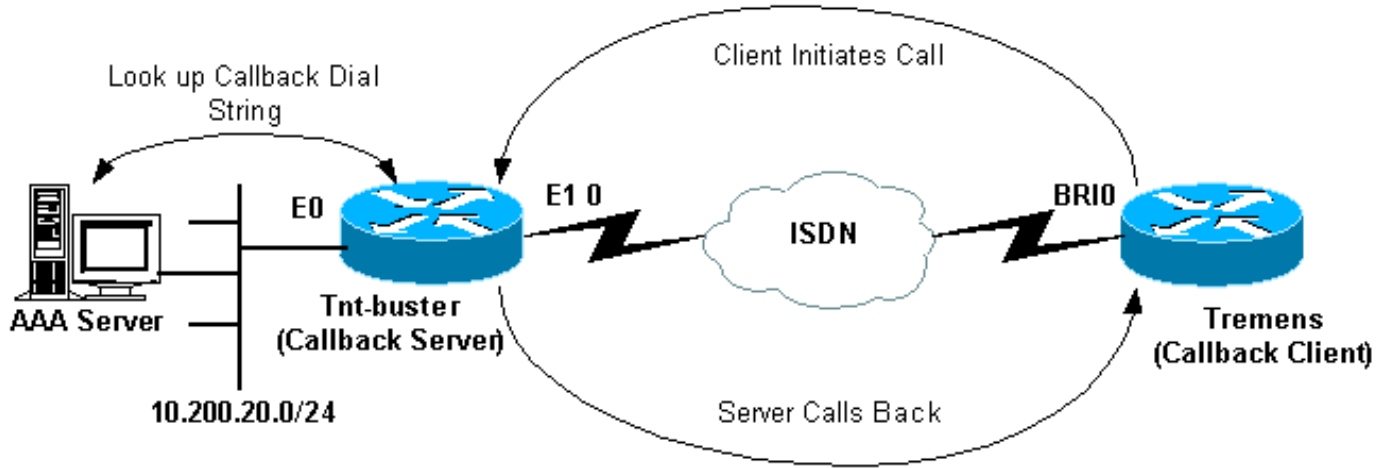
이 섹션에는 이 문서에서 설명하는 기능을 구성하기 위한 정보가 표시됩니다.

참고: 이 문서에 사용된 명령에 대한 추가 정보를 찾으려면 [명령 조회 도구](#)([등록된](#) 고객만 해당)를 사용합니다.

[네트워크 다이어그램](#)

이 문서에서는 다음 네트워크 설정을 사용합니다.

그림 1 - 네트워크 다이어그램



구성

이 문서에서는 다음 구성을 사용합니다.

- Freeware TACACS+ 컨피그레이션
- RADIUS 컨피그레이션
- 대체 RADIUS 구성
- Tnt-buster(콜백 서버) 구성
- 진동(콜백 클라이언트) 구성

Freeware TACACS+ 컨피그레이션

```
user = tremens {
  default service = permit
  login = cleartext "cisco"
  chap = cleartext "cisco"
  !--- CHAP password. service = ppp protocol = lcp {
  callback-dialstring = "6083" !--- Number to callback.
  send-secret = "cisco" } }
```

RADIUS를 AAA 서버로 사용하여 TACACS+ 대신 콜백 특성을 제공할 수도 있습니다. RADIUS 컨피그레이션의 예는 다음과 같습니다.

RADIUS 컨피그레이션

```
tremens          Auth-Type = Local, Password = "cisco"
                 Service-Type = Framed-User,
  !--- Service-Type(6) is Framed User(4). Cisco-AVPair =
  "lcp:callback-dialstring=6083", Cisco-AVPair =
  "lcp:send-secret=cisco"
```

참고: 위에 표시된 RADIUS 컨피그레이션에서는 Cisco AVPair lcp:send-secret=cisco가 콜백의 인증 시 필요합니다. 이 AVPair를 포함하지 않는 경우 콜백 서버에서 로컬로 원격 라우터의 CHAP 사용자 이름 및 비밀번호를 구성해야 합니다.

참고: 이 문서는 주로 TACACS+를 다룹니다. 이 문서에 제공된 디버그에는 RADIUS 시작 콜백이 표시되지 않습니다.

참고: Cisco IOS 버전 12.1(7)에서는 ISDN 및 아날로그 Microsoft 콜백용 IETF(Internet Engineering

Task Force) RADIUS 특성 19를 사용할 수 있습니다. 이러한 경우 이전 컨피그레이션에 표시된 Cisco AVPairs를 사용할 필요가 없습니다. 여기에 표시된 대체 RADIUS 컨피그레이션 예를 참조하십시오.

대체 RADIUS 구성

```
tremens          Auth-Type = Local, Password = "cisco"
                 Service-Type = callback framed
                 !--- Service-Type (6) is callback
                 framed (4). !--- Callback framed is also known as !---
                 Dialback-Framed-User. Callback =6083 !--- IETF RADIUS
                 Callback attribute (19) with the phone !--- number for
                 the callback.
```

참고: RADIUS 디버그에는 콜백 서버로 반환된 IETF RADIUS 특성 19가 표시됩니다.

이 예에서 사용된 두 라우터의 컨피그레이션은 다음과 같습니다.

Tnt-buster(콜백 서버)

```
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Tnt-buster
!
boot system flash flash:c5300-i-mz.121-4
logging buffered 1000000 debugging
aaa new-model
aaa authentication login none none
aaa authentication ppp default group tacacs+ local
!--- AAA methods for PPP authentication. aaa
authorization network default group tacacs+ !--- AAA
authorization methods for RADIUS implementation. !---
Replace TACACS+ with RADIUS in the statements above. !
spe 1/0 1/23 firmware location
system:/ucode/microcom_firmware ! resource-pool disable
! ip subnet-zero no ip domain-lookup ! isdn switch-type
primary-net5 ! controller E1 0 !--- E1 interface that
accepts the initial call and performs the callback.
clock source line primary pri-group timeslots 1-31 ! !
!--- irrelevant output has been omitted. ! interface
Loopback0 ip address 2.2.2.2 255.255.255.255 ! interface
Ethernet0 ip address 10.200.20.42 255.255.255.0 !
interface Serial0:15 !--- D-channel for controller E1 0.
no ip address encapsulation ppp dialer rotary-group 1 !-
-- Assign E1 0 to rotary-group 1 (which is necessary for
dialout). !--- Rotary-group properties are defined in
interface Dialer 1. isdn switch-type primary-net5 no cdp
enable ! ! !--- irrelevant output has been omitted. ! !
interface Dialer1 !--- This is the interface for the
dialer rotary-group 1 configuration. ip unnumbered
Loopback0 encapsulation ppp dialer in-band dialer aaa !-
-- This allows AAA to retrieve the callback dial string
via AAA servers. !--- This command is required for
callback attributes to be obtained !--- from the AAA
server. dialer idle-timeout 60 dialer enable-timeout 5
!--- The time (in seconds) between initial call
disconnect and callback !--- initiation. dialer hold-
```

```

queue 20 !--- This holds 20 packets destined for the
remote destination until the !--- connection is made.
dialer-group 1 no peer default ip address !--- The peer
is not given an IP address from a pool. !--- IP pool can
be defined if necessary. ppp callback accept !--- Allows
the interface to accept a callback request from a remote
host. ppp authentication chap callin ! ip route 0.0.0.0
0.0.0.0 10.200.20.1 no ip http server ! dialer-list 1
protocol ip permit tacacs-server host 10.200.20.134 key
cisco !--- The IP address and key of the TACACS+ server.
! line con 0 exec-timeout 0 0 length 30 transport input
none line 1 24 line aux 0 line vty 0 4 no exec-banner
exec-timeout 0 0 login authentication none ! end

```

진동(콜백 클라이언트)

```

version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname tremens
!
username tnt-buster password 0 cisco
!--- Username and shared secret password used for CHAP
authentication. !--- The AAA server must have this
router hostname (tnt-buster) and !--- shared secret
(cisco) configured. ! ip subnet-zero no ip finger no ip
domain-lookup ! isdn switch-type basic-net3 ! interface
Loopback0 ip address 3.3.3.3 255.255.255.255 ! interface
Ethernet0 ip address 10.200.16.54 255.255.255.0 !
interface BRI0 !--- The interface used for dialin and
dialout. no ip address encapsulation ppp dialer pool-
member 1 !--- Assign BRI0 as member of dialer pool 1. !-
-- Dialer pool 1 is specified in interface Dialer 1.
isdn switch-type basic-net3 ppp authentication chap !
interface Dialer1 ip unnumbered Loopback0 encapsulation
ppp dialer pool 1 !--- Defines dialer pool 1. !--- BRI 0
is a member of this pool. dialer idle-timeout 60 dialer
string 8211 !--- The number to dial when dialing out for
the initial call. dialer hold-queue 20 !--- This holds
20 packets destined for the remote destination until the
!--- connection is made. dialer-group 1 no peer default
ip address no fair-queue no cdp enable ppp callback
request !--- Request PPP callback from the server. ppp
authentication chap ! ip route 2.2.2.2 255.255.255.255
Dialer1 !--- IP route for the dialer interface. no ip
http server ! dialer-list 1 protocol ip permit ! line
con 0 exec-timeout 0 0 transport input none line aux 0
line vty 0 4 exec-timeout 0 0 login ! end

```

다음을 확인합니다.

이 섹션에서는 컨피그레이션이 제대로 작동하는지 확인하는 데 사용할 수 있는 정보를 제공합니다.

일부 **show** 명령은 [출력 인터프리터 툴](#) 에서 지원되는데(등록된 고객만), 이 툴을 사용하면 **show** 명령 출력의 분석 결과를 볼 수 있습니다.

- **show dialer interface type number**—DDR(Dial-on-demand routing)용으로 구성된 인터페이스에 대한 일반 진단 정보를 표시합니다. 다이얼링을 시작한 패킷의 소스 및 대상 주소가 회선에

표시됩니다. 이 명령은 연결 타이머도 표시합니다.

- **show isdn status** - 라우터가 ISDN 스위치와 올바르게 통신하도록 할 수 있습니다. 출력에서 1가 ACTIVE이고 2 = MULTIPLE_FRAME_ESTABLISHED가 나타나는지 확인합니다. 이 명령은 활성 통화 수도 표시합니다.

문제 해결

이 섹션에서는 컨피그레이션 문제를 해결하는 데 사용할 수 있는 정보를 제공합니다.

debug 명령에 대한 자세한 내용은 [Cisco IOS Release 12.0 Debug 명령 참조](#)를 참조하십시오.

문제 해결 명령(선택 사항)

일부 show 명령은 [출력 인터프리터 툴](#)에서 지원되는데(등록된 고객만), 이 툴을 사용하면 show 명령 출력의 분석 결과를 볼 수 있습니다.

참고: debug 명령을 실행하기 전에 [디버그 명령에 대한 중요 정보를 참조하십시오](#).

- **debug isdn q931** - ISDN 네트워크 연결의 통화 설정 및 해제(레이어 3)를 표시합니다.
- **디버그 다이얼러 [이벤트 / packets]**—다이얼러 인터페이스에서 받은 패킷에 대한 DDR 디버깅 정보를 표시합니다.
- **debug aaa authentication**—AAA 인증에 대한 정보를 표시합니다.
- **debug aaa authorization**—AAA 권한 부여에 대한 정보를 표시합니다.
- **debug tacacs** - TACACS+와 관련된 자세한 디버깅 정보를 표시합니다.
- **debug ppp negotiation**—LCP(Link Control Protocol), Authentication, NCP 등 PPP 구성 요소의 협상이 진행 중인 동안 PPP 트래픽 및 교환에 대한 정보를 표시합니다. 성공적인 PPP 협상이 먼저 LCP 상태를 열고 Authenticate(인증)를 선택한 다음 NCP를 협상합니다.
- **debug ppp authentication**—CHAP(Challenge Authentication Protocol) 패킷 교환 및 PAP(Password Authentication Protocol) 교환을 비롯한 PPP 인증 프로토콜 메시지를 표시합니다. 오류가 발생한 경우 CHAP 사용자 이름과 암호가 올바르게 구성되었는지 확인합니다.
- **디버그 콜백** - 라우터가 모뎀과 채팅 스크립트를 사용하여 터미널 회선에서 다시 전화를 걸 때 콜백 이벤트를 표시합니다. 이 명령은 모뎀 및 채팅 스크립트용이므로 이 컨피그레이션에서는 사용되지 않습니다.

디버그 출력 샘플

```
tnt-buster#show debug
General OS:
  TACACS access control debugging is on
  AAA Authentication debugging is on
  AAA Authorization debugging is on
Dial on demand:
  Dial on demand events debugging is on
PPP:
  PPP protocol negotiation debugging is on
ISDN:
  ISDN Q931 packets debugging is on
  ISDN Q931 packets debug DSLs. (On/Off/No DSL:1/0/-)
  DSL 0 --> 7
  1 - - - - -
```

tnt-buster#

```
*Oct 16 08:59:26.403: ISDN Se0:15: RX <- SETUP pd = 8 callref = 0x4880
  !--- incoming ISDN call setup message. *Oct 16 08:59:26.403: Sending Complete *Oct 16
08:59:26.403: Bearer Capability i = 0x8890 *Oct 16 08:59:26.403: Channel ID i = 0xA1839A *Oct 16
08:59:26.403: Calling Party Number i = 0xA1, '6083', Plan:ISDN, Type:National !--- Calling Party
Number is configured in the callback string on !--- the AAA server. *Oct 16 08:59:26.403: Called
Party Number i = 0x81, '211', Plan:ISDN, Type:Unknown *Oct 16 08:59:26.407: Locking Shift to
Codeset 6 *Oct 16 08:59:26.407: Codeset 6 IE 0x28 i = 'ISDN-EDU-4' *Oct 16 08:59:26.407: ISDN
Se0:15: TX -> CALL_PROC pd = 8 callref = 0xC880 *Oct 16 08:59:26.411: Channel ID i = 0xA9839A
*Oct 16 08:59:26.415: %LINK-3-UPDOWN: Interface Serial0:25, changed state to up *Oct 16
08:59:26.419: Se0:25 PPP: Treating connection as a callin *Oct 16 08:59:26.419: Se0:25 PPP:
Phase is ESTABLISHING, Passive Open *Oct 16 08:59:26.419: Se0:25 LCP: State is Listen *Oct 16
08:59:26.419: ISDN Se0:15: TX -> CONNECT pd = 8 callref = 0xC880 *Oct 16 08:59:26.419: Channel
ID i = 0xA9839A *Oct 16 08:59:26.459: ISDN Se0:15: RX <- CONNECT_ACK pd = 8 callref = 0x4880
*Oct 16 08:59:26.463: ISDN Se0:15: CALL_PROGRESS: CALL_CONNECTED call id 0x28, bchan 25, dsl 0
*Oct 16 08:59:26.551: Se0:25 LCP: I CONFREQ [Listen] id 126 len 18 !--- PPP LCP negotiation
begins. *Oct 16 08:59:26.555: Se0:25 LCP: AuthProto CHAP (0x0305C22305) *Oct 16 08:59:26.555:
Se0:25 LCP: MagicNumber 0x3E7BCBD2 (0x05063E7BCBD2) *Oct 16 08:59:26.555: Se0:25 LCP: Callback 0
(0x0D0300) *Oct 16 08:59:26.555: Se0:25 AAA/AUTHOR/FSM: (0): LCP succeeds trivially *Oct 16
08:59:26.555: Se0:25 LCP: O CONFREQ [Listen] id 1 len 15 *Oct 16 08:59:26.555: Se0:25 LCP:
AuthProto CHAP (0x0305C22305) *Oct 16 08:59:26.555: Se0:25 LCP: MagicNumber 0xE06953E4
(0x0506E06953E4) *Oct 16 08:59:26.555: Se0:25 LCP: O CONFACK [Listen] id 126 len 18 *Oct 16
08:59:26.555: Se0:25 LCP: AuthProto CHAP (0x0305C22305) *Oct 16 08:59:26.555: Se0:25 LCP:
MagicNumber 0x3E7BCBD2 (0x05063E7BCBD2) *Oct 16 08:59:26.555: Se0:25 LCP: Callback 0 (0x0D0300)
  !--- Callback option is acknowledged (CONFACKed). *Oct 16 08:59:26.587: Se0:25 LCP: I CONFACK
[ACKsent] id 1 len 15 *Oct 16 08:59:26.587: Se0:25 LCP: AuthProto CHAP (0x0305C22305) *Oct 16
08:59:26.587: Se0:25 LCP: MagicNumber 0xE06953E4 (0x0506E06953E4) *Oct 16 08:59:26.587: Se0:25
LCP: State is Open *Oct 16 08:59:26.587: Se0:25 PPP: Phase is AUTHENTICATING, by both !--- PPP
Authentication begins. *Oct 16 08:59:26.587: Se0:25 CHAP: O CHALLENGE id 1 len 31 from "tnt-
buster" *Oct 16 08:59:26.611: Se0:25 CHAP: I CHALLENGE id 93 len 28 from "tremens" *Oct 16
08:59:26.611: Se0:25 CHAP: Waiting for peer to authenticate first *Oct 16 08:59:26.623: Se0:25
CHAP: I RESPONSE id 1 len 28 from "tremens" *Oct 16 08:59:26.623: AAA: parse name=Serial0:25 idb
type=13 tty=-1 *Oct 16 08:59:26.623: AAA: name=Serial0:25 flags=0x51 type=1 shelf=0 slot=0
adapter=0 port=0 channel=25 *Oct 16 08:59:26.623: AAA: parse name= idb type=-1 tty=-1 *Oct 16
08:59:26.623: AAA/MEMORY: create_user (0x6126C0AC) user='tremens' ruser='' port='Serial0:25'
rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:26.623: AAA/AUTHEN/START
(199889519): port='Serial0:25' list='' action=LOGIN service=PPP *Oct 16 08:59:26.623:
AAA/AUTHEN/START (199889519): using "default" list *Oct 16 08:59:26.623: AAA/AUTHEN/START
(199889519): Method=tacacs+ (tacacs+) !--- Use TACACS+ as AAA method for the default list. *Oct
16 08:59:26.623: TAC+: send AUTHEN/START packet ver=193 id=199889519 *Oct 16 08:59:26.623: TAC+:
Using default tacacs server-group "tacacs+" list. *Oct 16 08:59:26.623: TAC+: Opening TCP/IP to
10.200.20.134/49 timeout=5 *Oct 16 08:59:26.627: TAC+: Opened TCP/IP handle 0x610C4D40 to
10.200.20.134/49 *Oct 16 08:59:26.627: TAC+: 10.200.20.134 (199889519) AUTHEN/START/LOGIN/CHAP
queued *Oct 16 08:59:26.827: TAC+: (199889519) AUTHEN/START/LOGIN/CHAP processed *Oct 16
08:59:26.827: TAC+: ver=193 id=199889519 received AUTHEN status = PASS *Oct 16 08:59:26.827:
AAA/AUTHEN (199889519): status = PASS !--- AAA authentication succeeds. *Oct 16 08:59:26.827:
TAC+: Closing TCP/IP 0x610C4D40 connection to 10.200.20.134/49 *Oct 16 08:59:26.827: Se0:25
AAA/AUTHOR/LCP: Authorize LCP *Oct 16 08:59:26.827: Se0:25 AAA/AUTHOR/LCP (4028243213):
Port='Serial0:25' list='' service=NET *Oct 16 08:59:26.827: AAA/AUTHOR/LCP: Se0:25 (4028243213)
user='tremens' *Oct 16 08:59:26.827: Se0:25 AAA/AUTHOR/LCP (4028243213): send AV service=ppp
*Oct 16 08:59:26.827: Se0:25 AAA/AUTHOR/LCP (4028243213): send AV protocol=lcp *Oct 16
08:59:26.827: Se0:25 AAA/AUTHOR/LCP (4028243213): found list "default" *Oct 16 08:59:26.827:
Se0:25 AAA/AUTHOR/LCP (4028243213): Method=tacacs+ (tacacs+) *Oct 16 08:59:26.827:
AAA/AUTHOR/TAC+: (4028243213): user=tremens *Oct 16 08:59:26.827: AAA/AUTHOR/TAC+: (4028243213):
send AV service=ppp *Oct 16 08:59:26.827: AAA/AUTHOR/TAC+: (4028243213): send AV protocol=lcp
*Oct 16 08:59:26.827: TAC+: using previously set server 10.200.20.134 from group tacacs+ *Oct 16
08:59:26.827: TAC+: Opening TCP/IP to 10.200.20.134/49 timeout=5 *Oct 16 08:59:26.831: TAC+:
Opened TCP/IP handle 0x61269588 to 10.200.20.134/49 *Oct 16 08:59:26.831: TAC+: Opened
10.200.20.134 index=1 *Oct 16 08:59:26.831: TAC+: 10.200.20.134 (4028243213) AUTHOR/START queued
*Oct 16 08:59:27.031: TAC+: (4028243213) AUTHOR/START processed *Oct 16 08:59:27.031: TAC+:
(4028243213): received author response status = PASS_ADD *Oct 16 08:59:27.031: TAC+: Closing
TCP/IP 0x61269588 connection to 10.200.20.134/49 *Oct 16 08:59:27.031: Se0:25 AAA/AUTHOR
(4028243213): Post authorization status = PASS_ADD *Oct 16 08:59:27.031: Se0:25 AAA/AUTHOR/LCP:
Processing AV service=ppp *Oct 16 08:59:27.031: Se0:25 AAA/AUTHOR/LCP: Processing AV
```


protocol=lcp *Oct 16 08:59:27.031: Se0:25 AAA/AUTHOR/LCP: Processing AV callback-dialstring=6083 *!--- Callback dial string sent from the AAA server.* *Oct 16 08:59:27.031: Se0:25 AAA/AUTHOR/LCP: Processing AV send-secret=cisco *Oct 16 08:59:27.031: Se0:25 CHAP: O SUCCESS id 1 len 4 *Oct 16 08:59:27.031: Se0:25 CHAP: Processing saved Challenge, id 93 *Oct 16 08:59:27.031: Se0:25 DDR: Authenticated host tremens with no matching dialer map *Oct 16 08:59:27.031: AAA: parse name=Serial0:25 idb type=13 tty=-1 *Oct 16 08:59:27.031: AAA: name=Serial0:25 flags=0x51 type=1 shelf=0 slot=0 adapter=0 port=0 channel=25 *Oct 16 08:59:27.031: AAA: parse name= idb type=-1 tty=-1 *Oct 16 08:59:27.031: AAA/MEMORY: create_user (0x610DD96C) user='tremens' ruser='' port='Serial0:25' rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:27.035: AAA/AUTHEN/START (4099567767): port='Serial0:25' list='' action=SENDAUTH service=PPP *Oct 16 08:59:27.035: AAA/AUTHEN/START (4099567767): using "default" list *Oct 16 08:59:27.035: AAA/AUTHEN/START (4099567767): Method=tacacs+ (tacacs+) *Oct 16 08:59:27.035: TAC+: Look for cached secret first for sendauth *Oct 16 08:59:27.035: AAA/AUTHEN/SENDAUTH (4099567767): found cached secret for tremens *Oct 16 08:59:27.035: AAA/AUTHEN (4099567767): status = PASS *Oct 16 08:59:27.035: AAA/MEMORY: free_user (0x610DD96C) user='tremens' ruser='' port='Serial0:25' rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:27.035: Se0:25 CHAP: O RESPONSE id 93 len 31 from "tnt-buster" *Oct 16 08:59:27.055: Se0:25 CHAP: I SUCCESS id 93 len 4 *!--- CHAP is successful.* *Oct 16 08:59:27.055: FA0: Same state, 0 *Oct 16 08:59:27.055: DSES FA0: Session create *Oct 16 08:59:27.055: AAA/MEMORY: dup_user (0x61069398) user='tremens' ruser='' port='Serial0:25' rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 source='create callback' *Oct 16 08:59:27.055: Se0:25 DDR: PPP callback Callback server starting to tremens 6083 *!--- DDR starts PPP callback procedures.* *Oct 16 08:59:27.055: Se0:25 DDR: disconnecting call *!--- Call is disconnected.* *Oct 16 08:59:27.059: ISDN Se0:15: TX -> DISCONNECT pd = 8 callref = 0xC880 *Oct 16 08:59:27.059: Cause i = 0x8090 - Normal call clearing *Oct 16 08:59:27.071: Se0:25 IPCP: PPP phase is AUTHENTICATING, discarding packet *Oct 16 08:59:27.091: ISDN Se0:15: RX <- RELEASE pd = 8 callref = 0x4880 *Oct 16 08:59:27.091: ISDN Se0:15: TX -> RELEASE_COMP pd = 8 callref = 0xC880 *Oct 16 08:59:27.103: %LINK-3-UPDOWN: Interface Serial0:25, changed state to down *Oct 16 08:59:27.103: Se0:25 PPP: Phase is TERMINATING *Oct 16 08:59:27.103: Se0:25 LCP: State is Closed *Oct 16 08:59:27.103: Se0:25 PPP: Phase is DOWN *Oct 16 08:59:27.103: Se0:25 DDR: disconnecting call *Oct 16 08:59:32.055: DDR: Callback timer expired *!--- Callback timer (5 seconds) expires. !--- This is configured through the dialer enable-timeout 5 command.*

*Oct 16 08:59:32.055: Di1 DDR: beginning callback to tremens 6083
*Oct 16 08:59:32.055: Se0:15 DDR: rotor dialout [priority]
*Oct 16 08:59:32.055: Se0:15 DDR: Dialing cause dialer session 0xFA0
*Oct 16 08:59:32.055: Se0:15 DDR: Attempting to dial 6083
!--- Callback number dialed. *Oct 16 08:59:32.055: ISDN Se0:15: TX -> SETUP pd = 8 callref = 0x0005 *Oct 16 08:59:32.055: Bearer Capability i = 0x8890 *Oct 16 08:59:32.055: Channel ID i = 0xA9839F *Oct 16 08:59:32.055: Called Party Number i = 0x81, '6083', Plan:ISDN, Type:Unknown *Oct 16 08:59:32.095: ISDN Se0:15: RX <- CALL_PROC pd = 8 callref = 0x8005 *Oct 16 08:59:32.095: Channel ID i = 0xA9839F *Oct 16 08:59:32.311: ISDN Se0:15: RX <- CONNECT pd = 8 callref = 0x8005 *!--- Call is connected.* *Oct 16 08:59:32.311: Connected Number i = 0xA136303833 *Oct 16 08:59:32.315: Locking Shift to Codeset 6 *Oct 16 08:59:32.315: Codeset 6 IE 0x28 i = 'ISDN-EDU-4' *Oct 16 08:59:32.323: %LINK-3-UPDOWN: Interface Serial0:30, changed state to up *Oct 16 08:59:32.323: AAA/MEMORY: dup_user (0x612B7F70) user='tremens' ruser='' port='Serial0:25' rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 source='callback dialout' *Oct 16 08:59:32.323: DDR: Freeing callback to tremens 6083 *Oct 16 08:59:32.323: DDR: removing callback, 0 packets unqueued and discarded *Oct 16 08:59:32.323: AAA/MEMORY: free_user (0x61069398) user='tremens' ruser='' port='Serial0:25' rem_addr='6083/211' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:32.323: Se0:30 PPP: Treating connection as a callout *!--- PPP negotiation begins.* *Oct 16 08:59:32.323: Se0:30 PPP: Phase is ESTABLISHING, Active Open *Oct 16 08:59:32.323: Se0:30 PPP: No remote authentication for callback *Oct 16 08:59:32.327: Se0:30 AAA/AUTHOR/FSM: (0): LCP succeeds trivially *Oct 16 08:59:32.327: Se0:30 LCP: O CONFREQ [Closed] id 5 len 10 *Oct 16 08:59:32.327: Se0:30 LCP: MagicNumber 0xE0696A6F (0x0506E0696A6F) *Oct 16 08:59:32.327: ISDN Se0:15: TX -> CONNECT_ACK pd = 8 callref = 0x0005 *Oct 16 08:59:32.351: Se0:30 LCP: I CONFREQ [REQsent] id 127 len 15 *Oct 16 08:59:32.351: Se0:30 LCP: AuthProto CHAP (0x0305C22305) *Oct 16 08:59:32.351: Se0:30 LCP: MagicNumber 0x3E7BE27C (0x05063E7BE27C) *Oct 16 08:59:32.355: Se0:30 LCP: O CONFACK [REQsent] id 127 len 15 *Oct 16 08:59:32.355: Se0:30 LCP: AuthProto CHAP (0x0305C22305) *Oct 16 08:59:32.355: Se0:30 LCP: MagicNumber 0x3E7BE27C (0x05063E7BE27C) *Oct 16 08:59:32.359: Se0:30 LCP: I CONFACK [ACKsent] id 5 len 10 *Oct 16 08:59:32.359: Se0:30 LCP: MagicNumber 0xE0696A6F (0x0506E0696A6F) *Oct 16 08:59:32.359: Se0:30 LCP: State is Open *Oct 16 08:59:32.359: Se0:30 PPP: Phase is AUTHENTICATING, by the peer *!--- Authentication begins.* *Oct 16 08:59:32.359: Se0:30 AAA/AUTHOR/LCP: Authorize LCP *Oct 16

08:59:32.359: Se0:30 AAA/AUTHOR/LCP (190918816): Port='Serial0:25' list='' service=NET *Oct 16
08:59:32.359: AAA/AUTHOR/LCP: Se0:30 (190918816) user='tremens' *Oct 16 08:59:32.359: Se0:30
AAA/AUTHOR/LCP (190918816): send AV service=ppp *Oct 16 08:59:32.359: Se0:30 AAA/AUTHOR/LCP
(190918816): send AV protocol=lcp *Oct 16 08:59:32.359: Se0:30 AAA/AUTHOR/LCP (190918816): found
list "default" *Oct 16 08:59:32.359: Se0:30 AAA/AUTHOR/LCP (190918816): Method=tacacs+ (tacacs+)
*Oct 16 08:59:32.363: AAA/AUTHOR/TAC+: (190918816): user=tremens *Oct 16 08:59:32.363:
AAA/AUTHOR/TAC+: (190918816): send AV service=ppp *Oct 16 08:59:32.363: AAA/AUTHOR/TAC+:
(190918816): send AV protocol=lcp *Oct 16 08:59:32.363: TAC+: using previously set server
10.200.20.134 from group tacacs+ *Oct 16 08:59:32.363: TAC+: Opening TCP/IP to 10.200.20.134/49
timeout=5 *Oct 16 08:59:32.363: TAC+: Opened TCP/IP handle 0x612B6A1C to 10.200.20.134/49 *Oct
16 08:59:32.363: TAC+: Opened 10.200.20.134 index=1 *Oct 16 08:59:32.363: TAC+: 10.200.20.134
(190918816) AUTHOR/START queued *Oct 16 08:59:32.563: TAC+: (190918816) AUTHOR/START processed
*Oct 16 08:59:32.563: TAC+: (190918816): received author response status = PASS_ADD *Oct 16
08:59:32.563: TAC+: Closing TCP/IP 0x612B6A1C connection to 10.200.20.134/49 *Oct 16
08:59:32.563: Se0:30 AAA/AUTHOR (190918816): Post authorization status = PASS_ADD *Oct 16
08:59:32.563: Se0:30 AAA/AUTHOR/LCP: Processing AV service=ppp *Oct 16 08:59:32.563: Se0:30
AAA/AUTHOR/LCP: Processing AV protocol=lcp *Oct 16 08:59:32.563: Se0:30 AAA/AUTHOR/LCP:
Processing AV callback-dialstring= 6083 *Oct 16 08:59:32.563: Se0:30 AAA/AUTHOR/LCP: Processing
AV send-secret=cisco *Oct 16 08:59:32.563: Se0:30 CHAP: I CHALLENGE id 94 len 28 from "tremens"
!--- An incoming CHAP challenge is received. *Oct 16 08:59:32.563: AAA: parse name=Serial0:30
idb type=13 tty=-1 *Oct 16 08:59:32.563: AAA: name=Serial0:30 flags=0x51 type=1 shelf=0 slot=0
adapter=0 port=0 channel=30 *Oct 16 08:59:32.563: AAA: parse name= idb type=-1 tty=-1 *Oct 16
08:59:32.563: AAA/MEMORY: create_user (0x612B8098) user='tremens' ruser='' port='Serial0:30'
rem_addr='6083/6083' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:32.567: AAA/AUTHEN/START
(763006247): port='Serial0:30' list='' action=SENDAUTH service=PPP *Oct 16 08:59:32.567:
AAA/AUTHEN/START (763006247): using "default" list *Oct 16 08:59:32.567: AAA/AUTHEN/START
(763006247): Method=tacacs+ (tacacs+) *Oct 16 08:59:32.567: TAC+: Look for cached secret first
for sendauth *Oct 16 08:59:32.567: AAA/AUTHEN/SENDAUTH (763006247): found cached secret for
tremens *Oct 16 08:59:32.567: AAA/AUTHEN (763006247): status = PASS *Oct 16 08:59:32.567:
AAA/MEMORY: free_user (0x612B8098) user='tremens' ruser='' port='Serial0:30'
rem_addr='6083/6083' authen_type=CHAP service=PPP priv=1 *Oct 16 08:59:32.567: Se0:30 CHAP: O
RESPONSE id 94 len 31 from "tnt-buster" *Oct 16 08:59:32.587: Se0:30 CHAP: I SUCCESS id 94 len 4
!--- Authentication is successful. *Oct 16 08:59:32.587: Se0:30 PPP: Phase is UP *Oct 16
08:59:32.587: Se0:30 AAA/AUTHOR/FSM: (0): Can we start IPCP? *Oct 16 08:59:32.587: Se0:30
AAA/AUTHOR/FSM (3211893880): Port='Serial0:25' list='' service=NET *Oct 16 08:59:32.587:
AAA/AUTHOR/FSM: Se0:30 (3211893880) user='tremens' *Oct 16 08:59:32.587: Se0:30 AAA/AUTHOR/FSM
(3211893880): send AV service=ppp *Oct 16 08:59:32.587: Se0:30 AAA/AUTHOR/FSM (3211893880): send
AV protocol=ip *Oct 16 08:59:32.587: Se0:30 AAA/AUTHOR/FSM (3211893880): found list "default"
*Oct 16 08:59:32.587: Se0:30 AAA/AUTHOR/FSM (3211893880): Method=tacacs+ (tacacs+) *Oct 16
08:59:32.587: AAA/AUTHOR/TAC+: (3211893880): user=tremens *Oct 16 08:59:32.587: AAA/AUTHOR/TAC+:
(3211893880): send AV service=ppp *Oct 16 08:59:32.587: AAA/AUTHOR/TAC+: (3211893880): send AV
protocol=ip *Oct 16 08:59:32.587: TAC+: using previously set server 10.200.20.134 from group
tacacs+ *Oct 16 08:59:32.587: TAC+: Opening TCP/IP to 10.200.20.134/49 timeout=5 *Oct 16
08:59:32.591: TAC+: Opened TCP/IP handle 0x612B6C80 to 10.200.20.134/49 *Oct 16 08:59:32.591:
TAC+: Opened 10.200.20.134 index=1 *Oct 16 08:59:32.591: TAC+: 10.200.20.134 (3211893880)
AUTHOR/START queued *Oct 16 08:59:32.791: TAC+: (3211893880) AUTHOR/START processed *Oct 16
08:59:32.791: TAC+: (3211893880): received author response status = PASS_ADD *Oct 16
08:59:32.791: TAC+: Closing TCP/IP 0x612B6C80 connection to 10.200.20.134/49 *Oct 16
08:59:32.791: Se0:30 AAA/AUTHOR (3211893880): Post authorization status = PASS_ADD *Oct 16
08:59:32.791: Se0:30 AAA/AUTHOR/FSM: We can start IPCP *!--- IPCP negotiation begins.* *Oct 16
08:59:32.791: Se0:30 IPCP: O CONFREQ [Closed] id 5 len 10 *Oct 16 08:59:32.791: Se0:30 IPCP:
Address 2.2.2.2 (0x030602020202) *Oct 16 08:59:32.791: Se0:30 IPCP: I CONFREQ [REQsent] id 111
len 10 *Oct 16 08:59:32.791: Se0:30 IPCP: Address 3.3.3.3 (0x030603030303) *Oct 16 08:59:32.791:
Se0:30 AAA/AUTHOR/IPCP: Start. Her address 3.3.3.3, we want 0.0.0.0 *Oct 16 08:59:32.791: Se0:30
AAA/AUTHOR/IPCP (3713413027): Port='Serial0:25' list='' service=NET *Oct 16 08:59:32.791:
AAA/AUTHOR/IPCP: Se0:30 (3713413027) user='tremens' *Oct 16 08:59:32.791: Se0:30 AAA/AUTHOR/IPCP
(3713413027): send AV service=ppp *Oct 16 08:59:32.791: Se0:30 AAA/AUTHOR/IPCP (3713413027):
send AV protocol=ip *Oct 16 08:59:32.791: Se0:30 AAA/AUTHOR/IPCP (3713413027): send AV
addr*3.3.3.3 *Oct 16 08:59:32.791: Se0:30 AAA/AUTHOR/IPCP (3713413027): found list "default"
*Oct 16 08:59:32.791: Se0:30 AAA/AUTHOR/IPCP (3713413027): Method=tacacs+ (tacacs+) *Oct 16
08:59:32.795: AAA/AUTHOR/TAC+: (3713413027): user=tremens *Oct 16 08:59:32.795: AAA/AUTHOR/TAC+:
(3713413027): send AV service=ppp *Oct 16 08:59:32.795: AAA/AUTHOR/TAC+: (3713413027): send AV
protocol=ip *Oct 16 08:59:32.795: AAA/AUTHOR/TAC+: (3713413027): send AV addr*3.3.3.3 *!--- AAA
Attribute Value Pairs.* *Oct 16 08:59:32.795: TAC+: using previously set server 10.200.20.134

from group tacacs+ *Oct 16 08:59:32.795: TAC+: Opening TCP/IP to 10.200.20.134/49 timeout=5 *Oct 16 08:59:32.795: TAC+: Opened TCP/IP handle 0x61269588 to 10.200.20.134/49 *Oct 16 08:59:32.795: TAC+: Opened 10.200.20.134 index=1 *Oct 16 08:59:32.795: TAC+: 10.200.20.134 (3713413027) AUTHOR/START queued *Oct 16 08:59:32.995: TAC+: (3713413027) AUTHOR/START processed *Oct 16 08:59:32.995: TAC+: (3713413027): received author response status = PASS_ADD *Oct 16 08:59:32.995: TAC+: Closing TCP/IP 0x61269588 connection to 10.200.20.134/49 *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR (3713413027): Post authorization status = PASS_ADD *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR/IPCP: Processing AV service=ppp *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR/IPCP: Processing AV protocol=ip *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR/IPCP: Processing AV addr*3.3.3.3 *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR/IPCP: Authorization succeeded *Oct 16 08:59:32.995: Se0:30 AAA/AUTHOR/IPCP: Done. Her address 3.3.3.3, we want 3.3.3.3 *Oct 16 08:59:32.995: Se0:30 IPCP: O CONFACK [REQsent] id 111 len 10 *Oct 16 08:59:32.995: Se0:30 IPCP: Address 3.3.3.3 (0x030603030303) *Oct 16 08:59:32.995: Se0:30 IPCP: I CONFACK [ACKsent] id 5 len 10 *Oct 16 08:59:32.995: Se0:30 IPCP: Address 2.2.2.2 (0x030602020202) *Oct 16 08:59:32.995: Se0:30 IPCP: State is Open *Oct 16 08:59:32.999: Se0:30 DDR: dialer protocol up *Oct 16 08:59:32.999: Se0:30: Call connected, 0 packets unqueued, 0 transmitted, 0 discarded *Oct 16 08:59:32.999: Dil IPCP: Install route to 3.3.3.3 *!--- Route is installed to remote device.* *Oct 16 08:59:33.587: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0:30, changed state to up *Oct 16 08:59:38.323: %ISDN-6-CONNECT: Interface Serial0:30 is now connected to 6083 unknown *!--- Call is Connected.*

관련 정보

- [다이얼 및 액세스 기술 지원 페이지](#)
- [기술 지원 및 문서 - Cisco Systems](#)