

在V.110模式下思科3640路由器和遠端使用者之間的回撥

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簡介

本文檔為使用下列方法之一進行呼叫的遠端使用者提供了一個配置示例。在每種情況下，使用V.110呼叫執行回撥。

- 使用者通過GSM連線3640並請求回撥。
- 使用者通過數據機連線3640並請求回撥。
- 通過ISDN (資料) 連線3640並請求回叫的使用者。

注意：預設情況下在路由器上配置身份驗證、授權和記帳(AAA)。您還應建立要登入的使用者。

在本例中，我們還為呼入和撥出設定了點對點協定(PPP)身份驗證。我們一直都更改了指令碼來為V.110配置數據機，並允許使用者選擇其方法 (數據機或GSM)。根據選擇的方法，使用者應該：

- 在回叫號碼中使用ZDTxxx (對於數據機)。
- 在回撥號碼中使用DIxxxx (用於GSM)。

必要條件

需求

本文件沒有特定需求。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Rosa IOS提供V.110回撥功能??軟體版本12.2(5.2)T及更高版本。
- 資料機軟體版本2.7.3.0。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

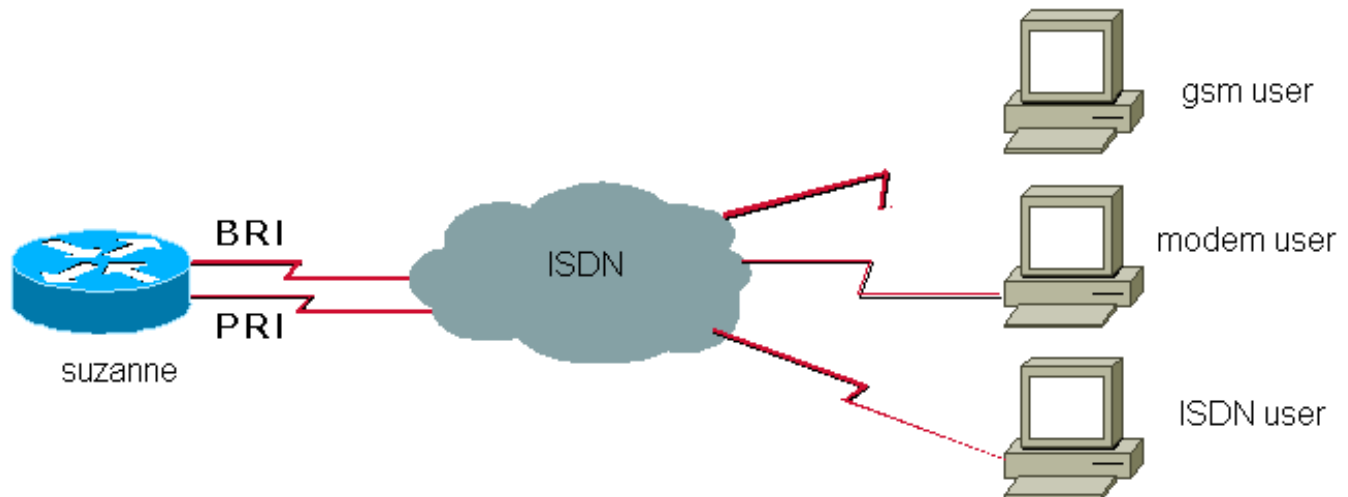
設定

本節提供用於設定本文件中所述功能的資訊。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)([僅限註冊客戶](#))。

網路圖表

本檔案會使用下圖中所示的網路設定。



組態

本檔案會使用以下設定：

- 蘇珊娜

蘇珊娜

```
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 callback1analog 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
```

驗證

本節提供的資訊可用於確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

- `show ip route???`顯示IP路由表的內容

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

註：發出debug命令之前，請參閱[有關Debug命令的重要資訊](#)。

- **debug modem** — 觀察接入伺服器上的數據機線路活動。
- **debug dialer events** — 顯示有關撥號器介面上接收的資料包的調試資訊。
- **debug ppp authentication** — 顯示身份驗證協定消息，包括質詢身份驗證協定(CHAP)資料包交換和口令身份驗證協定(PAP)交換。
- **debug ppp cbcp** — 顯示協定錯誤和使用Microsoft回撥控制協定(MSCB)與PPP連線協商相關的統計資訊。
- **debug ISDN Q931** — 顯示有關本地路由器（使用者端）與網路之間的ISDN網路連線（第3層）的呼叫建立和拆除的資訊。
- **debug chat** — 驗證聊天指令碼是否正常運行。
- **debug callback** — 當路由器使用數據機和聊天指令碼在終端線路上回叫時顯示回叫事件。

調試輸出示例

使用V.110的GSM回撥

```

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的數據機回撥](#)

```
!--- 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回撥

```
!--- 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# 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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