

# Terugbellen tussen een Cisco 3640 router en een externe gebruiker in V.110-modus

## Inhoud

[Inleiding](#)

[Voorwaarden](#)

[Vereisten](#)

[Gebruikte componenten](#)

[Conventies](#)

[Configureren](#)

[Netwerkdigram](#)

[Configuraties](#)

[Verifiëren](#)

[Problemen oplossen](#)

[Voorbeeld van output van foutopsporing](#)

[GSM-terugbellen met V.110](#)

[Modem callback met V.110](#)

[ISDN-terugbellen met V.110](#)

[Gerelateerde informatie](#)

## Inleiding

Dit document biedt een voorbeeldconfiguratie voor externe gebruikers die een van de volgende methoden willen gebruiken. In elk geval wordt de callback uitgevoerd met behulp van een V.110-oproep.

- Gebruikers die 3640 aansluiten via GSM en deze oproepen.
- Gebruikers die 3640 via een modem verbinden en oproepen tot terugbellen.
- Gebruikers die 3640 via ISDN (gegevens) verbinden en oproepen tot terugbellen.

**Opmerking:** Verificatie, autorisatie en accounting (AAA) wordt standaard op de router ingesteld. U dient ook een gebruiker te maken om in te loggen.

In dit voorbeeld hebben we ook Point-to-Point Protocol (PPP)-verificatie ingesteld voor oproepen en oproepen. We hebben het script gewijzigd zodat we de hele tijd de modem voor V.110 kunnen configureren en gebruikers in staat kunnen stellen hun methode te kiezen (modem of GSM). Afhankelijk van de gekozen methode, dienen gebruikers:

- Gebruik ZDTxxx in het callback number (voor modem).
- gebruik DIxxxx in het callback number (voor GSM).

## Voorwaarden

## Vereisten

Er zijn geen specifieke vereisten van toepassing op dit document.

## Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- Is de V.110 callback optie beschikbaar op Rosa IOS?? IOS-software release 12.2(5.2)T en hoger.
- Software voor modem, versie 2.7.3.0

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

## Conventies

Raadpleeg voor meer informatie over documentconventies de [technische Tips](#) van [Cisco](#).

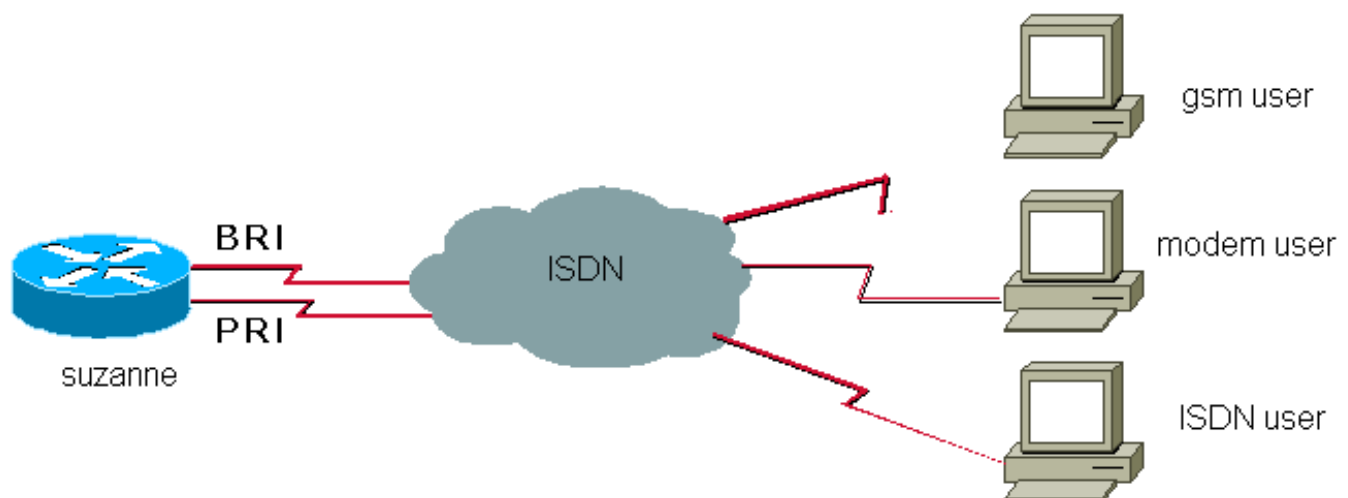
## Configureren

Deze sectie bevat informatie over het configureren van de functies die in dit document worden beschreven.

**N.B.:** Als u aanvullende informatie wilt vinden over de opdrachten in dit document, gebruikt u het [Opdrachtplanningprogramma](#) (alleen [geregistreerd](#) klanten).

## Netwerkdigram

Dit document gebruikt de netwerkinstellingen die in dit diagram worden weergegeven.



## Configuraties

Dit document gebruikt deze configuratie:

• suzanne

**suzanne**

```
suzanne#show running-config
!
version 12.2
service internal
!
hostname suzanne
!
aaa new-model
!
aaa authentication login default local
aaa authentication ppp default local
aaa authorization network default local
aaa session-id common
!
username ww password 0
username alainisdn password 0
username alaingsm callback-dialstring "" password 0
username alainmod callback-dialstring "" password 0
!
modem country mica belgium
!
isdn switch-type primary-net5
isdn voice-call-failure 0
chat-script offhook "" "ATH1" OK
chat-script callback ABORT ERROR ABORT BUSY "" "AT&F"
OK "ATX3DT \T" TIMEOUT 90 \c
chat-script callbacklanalog ABORT ERROR ABORT BUSY ""
"AT&F"
OK "ATDT \T" TIMEOUT 90 CONNECT \c
chat-script callback2gsm ABORT ERROR ABORT BUSY ""
"AT&F"
OK "ATS29=8" OK "AT \T" TIMEOUT 90 CONNECT \c
!
controller E1 1/0
pri-group timeslots 1-31
!
interface Ethernet0/0
ip address 172.17.243.105 255.255.255.0
!
interface Serial11/0:15
description E1 0451/39920
no ip address
encapsulation ppp
dialer rotary-group 1
isdn switch-type primary-net5
isdn incoming-voice modem
isdn outgoing-voice info-transfer-capability 3.1kHz-
audio
no cdp enable
ppp authentication chap callin
!
interface BRI3/1
description belgacom 027202094
no ip address
encapsulation ppp
isdn switch-type basic-net3
isdn incoming-voice modem
no cdp enable
!
```

```

interface Group-Async1
ip unnumbered Dialer1
encapsulation ppp
dialer in-band
dialer callback-secure
dialer-group 1
async dynamic routing
async mode interactive
peer default ip address pool pool
ppp callback accept
ppp authentication pap
group-range 65 94
!
interface Dialer1
description Dial-In User
ip address 172.31.1.1 255.255.0.0
ip helper-address 90.100.48.38
ip helper-address 90.100.60.202
encapsulation ppp
dialer in-band
dialer callback-secure
dialer map ip 172.31.1.2 name alainisdn class callback
6136
peer default ip address pool pool
no cdp enable
ppp callback accept
ppp authentication chap callin
!
map-class dialer callback
dialer callback-server username
dialer-list 1 protocol ip permit
!
line con 0
exec-timeout 0 0
password
line 65 94
script dialer callback2gsm
script callback callback2gsm
modem InOut
transport input telnet
transport output pad v120 lapb-ta telnet rlogin udptn
autoselect during-login
autoselect ppp
stopbits 1
flowcontrol hardware
line aux 0
password
line vty 0 4
exec-timeout 0 0
password
!
end

```

## Verifiëren

Deze sectie verschaft informatie die u kunt gebruiken om te bevestigen dat uw configuratie correct werkt.

Bepaalde opdrachten met **show** worden ondersteund door de tool [Output Interpreter \(alleen voor geregistreerde klanten\)](#). Hiermee kunt u een analyse van de output van opdrachten met **show** genereren.

- **ip route tonen??** toont de inhoud van de IP-routingtabel

## Problemen oplossen

Deze sectie bevat informatie waarmee u problemen met de configuratie kunt oplossen.

**Opmerking:** Voordat u de opdrachten **debug** geeft, raadpleegt u [Belangrijke informatie over debug Commands](#).

- **debug van modem** - om modemplijnactiviteit op een toegangsserver te observeren.
- **debug dialer gebeurtenissen** - toont debuginformatie over de pakketten die worden ontvangen op een dialer interface.
- **debug van PPP-verificatie** -displays Echtheidsprotocollen, inclusief Challenge Verification Protocol (CHAP)-pakketuitwisselingen en PAP-uitwisselingen (Wachtwoord Verificatieprotocol).
- **debug van PPP cbcp** - toont protocolfouten en statistieken die bij PPP-verbindingsonderhandelingen zijn gekoppeld met Microsoft Callback Control Protocol (MSCB).
- **debug ISDN Q931** -geeft informatie weer over de installatie van oproepen en de uitschakeling van ISDN-netwerkverbindingen (Layer 3) tussen de lokale router (gebruikerszijde) en het netwerk.
- **debug chat** - verifieert dat het chat script goed werkt.
- **debug callback** - displays wanneer de router een modem en een chatscript gebruikt om terug te bellen op een eindlijn.

## Voorbeeld van output van foutopsporing

### GSM-terugbellen met V.110

```
suzanne#
01:03:00: ISDN BR3/1: RX <- SETUP pd = 8 callref = 0x2F
01:03:00: Sending Complete
01:03:00: Bearer Capability i = 0x9090A3
01:03:00: Channel ID i = 0x89
01:03:00: Calling Party Number i = 0x21, 0x83, '478681006', Plan:ISDN,
Type:National
01:03:00: Called Party Number i = 0xA1, '27202094', Plan:ISDN, Type:National
01:03:00: ISDN BR3/1: Event: Received a VOICE call from 478681006 on B1 at 64 Kb/s
01:03:00: ISDN BR3/1: Event: Accepting the call id 0x19
01:03:00: %ISDN-6-LAYER2UP: Layer 2 for Interface BR3/1, TEI 70 changed to up
01:03:00: ISDN BR3/1: TX -> CALL_PROC pd = 8 callref = 0xAF
01:03:00: Channel ID i = 0x89
01:03:00: ISDN BR3/1: TX -> ALERTING pd = 8 callref = 0xAF
01:03:00: ISDN BR3/1: TX -> CONNECT pd = 8 callref = 0xAF
01:03:01: ISDN BR3/1: RX <- CONNECT_ACK pd = 8 callref = 0x2F
01:03:01: Modem 2/12 Mica: configured for Answer mode,
with Null signaling,0x0 tone detection.
01:03:01: Modem 2/12 Mica: in modem state CALL_SETUP
01:03:02: Modem 2/12 Mica: in modem state CONNECT
01:03:06: Modem 2/12 Mica: in modem state LINK
01:03:07: %ISDN-6-CONNECT: Interface BRI3/1:1 is now connected to 478681006
01:03:15: Modem 2/12 Mica: in modem state TRAINUP
```

01:03:17: Modem 2/12 Mica: in modem state EC\_NEGOTIATING  
01:03:18: Modem 2/12 Mica: in modem state STEADY  
01:03:18: Modem 2/12 Mica: CONNECT at 31200/31200 (Tx/Rx), V34+, LAPM, None  
01:03:19: TTY77: DSR came up  
01:03:19: tty77: Modem: IDLE->(unknown)  
01:03:19: TTY77: EXEC creation  
01:03:19: TTY77: set timer type 10, 30 seconds  
01:03:19: TTY77: Autoselect(2) sample 7E  
01:03:19: TTY77: Autoselect(2) sample 7EFF  
01:03:19: TTY77: Autoselect(2) sample 7EFF7D  
01:03:19: TTY77: Autoselect(2) sample 7EFF7D23  
01:03:19: TTY77 Autoselect cmd: ppp negotiate  
01:03:19: TTY77: EXEC creation  
01:03:19: TTY77: create timer type 1, 600 seconds  
01:03:19: TTY77: destroy timer type 1  
01:03:19: TTY77: no timer type 0 to destroy  
01:03:19: As77 DDR: Dialer received incoming call from <unknown>  
01:03:21: %LINK-3-UPDOWN: Interface Async77, changed state to up  
01:03:21: As77 DDR: Dialer statechange to up  
01:03:21: As77 DDR: Dialer received incoming call from <unknown>  
01:03:21: As77 PPP: Treating connection as a callin  
01:03:21: As77 PPP: Authorization required  
01:03:22: Modem 2/12 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0  
01:03:22: As77 PPP: Authorization required  
01:03:27: Modem 2/12 Mica: PPP escape\_map: Tx map = A0000, Rx map = 0  
01:03:27: As77 MCB: Initialize  
01:03:27: MCB: Flush  
01:03:27: Modem 2/12 Mica: Bad RX Frame: control = 0xE007, length = 0xD,  
buffer = 0x3BC6E54  
01:03:30: As77 PAP: I AUTH-REQ id 2 len 16 from "alaingsm"  
01:03:30: As77 PAP: Authenticating peer alaingsm  
01:03:30: As77 PPP: Sent PAP LOGIN Request to AAA  
01:03:30: As77 PPP: Received LOGIN Response from AAA = PASS  
01:03:30: As77 DDR: Remote name for alaingsm  
01:03:30: As77 DDR: Authenticated host alaingsm with no matching dialer map  
01:03:30: As77 PAP: O AUTH-ACK id 2 len 5  
01:03:30: As77 MCB: Start  
01:03:30: As77 MCB: User alaingsm Callback Number - Client ANY  
01:03:30: As77 MCB: Newstate 0-INIT -> 2-WAIT\_RESPONSE  
01:03:30: As77 MCB: O Request Id 1 Callback Type Client-Num delay 0  
01:03:32: As77 MCB: Timeout in state WAIT\_RESPONSE sending new Request 2  
01:03:32: As77 MCB: O Request Id 2 Callback Type Client-Num delay 0  
01:03:34: As77 MCB: Timeout in state WAIT\_RESPONSE sending new Request 3  
01:03:34: As77 MCB: O Request Id 3 Callback Type Client-Num delay 0  
01:03:35: Async77 PPP: I MCB Response(2) id 1 len 22  
01:03:35: Async77 MCB:  
I 2 1 0 16 2 12 F 1 44 49 30 30 34 37 38 36 38 31 30 30 36 0  
01:03:35: As77 MCB: Received response  
01:03:35: As77 MCB: Resp ignored. ID Expected 3, got id 1  
01:03:36: As77 MCB: Timeout in state WAIT\_RESPONSE sending new Request 4  
01:03:36: As77 MCB: O Request Id 4 Callback Type Client-Num delay 0  
01:03:36: Async77 PPP: I MCB Response(2) id 4 len 22  
01:03:36: Async77 MCB:  
I 2 4 0 16 2 12 F 1 44 49 30 30 34 37 38 36 38 31 30 30 36 0  
01:03:36: As77 MCB: Received response

*!--- You can see here that "DI00478681006" was entered at the user PC.* 01:03:36: As77 MCB:  
Response CBK-Client-Num 2 18 15, addr 1-DI00478681006 01:03:36: As77 MCB: O Ack Id 5 Callback  
Type Client-Num delay 15 01:03:36: As77 MCB: Negotiated MCB with peer 01:03:36: As77 MCB:  
Newstate 2-WAIT\_RESPONSE -> 3-WAIT\_TERMINATE 01:03:37: As77 MCB: Peer terminating the link  
01:03:37: As77 MCB: Newstate 3-WAIT\_TERMINATE -> 5-WAIT\_LINKDOWN 01:03:37: As77 MCB: Link  
terminated by peer, Callback Needed 01:03:37: As77 MCB: Newstate 5-WAIT\_LINKDOWN -> 6-CALLING  
01:03:37: As77 MCB: Initiate Callback for ^->o`iB@ at DI00478681006 using Async DDR 01:03:37:  
As77 DDR: PPP callback Callback server starting to alaingsm DI00478681006 01:03:37: As77 MCB:

Dialer callback started *!--- Call is disconnected.* 01:03:38: Modem 2/12 Mica: in modem state SS\_RETRAINING 01:03:38: ISDN BR3/1: RX <- DISCONNECT pd = 8 callref = 0x2F 01:03:38: Cause i = 0x8090 - Normal call clearing 01:03:38: Progress Ind i = 0x8088 - In-band info or appropriate now available 01:03:38: %ISDN-6-DISCONNECT: Interface BRI3/1:1 disconnected from 478681006, call lasted 37 seconds 01:03:38: ISDN BR3/1: TX -> RELEASE pd = 8 callref = 0xAF 01:03:38: Cause i = 0x8090 - Normal call clearing 01:03:38: Modem 2/12 Mica: in modem state TERMINATING 01:03:38: ISDN BR3/1: RX <- RELEASE\_COMP pd = 8 callref = 0x2F 01:03:39: TTY77: Async Int reset: Dropping DTR 01:03:39: Modem 2/12 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0 01:03:39: As77 PPP: Authorization required 01:03:40: Modem 2/12 Mica: in modem state IDLE 01:03:40: Modem 2/12 Mica: DISCONNECT after 00:00:38, due to reason (0xDF00) Host Disconnect. 01:03:40: TTY77: DSR was dropped 01:03:40: tty77: Modem: READY->(unknown) 01:03:41: TTY77: dropping DTR, hanging up 01:03:41: tty77: Modem: HANGUP->(unknown) 01:03:41: %LINK-5-CHANGED: Interface Async77, changed state to reset 01:03:42: TTY77: cleanup pending. Delaying DTR 01:03:43: TTY77: cleanup pending. Delaying DTR 01:03:44: TTY77: cleanup pending. Delaying DTR 01:03:44: TTY77: no timer type 0 to destroy 01:03:44: TTY77: no timer type 1 to destroy 01:03:44: TTY77: no timer type 3 to destroy 01:03:44: TTY77: no timer type 4 to destroy 01:03:44: TTY77: no timer type 2 to destroy 01:03:44: Async77: allowing modem\_process to continue hangup 01:03:45: TTY77: restoring DTR 01:03:46: %LINK-3-UPDOWN: Interface Async77, changed state to down 01:03:53: %ISDN-6-LAYER2DOWN: Layer 2 for Interface BR3/1, TEI 70 changed to down *!--- Callback is started.* 01:03:56: As77 DDR: re-enable timeout 01:03:56: DDR: callback triggered by dialer\_timers 01:03:56: As77 DDR: beginning callback to alaingsm DI00478681006 01:03:56: As77 DDR: Attempting to dial DI00478681006 01:03:56: CHAT77: Attempting async line dialer script 01:03:56: CHAT77: Dialing using Modem script: callback2gsm & System script: none 01:03:56: CHAT77: process started 01:03:56: CHAT77: Asserting DTR 01:03:56: CHAT77: Chat script callback2gsm started 01:03:56: CHAT77: Sending string: AT&F 01:03:56: CHAT77: Expecting string: OK 01:03:56: CHAT77: Completed match for expect: OK 01:03:56: CHAT77: Sending string: AT529=8 01:03:56: CHAT77: Expecting string: OK 01:03:56: CHAT77: Completed match for expect: OK *!--- We send DI00478681006* 01:03:56: CHAT77: Sending string: AT \T<DI00478681006> 01:03:56: CHAT77: Expecting string: CONNECT 01:03:56: Modem 2/12 Mica: configured for Originate mode, with Null signaling, 0x1 tone detection. 01:03:56: Modem 2/12 Mica: received dialstring 00478681006 01:03:56: ISDN Se1/0:15: TX -> SETUP pd = 8 callref = 0x000E 01:03:56: Bearer Capability i = 0x8890214846BB 01:03:56: Channel ID i = 0xA9839F 01:03:56: Called Party Number i = 0x81, '00478681006', Plan:ISDN, Type:Unknown 01:03:56: Low Layer Compat i = 0x8890214846BB 01:03:56: ISDN Se1/0:15: RX <- CALL\_PROC pd = 8 callref = 0x800E 01:03:56: Channel ID i = 0xA9839F 01:03:56: Modem 2/12 Mica: in modem state CALL\_SETUP 01:04:02: ISDN Se1/0:15: RX <- ALERTING pd = 8 callref = 0x800E 01:04:03: ISDN Se1/0:15: RX <- CONNECT pd = 8 callref = 0x800E 01:04:03: ISDN Se1/0:15: TX -> CONNECT\_ACK pd = 8 callref = 0x000E 01:04:03: Modem 2/12 Mica: in modem state CONNECT 01:04:03: Modem 2/12 Mica: in modem state LINK 01:04:03: Modem 2/12 Mica: in modem state TRAINUP 01:04:03: Modem 2/12 Mica: in modem state EC\_NEGOTIATING 01:04:03: Modem 2/12 Mica: in modem state STEADY 01:04:03: CHAT77: Completed match for expect: CONNECT 01:04:03: CHAT77: Sending string: \c 01:04:03: CHAT77: Chat script callback2gsm finished, status = Success 01:04:03: TTY77: no timer type 1 to destroy 01:04:03: TTY77: no timer type 0 to destroy 01:04:03: Modem 2/12 Mica: CONNECT at 9600/9600 (Tx/Rx), V110, V.110, None 01:04:04: As77 PPP: Treating connection as a callout 01:04:04: Modem 2/12 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0 01:04:04: As77 PPP: Authorization required 01:04:04: %LINK-3-UPDOWN: Interface Async77, changed state to up 01:04:04: As77 DDR: Dialer statechange to up 01:04:04: As77 DDR: Copying MS callback dialstring DI00478681006 to ddb 01:04:04: DDR: Freeing callback to alaingsm DI00478681006 01:04:04: As77 DDR: Dialer call has been placed 01:04:08: Modem 2/12 Mica: PPP escape\_map: Tx map = A0000, Rx map = 0 01:04:08: As77 MCB: Initialize 01:04:08: Modem 2/12 Mica: Bad RX Frame: control = 0xE007, length = 0xD, buffer = 0x3BC6E54 01:04:09: %ISDN-6-CONNECT: Interface Serial1/0:30 is now connected to 00478681006 01:04:11: As77 PAP: I AUTH-REQ id 2 len 16 from "alaingsm" 01:04:11: As77 PAP: Authenticating peer alaingsm 01:04:11: As77 PPP: Sent PAP LOGIN Request to AAA 01:04:11: As77 PPP: Received LOGIN Response from AAA = PASS 01:04:11: As77 DDR: Remote name for alaingsm 01:04:11: As77 DDR: Authenticated host alaingsm with no matching dialer map 01:04:11: As77 PAP: O AUTH-ACK id 2 len 5 01:04:13: As77 DDR: dialer protocol up **suzanne#show ip route**

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2 E1 - OSPF external type 1,  
E2 - OSPF external type 2, E - EGP  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area  
\* - candidate default, U - per-user static route, o - ODR  
P - periodic downloaded static route

Gateway of last resort is 172.17.243.1 to network 0.0.0.0

```
172.17.0.0/24 is subnetted, 1 subnets
C 172.17.243.0 is directly connected, Ethernet0/0
172.31.0.0/16 is variably subnetted, 2 subnets, 2 masks
C 172.31.1.28/32 is directly connected, Async77
C 172.31.0.0/16 is directly connected, Dialer1
S* 0.0.0.0/0 [1/0] via 172.17.243.1
```

suzanne#ping 172.31.1.28

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 172.31.1.28, timeout is 2 seconds:

!!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 784/858/880 ms

suzanne#

```
01:04:49: ISDN Se1/0:15: RX <- DISCONNECT pd = 8 callref = 0x800E
01:04:49: Cause i = 0x8090 - Normal call clearing
01:04:49: %ISDN-6-DISCONNECT: Interface Serial1/0:30 disconnected from
00478681006, call lasted 46 seconds
01:04:49: ISDN Se1/0:15: TX -> RELEASE pd = 8 callref = 0x000E
01:04:49: Modem 2/12 Mica: in modem state TERMINATING
01:04:49: ISDN Se1/0:15: RX <- RELEASE_COMP pd = 8 callref = 0x800E
01:04:49: Modem 2/12 Mica: in modem state IDLE
01:04:49: Modem 2/12 Mica: DISCONNECT after 00:00:46,
due to reason (0xDF00) Host Disconnect.
01:04:50: TTY77: DSR was dropped
01:04:50: tty77: Modem: READY->(unknown)
01:04:51: TTY77: Async Int reset: Dropping DTR
01:04:51: Modem 2/12 Mica: PPP escape_map: Tx map = FFFFFFFF, Rx map = 0
01:04:51: As77 PPP: Authorization required
01:04:51: TTY77: dropping DTR, hanging up
01:04:51: tty77: Modem: HANGUP->(unknown)
01:04:52: TTY77: cleanup pending. Delaying DTR
01:04:53: %LINK-5-CHANGED: Interface Async77, changed state to reset
01:04:53: TTY77: cleanup pending. Delaying DTR
01:04:54: TTY77: cleanup pending. Delaying DTR
01:04:55: TTY77: cleanup pending. Delaying DTR
01:04:56: TTY77: no timer type 0 to destroy
01:04:56: TTY77: no timer type 1 to destroy
01:04:56: TTY77: no timer type 3 to destroy
01:04:56: TTY77: no timer type 4 to destroy
01:04:56: TTY77: no timer type 2 to destroy
01:04:56: Async77: allowing modem_process to continue hangup
01:04:56: TTY77: restoring DTR
01:04:58: %LINK-3-UPDOWN: Interface Async77, changed state to down
01:05:08: As77 DDR: re-enable timeout
```

## [Modem callback met V.110](#)

```
!--- Modem callback using default of MICA (modem dialing US robotics). suzanne# 01:06:21: ISDN
Se1/0:15: RX <- SETUP pd = 8 callref = 0x6D73 01:06:21: Sending Complete 01:06:21: Bearer
Capability i = 0x9090A3 01:06:21: Channel ID i = 0xA18387 01:06:21: Progress Ind i = 0x8183 -
Origination address is non-ISDN 01:06:21: Calling Party Number i = 0xA1, '6020', Plan:ISDN,
Type:National 01:06:21: Called Party Number i = 0x81, '214', Plan:ISDN, Type:Unknown 01:06:21:
ISDN Se1/0:15: TX -> CALL_PROC pd = 8 callref = 0xED73 01:06:21: Channel ID i = 0xA98387
01:06:21: ISDN Se1/0:15: TX -> ALERTING pd = 8 callref = 0xED73 01:06:21: ISDN Se1/0:15: TX ->
CONNECT pd = 8 callref = 0xED73 01:06:21: ISDN Se1/0:15: RX <- CONNECT_ACK pd = 8 callref =
0x6D73 01:06:21: ISDN Se1/0:15: CALL_PROGRESS: CALL_CONNECTED call id 0x1A, bchan 6, dsl 0
01:06:21: Modem 2/13 Mica: configured for Answer mode, with Null signaling, 0x0 tone detection.
```



01:06:21: Modem 2/13 Mica: in modem state CALL\_SETUP 01:06:22: Modem 2/13 Mica: in modem state CONNECT 01:06:26: Modem 2/13 Mica: in modem state LINK 01:06:27: %ISDN-6-CONNECT: Interface Serial1/0:6 is now connected to 6020 01:06:34: Modem 2/13 Mica: in modem state TRAINUP 01:06:36: Modem 2/13 Mica: in modem state EC\_NEGOTIATING 01:06:36: Modem 2/13 Mica: in modem state STEADY 01:06:36: Modem 2/13 Mica: CONNECT at 9600/9600 (Tx/Rx), V34+, LAPM, None 01:06:37: TTY78: DSR came up 01:06:37: tty78: Modem: IDLE->(unknown) 01:06:37: TTY78: EXEC creation 01:06:37: TTY78: set timer type 10, 30 seconds 01:06:40: TTY78: Autoselect(2) sample 7E 01:06:40: TTY78: Autoselect(2) sample 7EFF 01:06:40: TTY78: Autoselect(2) sample 7EFF7D 01:06:40: TTY78: Autoselect(2) sample 7EFF7D23 01:06:40: TTY78 Autoselect cmd: ppp negotiate 01:06:40: TTY78: EXEC creation 01:06:40: TTY78: create timer type 1, 600 seconds 01:06:40: TTY78: destroy timer type 1 01:06:40: TTY78: no timer type 0 to destroy 01:06:40: As78 DDR: Dialer received incoming call from <unknown> 01:06:42: %LINK-3-UPDOWN: Interface Async78, changed state to up 01:06:42: As78 DDR: Dialer statechange to up 01:06:42: As78 DDR: Dialer received incoming call from <unknown> 01:06:42: As78 PPP: Treating connection as a callin 01:06:42: As78 PPP: Authorization required 01:06:43: Modem 2/13 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0 01:06:43: As78 PPP: Authorization required 01:06:47: Modem 2/13 Mica: PPP escape\_map: Tx map = A0000, Rx map = 0 01:06:47: As78 MCB: Initialize 01:06:47: MCB: Flush 01:06:47: Modem 2/13 Mica: Bad RX Frame: control = 0xE007, length = 0xE, buffer = 0x3BC9014 01:06:50: As78 PAP: I AUTH-REQ id 2 len 16 from "alainmod" 01:06:50: As78 PAP: Authenticating peer alainmod 01:06:50: As78 PPP: Sent PAP LOGIN Request to AAA 01:06:50: As78 PPP: Received LOGIN Response from AAA = PASS 01:06:50: As78 DDR: Remote name for alainmod 01:06:50: As78 DDR: Authenticated host alainmod with no matching dialer map 01:06:50: As78 PAP: O AUTH-ACK id 2 len 5 01:06:50: As78 MCB: Start 01:06:50: As78 MCB: User alainmod Callback Number - Client ANY 01:06:50: As78 MCB: Newstate 0-INIT -> 2-WAIT\_RESPONSE 01:06:50: As78 MCB: O Request Id 1 Callback Type Client-Num delay 0 01:06:52: As78 MCB: Timeout in state WAIT\_RESPONSE sending new Request 2 01:06:52: As78 MCB: O Request Id 2 Callback Type Client-Num delay 0 01:06:54: As78 MCB: Timeout in state WAIT\_RESPONSE sending new Request 3 01:06:54: As78 MCB: O Request Id 3 Callback Type Client-Num delay 0 01:06:54: Async78 PPP: I MCB Response(2) id 1 len 17 01:06:54: Async78 MCB: I 2 1 0 11 2 D F 1 5A 44 54 20 36 30 32 30 0 01:06:54: As78 MCB: Received response 01:06:54: As78 MCB: Resp ignored. ID Expected 3, got id 1 01:06:56: As78 MCB: Timeout in state WAIT\_RESPONSE sending new Request 4 01:06:56: As78 MCB: O Request Id 4 Callback Type Client-Num delay 0 01:06:56: Async78 PPP: I MCB Response(2) id 4 len 17 01:06:56: Async78 MCB: I 2 4 0 11 2 D F 1 5A 44 54 20 36 30 32 30 0 01:06:56: As78 MCB: Received response 01:06:56: As78 MCB: Response CBK-Client-Num 2 13 15, addr 1-ZDT 6020 01:06:56: As78 MCB: O Ack Id 5 Callback Type Client-Num delay 15 01:06:56: As78 MCB: Negotiated MCB with peer 01:06:56: As78 MCB: Newstate 2-WAIT\_RESPONSE -> 3-WAIT\_TERMINATE 01:06:56: As78 MCB: Peer terminating the link 01:06:56: As78 MCB: Newstate 3-WAIT\_TERMINATE -> 5-WAIT\_LINKDOWN 01:06:56: As78 MCB: Link terminated by peer, Callback Needed 01:06:56: As78 MCB: Newstate 5-WAIT\_LINKDOWN -> 6-CALLING 01:06:56: As78 MCB: Initiate Callback for ^->o`iB@ at ZDT 6020 using Async DDR 01:06:56: As78 DDR: PPP callback Callback server starting to alainmod ZDT 6020 01:06:56: As78 MCB: Dialer callback started 01:06:57: Modem 2/13 Mica: in modem state TERMINATING 01:06:57: Modem 2/13 Mica: in modem state IDLE 01:06:57: %ISDN-6-DISCONNECT: Interface Serial1/0:6 disconnected from 6020, call lasted 36 seconds 01:06:57: ISDN Sel/0:15: TX -> DISCONNECT pd = 8 callref = 0xED73 01:06:57: Cause i = 0x8090 - Normal call clearing 01:06:57: Modem 2/13 Mica: DISCONNECT after 00:00:35, due to reason (0x8220) EC rcvd DISC frame. 01:06:57: TTY78: DSR was dropped 01:06:57: tty78: Modem: READY->(unknown) 01:06:57: ISDN Sel/0:15: RX <- RELEASE pd = 8 callref = 0x6D73 01:06:57: ISDN Sel/0:15: TX -> RELEASE\_COMP pd = 8 callref = 0xED73 01:06:58: TTY78: dropping DTR, hanging up 01:06:58: TTY78: Async Int reset: Dropping DTR 01:06:58: tty78: Modem: HANGUP->(unknown) 01:06:59: TTY78: cleanup pending. Delaying DTR 01:06:59: Modem 2/13 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0 01:06:59: As78 PPP: Authorization required 01:07:00: %LINK-5-CHANGED: Interface Async78, changed state to reset 01:07:00: TTY78: cleanup pending. Delaying DTR 01:07:01: TTY78: cleanup pending. Delaying DTR 01:07:02: TTY78: cleanup pending. Delaying DTR 01:07:03: TTY78: no timer type 0 to destroy 01:07:03: TTY78: no timer type 1 to destroy 01:07:03: TTY78: no timer type 3 to destroy 01:07:03: TTY78: no timer type 4 to destroy 01:07:03: TTY78: no timer type 2 to destroy 01:07:03: Async78: allowing modem\_process to continue hangup 01:07:03: TTY78: restoring DTR 01:07:05: %LINK-3-UPDOWN: Interface Async78, changed state to down 01:07:15: As78 DDR: re-enable timeout !--- Callback start. 01:07:15: DDR: callback triggered by dialer\_timers 01:07:15: As78 DDR: beginning callback to alainmod ZDT 6020 01:07:15: As78 DDR: Attempting to dial ZDT 6020 01:07:15: CHAT78: Attempting async line dialer script 01:07:15: CHAT78: Dialing using Modem script: callback2gsm & System script: none 01:07:15: CHAT78: process started 01:07:15: CHAT78: Asserting DTR 01:07:15: CHAT78: Chat script callback2gsm started 01:07:15: CHAT78: Sending string: AT&F 01:07:15: CHAT78: Expecting string: OK 01:07:15: CHAT78: Completed match for expect: OK 01:07:15: CHAT78: Sending string: AT\$29=8 01:07:15: CHAT78: Expecting string: OK 01:07:15: CHAT78: Completed match for expect: OK !--- The user entered "ZDT 6020". This is what we send: 01:07:15: CHAT78: Sending string: AT \T<ZDT 6020>

01:07:15: CHAT78: Expecting string: CONNECT 01:07:15: Modem 2/13 Mica: configured for Originate mode, with Null signaling, 0x1 tone detection. 01:07:15: Modem 2/13 Mica: received dialstring 6020 01:07:15: ISDN Se1/0:15: TX -> SETUP pd = 8 callref = 0x000F 01:07:15: Bearer Capability i = 0x9090A3 01:07:15: Channel ID i = 0xA9839F 01:07:15: Called Party Number i = 0x81, '6020', Plan:ISDN, Type:Unknown 01:07:15: ISDN Se1/0:15: RX <- CALL\_PROC pd = 8 callref = 0x800F 01:07:15: Channel ID i = 0xA9839F 01:07:15: ISDN Se1/0:15: RX <- ALERTING pd = 8 callref = 0x800F 01:07:15: Modem 2/13 Mica: in modem state CALL\_SETUP 01:07:16: Modem 2/13 Mica: Detected Dial tone 01:07:17: ISDN Se1/0:15: RX <- CONNECT pd = 8 callref = 0x800F 01:07:17: Progress Ind i = 0x8182 - Destination address is non-ISDN 01:07:17: Connected Number i = 0xA136303230 01:07:17: ISDN Se1/0:15: TX -> CONNECT\_ACK pd = 8 callref = 0x000F 01:07:17: Modem 2/13 Mica: in modem state CONNECT 01:07:19: Modem 2/13 Mica: in modem state LINK 01:07:23: %ISDN-6-CONNECT: Interface Serial1/0:30 is now connected to 6020 01:07:26: Modem 2/13 Mica: in modem state TRAINUP 01:07:28: Modem 2/13 Mica: in modem state EC\_NEGOTIATING 01:07:28: Modem 2/13 Mica: in modem state STEADY 01:07:28: CHAT78: Completed match for expect: CONNECT 01:07:28: CHAT78: Sending string: \c 01:07:28: CHAT78: Chat script callback2gsm finished, status = Success 01:07:28: TTY78: no timer type 1 to destroy 01:07:28: TTY78: no timer type 0 to destroy 01:07:28: Modem 2/13 Mica: CONNECT at 33600/31200 (Tx/Rx), V34+, LAPM, None 01:07:28: As78 PPP: Treating connection as a callout 01:07:28: Modem 2/13 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0 01:07:28: As78 PPP: Authorization required 01:07:28: %LINK-3-UPDOWN: Interface Async78, changed state to up 01:07:28: As78 DDR: Dialer statechange to up 01:07:28: As78 DDR: Copying MS callback dialstring ZDT 6020 to ddb 01:07:28: DDR: Freeing callback to alainmod ZDT 6020 01:07:28: As78 DDR: Dialer call has been placed 01:07:29: Modem 2/13 Mica: PPP escape\_map: Tx map = A0000, Rx map = 0 01:07:29: As78 MCB: Initialize 01:07:29: As78 PAP: I AUTH-REQ id 1 len 16 from "alainmod" 01:07:29: As78 PAP: Authenticating peer alainmod 01:07:29: As78 PPP: Sent PAP LOGIN Request to AAA 01:07:29: As78 PPP: Received LOGIN Response from AAA = PASS 01:07:29: As78 DDR: Remote name for alainmod 01:07:29: As78 DDR: Authenticated host alainmod with no matching dialer map 01:07:29: As78 PAP: O AUTH-ACK id 1 len 5 01:07:29: As78 DDR: dialer protocol up 01:07:29: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async78, changed state to up

**suzanne#show ip route**

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area  
\* - candidate default, U - per-user static route, o - ODR  
P - periodic downloaded static route  
Gateway of last resort is 172.17.243.1 to network 0.0.0.0  
172.17.0.0/24 is subnetted, 1 subnets  
C 172.17.243.0 is directly connected, Ethernet0/0  
172.31.0.0/16 is variably subnetted, 2 subnets, 2 masks  
C 172.31.1.19/32 is directly connected, Async78  
C 172.31.0.0/16 is directly connected, Dialer1  
S\* 0.0.0.0/0 [1/0] via 172.17.243.1

**suzanne#ping 172.31.1.19**

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 172.31.1.19, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 356/372/396 ms

suzanne#

01:08:08: Modem 2/13 Mica: in modem state TERMINATING

01:08:08: Modem 2/13 Mica: in modem state IDLE

01:08:08: Modem 2/13 Mica: DISCONNECT after 00:00:51, due to reason (0x8220)

EC rcvd DISC frame.

01:08:08: %ISDN-6-DISCONNECT: Interface Serial1/0:30 disconnected from 6020, call lasted 51 seconds

01:08:08: ISDN Se1/0:15: TX -> DISCONNECT pd = 8 callref = 0x000F

01:08:08: Cause i = 0x8090 - Normal call clearing

01:08:08: ISDN Se1/0:15: RX <- RELEASE pd = 8 callref = 0x800F

01:08:08: ISDN Se1/0:15: TX -> RELEASE\_COMP pd = 8 callref = 0x000F

01:08:09: TTY78: DSR was dropped

01:08:09: tty78: Modem: READY->(unknown)

01:08:09: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async78,  
changed state to down  
01:08:10: TTY78: dropping DTR, hanging up  
01:08:10: TTY78: Async Int reset: Dropping DTR  
01:08:10: tty78: Modem: HANGUP->(unknown)  
01:08:10: Modem 2/13 Mica: PPP escape\_map: Tx map = FFFFFFFF, Rx map = 0  
01:08:10: As78 PPP: Authorization required  
01:08:11: TTY78: cleanup pending. Delaying DTR  
01:08:12: %LINK-5-CHANGED: Interface Async78, changed state to reset  
01:08:12: TTY78: cleanup pending. Delaying DTR  
01:08:13: TTY78: cleanup pending. Delaying DTR  
01:08:14: TTY78: cleanup pending. Delaying DTR  
01:08:15: TTY78: no timer type 0 to destroy  
01:08:15: TTY78: no timer type 1 to destroy  
01:08:15: TTY78: no timer type 3 to destroy  
01:08:15: TTY78: no timer type 4 to destroy  
01:08:15: TTY78: no timer type 2 to destroy  
01:08:15: Async78: allowing modem\_process to continue hangup  
01:08:15: TTY78: restoring DTR  
01:08:17: %LINK-3-UPDOWN: Interface Async78, changed state to down  
01:08:27: As78 DDR: re-enable timeout

## ISDN-terugbellen met V.110

!--- Receive call. suzanne# 01:09:00: ISDN Se1/0:15: RX <- SETUP pd = 8 callref = 0x6F28  
01:09:00: Sending Complete 01:09:00: Bearer Capability i = 0x8890 01:09:00: Channel ID i =  
0xA18388 01:09:00: Calling Party Number i = 0xA1, '6136', Plan:ISDN, Type:National 01:09:00:  
Called Party Number i = 0x81, '214', Plan:ISDN, Type:Unknown 01:09:00: %LINK-3-UPDOWN: Interface  
Serial1/0:7, changed state to up 01:09:00: ISDN Se1/0:15: TX -> CALL\_PROC pd = 8 callref =  
0xEF28 01:09:00: Channel ID i = 0xA98388 01:09:00: ISDN Se1/0:15: TX -> CONNECT pd = 8 callref =  
0xEF28 01:09:00: Channel ID i = 0xA98388 01:09:00: Se1/0:7 PPP: Treating connection as a callin  
01:09:00: Se1/0:7 PPP: Authorization required 01:09:00: ISDN Se1/0:15: RX <- CONNECT\_ACK pd = 8  
callref = 0x6F28 01:09:00: ISDN Se1/0:15: CALL\_PROGRESS: CALL\_CONNECTED call id 0x1B, bchan 7,  
dsl 0 01:09:01: Se1/0:7 PPP: Authorization required 01:09:01: Se1/0:7 MCB: Initialize 01:09:01:  
Se1/0:7 CHAP: O CHALLENGE id 1 len 28 from "suzanne" 01:09:01: Se1/0:7 CHAP: I RESPONSE id 1 len  
30 from "alainisdn" 01:09:01: Se1/0:7 PPP: Sent CHAP LOGIN Request to AAA 01:09:01: Se1/0:7 PPP:  
Received LOGIN Response from AAA = PASS 01:09:01: Se1/0:7 DDR: Remote name for alainisdn  
01:09:01: Se1/0:7 CHAP: O SUCCESS id 1 len 4 01:09:01: Se1/0:7 DDR: PPP callback Callback server  
starting to alainisdn 6136 01:09:01: Se1/0:7 DDR: disconnecting call 01:09:01: %ISDN-6-CONNECT:  
Interface Serial1/0:7 is now connected to 6136 alainisdn 01:09:01: ISDN Se1/0:15: TX ->  
DISCONNECT pd = 8 callref = 0xEF28 01:09:01: Cause i = 0x8090 - Normal call clearing 01:09:01:  
ISDN Se1/0:15: RX <- RELEASE pd = 8 callref = 0x6F28 01:09:01: %LINK-3-UPDOWN: Interface  
Serial1/0:7, changed state to down 01:09:01: ISDN Se1/0:15: TX -> RELEASE\_COMP pd = 8 callref =  
0xEF28 01:09:01: Se1/0:7 DDR: disconnecting call 01:09:02: ISDN Se1/0:15: RX <- SETUP pd = 8  
callref = 0x70DF 01:09:02: Sending Complete 01:09:02: Bearer Capability i = 0x8890 01:09:02:  
Channel ID i = 0xA18389 01:09:02: Calling Party Number i = 0xA1, '6136', Plan:ISDN,  
Type:National 01:09:02: Called Party Number i = 0x81, '214', Plan:ISDN, Type:Unknown 01:09:02:  
%LINK-3-UPDOWN: Interface Serial1/0:8, changed state to up 01:09:02: ISDN Se1/0:15: TX ->  
CALL\_PROC pd = 8 callref = 0xF0DF 01:09:02: Channel ID i = 0xA98389 01:09:02: ISDN Se1/0:15: TX  
-> CONNECT pd = 8 callref = 0xF0DF 01:09:02: Channel ID i = 0xA98389 01:09:02: Se1/0:8 PPP:  
Treating connection as a callin 01:09:02: Se1/0:8 PPP: Authorization required 01:09:02: ISDN  
Se1/0:15: RX <- CONNECT\_ACK pd = 8 callref = 0x70DF 01:09:02: ISDN Se1/0:15: CALL\_PROGRESS:  
CALL\_CONNECTED call id 0x1C, bchan 8, dsl 0 01:09:02: Se1/0:8 PPP: Authorization required  
01:09:03: Se1/0:8 MCB: Initialize 01:09:03: Se1/0:8 CHAP: O CHALLENGE id 1 len 28 from "suzanne"  
01:09:03: Se1/0:8 CHAP: I RESPONSE id 1 len 30 from "alainisdn" 01:09:03: Se1/0:8 PPP: Sent CHAP  
LOGIN Request to AAA 01:09:03: Se1/0:8 PPP: Received LOGIN Response from AAA = PASS 01:09:03:  
Se1/0:8 DDR: Remote name for alainisdn 01:09:03: Se1/0:8 CHAP: O SUCCESS id 1 len 4 01:09:03:  
Se1/0:8 DDR: callback to alainisdn already started 01:09:03: Se1/0:8 DDR: disconnecting call  
01:09:03: %ISDN-6-CONNECT: Interface Serial1/0:8 is now connected to 6136 alainisdn 01:09:03:  
ISDN Se1/0:15: TX -> DISCONNECT pd = 8 callref = 0xF0DF 01:09:03: Cause i = 0x8090 - Normal call  
clearing 01:09:03: ISDN Se1/0:15: RX <- RELEASE pd = 8 callref = 0x70DF 01:09:03: %LINK-3-  
UPDOWN: Interface Serial1/0:8, changed state to down 01:09:03: ISDN Se1/0:15: TX -> RELEASE\_COMP

```
pd = 8 callref = 0xF0DF 01:09:03: Se1/0:8 DDR: disconnecting call !--- Callback Start 01:09:16:
DDR: Callback timer expired 01:09:16: Di1 DDR: beginning callback to alainisdn 6136 01:09:16:
Se1/0:15 DDR: rotor dialout [priority] 01:09:16: Se1/0:15 DDR: Attempting to dial 6136 01:09:16:
ISDN Se1/0:15: TX -> SETUP pd = 8 callref = 0x0010 01:09:16: Bearer Capability i = 0x8890
01:09:16: Channel ID i = 0xA9839F 01:09:16: Called Party Number i = 0x81, '6136', Plan:ISDN,
Type:Unknown 01:09:16: ISDN Se1/0:15: RX <- CALL_PROC pd = 8 callref = 0x8010 01:09:16: Channel
ID i = 0xA9839F 01:09:16: ISDN Se1/0:15: RX <- ALERTING pd = 8 callref = 0x8010 01:09:16: ISDN
Se1/0:15: RX <- CONNECT pd = 8 callref = 0x8010 01:09:16: Connected Number i = 0xA136313336
01:09:16: %LINK-3-UPDOWN: Interface Serial1/0:30, changed state to up 01:09:16: DDR: Freeing
callback to alainisdn 6136 01:09:16: ISDN Se1/0:15: TX -> CONNECT_ACK pd = 8 callref = 0x0010
01:09:16: Se1/0:30 PPP: Treating connection as a callout 01:09:16: Se1/0:30 PPP: Authorization
required 01:09:16: Se1/0:30 MCB: Initialize 01:09:16: Se1/0:30 CHAP: I CHALLENGE id 7 len 30
from "alainisdn" 01:09:16: Se1/0:30 PPP: Sent CHAP SENDAUTH Request to AAA 01:09:16: Se1/0:30
PPP: Received SENDAUTH Response from AAA = PASS 01:09:16: Se1/0:30 CHAP: O RESPONSE id 7 len 28
from "suzanne" 01:09:16: Se1/0:30 CHAP: I SUCCESS id 7 len 4 01:09:16: Se1/0:30 PPP: Sent LCP
AUTHOR Request to AAA 01:09:16: Se1/0:30 PPP: Sent IPCP AUTHOR Request to AAA 01:09:16: Se1/0:30
LCP: Received AAA AUTHOR Response = PASS 01:09:16: Se1/0:30 IPCP: Received AAA AUTHOR Response =
PASS 01:09:16: Se1/0:30 DDR: dialer protocol up 01:09:17: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Serial1/0:30, changed state to up 01:09:22: %ISDN-6-CONNECT: Interface Serial1/0:30 is
now connected to 6136 alainisdn suzanne# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
```

```
Gateway of last resort is 172.17.243.1 to network 0.0.0.0
```

```
172.17.0.0/24 is subnetted, 1 subnets
C 172.17.243.0 is directly connected, Ethernet0/0
172.31.0.0/16 is variably subnetted, 2 subnets, 2 masks
C 172.31.1.2/32 is directly connected, Dialer1
C 172.31.0.0/16 is directly connected, Dialer1
S* 0.0.0.0/0 [1/0] via 172.17.243.1
```

```
suzanne#ping 172.31.1.2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 172.31.1.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/34/36 ms
```

```
suzanne#
```

## [Gerelateerde informatie](#)

- [Ondersteuning van inbel- en toegangstechnologie](#)
- [Technische ondersteuning en documentatie – Cisco Systems](#)