

Configurazione del callback PPP su ISDN con una stringa di callback fornita da AAA

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[Introduzione](#)

In questo documento viene fornita una configurazione di esempio per il callback PPP tra due router Cisco.

[Prerequisiti](#)

[Requisiti](#)

Nessun requisito specifico previsto per questo documento.

[Componenti usati](#)

Le informazioni fornite in questo documento si basano sulle seguenti versioni software e hardware:

- Software Cisco IOS® versione 12.0(3)T o successive.

Nota: per configurare la richiamata PPP con l'aiuto di una stringa di richiamata assegnata a un server AAA, è necessario usare il comando **dialer aaa**, disponibile nel software Cisco IOS versione 12.0(3)T o successive. Tuttavia, nelle versioni 12.1(4)T, 12.2(1)T e successive di Cisco IOS, questo comando non è richiesto per il callback PPP con una stringa di callback assegnata a un server AAA.

Nota: il comando `dialer aaa` è supportato solo con DDR legacy (come mostrato nella [figura 1](#)).

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.

Convenzioni

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

Premesse

Il server TACACS+ (AAA) viene utilizzato per fornire la stringa di connessione di callback al server di callback. Tuttavia, è possibile utilizzare RADIUS anche per fornire la stringa di richiamata. Per configurare il callback PPP con autenticazione, autorizzazione e accounting locali (AAA), vedere [Configurazione del callback PPP su ISDN](#).

In questa configurazione di esempio, il callback utilizza il protocollo PPP e le funzionalità specificate nella RFC 1570. Il callback PPP sul circuito ISDN viene completato nell'ordine seguente:

1. Il client di callback avvia e attiva una connessione ISDN al router del server di callback.
2. Il client di callback e il server di callback negoziano il protocollo LCP (Link Control Protocol) PPP. Nella negoziazione LCP, il callback viene richiesto, negoziato e concordato.
3. Il client di callback e il server di callback eseguono l'autenticazione reciproca tramite il protocollo PAP (Password Authentication Protocol) o il protocollo CHAP (Challenge Handshake Authentication Protocol) PPP. È tuttavia possibile configurare il client di richiamata in modo che non esegua l'autenticazione del server di richiamata tramite il comando [ppp authentication chap callin](#).
4. Il server di richiamata ottiene gli attributi di richiamata necessari, ad esempio la stringa di richiamata (il numero di telefono del client) dal server AAA.
5. Entrambi i router interrompono la connessione ISDN.
6. Il server di richiamata avvia la richiamata al client. Quando la chiamata si connette, i router si autenticano a vicenda e il collegamento viene stabilito.

Configurazione

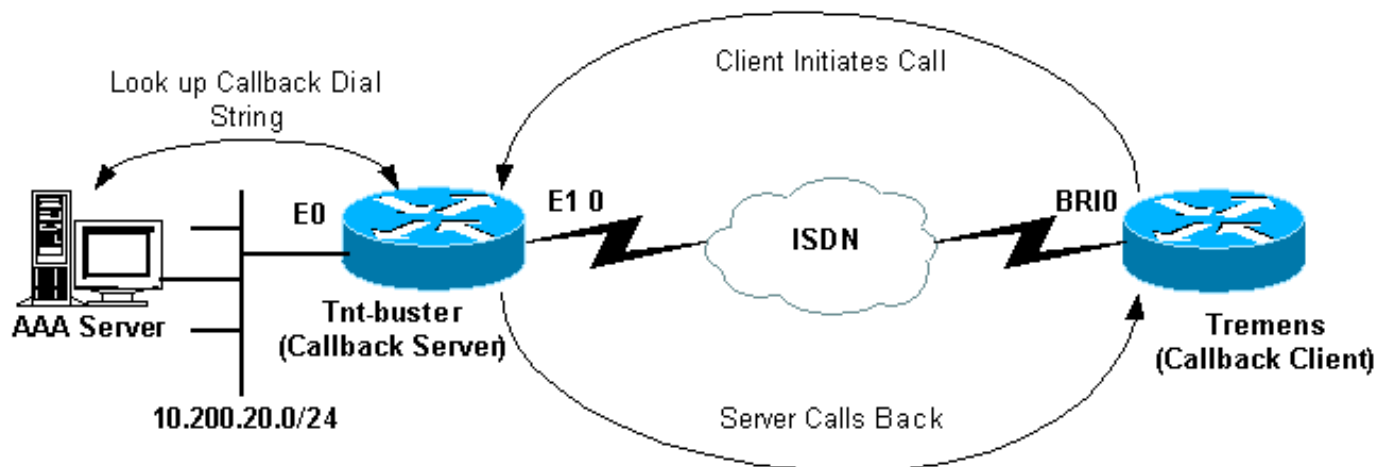
In questa sezione vengono presentate le informazioni necessarie per configurare le funzionalità descritte più avanti nel documento.

Nota: per ulteriori informazioni sui comandi menzionati in questo documento, usare lo [strumento di ricerca dei comandi](#) (solo utenti [registrati](#)).

Esempio di rete

Nel documento viene usata questa impostazione di rete:

Figura 1 - Esempio di rete



Configurazioni

Nel documento vengono usate queste configurazioni:

- Configurazione Freeware TACACS+
- Configurazione RADIUS
- Configurazione RADIUS alternativa
- Configurazione Tnt-buster (server di richiamata)
- Configurazione Tremens (client di callback)

Configurazione Freeware TACACS+

```
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" } }
```

È inoltre possibile utilizzare RADIUS come server AAA per fornire gli attributi di callback anziché TACACS+. Di seguito è riportato un esempio della configurazione RADIUS:

Configurazione RADIUS

```
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"
```

Nota: nella configurazione RADIUS mostrata in precedenza, al momento dell'autenticazione del callback, è necessario usare Cisco AVPair **lcp:send-secret=cisco**. Se non si include questo AVPair, è necessario configurare il nome utente e la password CHAP del router remoto localmente sul server di callback.

Nota: questo documento tratta principalmente di TACACS+. I debug forniti in questo documento non mostrano una richiamata avviata da RADIUS.

Nota: dalla versione 12.1(7) di Cisco IOS, è possibile usare l'attributo RADIUS IETF (Internet Engineering Task Force) 19 per il callback ISDN e Microsoft analogico. In questo caso, non è necessario utilizzare i prodotti Cisco AVPair illustrati nella configurazione precedente. Fare riferimento all'esempio di configurazione RADIUS alternativo mostrato di seguito:

Configurazione RADIUS alternativa

```
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.
```

Nota: i debug RADIUS mostrano l'attributo RADIUS IETF 19 restituito al server di callback.

Di seguito sono riportate le configurazioni dei due router utilizzati nell'esempio:

Tnt-buster (server di richiamata)

```
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

```

Tremens (client di callback)

```

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

```

Verifica

Le informazioni contenute in questa sezione permettono di verificare che la configurazione funzioni correttamente.

Alcuni comandi **show** sono supportati dallo [strumento Output Interpreter \(solo utenti registrati\)](#); lo strumento permette di visualizzare un'analisi dell'output del comando **show**.

- **show dialer *interface type number***: visualizza informazioni di diagnostica generali per le interfacce configurate per il routing DDR (dial-on-demand routing). Gli indirizzi di origine e di destinazione del pacchetto da cui è stata avviata la composizione vengono visualizzati nella riga del motivo di composizione. Questo comando visualizza anche i timer di connessione.
- **show isdn status**: permette di verificare che il router comunichi correttamente con lo switch ISDN. Nell'output, verificate che lo stato del livello 1 sia ACTIVE e che venga visualizzato lo stato del livello 2 = MULTIPLE_FRAME_DEFINED. Questo comando visualizza anche il numero di chiamate attive.

Risoluzione dei problemi

Le informazioni contenute in questa sezione permettono di risolvere i problemi relativi alla configurazione.

Per ulteriori informazioni sui comandi di debug, consultare la [guida di riferimento dei comandi di debug di Cisco IOS versione 12.0](#).

Comandi per la risoluzione dei problemi (opzionali)

Alcuni comandi **show** sono supportati dallo [strumento Output Interpreter \(solo utenti registrati\)](#); lo strumento permette di visualizzare un'analisi dell'output del comando **show**.

Nota: prima di usare i comandi di **debug**, consultare le [informazioni importanti sui comandi di debug](#).

- **debug isdn q931**: visualizza la configurazione delle chiamate e la disattivazione della connessione di rete ISDN (livello 3).
- **debug dialer [*eventi* / *packets*]**: visualizza le informazioni di debug DDR relative ai pacchetti ricevuti su un'interfaccia dialer.
- **debug aaa authentication**: visualizza le informazioni sull'autenticazione AAA.
- **debug aaa authorization**: visualizza le informazioni sull'autorizzazione AAA.
- **debug tacacs**: visualizza informazioni di debug dettagliate associate a TACACS+.
- **debug ppp negotiation**: visualizza le informazioni sul traffico e gli scambi PPP durante la negoziazione dei componenti PPP, inclusi LCP (Link Control Protocol), Autenticazione e NCP. Una negoziazione PPP riuscita aprirà innanzitutto lo stato LCP, quindi autenticerà e infine negozierà NCP.
- **debug ppp authentication**: visualizza i messaggi del protocollo di autenticazione PPP, inclusi gli scambi di pacchetti Challenge Authentication Protocol (CHAP) e gli scambi del protocollo PAP (Password Authentication Protocol). Se si verifica un errore, verificare che il nome utente e la password CHAP siano configurati correttamente.
- **debug callback**: visualizza gli eventi di callback quando il router utilizza un modem e uno script di chat per richiamare una linea terminale. Poiché questo comando è destinato a modem e script di chat, non viene utilizzato in questa configurazione.

Output di esempio del comando debug

```
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 calback 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: Dil 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.*

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