

Cisco 3640 路由器与远程用户在 V.110 模式下的回呼

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[配置](#)

[网络图](#)

[配置](#)

[验证](#)

[故障排除](#)

[调试输出示例](#)

[使用 V.110 的 GSM 回叫](#)

[使用 V.110 的调制解调器回叫](#)

[使用 V.110 的 ISDN 回叫](#)

[相关信息](#)

简介

本文为呼叫在使用的远程用户提供一配置示例其中一以下方法。使用V.110呼叫，在每个案件中，回拨被执行。

- 连接3640通过GSM和请求回拨的用户。
- 连接3640通过调制解调器和请求回拨的用户。
- 连接3640通过ISDN (数据)和请求回拨的用户。

注意：默认情况下验证、授权和统计(AAA)在路由器配置。您应该也创建用户登陆。

在本例中，我们也设置呼入和拨出的点对点协议(PPP)验证。我们更改脚本一直配置V.110的调制解调器和允许用户选择他们的方法(调制解调器或GSM)。根据选择的方法，用户应该：

- 请使用ZDTxxx在回拨号码(调制解调器)。
- 请使用DIxxxx在回拨号码(GSM)。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- V.110回叫功能是可用的在罗莎IOS ？？软件版本12.2(5.2)T和以上。
- 调制解调器软件版本2.7.3.0。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

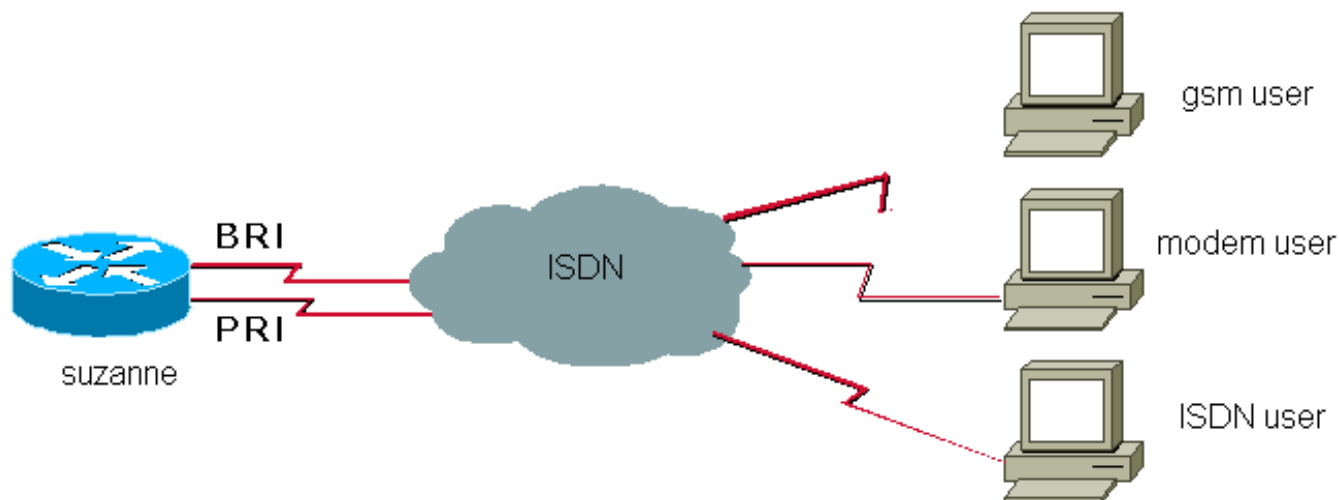
配置

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找本文档所用命令的其他信息，请使用[命令查找工具](#)（[仅限注册用户](#)）。

网络图

本文档使用此图所示的网络设置。



配置

本文档使用以下配置：

- 苏珊娜

苏珊娜

```
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 Serial1/0:15  
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
```

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

[命令输出解释程序工具](#) ([仅限注册用户](#)) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

- **show ip route** ? ? ? 显示IP路由表的内容

故障排除

本部分提供的信息可用于对配置进行故障排除。

注意： 在您发出调试指令前，参考[关于调试指令的重要信息](#)。

- **debug modem** —观察在接入服务器的调制解调器线路活动。
- **debug dialer events** —显示关于在拨号接口接收的数据包的调试信息。
- **debug ppp authentication** —显示认证协议消息，包括质询验证协议(CHAP)信息包交换和密码认证协议交换。
- **debug ppp cbcp** —显示协议错误和统计信息关联与PPP连接协商使用微软回叫控制协议(MSCB)。
- **debug isdn q931** —显示关于呼叫建立及拆线的信息ISDN网络连接(在本地路由器(用户端)和网络之间的层3)。
- **debug chat** —验证对话脚本正常运行。
- 当路由器使用一个调制解调器和一个对话脚本呼叫在终端线路时的上一步**debug callback** —显示回拨事件。

调试输出示例

使用 V.110 的 GSM 回叫

```
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: ATS29=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
```

[使用 V.110 的调制解调器回叫](#)

```
!--- 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 Se1/0:15: 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 Se1/0:15: RX <- RELEASE pd = 8
callref = 0x6D73 01:06:57: ISDN Se1/0:15: 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: ATS29=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

使用 V.110 的 ISDN 回叫

```
!--- Receive call. suzanne# 01:09:00: ISDN Sel/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 Sel/0:15: TX -> CALL_PROC pd = 8 callref =
0xEF28 01:09:00: Channel ID i = 0xA98388 01:09:00: ISDN Sel/0:15: TX -> CONNECT pd = 8 callref =
0xEF28 01:09:00: Channel ID i = 0xA98388 01:09:00: Sel/0:7 PPP: Treating connection as a callin
01:09:00: Sel/0:7 PPP: Authorization required 01:09:00: ISDN Sel/0:15: RX <- CONNECT_ACK pd = 8
callref = 0x6F28 01:09:00: ISDN Sel/0:15: CALL_PROGRESS: CALL_CONNECTED call id 0x1B, bchan 7,
dsl 0 01:09:01: Sel/0:7 PPP: Authorization required 01:09:01: Sel/0:7 MCB: Initialize 01:09:01:
Sel/0:7 CHAP: O CHALLENGE id 1 len 28 from "suzanne" 01:09:01: Sel/0:7 CHAP: I RESPONSE id 1 len
30 from "alainisdn" 01:09:01: Sel/0:7 PPP: Sent CHAP LOGIN Request to AAA 01:09:01: Sel/0:7 PPP:
Received LOGIN Response from AAA = PASS 01:09:01: Sel/0:7 DDR: Remote name for alainisdn
01:09:01: Sel/0:7 CHAP: O SUCCESS id 1 len 4 01:09:01: Sel/0:7 DDR: PPP callback Callback server
starting to alainisdn 6136 01:09:01: Sel/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 Sel/0:15: TX ->
DISCONNECT pd = 8 callref = 0xEF28 01:09:01: Cause i = 0x8090 - Normal call clearing 01:09:01:
ISDN Sel/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 Sel/0:15: TX -> RELEASE_COMP pd = 8 callref =
0xEF28 01:09:01: Sel/0:7 DDR: disconnecting call 01:09:02: ISDN Sel/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 Sel/0:15: TX ->
CALL_PROC pd = 8 callref = 0xF0DF 01:09:02: Channel ID i = 0xA98389 01:09:02: ISDN Sel/0:15: TX
-> CONNECT pd = 8 callref = 0xF0DF 01:09:02: Channel ID i = 0xA98389 01:09:02: Sel/0:8 PPP:
Treating connection as a callin 01:09:02: Sel/0:8 PPP: Authorization required 01:09:02: ISDN
Sel/0:15: RX <- CONNECT_ACK pd = 8 callref = 0x70DF 01:09:02: ISDN Sel/0:15: CALL_PROGRESS:
CALL_CONNECTED call id 0x1C, bchan 8, dsl 0 01:09:02: Sel/0:8 PPP: Authorization required
01:09:03: Sel/0:8 MCB: Initialize 01:09:03: Sel/0:8 CHAP: O CHALLENGE id 1 len 28 from "suzanne"
01:09:03: Sel/0:8 CHAP: I RESPONSE id 1 len 30 from "alainisdn" 01:09:03: Sel/0:8 PPP: Sent CHAP
LOGIN Request to AAA 01:09:03: Sel/0:8 PPP: Received LOGIN Response from AAA = PASS 01:09:03:
Sel/0:8 DDR: Remote name for alainisdn 01:09:03: Sel/0:8 CHAP: O SUCCESS id 1 len 4 01:09:03:
Sel/0:8 DDR: callback to alainisdn already started 01:09:03: Sel/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 Sel/0:15: TX -> DISCONNECT pd = 8 callref = 0xF0DF 01:09:03: Cause i = 0x8090 - Normal call
clearing 01:09:03: ISDN Sel/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 Sel/0:15: TX -> RELEASE_COMP
pd = 8 callref = 0xF0DF 01:09:03: Sel/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:
Sel/0:15 DDR: rotor dialout [priority] 01:09:16: Sel/0:15 DDR: Attempting to dial 6136 01:09:16:
ISDN Sel/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 Sel/0:15: RX <- CALL_PROC pd = 8 callref = 0x8010 01:09:16: Channel
ID i = 0xA9839F 01:09:16: ISDN Sel/0:15: RX <- ALERTING pd = 8 callref = 0x8010 01:09:16: ISDN
Sel/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 Sel/0:15: TX -> CONNECT_ACK pd = 8 callref = 0x0010
01:09:16: Sel/0:30 PPP: Treating connection as a callout 01:09:16: Sel/0:30 PPP: Authorization
required 01:09:16: Sel/0:30 MCB: Initialize 01:09:16: Sel/0:30 CHAP: I CHALLENGE id 7 len 30
from "alainisdn" 01:09:16: Sel/0:30 PPP: Sent CHAP SENDAUTH Request to AAA 01:09:16: Sel/0:30
PPP: Received SENDAUTH Response from AAA = PASS 01:09:16: Sel/0:30 CHAP: O RESPONSE id 7 len 28
from "suzanne" 01:09:16: Sel/0:30 CHAP: I SUCCESS id 7 len 4 01:09:16: Sel/0:30 PPP: Sent LCP
AUTHOR Request to AAA 01:09:16: Sel/0:30 PPP: Sent IPCP AUTHOR Request to AAA 01:09:16: Sel/0:30
LCP: Received AAA AUTHOR Response = PASS 01:09:16: Sel/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# 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#
```

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