

# Configuring PPP Callback with RADIUS

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## Introduction

This document shows examples of configuring the router and server to do Point-to-Point Protocol (PPP) callback with RADIUS.

## Before You Begin

### Conventions

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

### Prerequisites

To make this work:

- Do initial testing with local authentication and callback (that is, remove the **aaa new-model** command). If callback does not work with local authentication, it will not work with RADIUS. See this example of using local authentication.
- Do further PPP authentication testing with RADIUS without callback. If users FAIL authentication and/or authorization without callback, authentication and authorization will not work with callback.
- Once local authentication for callback and PPP authentication with RADIUS work, add the information from the local user on the router (such as callback dial-string) to the user's profile on the

server.

**Note:** The client in these tests was an NT 4.0 server, DUN, set up as usual for a PPP connection, but with **Enable PPP/LCP** extensions checked under **Server** to allow Microsoft callback. Microsoft callback is supported in Cisco IOS® Software Releases 11.3.2.T and later. For specific information on how to setup your Microsoft Windows PC for Callback, refer to the Microsoft website.

## Components Used

This configuration was developed and tested using the software versions below.

- Cisco IOS Software Release 11.3.2.T and later
- CiscoSecure ACS UNIX 2.x or CiscoSecure ACS for Windows 2.x or higher

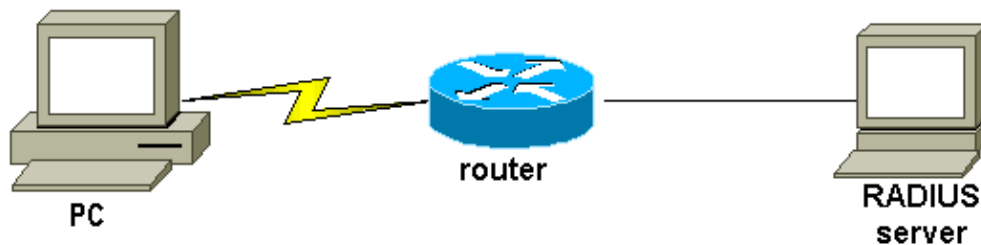
## Configure

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 the diagram below.



## Server Setup – CiscoSecure NT

- User gets password and confirm password.
- In Group Settings: attribute 006 Service-Type = Framed attribute 007 Framed-Protocol = PPP
- In the last box on the screen, Cisco RADIUS Attributes, check [009\001 – AV-Pair] and underneath, enter: **lcp:callback-dialstring=20367**

## Server Setup – CiscoSecure UNIX

```
rtp-berry# ./ViewProfile -p 9900 -u callback
User Profile Information
user = callback{
profile_id = 34
profile_cycle = 1
radius=Cisco {
check_items= {
2="callback"
}
reply_attributes= {
6=2
7=1
9,1="lcp:callback-dialstring=20367"
```

```
}  
}  
  
}
```

## Server Setup – Livingston RADIUS (with Cisco av-pairs)

```
callback2 Password = "callback2"  
User-Service-Type = Framed-User,  
Framed-Protocol = PPP,  
cisco-avpair = "lcp:callback-dialstring=20367"
```

## Configurations

### Router Configuration

```
rtpkrb#show run  
Building configuration...  
  
Current configuration:  
!  
version 11.3  
service timestamps debug uptime  
service timestamps log uptime  
no service password-encryption  
service udp-small-servers  
service tcp-small-servers  
!  
hostname rtpkrb  
!  
  
!--- AAA configuration.  
  
aaa new-model  
aaa authentication login default radius none  
aaa authentication ppp default radius none  
aaa authorization exec default radius none  
aaa authorization network default radius none  
enable secret 5 $1$pkX.$JdAysSRE1SbdbDe7bj0wyt0  
enable password ww  
!  
ip host rtpkrb 10.31.1.5  
ip domain-name RTP.CISCO.COM  
ip name-server 171.68.118.103  
  
!--- Chat-scripts to be used for the dialout.  
  
chat-script offhook "" "ATH1" OK  
chat-script callback ABORT ERROR ABORT BUSY "" "ATZ" OK "ATDT \T"  
        TIMEOUT 30 CONNECT \c  
!  
interface Loopback0  
ip address 1.1.1.1 255.255.255.0  
!  
interface Ethernet0  
ip address 10.31.1.5 255.255.0.0  
!  
interface Serial0  
no ip address  
no ip mroute-cache  
shutdown  
!  
interface Serial1
```

```

no ip address
shutdown
!
interface Async1
ip unnumbered Ethernet0
encapsulation ppp
async mode dedicated
peer default ip address pool async
no cdp enable
ppp max-bad-auth 3
ppp callback accept
ppp authentication pap
!
ip local pool async 15.15.15.15
ip classless
ip route 0.0.0.0 0.0.0.0 10.31.1.1
snmp-server community public RW
snmp-server host 171.68.118.100 traps public
radius-server host 171.68.118.101 auth-port 1645 acct-port 1646
radius-server key cisco
!
line con 0
line 1
session-timeout 20
exec-timeout 20 0
password ww
autoselect ppp
script modem-off-hook offhook
script callback callback
modem InOut
transport input all
stopbits 1
speed 38400
flowcontrol hardware
line 2
modem InOut
speed 38400
flowcontrol hardware
line 3 16
line aux 0
line vty 0 4
exec-timeout 0 0
timeout login response 100
password ww
!
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

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

- **debug aaa authentication** Display information on AAA authentication.
- **debug aaa authorization** – Display information on AAA authorization.

- **debug callback** – Display callback events when the router is using a modem and a chat script to call back on a terminal line.
- **debug chat** – Display characters sent between the Network Access Server (NAS) and the PC. A chat-script is a set of expect-send string pairs that define the handshaking between data terminal equipment (DTE)-DTE or DTE-data communications equipment (DCE) devices.
- **debug modem** – Observe modem line activity on an access server.
- **debug ppp negotiation** – Display PPP packets transmitted during PPP startup, where PPP options are negotiated.
- **debug ppp authentication** – Display authentication protocol messages, including Challenge Authentication Protocol (CHAP) packet exchanges and Password Authentication Protocol (PAP) exchanges.
- **debug radius** – Display detailed debugging information associated with RADIUS.

## Sample Debug Output

```

General OS:
Modem control/process activation debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP protocol negotiation debugging is on
Chat Scripts:
Chat scripts activity debugging is on
Callback:
Callback activity debugging is on
Radius protocol debugging is on
rtpkrb#
04:04:42: TTY1: DSR came up
04:04:42: tty1: Modem: IDLE->READY
04:04:42: TTY1: Autoselect started
04:04:44: TTY1: Autoselect sample 7E
04:04:44: TTY1: Autoselect sample 7EFF
04:04:44: TTY1: Autoselect sample 7EFF7D
04:04:44: TTY1: Autoselect sample 7EFF7D23
04:04:44: TTY1 Autoselect cmd: ppp negotiate
04:04:44: TTY1: EXEC creation
04:04:46: %LINK-3-UPDOWN: Interface Async1, changed state to up
04:04:46: As1 PPP: Treating connection as a dedicated line
04:04:46: As1 PPP: Phase is ESTABLISHING, Active Open
04:04:46: As1 LCP: O CONFREQ [Closed] id 224 len 24
04:04:46: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
04:04:46: As1 LCP: AuthProto PAP (0x0304C023)
04:04:46: As1 LCP: MagicNumber 0xE0FE5C09 (0x0506E0FE5C09)
04:04:46: As1 LCP: PFC (0x0702)
04:04:46: As1 LCP: ACFC (0x0802)
04:04:46: As1 LCP: I CONFACK [REQsent] id 224 len 24
04:04:46: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
04:04:46: As1 LCP: AuthProto PAP (0x0304C023)
04:04:46: As1 LCP: MagicNumber 0xE0FE5C09 (0x0506E0FE5C09)
04:04:46: As1 LCP: PFC (0x0702)
04:04:46: As1 LCP: ACFC (0x0802)
04:04:47: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 23
04:04:47: As1 LCP: ACCM 0x00000000 (0x020600000000)
04:04:47: As1 LCP: MagicNumber 0x00006CCD (0x050600006CCD)
04:04:47: As1 LCP: PFC (0x0702)
04:04:47: As1 LCP: ACFC (0x0802)
04:04:47: As1 LCP: Callback 6 (0x0D0306)
04:04:47: As1 LCP: O CONFACK [ACKrcvd] id 0 len 23
04:04:47: As1 LCP: ACCM 0x00000000 (0x020600000000)
04:04:47: As1 LCP: MagicNumber 0x00006CCD (0x050600006CCD)
04:04:47: As1 LCP: PFC (0x0702)
04:04:47: As1 LCP: ACFC (0x0802)

```

```

04:04:47: As1 LCP: Callback 6 (0x0D0306)
04:04:47: As1 LCP: State is Open
04:04:47: As1 PPP: Phase is AUTHENTICATING, by this end
04:04:47: As1 LCP: I IDENTIFY [Open] id 1 len 18 magic
    0x00006CCD MSRASV4.00
04:04:47: As1 LCP: I IDENTIFY [Open] id 2 len 21 magic
    0x00006CCD MSRAS-1-ZEKIE
04:04:47: As1 PAP: I AUTH-REQ id 15 len 24 from "callback2"
04:04:47: As1 PAP: Authenticating peer callback2
04:04:47: AAA/AUTHEN: create_user (0x14B1CC) user='callback2' ruser=''
    port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
04:04:47: AAA/AUTHEN/START (3229557248): port='Async1' list=''
    action=LOGIN service=PPP
04:04:47: AAA/AUTHEN/START (3229557248): using "default" list
04:04:47: AAA/AUTHEN/START (3229557248): Method=RADIUS
04:04:47: RADIUS: Computed extended port value 0:1:
04:04:47: RADIUS: Initial Transmit id 156 171.68.118.101:1645,
    Access-Request, len 79
04:04:47: Attribute 4 6 0A1F0105
04:04:47: Attribute 5 6 00000001
04:04:47: Attribute 61 6 00000000
04:04:47: Attribute 1 11 63616C6C
04:04:47: Attribute 2 18 47E86FBC
04:04:47: Attribute 6 6 00000002
04:04:47: Attribute 7 6 00000001
04:04:47: RADIUS: Received from id 156 171.68.118.101:1645,
    Access-Accept, len 69
04:04:47: Attribute 6 6 00000002
04:04:47: Attribute 7 6 00000001
04:04:47: Attribute 26 37 00000009011F6C63
04:04:47: RADIUS: saved authorization data for user 14B1CC at 14A684
04:04:47: AAA/AUTHEN (3229557248): status = PASS
04:04:47: AAA/AUTHOR/LCP As1: Authorize LCP
04:04:47: AAA/AUTHOR/LCP As1 (101984404): Port='Async1'
    list='' service=NET
04:04:47: AAA/AUTHOR/LCP: As1 (101984404) user='callback2'
04:04:47: AAA/AUTHOR/LCP: As1 (101984404) send AV service=ppp
04:04:47: AAA/AUTHOR/LCP: As1 (101984404) send AV protocol=lcp
04:04:47: AAA/AUTHOR/LCP (101984404) found list "default"
04:04:47: AAA/AUTHOR/LCP: As1 (101984404) Method=RADIUS

!--- Callback number is obtained from the RADIUS server.

04:04:47: RADIUS: cisco AVPair "lcp:callback-dialstring=20367"
04:04:47: AAA/AUTHOR (101984404): Post authorization status = PASS_REPL
04:04:47: AAA/AUTHOR/LCP As1: Processing AV service=ppp
04:04:47: AAA/AUTHOR/LCP As1: Processing AV callback-dialstring=20367
04:04:47: As1 PAP: O AUTH-ACK id 15 len 5
04:04:47: As1 MCB: User callback2 Callback Number - Server 20367
04:04:47: Async1 PPP: O MCB Request(1) id 47 len 7
04:04:47: Async1 MCB: O 1 2F 0 7 3 3 0
04:04:47: As1 MCB: O Request Id 47 Callback Type Server-Num delay 0
04:04:47: Async1 PPP: I MCB Response(2) id 47 len 7
04:04:47: Async1 MCB: I 2 2F 0 7 3 3 C
04:04:47: As1 MCB: Received response
04:04:47: As1 MCB: Response CBK-Server-Num 3 3 12
04:04:47: Async1 PPP: O MCB Ack(3) id 48 len 7
04:04:47: Async1 MCB: O 3 30 0 7 3 3 C
04:04:47: As1 MCB: O Ack Id 48 Callback Type Server-Num delay 12
04:04:47: As1 MCB: Negotiated MCB with peer
04:04:47: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
    changed state to up
04:04:47: As1 LCP: I TERMREQ [Open] id 3 len 8 (0x00000000)
04:04:47: As1 LCP: O TERMACK [Open] id 3 len 4
04:04:47: As1 MCB: Peer terminating the link
04:04:47: As1 PPP: Phase is TERMINATING

```

04:04:47: As1 MCB: Link terminated by peer, Callback Needed

*!--- Callback is initiated.*

04:04:47: As1 MCB: Initiate Callback for callback2 at 20367 using Async  
04:04:47: As1 MCB: Async-callback in progress  
04:04:47: TTY1 Callback PPP process creation  
04:04:47: As1 AAA/ACCT: Using PPP accounting list ""  
04:04:47: TTY1 Callback process initiated, user: dialstring 20367  
04:04:48: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,  
changed state to down  
04:04:48: TTY1: Async Int reset: Dropping DTR  
04:04:49: As1 LCP: TIMEOUT: Time 0xE02574 State TERMSent  
04:04:49: As1 LCP: State is Closed  
04:04:49: As1 PPP: Phase is DOWN  
04:04:49: As1 PPP: Phase is ESTABLISHING, Passive Open  
04:04:49: As1 LCP: State is Listen  
04:04:50: %LINK-5-CHANGED: Interface Async1, changed state to reset  
04:04:50: As1 LCP: State is Closed  
04:04:50: As1 PPP: Phase is DOWN  
04:04:50: As1 IPCP: Remove route to 15.15.15.15  
04:04:53: AAA/AUTHEN: free\_user (0x14B1CC) user='callback2' ruser=''  
port='Async1' rem\_addr='async' authn\_type=PAP service=PPP priv=1  
04:04:53: TTY1 Callback forced wait = 4 seconds  
04:04:55: %LINK-3-UPDOWN: Interface Async1, changed state to down  
04:04:55: As1 LCP: State is Closed  
04:04:55: As1 PPP: Phase is DOWN  
04:04:57: CHAT1: Matched chat script offhook to string offhook  
04:04:57: CHAT1: Asserting DTR  
04:04:57: CHAT1: Chat script offhook started  
04:04:57: CHAT1: Sending string: ATH1  
04:04:57: CHAT1: Expecting string: OK  
04:04:57: CHAT1: Completed match for expect: OK  
04:04:57: CHAT1: Chat script offhook finished, status = Success  
04:04:57: CHAT1: Matched chat script callback to string callback  
04:04:57: CHAT1: Asserting DTR  
04:04:57: CHAT1: Chat script callback started  
04:04:57: CHAT1: Sending string: ATZ  
04:04:57: CHAT1: Expecting string: OK  
04:04:57: CHAT1: Completed match for expect: OK  
04:04:57: CHAT1: Sending string: ATDT \T<20367>  
04:04:57: CHAT1: Expecting string: CONNECT  
04:05:14: CHAT1: Completed match for expect: CONNECT  
04:05:14: CHAT1: Sending string: \c  
04:05:14: CHAT1: Chat script callback finished, status = Success  
04:05:14: TTY1 PPP Callback Successful - await exec/autoselect pickup  
04:05:16: TTY1: DSR came up  
04:05:16: TTY1: Callback in effect  
04:05:16: tty1: Modem: IDLE->READY  
04:05:16: TTY1: Autoselect started  
04:05:16: As1 LCP: I CONFREQ [Closed] id 0 len 20  
04:05:16: As1 LCP: ACCM 0x00000000 (0x020600000000)  
04:05:16: As1 LCP: MagicNumber 0x000007A0 (0x0506000007A0)  
04:05:16: As1 LCP: PFC (0x0702)  
04:05:16: As1 LCP: ACFC (0x0802)  
04:05:16: As1 LCP: Lower layer not up, discarding packet  
04:05:18: %LINK-3-UPDOWN: Interface Async1, changed state to up  
04:05:18: As1 PPP: Treating connection as a dedicated line  
04:05:18: As1 PPP: Phase is ESTABLISHING, Active Open  
04:05:18: As1 LCP: O CONFREQ [Closed] id 225 len 24  
04:05:18: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)  
04:05:18: As1 LCP: AuthProto PAP (0x0304C023)  
04:05:18: As1 LCP: MagicNumber 0xE0FED8A0 (0x0506E0FED8A0)  
04:05:18: As1 LCP: PFC (0x0702)  
04:05:18: As1 LCP: ACFC (0x0802)  
04:05:18: As1 LCP: I CONFACK [REQsent] id 225 len 24

04:05:18: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)  
04:05:18: As1 LCP: AuthProto PAP (0x0304C023)  
04:05:18: As1 LCP: MagicNumber 0xE0FED8A0 (0x0506E0FED8A0)  
04:05:18: As1 LCP: PFC (0x0702)  
04:05:18: As1 LCP: ACFC (0x0802)  
04:05:19: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 20  
04:05:19: As1 LCP: ACCM 0x00000000 (0x020600000000)  
04:05:19: As1 LCP: MagicNumber 0x000007A0 (0x0506000007A0)  
04:05:19: As1 LCP: PFC (0x0702)  
04:05:19: As1 LCP: ACFC (0x0802)  
04:05:19: As1 LCP: O CONFACK [ACKrcvd] id 0 len 20  
04:05:19: As1 LCP: ACCM 0x00000000 (0x020600000000)  
04:05:19: As1 LCP: MagicNumber 0x000007A0 (0x0506000007A0)  
04:05:19: As1 LCP: PFC (0x0702)  
04:05:19: As1 LCP: ACFC (0x0802)  
04:05:19: As1 LCP: State is Open  
04:05:19: As1 PPP: Phase is AUTHENTICATING, by this end  
04:05:19: As1 LCP: I IDENTIFY [Open] id 1 len 18 magic  
0x000007A0 MSRASV4.00  
04:05:19: As1 LCP: I IDENTIFY [Open] id 2 len 21 magic  
0x000007A0 MSRAS-1-ZEKIE  
04:05:19: As1 PAP: I AUTH-REQ id 16 len 24 from "callback2"  
04:05:19: As1 PAP: Authenticating peer callback2  
04:05:19: AAA/AUTHEN: create\_user (0x14A640) user='callback2' ruser=''  
port='Async1' rem\_addr='async' authen\_type=PAP service=PPP priv=1  
04:05:19: AAA/AUTHEN/START (1256800753): port='Async1' list=''  
action=LOGIN service=PPP  
04:05:19: AAA/AUTHEN/START (1256800753): using "default" list  
04:05:19: AAA/AUTHEN/START (1256800753): Method=RADIUS  
04:05:19: RADIUS: Computed extended port value 0:1:  
04:05:19: RADIUS: Initial Transmit id 157 171.68.118.101:1645,  
Access-Request, len 79  
04:05:19: Attribute 4 6 0A1F0105  
04:05:19: Attribute 5 6 00000001  
04:05:19: Attribute 61 6 00000000  
04:05:19: Attribute 1 11 63616C6C  
04:05:19: Attribute 2 18 C29C6276  
04:05:19: Attribute 6 6 00000002  
04:05:19: Attribute 7 6 00000001  
04:05:19: RADIUS: Received from id 157 171.68.118.101:1645,  
Access-Accept, len 69  
04:05:19: Attribute 6 6 00000002  
04:05:19: Attribute 7 6 00000001  
04:05:19: Attribute 26 37 00000009011F6C63  
04:05:19: RADIUS: saved authorization data for user 14A640 at 14B1CC  
04:05:19: AAA/AUTHEN (1256800753): status = PASS  
04:05:19: AAA/AUTHOR/LCP As1: Authorize LCP  
04:05:19: AAA/AUTHOR/LCP As1 (1783017574): Port='Async1'  
list='' service=NET  
04:05:19: AAA/AUTHOR/LCP: As1 (1783017574) user='callback2'  
04:05:19: AAA/AUTHOR/LCP: As1 (1783017574) send AV service=ppp  
04:05:19: AAA/AUTHOR/LCP: As1 (1783017574) send AV protocol=lcp  
04:05:19: AAA/AUTHOR/LCP (1783017574) found list "default"  
04:05:19: AAA/AUTHOR/LCP: As1 (1783017574) Method=RADIUS  
04:05:19: RADIUS: cisco AVPair "lcp:callback-dialstring=20367"  
04:05:19: AAA/AUTHOR (1783017574): Post authorization status = PASS\_REPL  
04:05:19: AAA/AUTHOR/LCP As1: Processing AV service=ppp  
04:05:19: AAA/AUTHOR/LCP As1: Processing AV callback-dialstring=20367  
04:05:19: As1 PAP: O AUTH-ACK id 16 len 5  
04:05:19: As1 PPP: Phase is UP  
04:05:19: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?  
04:05:19: AAA/AUTHOR/FSM As1 (1621572650): Port='Async1'  
list='' service=NET  
04:05:19: AAA/AUTHOR/FSM: As1 (1621572650) user='callback2'  
04:05:19: AAA/AUTHOR/FSM: As1 (1621572650) send AV service=ppp  
04:05:19: AAA/AUTHOR/FSM: As1 (1621572650) send AV protocol=ip



```
04:05:19: AAA/AUTHOR/FSM (1621572650) found list "default"
04:05:19: AAA/AUTHOR/FSM: As1 (1621572650) Method=RADIUS
04:05:19: RADIUS: cisco AVPair "lcp:callback-dialstring=20367"
    not applied for ip
04:05:19: AAA/AUTHOR (1621572650): Post authorization status = PASS_REPL
04:05:19: AAA/AUTHOR/FSM As1: We can start IPCP
04:05:19: As1 IPCP: O CONFREQ [Closed] id 24 len 10
04:05:19: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
04:05:19: As1 IPCP: I CONFREQ [REQsent] id 3 len 40
04:05:19: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
04:05:19: As1 IPCP: Address 0.0.0.0 (0x030600000000)
04:05:19: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
04:05:19: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
04:05:19: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
04:05:19: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
04:05:19: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0, we want 0.0.0.0
04:05:19: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
04:05:19: AAA/AUTHOR/IPCP As1: Authorization succeeded
04:05:19: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0, we want 0.0.0.0
04:05:19: As1 IPCP: Using pool 'async'
04:05:19: As1 IPCP: Pool returned 15.15.15.15
04:05:19: As1 IPCP: O CONFREQ [REQsent] id 3 len 28
04:05:19: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
04:05:19: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
04:05:19: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
04:05:19: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
04:05:19: As1 IPCP: I CONFACK [REQsent] id 24 len 10
04:05:19: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
04:05:19: As1 IPCP: I CONFREQ [ACKrcvd] id 4 len 16
04:05:19: As1 IPCP: Address 0.0.0.0 (0x030600000000)
04:05:19: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
04:05:19: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
    we want 15.15.15.15
04:05:19: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
04:05:19: AAA/AUTHOR/IPCP As1: Authorization succeeded
04:05:19: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
    we want 15.15.15.15
04:05:19: As1 IPCP: O CONFNAK [ACKrcvd] id 4 len 16
04:05:19: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
04:05:19: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
04:05:20: As1 IPCP: I CONFREQ [ACKrcvd] id 5 len 16
04:05:20: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
04:05:20: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
04:05:20: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15,
    we want 15.15.15.15
04:05:20: AAA/AUTHOR/IPCP As1 (2922034935): Port='Async1'
    list='' service=NET
04:05:20: AAA/AUTHOR/IPCP: As1 (2922034935) user='callback2'
04:05:20: AAA/AUTHOR/IPCP: As1 (2922034935) send AV service=ppp
04:05:20: AAA/AUTHOR/IPCP: As1 (2922034935) send AV protocol=ip
04:05:20: AAA/AUTHOR/IPCP: As1 (2922034935) send AV addr*15.15.15.15
04:05:20: AAA/AUTHOR/IPCP (2922034935) found list "default"
04:05:20: AAA/AUTHOR/IPCP: As1 (2922034935) Method=RADIUS
04:05:20: RADIUS: cisco AVPair "lcp:callback-dialstring=20367"
    not applied for ip
04:05:20: AAA/AUTHOR (2922034935): Post authorization status = PASS_REPL
04:05:20: AAA/AUTHOR/IPCP As1: Reject 15.15.15.15, using 15.15.15.15
04:05:20: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
04:05:20: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
04:05:20: AAA/AUTHOR/IPCP As1: Authorization succeeded
04:05:20: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
    we want 15.15.15.15
04:05:20: As1 IPCP: O CONFACK [ACKrcvd] id 5 len 16
04:05:20: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
04:05:20: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
04:05:20: As1 IPCP: State is Open
```

```
04:05:20: As1 IPCP: Install route to 15.15.15.15
04:05:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
```

## PPP Callback with User-Specified Number

The previous examples were of callback at a predefined number (specified in the server). Callback may also be done at a user-specified number; that is, the callback number is specified as null in the authentication server. This causes the router to ask the user for a callback number. Again, initial testing should be done with local callback specified. If local callback and a null callback string does not work (that is, remove the **aaa new-model** command), RADIUS callback will not work! To specify a null callback string local to the router:

```
username callback callback-dialstring "" password 0 callback
```

On the PC, under Dial-Up-Networking (Windows NT server), User Preferences, check the **Callback – maybe ask me during redial if server offers** box. Once the user is authenticated, a window is displayed on the PC that says "Callback – You have entered "Set by caller," followed by the rest of the message, and then "Enter modem phone number."

## Server Configurations

### Server Setup – CiscoSecure NT

- User gets password and confirm password.
- In Group Settings: attribute 006 Service-Type = Framed attribute 007 Framed-Protocol = PPP
- In the last box on the screen, Cisco RADIUS Attributes, check [009\001 – AV-Pair] and underneath, enter: lcp:callback-dialstring=

### Server Setup – CiscoSecure UNIX

```
rtp-berry# ./ViewProfile -p 9900 -u callback
User Profile Information
user = callback{
profile_id = 34
profile_cycle = 1
radius=Cisco {
check_items= {
2="callback"
}
reply_attributes= {
6=2
7=1
9,1="lcp:callback-dialstring="
}
}
}
```

### Server Setup – Livingston RADIUS

```
callback2 Password = "callback2"
User-Service-Type = Framed-User,
Framed-Protocol = PPP,
cisco-avpair = "lcp:callback-dialstring="
```

# Sample Debug Output

```
koala#show debug
General OS:
Modem control/process activation debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
Dial on demand:
Dial on demand events debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
Chat Scripts:
Chat scripts activity debugging is on
Callback:
Callback activity debugging is on
Radius protocol debugging is on
koala#
02:23:01: TTY1: DSR came up
02:23:01: tty1: Modem: IDLE->READY
02:23:01: TTY1: Autoselect started
02:23:03: TTY1: Autoselect sample 7E
02:23:03: TTY1: Autoselect sample 7EFF
02:23:03: TTY1: Autoselect sample 7EFF7D
02:23:03: TTY1: Autoselect sample 7EFF7D23
02:23:03: TTY1 Autoselect cmd: ppp negotiate
02:23:03: TTY1: EXEC creation
02:23:05: %LINK-3-UPDOWN: Interface Async1, changed state to up
02:23:05: As1 PPP: Treating connection as a dedicated line
02:23:05: As1 PPP: Phase is ESTABLISHING, Active Open
02:23:05: As1 LCP: O CONFREQ [Closed] id 27 len 24
02:23:05: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
02:23:05: As1 LCP: AuthProto PAP (0x0304C023)
02:23:05: As1 LCP: MagicNumber 0xE0A14386 (0x0506E0A14386)
02:23:05: As1 LCP: PFC (0x0702)
02:23:05: As1 LCP: ACFC (0x0802)
02:23:05: As1 LCP: I CONFACK [REQsent] id 27 len 24
02:23:05: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
02:23:05: As1 LCP: AuthProto PAP (0x0304C023)
02:23:05: As1 LCP: MagicNumber 0xE0A14386 (0x0506E0A14386)
02:23:05: As1 LCP: PFC (0x0702)
02:23:05: As1 LCP: ACFC (0x0802)
02:23:06: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 23
02:23:06: As1 LCP: ACCM 0x00000000 (0x020600000000)
02:23:06: As1 LCP: MagicNumber 0x0000152B (0x05060000152B)
02:23:06: As1 LCP: PFC (0x0702)
02:23:06: As1 LCP: ACFC (0x0802)
02:23:06: As1 LCP: Callback 6 (0x0D0306)
02:23:06: As1 LCP: O CONFACK [ACKrcvd] id 0 len 23
02:23:06: As1 LCP: ACCM 0x00000000 (0x020600000000)
02:23:06: As1 LCP: MagicNumber 0x0000152B (0x05060000152B)
02:23:06: As1 LCP: PFC (0x0702)
02:23:06: As1 LCP: ACFC (0x0802)
02:23:06: As1 LCP: Callback 6 (0x0D0306)
02:23:06: As1 LCP: State is Open
02:23:06: As1 PPP: Phase is AUTHENTICATING, by this end
02:23:06: As1 LCP: I IDENTIFY [Open] id 1 len 18 magic
0x0000152B MSRASV4.00
02:23:06: As1 LCP: I IDENTIFY [Open] id 2 len 21 magic
0x0000152B MSRAS-1-ZEKIE
02:23:06: As1 PAP: I AUTH-REQ id 64 len 22 from "userspec"
02:23:06: As1 PAP: Authenticating peer userspec
02:23:06: AAA/AUTHEN: create_user (0x16E284) user='userspec' ruser=''
port='Async1' rem_addr='async' authn_type=PAP service=PPP priv=1
02:23:06: AAA/AUTHEN/START (835406208): port='Async1' list=''
```

```

    action=LOGIN service=PPP
02:23:06: AAA/AUTHEN/START (835406208): using "default" list
02:23:06: AAA/AUTHEN (835406208): status = UNKNOWN
02:23:06: AAA/AUTHEN/START (835406208): Method=RADIUS
02:23:06: RADIUS: Computed extended port value 0:1:
02:23:06: RADIUS: Initial Transmit id 25 171.68.120.194:1645,
    Access-Request, len 78
02:23:06: Attribute 4 6 0A1F0105
02:23:06: Attribute 5 6 00000001
02:23:06: Attribute 61 6 00000000
02:23:06: Attribute 1 10 75736572
02:23:06: Attribute 2 18 E1377DA0
02:23:06: Attribute 6 6 00000002
02:23:06: Attribute 7 6 00000001
02:23:06: RADIUS: Received from id 25 171.68.120.194:1645,
    Access-Accept, len 64
02:23:06: Attribute 6 6 00000002
02:23:06: Attribute 7 6 00000001
02:23:06: Attribute 26 32 00000009011A6C63
02:23:06: RADIUS: saved authorization data for user 16E284 at AlB44
02:23:06: AAA/AUTHEN (835406208): status = PASS
02:23:06: AAA/AUTHOR/LCP As1: Authorize LCP
02:23:06: AAA/AUTHOR/LCP As1 (2812925385): Port='Async1'
    list='' service=NET
02:23:06: AAA/AUTHOR/LCP: As1 (2812925385) user='userspec'
02:23:06: AAA/AUTHOR/LCP: As1 (2812925385) send AV service=ppp
02:23:06: AAA/AUTHOR/LCP: As1 (2812925385) send AV protocol=lcp
02:23:06: AAA/AUTHOR/LCP (2812925385) found list "default"
02:23:06: AAA/AUTHOR/LCP: As1 (2812925385) Method=RADIUS

!--- Callback dialstring is empty (null).

02:23:06: RADIUS: cisco AVPair "lcp:callback-dialstring="
02:23:06: AAA/AUTHOR (2812925385): Post authorization status = PASS_REPL
02:23:06: AAA/AUTHOR/LCP As1: Processing AV service=ppp
02:23:06: AAA/AUTHOR/LCP As1: Processing AV callback-dialstring=
02:23:06: As1 PAP: O AUTH-ACK id 64 len 5

!--- Router recognizes that it is to receive number from client
!--- and starts sending requests to PC.

02:23:06: As1 MCB: User userspec Callback Number - Client ANY
02:23:06: Async1 PPP: O MCB Request(1) id 92 len 9
02:23:06: Async1 MCB: O 1 5C 0 9 2 5 0 1 0
02:23:06: As1 MCB: O Request Id 92 Callback Type Client-Num delay 0
02:23:07: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
    changed state to up

!--- Router receives response from PC.

02:23:09: Async1 PPP: I MCB Response(2) id 92 len 14
02:23:09: Async1 MCB: I 2 5C 0 E 2 A C 1 32 30 33 36 37 0
02:23:09: As1 MCB: Received response

!--- Received callback number from the client.

02:23:09: As1 MCB: Response CBK-Client-Num 2 10 12, addr 1-20367
02:23:09: Async1 PPP: O MCB Ack(3) id 93 len 14
02:23:09: Async1 MCB: O 3 5D 0 E 2 A C 1 32 30 33 36 37 0
02:23:09: As1 MCB: O Ack Id 93 Callback Type Client-Num delay 12
02:23:09: As1 MCB: Negotiated MCB with peer
02:23:09: As1 LCP: I TERMREQ [Open] id 3 len 8 (0x00000000)
02:23:09: As1 LCP: O TERMACK [Open] id 3 len 4
02:23:09: As1 MCB: Peer terminating the link
02:23:09: As1 PPP: Phase is TERMINATING
02:23:09: As1 MCB: Link terminated by peer, Callback Needed

```

*!--- Callback is initiated.*


```
02:23:09: As1 MCB: Initiate Callback for userspec at 20367 using Async
02:23:09: TTY1 Callback user dialstring 20367 from PPP negotiation
02:23:09: As1 MCB: Async-callback in progress
02:23:09: TTY1 Callback PPP process creation
02:23:09: As1 AAA/ACCT: Using PPP accounting list ""
02:23:09: TTY1 Callback process initiated, user: dialstring 20367
02:23:09: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
    changed state to down
02:23:10: TTY1: Async Int reset: Dropping DTR
02:23:11: As1 LCP: TIMEOUT: Time 0x831824 State TERMSent
02:23:11: As1 LCP: State is Closed
02:23:11: As1 PPP: Phase is DOWN
02:23:11: As1 VP: Cleaning already proceeding
02:23:11: As1 PPP: Phase is ESTABLISHING, Passive Open
02:23:11: AAA/AUTHEN: dup_user (0x16E558) user='userspec' ruser=''
    port='Async1' rem_addr='async' authen_type=PAP service=PPP
    priv=1 source='AAA dup lcp_reset'
02:23:11: AAA/AUTHEN: Method=IF-NEEDED: no authentication needed.
    user='userspec' port='Async1' rem_addr='async'
02:23:11: As1 LCP: State is Listen
02:23:11: AAA/AUTHEN: free_user (0x16E284) user='userspec' ruser=''
    port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
02:23:12: %LINK-5-CHANGED: Interface Async1, changed state to reset
02:23:12: As1 LCP: State is Closed
02:23:12: As1 PPP: Phase is DOWN
02:23:12: As1 VP: Cleaning already proceeding
02:23:12: As1 IPCP: Remove route to 15.15.15.15
02:23:15: AAA/AUTHEN: free_user (0x16E558) user='userspec' ruser=''
    port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
02:23:15: TTY1 Callback forced wait = 4 seconds
02:23:17: %LINK-3-UPDOWN: Interface Async1, changed state to down
02:23:17: As1 LCP: State is Closed
02:23:17: As1 PPP: Phase is DOWN
02:23:17: As1 VP: Cleaning already proceeding
02:23:19: CHAT1: Matched chat script offhook to string offhook
02:23:19: CHAT1: Asserting DTR
02:23:19: CHAT1: Chat script offhook started
02:23:19: CHAT1: Sending string: ATH1
02:23:19: CHAT1: Expecting string: OK
02:23:19: CHAT1: Completed match for expect: OK
02:23:19: CHAT1: Chat script offhook finished, status = Success
02:23:19: CHAT1: Matched chat script callback to string callback
02:23:19: CHAT1: Asserting DTR
02:23:19: CHAT1: Chat script callback started
02:23:19: CHAT1: Sending string: ATZ
02:23:19: CHAT1: Expecting string: OK
02:23:19: CHAT1: Completed match for expect: OK
02:23:19: CHAT1: Sending string: ATDT \T<20367>
02:23:19: CHAT1: Expecting string: CONNECT
02:23:35: CHAT1: Completed match for expect: CONNECT
02:23:35: CHAT1: Sending string: \c
02:23:35: CHAT1: Chat script callback finished, status = Success
02:23:35: TTY1 PPP Callback Successful - await exec/autoselect pickup
02:23:37: TTY1: DSR came up
02:23:37: TTY1: Callback in effect
02:23:37: tty1: Modem: IDLE->READY
02:23:37: TTY1: Autoselect started
02:23:37: As1 LCP: I CONFREQ [Closed] id 0 len 20
02:23:37: As1 LCP: ACCM 0x00000000 (0x020600000000)
02:23:37: As1 LCP: MagicNumber 0x00005156 (0x050600005156)
02:23:37: As1 LCP: PFC (0x0702)
02:23:37: As1 LCP: ACFC (0x0802)
02:23:37: As1 LCP: Lower layer not up, discarding packet
```

```
02:23:39: %LINK-3-UPDOWN: Interface Async1, changed state to up
02:23:39: As1 PPP: Treating connection as a dedicated line
02:23:39: As1 PPP: Phase is ESTABLISHING, Active Open
02:23:39: As1 LCP: O CONFREQ [Closed] id 28 len 24
02:23:39: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
02:23:39: As1 LCP: AuthProto PAP (0x0304C023)
02:23:39: As1 LCP: MagicNumber 0xE0A1CAB2 (0x0506E0A1CAB2)
02:23:39: As1 LCP: PFC (0x0702)
02:23:39: As1 LCP: ACFC (0x0802)
02:23:40: As1 LCP: I CONFACK [REQsent] id 28 len 24
02:23:40: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
02:23:40: As1 LCP: AuthProto PAP (0x0304C023)
02:23:40: As1 LCP: MagicNumber 0xE0A1CAB2 (0x0506E0A1CAB2)
02:23:40: As1 LCP: PFC (0x0702)
02:23:40: As1 LCP: ACFC (0x0802)
02:23:40: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 20
02:23:40: As1 LCP: ACCM 0x00000000 (0x020600000000)
02:23:40: As1 LCP: MagicNumber 0x00005156 (0x050600005156)
02:23:40: As1 LCP: PFC (0x0702)
02:23:40: As1 LCP: ACFC (0x0802)
02:23:40: As1 LCP: O CONFACK [ACKrcvd] id 0 len 20
02:23:40: As1 LCP: ACCM 0x00000000 (0x020600000000)
02:23:40: As1 LCP: MagicNumber 0x00005156 (0x050600005156)
02:23:40: As1 LCP: PFC (0x0702)
02:23:40: As1 LCP: ACFC (0x0802)
02:23:40: As1 LCP: State is Open
02:23:40: As1 PPP: Phase is AUTHENTICATING, by this end
02:23:41: As1 LCP: I IDENTIFY [Open] id 1 len 18 magic
    0x00005156 MSRASV4.00
02:23:41: As1 LCP: I IDENTIFY [Open] id 2 len 21 magic
    0x00005156 MSRAS-1-ZEKIE
02:23:41: As1 PAP: I AUTH-REQ id 65 len 22 from "userspec"
02:23:41: As1 PAP: Authenticating peer userspec
02:23:41: AAA/AUTHEN: create_user (0x16E284) user='userspec' ruser=''
    port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
02:23:41: AAA/AUTHEN/START (2883652190): port='Async1'
    list='' action=LOGIN service=PPP
02:23:41: AAA/AUTHEN/START (2883652190): using "default" list
02:23:41: AAA/AUTHEN (2883652190): status = UNKNOWN
02:23:41: AAA/AUTHEN/START (2883652190): Method=RADIUS
02:23:41: RADIUS: Computed extended port value 0:1:
02:23:41: RADIUS: Initial Transmit id 26 171.68.120.194:1645,
    Access-Request, len 78
02:23:41: Attribute 4 6 0A1F0105
02:23:41: Attribute 5 6 00000001
02:23:41: Attribute 61 6 00000000
02:23:41: Attribute 1 10 75736572
02:23:41: Attribute 2 18 8150DA02
02:23:41: Attribute 6 6 00000002
02:23:41: Attribute 7 6 00000001
02:23:41: RADIUS: Received from id 26 171.68.120.194:1645,
    Access-Accept, len 64
02:23:41: Attribute 6 6 00000002
02:23:41: Attribute 7 6 00000001
02:23:41: Attribute 26 32 00000009011A6C63
02:23:41: RADIUS: saved authorization data for user 16E284 at A1B44
02:23:41: AAA/AUTHEN (2883652190): status = PASS
02:23:41: AAA/AUTHOR/LCP As1: Authorize LCP
02:23:41: AAA/AUTHOR/LCP As1 (3660077691): Port='Async1'
    list='' service=NET
02:23:41: AAA/AUTHOR/LCP: As1 (3660077691) user='userspec'
02:23:41: AAA/AUTHOR/LCP: As1 (3660077691) send AV service=ppp
02:23:41: AAA/AUTHOR/LCP: As1 (3660077691) send AV protocol=lcp
02:23:41: AAA/AUTHOR/LCP (3660077691) found list "default"
02:23:41: AAA/AUTHOR/LCP: As1 (3660077691) Method=RADIUS
02:23:41: RADIUS: cisco AVPair "lcp:callback-dialstring="
```

```
02:23:41: AAA/AUTHOR (3660077691): Post authorization status = PASS_REPL
02:23:41: AAA/AUTHOR/LCP As1: Processing AV service=ppp
02:23:41: AAA/AUTHOR/LCP As1: Processing AV callback-dialstring=
02:23:41: As1 PAP: O AUTH-ACK id 65 len 5
02:23:41: As1 PPP: Phase is UP
02:23:41: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?
02:23:41: AAA/AUTHOR/FSM As1 (2418882911): Port='Async1'
list='' service=NET
02:23:41: AAA/AUTHOR/FSM: As1 (2418882911) user='userspec'
02:23:41: AAA/AUTHOR/FSM: As1 (2418882911) send AV service=ppp
02:23:41: AAA/AUTHOR/FSM: As1 (2418882911) send AV protocol=ip
02:23:41: AAA/AUTHOR/FSM (2418882911) found list "default"
02:23:41: AAA/AUTHOR/FSM: As1 (2418882911) Method=RADIUS
02:23:41: RADIUS: cisco AVPair "lcp:callback-dialstring="
not applied for ip
02:23:41: AAA/AUTHOR (2418882911): Post authorization
status = PASS_REPL
02:23:41: AAA/AUTHOR/FSM As1: We can start IPCP
02:23:41: As1 IPCP: O CONFREQ [Closed] id 12 len 10
02:23:41: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
02:23:41: As1 IPCP: I CONFREQ [REQsent] id 3 len 40
02:23:41: As1 IPCP: CompressType VJ 15 slots
CompressSlotID (0x0206002D0F01)
02:23:41: As1 IPCP: Address 0.0.0.0 (0x030600000000)
02:23:41: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
02:23:41: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
02:23:41: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
02:23:41: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
02:23:41: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
we want 0.0.0.0
02:23:41: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
02:23:41: AAA/AUTHOR/IPCP As1: Authorization succeeded
02:23:41: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 0.0.0.0
02:23:41: As1 IPCP: Using pool 'async'
02:23:41: As1 IPCP: Pool returned 15.15.15.15
02:23:41: As1 IPCP: O CONFREQ [REQsent] id 3 len 28
02:23:41: As1 IPCP: CompressType VJ 15 slots
CompressSlotID (0x0206002D0F01)
02:23:41: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
02:23:41: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
02:23:41: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
02:23:41: As1 IPCP: I CONFACK [REQsent] id 12 len 10
02:23:41: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
02:23:41: As1 IPCP: I CONFREQ [ACKrcvd] id 4 len 16
02:23:41: As1 IPCP: Address 0.0.0.0 (0x030600000000)
02:23:41: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
02:23:41: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
we want 15.15.15.15
02:23:41: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
02:23:41: AAA/AUTHOR/IPCP As1: Authorization succeeded
02:23:41: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 15.15.15.15
02:23:41: As1 IPCP: O CONFNAK [ACKrcvd] id 4 len 16
02:23:41: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
02:23:41: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
02:23:41: As1 IPCP: I CONFREQ [ACKrcvd] id 5 len 16
02:23:41: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
02:23:41: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
02:23:41: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15,
we want 15.15.15.15
02:23:41: AAA/AUTHOR/IPCP As1 (2792483333): Port='Async1'
list='' service=NET
02:23:41: AAA/AUTHOR/IPCP: As1 (2792483333) user='userspec'
02:23:41: AAA/AUTHOR/IPCP: As1 (2792483333) send AV service=ppp
02:23:41: AAA/AUTHOR/IPCP: As1 (2792483333) send AV protocol=ip
```

```
02:23:41: AAA/AUTHOR/IPCP: As1 (2792483333) send AV addr*15.15.15.15
02:23:41: AAA/AUTHOR/IPCP (2792483333) found list "default"
02:23:41: AAA/AUTHOR/IPCP: As1 (2792483333) Method=RADIUS
02:23:41: RADIUS: cisco AVPair "lcp:callback-dialstring="
    not applied for ip
02:23:41: AAA/AUTHOR (2792483333): Post authorization status = PASS_REPL
02:23:41: AAA/AUTHOR/IPCP As1: Reject 15.15.15.15, using 15.15.15.15
02:23:41: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
02:23:41: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
02:23:41: AAA/AUTHOR/IPCP As1: Authorization succeeded
02:23:41: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
    we want 15.15.15.15
02:23:41: As1 IPCP: O CONFACK [ACKrcvd] id 5 len 16
02:23:41: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
02:23:41: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
02:23:41: As1 IPCP: State is Open
02:23:41: dialer Protocol up for As1
02:23:41: As1 IPCP: Install route to 15.15.15.15
02:23:42: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
    changed state to up
```

## Related Information

- [RADIUS Support Page](#)
- [Cisco Secure ACS for Windows Support Page](#)
- [Cisco Secure ACS for UNIX Support Page](#)
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