Callback Between a Rosa 3640 Router and a Remote User in V.110 Mode

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Contents

Introduction

This document provides a sample configuration for remote users calling in using one of the following methods. In each case, the callback is performed using a V.110 call.

- Users connecting 3640 via GSM and requesting callback.
- Users connecting 3640 via a modem and requesting callback.
- Users connecting 3640 via ISDN (data) and requesting callback.

Note: Authentication, authorization, and accounting (AAA) is configured on the router by default. You should also create a user to login.

In this example, we have also set Point−to−Point Protocol (PPP) authentication for callin and callout. We have changed the script to configure the modem for V.110 all the time, and to allow users to choose their method (modem or GSM). Depending on the method chosen, users should:

- use ZDTxxx in the callback number (for modem).
- use DIxxxx in the callback number (for GSM).

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- The V.110 callback feature is available on Rosa IOS?? Software Release 12.2(5.2)T and above.
- Modem Software Version 2.7.3.0.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

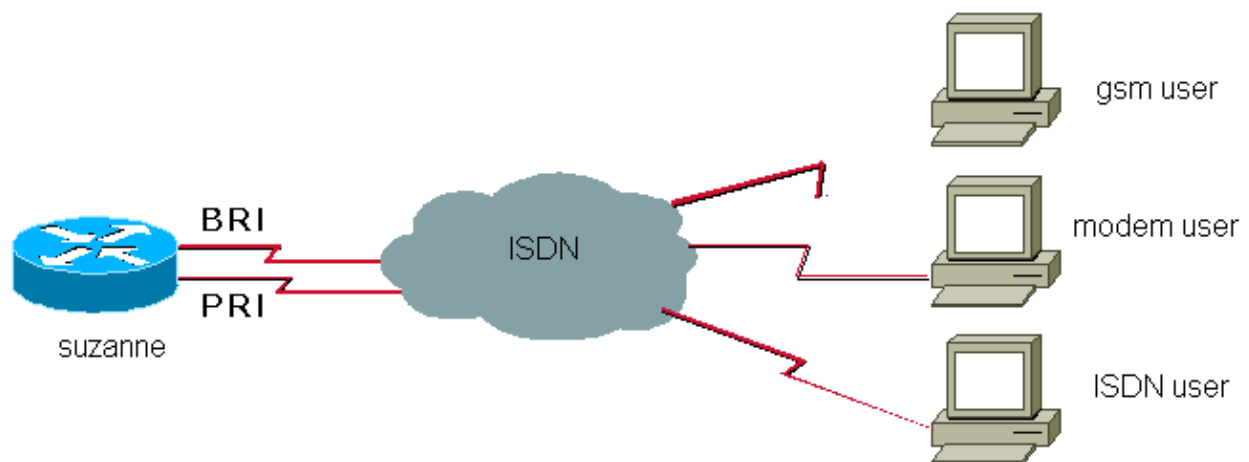For more information on document conventions, refer to Cisco Technical Tips Conventions.

Configure

In this section, you are presented with the information to configure the features described in this document.

Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only) .

Network Diagram

This document uses the network setup shown in this diagram.

Configurations

This document uses this configuration:

- 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 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
```

Verify

This section provides information you can use to confirm your configuration is working properly.

Certain **show** commands are supported by the Output Interpreter Tool (registered customers only) , which allows you to view an analysis of **show** command output.

- **show ip route**???displays the contents of the IP routing table

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Note: Before you issue the **debug** commands, refer to Important Information on Debug Commands.

- **debug modem** to observe modem line activity on an access server.
- **debug dialer events** displays debugging information about the packets received on a dialer interface.
- **debug ppp authentication** displays authentication protocol messages, including Challenge Authentication Protocol (CHAP) packet exchanges and Password Authentication Protocol (PAP) exchanges.
- **debug ppp cbcp** displays protocol errors and statistics associated with PPP connection negotiations using Microsoft Callback Control Protocol (MSCB)..

- **debug ISDN Q931** displays information about call setup and teardown of ISDN network connections (layer 3) between the local router (user side) and the network.
- **debug chat** verifies that the chat script is functioning properly.
- **debug callback** displays callback events when the router is using a modem and a chat script to call back on a terminal line.

Sample debug Output

GSM Callback Using 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
```

```
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
```

```
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
```

Modem callback using 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 = 0x3BC901
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
```

```
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
```

```
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 Callback Using V.110

```
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#
```

Related Information

- **Dial and Access Technology Support Page**
- **Technical Support & Documentation – Cisco Systems**