

# Configuring a T1 or E1 Interface for Outgoing Analog Calls Using the modem dialout controller Command

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## Introduction

This sample configuration illustrates how to configure a T1 or E1 interface for outgoing analog calls using the **modem dialout controller** command.

## Before You Begin

### Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

### Prerequisites

There are no specific prerequisites for this document.

### Components Used

The information in this document is based on the software and hardware versions below.

- Cisco IOS® Software Release 12.1(5)T
- Cisco AS5300 with two E1 PRIs

**Note:** The **modem dialout controller** command was introduced in Cisco IOS Software Release 12.1(T). We recommend Cisco IOS Software Release 12.1(3)T or later for this implementation. The **modem dialout controller** command supports multiple interfaces starting from IOS Software Release 12.1(5)T. For example:

```
AS5300-3(config)#line 1 60
```

```
AS5300-3(config-line)#modem dialout controller t1 ?  
      <0-7> List of controllers to dial out
```

```
AS5300-3(config-line)#modem dialout controller t1 0,1,3
```

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

## Overview

When you want outgoing analog calls to use a particular T1/E1 line, use the **modem dialout controller** command. This command is configured in line configuration mode, so the modems are bound to the specified T1/E1 interface for any outbound analog calls. You can then configure the necessary dial on demand routing (DDR) commands on the async (or group-async) interface corresponding to the modems.

In this sample configuration, a Cisco AS5300 network access server (NAS) has two Primary Rate Interfaces (PRIs), each mapped to a different Dialed Number Identification Service (DNIS). If a client dials 8210, the telco switches the call to E1 0 and a call for 8211 is switched to E1 1. This configuration also uses modem pooling to allocate modems based on the called number (DNIS) messages delivered by the telco switch during the call setup. This way, calls for a particular number are "answered" only by a modem that is a member of a particular modem pool. Since each T1/E1 is also bound to a particular called number, we have effectively correlated a set of modems to a particular T1/E1 for incoming calls.

To demonstrate the dialout scenario, the client requests a callback from the access server. Callback is configured locally on the access server, but callback attributes can also be obtained from a RADIUS/TACACS+ authentication, authorization, and accounting (AAA) server. For an incoming call to a particular number, the call is switched to the appropriate T1 and answered by a modem pool member. After callback is negotiated, the access server disconnects the call and a callback is initiated on the same modem. The dialout is then made using the T1 or E1 interface specified in the **modem dialout controller** command. In this example, the dialout is configured to be on the same T1/E1 as the incoming call.

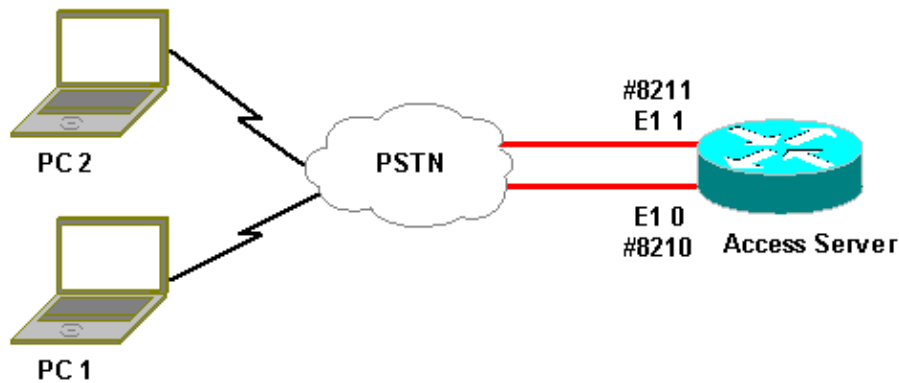
## Configure

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 IOS Command Lookup tool (registered customers only) .

## Network Diagram

This document uses the network setup shown in the diagram below.



## Configurations

This document uses the configurations shown below.

### Access Server Configuration

Current configuration:

```
!
version 12.1
service timestamps debug datetime msec
service timestamps log uptime msec
no service password-encryption
!
hostname lala
!
logging rate-limit console 10 except errors
!
username testuser callback-dialstring 6036 password 0 test

!-- Access server calls back testuser at phone number 6036
!-- The callback parameters can also be configured on a RADIUS/TACACS+ server.

!
spe 1/0 1/9
firmware location system:/ucode/mica_port_firmware
spe 2/0 2/23
firmware location system:/ucode/microcom_firmware
!
resource-pool disable
!
modem-pool ModemPool8210

!-- Modem pool for calls to a specific phone number

pool-range 1-40

!-- The range of the modems in the pool
!-- Modems 1 through 40 are included in this pool

called-number 8210 max-conn 40

!-- Specifies the DNIS to be used for this modem pool
!-- Incoming calls for phone number 8210 are assigned to this
pool
!
modem-pool ModemPool8211
pool-range 41-60,61-84
```

```
!-- The range of the modems in the pool
!-- Modems 41 through 84 are included in this pool

called-number 8211 max-conn 44

!-- Incoming calls for phone number 8211 are assigned to this pool

!
ip subnet-zero
no ip finger
!
isdn switch-type primary-net5
chat-script mod ABORT ERROR ABORT BUSY "" "AT" OK "ATDT \T" TIMEOUT 30 CONNECT \c

!-- Chat script for dialout

!
controller E1 0

!-- DNIS number for this E1 is 8210

clock source line primary
pri-group timeslots 1-31
!
controller E1 1

!-- DNIS number for this E1 is 8211

clock source line secondary 1
pri-group timeslots 1-31
!
controller E1 2
!
controller E1 3
!
!
interface Ethernet0
ip address 10.200.20.22 255.255.255.0
!
interface Serial0:15

!-- D-channel for E1 0
!-- DNIS number for this PRI is 8210

description PRI 8210
no ip address
encapsulation ppp
isdn switch-type primary-net5
isdn incoming-voice modem

!-- All incoming voice calls on this E1 are sent to the modems

!
interface Serial1:15

!-- D-channel for E1 1
!-- DNIS number for this PRI is 8211

description PRI 8211
no ip address
encapsulation ppp
isdn switch-type primary-net5
isdn incoming-voice modem

!-- All incoming voice calls on this E1 are sent to the modems
```

```
!  
interface Group-Async1  
ip unnumbered Ethernet0  
encapsulation ppp  
async mode interactive  
peer default ip address pool dialup  
  
!-- Assign IP address for incoming calls (with DNIS 8210) from pool dialup  
  
ppp callback accept  
  
!-- Permit PPP Callback  
  
ppp authentication chap  
group-range 1 40  
  
!-- Interface includes modems 1 through 40 that are also in ModemPool8210  
  
!  
interface Group-Async2  
ip unnumbered Ethernet0  
encapsulation ppp  
async mode interactive  
peer default ip address pool dialup2  
  
!-- Assign IP address for incoming calls (with DNIS 8211) from pool dialup2  
  
ppp callback accept  
  
!-- Here we accept the callback  
  
ppp authentication chap  
group-range 41 84  
  
!-- Interface includes modems 41 through 84 that are also in ModemPool8211  
  
!  
ip local pool dialup 192.168.100.1 192.168.100.15  
ip local pool dialup2 192.168.200.32 192.168.200.126  
  
!-- Define the IP address ranges for the 2 pools  
  
ip classless  
no ip http server  
!  
line con 0  
exec-timeout 0 0  
transport input none  
line 1 40  
  
!-- Line configuration for modems 1-40  
!-- These modems are in pool ModemPool8210  
  
autoselect during-login  
autoselect ppp  
script callback mod  
  
!-- Invoke chat script mod for the callback  
  
login local  
modem InOut  
  
!-- Set the modems for dialin and dialout  
  
modem dialout controller e1 0
```

```

!-- Outgoing call on these modems use e1 0

line 41 84

!-- Line configuration for modems 41-84
!-- These modems are in pool ModemPool8210

autoselect during-login
autoselect ppp
script callback mod

!-- Invoke chat script mod for the callback

login local
modem InOut
modem dialout controller e1 1

!-- Outgoing call on these modems use e1 1

line aux 0
line vty 0 4
!
end

```

## Verify

There is currently no verification procedure available for this configuration.

## Troubleshoot

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

## Troubleshooting Commands

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

**Note:** Before issuing **debug** commands, please see Important Information on Debug Commands.

- **debug isdn q931** – Shows call setup and tear down of the ISDN network connection (Layer 3) between the router and the ISDN switch.
- **debug ppp negotiation** – Displays information on Point-to-Point Protocol (PPP) traffic and exchanges while negotiating the PPP components including Link Control Protocol (LCP), authentication, and Network Control Protocol (NCP). A successful PPP negotiation first opens the LCP state, then authenticates, and finally negotiates NCP (usually IP Control Protocol – IPCP).
- **debug ppp authentication** – Displays the PPP authentication protocol messages, including Challenge Authentication Protocol (CHAP) packet exchanges and Password Authentication Protocol (PAP) exchanges.
- **debug chat** – To monitor the execution of the chat script when asynchronous/plain old telephone service (POTS) dialing is initiated. A chat script is a set of expect-send string pairs that define the handshaking between data terminal equipment (DTE) and data communications equipment (DCE) devices.
- **debug callback** – Displays callback events when the router is using a modem and a chat script to call back on a terminal line.
- **debug dialer** – Displays debugging information about the packets that are received on the dialer interface.

- **debug modem csm** (not shown here) – Displays debug information on the call state machine used to connect calls on the modem. Shows how the modem call gets handled by the internal modem management process.

## Sample Debug Output

Below is output obtained using the **debug** commands shown above.

The output shows the client calling 8210. The call is then switched to E1 0 and is picked up by modem 14 (Async 14), which is a member of the pool ModemPool8210. The call connects, PPP (and callback) is negotiated, the client is authenticated, and the AS5300 disconnects the call in preparation for the callback. The router then initiates the callback using the same modem (Async 14). Per the **modem dialout controller** command, the call uses E1 0 and the dialout is performed.

**Note:** Some of the longer debug lines have been wrapped for convenient printing. Lines beginning without a timestamp are from the end of the previous line.

```
*Jan 1 05:00:43.018: ISDN Se0:15: RX <- SETUP pd = 8 callref = 0x266A
!-- Incoming Call on E1 0
*Jan 1 05:00:43.018:          Sending Complete
*Jan 1 05:00:43.018:          Bearer Capability i = 0x9090A3
*Jan 1 05:00:43.018:          Channel ID i = 0xA18398
*Jan 1 05:00:43.022:          Progress Ind i = 0x8183
- Origination address is non-ISDN
*Jan 1 05:00:43.022:          Calling Party Number i = 0xA1, '6036',Plan:ISDN,
Type:National
*Jan 1 05:00:43.022:          Called Party Number i = 0x81, '210', Plan:ISDN,
Type:Unknown

!-- The called number (DNIS) for the incoming call is (8)210

*Jan 1 05:00:43.022:          Locking Shift to Codeset 6
*Jan 1 05:00:43.022:          Codeset 6 IE 0x28 i = 'Analog', 0x20, '36'
*Jan 1 05:00:43.026: ISDN Se0:15: TX -> CALL_PROC pd = 8 callref =0xA66A
*Jan 1 05:00:43.026:          Channel ID i = 0xA98398
*Jan 1 05:00:43.030: ISDN Se0:15: TX -> ALERTING pd = 8 callref = 0xA66A
*Jan 1 05:00:43.082: ISDN Se0:15: TX -> CONNECT pd = 8 callref = 0xA66A
*Jan 1 05:00:43.146: ISDN Se0:15: RX <- CONNECT_ACK pd = 8 callref =0x266A
*Jan 1 05:00:43.146: ISDN Se0:15: CALL_PROGRESS: CALL_CONNECTED call id0x63,
bchan 23, dsl 0
*Jan 1 05:00:45: %ISDN-6-CONNECT: Interface Serial0:23 is now
connected to 6036

!-- Call is connected

*Jan 1 05:01:11.158: As14 LCP: I CONFREQ [Closed] id 1 len 50

!-- PPP negotiation begins. Note that the call is on
!-- Async 14, which is a member of the pool ModemPool8210

*Jan 1 05:01:11.158: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:11.158: As14 LCP: MagicNumber 0x75D617D5 (0x050675D617D5)
*Jan 1 05:01:11.158: As14 LCP: PFC (0x0702)
*Jan 1 05:01:11.158: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:11.158: As14 LCP: Callback 6 (0x0D0306)
*Jan 1 05:01:11.158: As14 LCP: MRRU 1614 (0x1104064E)
*Jan 1 05:01:11.158: As14 LCP: EndpointDisc 1 Local
*Jan 1 05:01:11.158: As14 LCP: (0x13170177DE54DA55A24ADD8043063898)
*Jan 1 05:01:11.158: As14 LCP: (0x1C049700000000)
*Jan 1 05:01:11.158: As14 LCP: Lower layer not up, Fast Starting
*Jan 1 05:01:11.158: As14 PPP: Treating connection as a dedicated line
*Jan 1 05:01:11.158: As14 PPP: Phase is ESTABLISHING, Active Open
```

```

[0 sess,1 load]
*Jan 1 05:01:11.158: As14 LCP: O CONFREQ [Closed] id 1 len 25
*Jan 1 05:01:11.158: As14 LCP: ACCM 0x000A0000 (0x0206000A0000)
*Jan 1 05:01:11.158: As14 LCP: AuthProto CHAP (0x0305C22305)
*Jan 1 05:01:11.158: As14 LCP: MagicNumber 0x118F14E6 (0x0506118F14E6)
*Jan 1 05:01:11.158: As14 LCP: PFC (0x0702)
*Jan 1 05:01:11.158: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:11.158: As14 LCP: O CONFREQ [REQsent] id 1 len 31
*Jan 1 05:01:11.158: As14 LCP: MRRU 1614 (0x1104064E)
*Jan 1 05:01:11.158: As14 LCP: EndpointDisc 1 Local
*Jan 1 05:01:11.158: As14 LCP: (0x13170177DE54DA55A24ADD8043063898)
*Jan 1 05:01:11.162: As14 LCP: (0x1C049700000000)
*Jan 1 05:01:13: %LINK-3-UPDOWN: Interface Async14, changed state to up

!-- Interface Async 14 is up

*Jan 1 05:01:11.302: As14 LCP: I CONFACK [REQsent] id 1 len 25
*Jan 1 05:01:11.302: As14 LCP: ACCM 0x000A0000 (0x0206000A0000)
*Jan 1 05:01:11.302: As14 LCP: AuthProto CHAP (0x0305C22305)
*Jan 1 05:01:11.302: As14 LCP: MagicNumber 0x118F14E6 (0x0506118F14E6)
*Jan 1 05:01:11.302: As14 LCP: PFC (0x0702)
*Jan 1 05:01:11.302: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:11.302: As14 LCP: I CONFREQ [ACKrcvd] id 2 len 23
*Jan 1 05:01:11.302: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:11.302: As14 LCP: MagicNumber 0x75D617D5 (0x050675D617D5)
*Jan 1 05:01:11.302: As14 LCP: PFC (0x0702)
*Jan 1 05:01:11.302: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:11.302: As14 LCP: Callback 6 (0x0D0306)
*Jan 1 05:01:11.302: As14 LCP: O CONFACK [ACKrcvd] id 2 len 23
*Jan 1 05:01:11.302: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:11.302: As14 LCP: MagicNumber 0x75D617D5 (0x050675D617D5)
*Jan 1 05:01:11.302: As14 LCP: PFC (0x0702)
*Jan 1 05:01:11.302: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:11.302: As14 LCP: Callback 6 (0x0D0306)

!-- Callback is negotiated

*Jan 1 05:01:11.302: As14 LCP: State is Open
*Jan 1 05:01:11.302: As14 PPP: Phase is AUTHENTICATING, by this end
[0 sess, 1 load]
*Jan 1 05:01:11.302: As14 CHAP: O CHALLENGE id 1 len 25 from "lala"
*Jan 1 05:01:11.446: As14 LCP: I IDENTIFY [Open] id 3 len 18 magic
0x75D617D5 MSRASV5.00
*Jan 1 05:01:11.462: As14 LCP: I IDENTIFY [Open] id 4 len 28 magic
0x75D617D5 MSRAS-1-TESTPC-W2K
*Jan 1 05:01:11.462: As14 CHAP: I RESPONSE id 1 len 29 from "testuser"
*Jan 1 05:01:11.462: As14 CHAP: O SUCCESS id 1 len 4

!-- CHAP authentication is successful

*Jan 1 05:01:11.462: As14 MCB: User testuser Callback Number - Server 6036

!-- Number to be used for callback, configured locally in the username
!-- command. The callback information can be off loaded to an AAA server.

*Jan 1 05:01:11.462: Async14 PPP: O MCB Request(1) id 1 len 7
*Jan 1 05:01:11.462: Async14 MCB: O 1 1 0 7 3 3 0
*Jan 1 05:01:11.462: As14 MCB: O Request Id 1 Callback Type
Server-Num delay 0
*Jan 1 05:01:11.462: As14 PPP: Phase is CBCP [0 sess, 1 load]
*Jan 1 05:01:11.606: Async14 PPP: I MCB Response(2) id 1 len 7
*Jan 1 05:01:11.606: Async14 MCB: I 2 1 0 7 3 3 C
*Jan 1 05:01:11.606: As14 MCB: Received response
*Jan 1 05:01:11.606: As14 MCB: Response CBK-Server-Num 3 3 12
*Jan 1 05:01:11.606: Async14 PPP: O MCB Ack(3) id 2 len 7
*Jan 1 05:01:11.606: Async14 MCB: O 3 2 0 7 3 3 C

```



```
*Jan 1 05:01:11.606: As14 MCB: O Ack Id 2 Callback Type Server-Num delay 12
*Jan 1 05:01:11.606: As14 MCB: Negotiated MCB with peer
*Jan 1 05:01:11.734: As14 LCP: I TERMREQ [Open] id 5 len 16
(0x75D617D5003CCD7400000000)
*Jan 1 05:01:11.734: As14 LCP: O TERMACK [Open] id 5 len 4
*Jan 1 05:01:11.734: As14 MCB: Peer terminating the link
*Jan 1 05:01:11.734: As14 MCB: Link terminated by peer, Callback Needed
*Jan 1 05:01:11.734: As14 MCB: Initiate Callback for testuser at 6036
using Async
*Jan 1 05:01:11.734: As14 MCB: Async-callback in progress
*Jan 1 05:01:11.734: As14 PPP: Phase is TERMINATING [0 sess, 1 load]
*Jan 1 05:01:11.734: TTY14 Callback PPP process creation
*Jan 1 05:01:11.734: TTY14: Callback script exists
- no script creation necessary
*Jan 1 05:01:11.734: TTY14 Callback process initiated, user:
testuser dialstring 6036
*Jan 1 05:01:14: %ISDN-6-DISCONNECT: Interface Serial0:23 disconnected
from 6036, call lasted 29 seconds
```

*!-- Call is disconnected*

```
*Jan 1 05:01:12.386: ISDN Se0:15: TX -> DISCONNECT pd = 8
callref = 0xA66A
*Jan 1 05:01:12.386: Cause i = 0x809F - Normal, unspecified
*Jan 1 05:01:12.450: ISDN Se0:15: RX <- RELEASE pd = 8 callref = 0x266A
*Jan 1 05:01:12.450: ISDN Se0:15: TX -> RELEASE_COMP pd = 8
callref = 0xA66A
*Jan 1 05:01:13.734: As14 LCP: TIMEOUT: State TERMSent
*Jan 1 05:01:13.734: As14 LCP: State is Closed
*Jan 1 05:01:13.734: As14 PPP: Phase is DOWN [0 sess, 1 load]
*Jan 1 05:01:13.734: As14 PPP: Phase is ESTABLISHING, Passive Open
[0 sess, 1 load]
*Jan 1 05:01:13.734: As14 LCP: State is Listen
*Jan 1 05:01:16: %LINK-5-CHANGED: Interface Async14, changed state to reset
*Jan 1 05:01:14.734: As14 LCP: State is Closed
*Jan 1 05:01:14.734: As14 PPP: Phase is DOWN [0 sess, 1 load]
*Jan 1 05:01:17.734: As14 IPCP: Remove route to 192.168.100.13
*Jan 1 05:01:17.734: TTY14 Callback forced wait = 4 seconds
*Jan 1 05:01:21: %LINK-3-UPDOWN: Interface Async14, changed state to down
*Jan 1 05:01:19.734: As14 LCP: State is Closed
*Jan 1 05:01:21.766: CHAT14: Matched chat script mod to string mod
*Jan 1 05:01:21.766: CHAT14: Asserting DTR
*Jan 1 05:01:21.766: CHAT14: Chat script mod started
```

*!-- Callback chatscript mod is started*

```
*Jan 1 05:01:21.766: CHAT14: Sending string: ATZ
*Jan 1 05:01:21.766: CHAT14: Expecting string: OK
*Jan 1 05:01:21.814: CHAT14: Completed match for expect: OK
*Jan 1 05:01:21.814: CHAT14: Sending string: ATDT \T<6036>
```

*!-- Dial 6036 per the callback configuration*

```
*Jan 1 05:01:21.814: CHAT14: Expecting string: CONNECT
*Jan 1 05:01:21.902: ISDN Se0:15: TX -> SETUP pd = 8 callref = 0x0008
```

*!-- The outgoing call uses E1 0 as per the modem dialout controller*  
*!-- command for modem 14.*

```
*Jan 1 05:01:21.902: Bearer Capability i = 0x8090A3
*Jan 1 05:01:21.902: Channel ID i = 0xA9839F
*Jan 1 05:01:21.902: Progress Ind i = 0x8183
- Origination address is non-ISDN
*Jan 1 05:01:21.902: Calling Party Number i = 0x80, '6036',
Plan:Unknown, Type:Unknown
*Jan 1 05:01:21.902: Called Party Number i = 0x80, '6036',
```

```

Plan:Unknown, Type:Unknown
*Jan 1 05:01:21.946: ISDN Se0:15: RX <- CALL_PROC pd = 8
callref = 0x8008
*Jan 1 05:01:21.946: Channel ID i = 0xA9839F
*Jan 1 05:01:21.974: ISDN Se0:15: RX <- ALERTING pd = 8 callref = 0x8008
*Jan 1 05:01:28.958: ISDN Se0:15: RX <- CONNECT pd = 8 callref = 0x8008
*Jan 1 05:01:28.962: Progress Ind i = 0x8182
- Destination address is non-ISDN
*Jan 1 05:01:28.962: Connected Number i = 0xA136303336
*Jan 1 05:01:28.962: Locking Shift to Codeset 6
*Jan 1 05:01:28.962: Codeset 6 IE 0x28 i = 'Analog', 0x20, '36'
*Jan 1 05:01:31: %ISDN-6-CONNECT:
Interface Serial0:30 is now connected to 6036
*Jan 1 05:01:28.966: ISDN Se0:15: TX -> CONNECT_ACK pd = 8
callref =0x0008
*Jan 1 05:01:41.562: CHAT14: Completed match for expect: CONNECT
*Jan 1 05:01:41.566: CHAT14: Sending string: \c
*Jan 1 05:01:41.566: CHAT14: Chat script mod finished, status = Success
*Jan 1 05:01:41.598: TTY14: Callback starting PPP directly with
Invalid auth info
*Jan 1 05:01:41.642: As14 LCP: I CONFREQ [Closed] id 0 len 47

!-- PPP negotiation begins

*Jan 1 05:01:41.646: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:41.646: As14 LCP: MagicNumber 0x143F35CB (0x0506143F35CB)
*Jan 1 05:01:41.646: As14 LCP: PFC (0x0702)
*Jan 1 05:01:41.646: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:41.646: As14 LCP: MRRU 1614 (0x1104064E)
*Jan 1 05:01:41.646: As14 LCP: EndpointDisc 1 Local
*Jan 1 05:01:41.646: As14 LCP: (0x13170177DE54DA55A24ADD8043063898)
*Jan 1 05:01:41.646: As14 LCP: (0x1C049700000000)
*Jan 1 05:01:41.646: As14 LCP: Lower layer not up, Fast Starting
*Jan 1 05:01:41.646: As14 PPP: Treating connection as a callout
*Jan 1 05:01:41.646: As14 PPP: Phase is ESTABLISHING, Active Open
[0 sess,1 load]
*Jan 1 05:01:41.646: As14 LCP: O CONFREQ [Closed] id 2 len 25
*Jan 1 05:01:41.646: As14 LCP: ACCM 0x000A0000 (0x0206000A0000)
*Jan 1 05:01:41.646: As14 LCP: AuthProto CHAP (0x0305C22305)
*Jan 1 05:01:41.646: As14 LCP: MagicNumber 0x118F8C01 (0x0506118F8C01)
*Jan 1 05:01:41.646: As14 LCP: PFC (0x0702)
*Jan 1 05:01:41.646: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:41.646: As14 LCP: O CONFREQ [REQsent] id 0 len 31
*Jan 1 05:01:41.646: As14 LCP: MRRU 1614 (0x1104064E)
*Jan 1 05:01:41.646: As14 LCP: EndpointDisc 1 Local
*Jan 1 05:01:41.646: As14 LCP: (0x13170177DE54DA55A24ADD8043063898)
*Jan 1 05:01:41.646: As14 LCP: (0x1C049700000000)
*Jan 1 05:01:43: %LINK-3-UPDOWN: Interface Async14, changed state to up
*Jan 1 05:01:41.810: As14 LCP: I CONFACK [REQsent] id 2 len 25
*Jan 1 05:01:41.810: As14 LCP: ACCM 0x000A0000 (0x0206000A0000)
*Jan 1 05:01:41.810: As14 LCP: AuthProto CHAP (0x0305C22305)
*Jan 1 05:01:41.810: As14 LCP: MagicNumber 0x118F8C01 (0x0506118F8C01)
*Jan 1 05:01:41.810: As14 LCP: PFC (0x0702)
*Jan 1 05:01:41.810: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:41.842: As14 LCP: I CONFREQ [ACKrcvd] id 1 len 20
*Jan 1 05:01:41.842: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:41.842: As14 LCP: MagicNumber 0x143F35CB (0x0506143F35CB)
*Jan 1 05:01:41.842: As14 LCP: PFC (0x0702)
*Jan 1 05:01:41.842: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:41.842: As14 LCP: O CONFACK [ACKrcvd] id 1 len 20
*Jan 1 05:01:41.842: As14 LCP: ACCM 0x00000000 (0x020600000000)
*Jan 1 05:01:41.842: As14 LCP: MagicNumber 0x143F35CB (0x0506143F35CB)
*Jan 1 05:01:41.842: As14 LCP: PFC (0x0702)
*Jan 1 05:01:41.842: As14 LCP: ACFC (0x0802)
*Jan 1 05:01:41.842: As14 LCP: State is Open
*Jan 1 05:01:41.842: As14 PPP: Phase is AUTHENTICATING, by this end

```

```

[0 sess, 1 load]
*Jan 1 05:01:41.842: As14 CHAP: O CHALLENGE id 2 len 25 from "lala"
*Jan 1 05:01:42.002: As14 LCP: I IDENTIFY [Open] id 2 len 18 magic
0x143F35CB MSRASV5.00
*Jan 1 05:01:42.018: As14 LCP: I IDENTIFY [Open] id 3 len 28 magic
0x143F35CB MSRAS-1-TESTPC-W2K
*Jan 1 05:01:42.034: As14 CHAP: I RESPONSE id 2 len 29 from "testuser"
*Jan 1 05:01:42.034: As14 CHAP: O SUCCESS id 2 len 4

!-- PPP negotiation is successful

*Jan 1 05:01:42.034: As14 PPP: Phase is UP [0 sess, 1 load]
*Jan 1 05:01:42.034: As14 IPCP: O CONFREQ [Closed] id 1 len 10

!-- IPCP parameters are now negotiated

*Jan 1 05:01:42.034: As14 IPCP: Address 10.200.20.22 (0x03060AC81416)
*Jan 1 05:01:42.194: As14 CCP: I CONFREQ [Not negotiated] id 4 len 10
*Jan 1 05:01:42.194: As14 CCP: MS-PPC supported bits 0x00000001
(0x120600000001)
*Jan 1 05:01:42.194: As14 LCP: O PROTREJ [Open] id 3 len 16 protocol CCP
(0x80FD0104000A120600000001)
*Jan 1 05:01:42.210: As14 IPCP: I CONFREQ [REQsent] id 5 len 40
*Jan 1 05:01:42.210: As14 IPCP: CompressType VJ 15 slots CompressSlotID
(0x0206002D0F01)
*Jan 1 05:01:42.210: As14 IPCP: Address 0.0.0.0 (0x030600000000)
*Jan 1 05:01:42.210: As14 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
*Jan 1 05:01:42.210: As14 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
*Jan 1 05:01:42.210: As14 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
*Jan 1 05:01:42.210: As14 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
*Jan 1 05:01:42.210: As14 IPCP: O CONFREQ [REQsent] id 5 len 34
*Jan 1 05:01:42.210: As14 IPCP: CompressType VJ 15 slots CompressSlotID
(0x0206002D0F01)
*Jan 1 05:01:42.210: As14 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
*Jan 1 05:01:42.210: As14 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
*Jan 1 05:01:42.210: As14 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
*Jan 1 05:01:42.210: As14 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
*Jan 1 05:01:42.214: As14 IPCP: I CONFACK [REQsent] id 1 len 10
*Jan 1 05:01:42.214: As14 IPCP: Address 10.200.20.22 (0x03060AC81416)
*Jan 1 05:01:42.386: As14 IPCP: I CONFREQ [ACKrcvd] id 6 len 10
*Jan 1 05:01:42.386: As14 IPCP: Address 0.0.0.0 (0x030600000000)
*Jan 1 05:01:42.386: As14 IPCP: O CONFNAK [ACKrcvd] id 6 len 10
*Jan 1 05:01:42.386: As14 IPCP: Address 192.168.100.13 (0x0306C0A8640D)
*Jan 1 05:01:42.546: As14 IPCP: I CONFREQ [ACKrcvd] id 7 len 10
*Jan 1 05:01:42.546: As14 IPCP: Address 192.168.100.13 (0x0306C0A8640D)
*Jan 1 05:01:42.546: As14 IPCP: O CONFACK [ACKrcvd] id 7 len 10
*Jan 1 05:01:42.546: As14 IPCP: Address 192.168.100.13 (0x0306C0A8640D)
*Jan 1 05:01:42.546: As14 IPCP: State is Open
*Jan 1 05:01:42.550: As14 IPCP: Install route to 192.168.100.13
*Jan 1 05:01:45: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async14,
changed state to up

!-- Callback connection is up, PPP negotiation is complete
!-- and a route is installed.

```

## Related Information

- **Async-PPP Callback Between an Access Server and a PC**
- **PPP Callback Over ISDN**
- **Modem-Pooling With DNIS**
- **DNIS and Modem Pooling With a PRI Line**
- **Technical Support – Cisco Systems**

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