

VoIP with IVR

Document ID: 12163

Contents

Introduction

Prerequisites

- Requirements
- Components Used
- Conventions

Configure

- Network Diagram
- Configurations

Verify

- Raleigh5300A Output
- SanJose5300A Output
- Raleigh3600A Output
- SanJose3640A Output

Troubleshoot

- Troubleshooting Commands

Related Information

Introduction

This document shows you how to configure and troubleshoot basic interactive voice response (IVR) in a VoIP network with gateways. IVR is a term used to describe systems that provide information in the form of recorded messages over telephone lines in response to user input in the form of spoken words or dual tone multifrequency (DTMF) signaling (more common). Examples include banks that allow you to check your balance from any telephone and automated stock quote systems.

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:

- Cisco IOS® Software Release 12.1(1) that runs in the routers.

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.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Configure

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

Note: Use the Command Lookup Tool (registered customers only) to find more information on the commands used in this document.

Network Diagram

This document uses the network setup shown in this diagram:



The Raleigh5300 in this network diagram runs IVR using the **clid_authen_collect** internal script. This script looks at an incoming call's automatic number identification (ANI). This helps the call that receives devices to identify the number of the calling party and dialed number identification service (DNIS) and the number that was called to reach a particular device. Then it tries to match these with a username and password. If the script fails to match to a username and password, as it does in this case, it uses voice prompts to get the account number and password (often referred to as "PIN"). After a caller enters the username and password and is authenticated, the script prompts for a destination number to be called.

The IVR configuration here is a very basic configuration. In a real environment, the username and password are stored in a Remote Authentication Dial-In User Service (RADIUS) server. The authentication, authorization, and accounting (AAA) authentication login H.323 points to RADIUS, and not local. This is accomplished with the **aaa authentication login h323 group radius** command in the configuration of the router that runs IVR.

Under the **dial-peer voice 1** command, the IVR application is configured. In this case, it points to the **clid_authen_collect** script. There are various configurations for IVR in the software. Enter the exec command **show call application voice [summary]** to see this. Refer to Configuring Interactive Voice Response for Cisco Access Platforms for more information.

Configurations

This document uses these configurations:

- Raleigh 5300A
- Raleigh 3640A
- San Jose 5300A
- San Jose 3640A

Raleigh 5300A
Raleigh5300A# show run Building configuration...

```
Current configuration:
!
! Last configuration change at 00:42:21 UTC Tue Mar 28 2000
! NVRAM config last updated at 00:42:22 UTC Tue Mar 28 2000
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Raleigh5300A
!
logging buffered 50000 debugging
AAA new-model
AAA authentication login default none
AAA authentication login h323 local
enable secret password

!--- Choose a strong password with at least one capital letter,
!--- one number, and one special character.

!
username 1234 password 0 5678
spe 1/0 1/7
  firmware location system:/ucode/mica_port_firmware
!
!
resource-pool disable
!
!
!
!
clock calendar-valid
ip subnet-zero
!
isdn switch-type primary-5ess
isdn voice-call-failure 0
mta receive maximum-recipients 0
!
!
controller T1 0
  framing esf
  clock source line primary
  linecode b8zs
  pri-group timeslots 1-24
!
controller T1 1
  clock source line secondary 1
!
controller T1 2
!
controller T1 3
!
!
voice-port 0:D
!
!
dial-peer voice 1 pots
  application clid_authen_collect
  incoming called-number 4085556400
  answer-address 9195552001
  destination-pattern 919#9195552...
  port 0:D
  prefix 919
!
```

```

dial-peer voice 2 voip
 destination-pattern 4085556400
 tech-prefix 408#
 session target ras
!
num-exp 6... 4085556...

!--- This command is used to configure a
Cisco IOS@ gateway to route the calls coming to a main direct
inward dial (DID) number to an AutoAttendant.

gateway

!
interface Ethernet0
 no ip address
 shutdown
!
interface Serial0:23
 no ip address
 ip mroute-cache
 isdn switch-type primary-5ess
 isdn incoming-voice modem
 fair-queue 64 256 0
 no cdp enable
!
interface FastEthernet0
 ip address 172.16.120.2 255.255.255.0
 duplex auto
 speed auto
 h323-gateway voip interface
 h323-gateway voip id RALgk1 ipaddr 172.16.120.1 1718
 h323-gateway voip h323-id RAL5300A@cisco.com
 h323-gateway voip tech-prefix 919#
!
ip classless
ip route 172.16.110.0 255.255.255.0 172.16.120.10
no ip http server
!
line con 0
 transport input none
line 1 48
 transport output lat pad telnet rlogin udptn v120 lapb-ta
line aux 0
line vty 0 4
 password cisco
!
ntp clock-period 17179842
ntp server 172.16.110.10
end

```

Raleigh 3640A

```

Raleigh3640A#show run
Building configuration...

```

```

Current configuration:

```

```

!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Raleigh3640A

```

```

!
logging buffered 50000 debugging
enable secret password

!--- Choose a strong password with at least one capital letter,
!--- one number, and one special character.

!
!
!
!
!
ip subnet-zero
!
ip dvmrp route-limit 20000
!
!
!
!
!
interface Ethernet1/0
 ip address 172.16.120.1 255.255.255.0
!
interface Serial1/0
 no ip address
 no ip mroute-cache
 no fair-queue
!
interface TokenRing1/0
 no ip address
 shutdown
 ring-speed 16
!
ip classless
ip route 172.16.110.0 255.255.255.0 172.16.120.10
no ip http server
!
!
gatekeeper
 zone local RALgk1 cisco.com
 zone remote SJgk1 cisco.com 172.16.110.1 1719
 zone prefix SJgk1 408.....
 gw-type-prefix 408#*
 no shutdown
!
!
line con 0
 transport input none
line aux 0
line vty 0 4
 password cisco
 login
!
ntp clock-period 17179856
ntp server 172.16.110.10
end

```

San Jose 5300A

```

SanJose5300A#show run
Building configuration...

Current configuration:
!
```

```
! Last configuration change at 00:15:49 UTC Tue Mar 28 2000
! NVRAM config last updated at 00:15:50 UTC Tue Mar 28 2000
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname SanJose5300A
!
logging buffered 50000 debugging
enable secret password

!--- Choose a strong password with at least one capital letter,
!--- one number, and one special character.

!
!
!
resource-pool disable
!
!
!
!
ip subnet-zero
!
isdn voice-call-failure 0
mta receive maximum-recipients 0
!
!
controller T1 0
 framing esf
 clock source line primary
 linecode b8zs
 ds0-group 1 timeslots 1-4 type e&m-immediate-start
!
controller T1 1
 clock source line secondary 1
!
controller T1 2
!
controller T1 3
!
!
voice-port 0:1
!
!
dial-peer voice 1 pots
 answer-address 4085556001
 destination-pattern 408#4085556...
 direct-inward-dial
 port 0:1
 prefix 6
!
dial-peer voice 2 voip
 destination-pattern 9195552...
 tech-prefix 919#
 session target ras
!
num-exp 2... 9195552...
gateway

!
interface Ethernet0
no ip address
```

```

!
interface FastEthernet0
 ip address 172.16.110.2 255.255.255.0
 duplex auto
 speed auto
 h323-gateway voip interface
 h323-gateway voip id SJgk1 ipaddr 172.16.110.1 1718
 h323-gateway voip h323-id SJ5300A@cisco.com
 h323-gateway voip tech-prefix 408#
!
ip classless
ip route 172.16.120.0 255.255.255.0 172.16.110.10
no ip http server
!
!
!
line con 0
 transport input none
line aux 0
line vty 0 4
 password cisco
 login
!
ntp clock-period 17179924
ntp server 172.16.110.10
end

```

San Jose 3640A

```

SanJose3640A#show run
Building configuration...

Current configuration:
!
! NVRAM config last updated at 00:05:33 UTC Tue Mar 28 2000
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname SanJose3640A
!
boot system flash c3640-ix-mz.120-7.T
logging buffered 50000 debugging
enable secret password

!--- Choose a strong password with at least one capital letter,
!--- one number, and one special character.

!
!
!
!
!
ip subnet-zero
!
ip dvmrp route-limit 20000
!
!
interface Ethernet1/0
 ip address 172.16.110.1 255.255.255.0
!
interface Serial1/0

```

```

no ip address
no ip mroute-cache
shutdown
no fair-queue
!
interface Ethernet1/1
no ip address
shutdown
!
ip classless
ip route 172.16.120.0 255.255.255.0 172.16.110.10
no ip http server
!
tftp-server flash:c3640-ix-mz.121-1.bin
!
gatekeeper
zone local SJgk1 cisco.com
zone remote RALgk1 cisco.com 172.16.120.1 1719
zone prefix RALgk1 919.....
gw-type-prefix 919#*
no shutdown
!
!
line con 0
transport input none
line aux 0
line vty 0 4
password cisco
login
!
ntp clock-period 17179867
ntp server 172.16.110.10
end

```

Verify

This section provides the information to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

- **show gateway** – Displays the current gateway status.
- **show gatekeeper calls** – Displays the status of each ongoing call that a gatekeeper is aware of.
- **show gatekeeper gw-type-prefix** – Displays the gateway technology prefix table.
- **show flash** – Displays the contents of Flash memory.
- **show call application voice clid_authen_collect** – Displays a list of voice applications that are configured.
- **show gatekeeper endpoints** – Displays the status of all registered endpoints for a gatekeeper.
- **show log** – Displays the **debug** output from the logging buffer when **debug** commands are enabled.
- **show call active voice [brief]** – Displays the call status for all voice ports.
- **show debugging** – Displays which **debug** commands are enabled at any given time.

After you enter the configurations shown in this document into your routers, verify that the network operates correctly. These commands and respective output show a successful implementation of the configurations in this document.

The most common problems with IVR include:

- The application is not properly configured on the plain old telephone service (POTS) dial-peer.

- ◆ Make sure that the incoming Telephony call matches the POTS dial-peer with the application. The POTS dial-peer matches the first dial-peer with the matching port command in the configuration or if the called number matches the dial-peer subcommand **incoming called-number <number>**.
- ◆ Check that the application actually exists through the **show call application voice [summary]** command. Make sure that the application name does not contain a syntax error.
- Make sure that direct-inward-dial is not configured on the dial-peer pots.
- Ensure that the proper audio files are loaded into Flash.
- Ensure that the authentication with username and password is properly configured.

Raleigh5300A Output

```
Raleigh5300A#show gateway
Gateway RAL5300A@cisco.com is registered to Gatekeeper RALgk1
```

```
Alias list (CLI configured)
H323-ID RAL5300A@cisco.com
Alias list (last RCF)
H323-ID RAL5300A@cisco.com
```

```
H323 resource thresholding is Disabled
```

```
Raleigh5300A#show flash
```

```
System flash directory:
File Length Name/status
  1 7084904 c5300-is-mz.121-1.bin
  2 23186 enter_account.au
  3 38087 enter_destination.au
  4 20414 enter_pin.au
  5 17513 auth_failed.au
[7184432 bytes used, 1204176 available, 8388608 total]
8192K bytes of processor board System flash (Read/Write)
```

```
Raleigh5300A#show call application voice clid_authen_collect
```

```
Idle call list has 1 calls on it.
Application clid_authen_collect
  The script is compiled into the image
  It has 0 calls active.
```

```
The TCL Script is:
```

```
-----
# clid_authen_collect.tcl
#-----
# September 1998, David Ramsthler
#
# Copyright (c) 1998, 1999 by cisco Systems, Inc.
# All rights reserved.
#-----
# Mimic the clid_authen_collect script in the SP1.0 release.
#
# It authenticates using (ani, dnis) for (account, password). If
# that fails, it collects account and pin number, then authenticates
# using (account, pin).
#
# If authentication passes, it collects the destination number and
# places the call.
#
# The main routine is at the bottom. Start reading the script there.
#
```

```

proc do_get_account {} {
    global state
    global account

    set prompt(url) flash:enter_account.au
    set prompt(interrupt) true
    set prompt(abortKey) *
    set prompt(terminationKey) #
    set patterns(account) .+
    set event [promptAndCollect prompt info patterns ]

    if {$event == "collect success"} {
        set state get_pin
        set account $info(digits)
        return 0
    }

    if {$event == "collect aborted"} {
        set state get_account
        return 0
    }

    if {$event == "collect fail" || $event == "collect timeout"} {
        set state get_account
        return 0
    }
    set state end
    return 0
}

proc do_get_pin {} {
    global state
    global pin

    set prompt(url) flash:enter_pin.au
    set prompt(interrupt) true
    set prompt(abortKey) *
    set prompt(terminationKey) #
    set patterns(account) .+
    set event [promptAndCollect prompt info patterns ]

    if {$event == "collect success"} {
        set state authenticate
        set pin $info(digits)
        return 0
    }

    if {$event == "collect aborted"} {
        set state get_account
        return 0
    }

    if {$event == "collect fail" || $event == "collect timeout"} {
        # timeout
        if {$info(code) == 102} {
            set state get_pin

```

```

        return 0
    }

    # invalid number
    if {$info(code) == 28} {
        set state get_pin
        return 0
    }
}

set state end
return 0
}

proc do_authenticate {} {
    global state
    global pin
    global account

    set event [authenticate $account $pin info]

    if { $event == "authenticated" } {
        set state authen_pass
        return 0
    }

    if {$event == "authentication failed"} {
        set state authen_fail
        return 0
    }

    set state end
    return 0
}

proc do_get_dest {} {
    global state
    global destination

    set prompt(url) flash:enter_destination.au
    set prompt(interrupt) true
    set prompt(abortKey) *
    set prompt(terminationKey) #
    set prompt(dialPlan) true

    set event [promptAndCollect prompt info ]

    if {$event == "collect success"} {
        set state place_call
        set destination $info(digits)
        return 0
    }

    if {$event == "collect aborted"} {

```

```

        set state get_dest
        return 0
    }

    if { $event == "collect fail" || $event == "collect timeout" } {
        set state get_dest
        return 0
    }
    set state end
    return 0
}

proc do_authen_pass {} {
    global state
    global destination

    set dnislens [string len [dnis]]

    if { [did] && $dnislens } {
        set destination [dnis]
        set state place_call
    } else {
        set state get_dest
    }
    return 0
}

proc do_place_call {} {
    global state
    global destination

    set event [placeCall $destination callInfo info]

    if { $event == "active" } {
        set state active
        return 0
    }
    if { $event == "call fail" } {
        set state place_fail
        return 0
    }

    set state end
    return 0
}

proc do_active_notimer {} {
    global state

    set event [waitEvent]
    while { $event == "digit" } {
        set event [waitEvent]
    }
    set state end
    return 0
}

```

```

proc do_active_last_timer {} {
    global state

    set event [startTimer [creditTimeLeft] info]
    while { $event == "digit" } {
        set event [startTimer $info(timeLeft) info]
    }
    if { $event == "timeout" } {
        clearOutgoingLeg retInfo
        set state out_of_time
    } else {
        set state end
    }

    return 0
}

```

```

proc do_active_timer {} {
    global state

    if { [creditTimeLeft] < 10 } {
        do_active_last_timer
        return 0
    }
    set delay [expr [creditTimeLeft] - 10]
    set event [startTimer $delay info]
    while { $event == "digit" } {
        set event [startTimer $info(timeLeft) info]
    }
    if { $event == "timeout" } {
        insertMessage flash:beep.au retInfo
        do_active_last_timer
    } else {
        set state end
    }

    return 0
}

```

```

proc do_active {} {
    global state

    if { ( [creditTimeLeft] == "unlimited") ||
        ([creditTimeLeft] == "uninitialized") } {
        do_active_notimer
    } else {
        do_active_timer
    }
    return 0
}

```

```

proc do_out_of_time {} {
    global state

    set prompt(url) flash:out_of_time.au
    set prompt(playComplete) true

```

```

        set event [promptAndCollect prompt info ]
        set state end
        return 0
    }

proc do_authen_fail {} {
    global state

    set prompt(url) flash:auth_failed.au
    set prompt(playComplete) true
    set event [promptAndCollect prompt info ]
    set state end
    return 0
}

proc do_place_fail {} {
    global state

    playFailureTone 5 retInfo
    set state end
    return 0
}

#-----
# And here is the main loop
#

acceptCall

set event [authenticate [ani] [dnis] info]

if {$event != "authenticated"} {
    set state get_account
} else {
    set state authen_pass
}

while {$state != "end"} {
    puts "cid([callID]) running state $state"
    if {$state == "get_account"} {
        do_get_account
    } elseif {$state == "get_pin"} {
        do_get_pin
    } elseif {$state == "authenticate"} {
        do_authenticate
    } elseif {$state == "get_dest"} {
        do_get_dest
    } elseif {$state == "place_call"} {
        do_place_call
    } elseif {$state == "active"} {
        do_active
    } elseif {$state == "authen_fail"} {
        do_authen_fail
    } elseif {$state == "authen_pass"} {
        do_authen_pass
    } elseif {$state == "place_fail"} {

```

```

    do_place_fail
} elseif {$state == "out_of_time"} {
    do_out_of_time
} else {
    break
}
}

```

The Raleigh router has some **debug** commands enabled. The **show debug** command shows this:

```

Raleigh5300A#show debug
General OS: AAA Authentication debugging is on
ISDN: ISDN Q931 packets debugging is on
ISDN Q931 packets debug DSLs. (On/Off/No DSL:1/0/-) DSL 0 --> 7 1 - - - - -
- -
H.323 RAS: H.323 RAS Messages debugging is on
voip AAA: voip AAA debugging is on
voip: voip ccAPI function enter/exit debugging is on
ivr: ivr state transitions debugging is on

```

Assume that a call is made while enabled with the debugs shown. This is the output that occurs with such a call:

```

Raleigh5300A#show log
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
  Console logging: level debugging, 5422 messages logged
  Monitor logging: level debugging, 0 messages logged
  Buffer logging: level debugging, 5422 messages logged
  Trap logging: level informational, 230 message lines logged

Log Buffer (50000 bytes):

Mar 28 00:44:50.741: RASLib::ras_sendto: msg length 76
                    from 172.16.120.2:49831 to 172.16.120.1:1719
Mar 28 00:44:50.741: RASLib::RASSendRRQ: RRQ (seq# 12164)
                    sent to 172.16.120.1
Mar 28 00:44:50.745: RASLib::RASRecvData: successfully
                    rcvd message of length 52 from 172.16.120.1:1719
Mar 28 00:44:50.745: RASLib::RASRecvData: RCF (seq# 12164)
                    rcvd from [172.16.120.1:1719] on sock [0x6179E6A4]
Mar 28 00:45:18.433: ISDN Se0:23: RX <- SETUP pd = 8 callref = 0x02
Mar 28 00:45:18.433: Bearer Capability i = 0x8090A2
Mar 28 00:45:18.433: Channel ID i = 0xA98393
Mar 28 00:45:18.433: Calling Party Number i = 0x2180,
                    '9195552010', Plan:ISDN, Type:National
Mar 28 00:45:18.433: Called Party Number i = 0xA1,
                    '4085556400', Plan:ISDN, Type:National
Mar 28 00:45:18.437: ISDN Se0:23: TX -> CALL_PROC pd = 8 callref = 0x8002
Mar 28 00:45:18.437: Channel ID i = 0xA98393
Mar 28 00:45:18.437: ISDN Se0:23: TX -> ALERTING pd = 8 callref = 0x8002
Mar 28 00:45:18.437: cc_api_call_setup_ind (vdbPtr=0x61B9ADAC,
                    callInfo={called=4085556400,
                    calling=9195552010, fdest=0 peer_tag=1}, callID=0x61A088C4)
Mar 28 00:45:18.441: start_h323_accounting:
Mar 28 00:45:18.441: start_h323_ccapi_accounting: Error: Null userp
Mar 28 00:45:18.441: cc_process_call_setup_ind (event=0x61BB59E8)
                    handed call to app "clid_authen_collect"
Mar 28 00:45:18.441: App clid_authen_collect: Handling callID 52
Mar 28 00:45:18.441: callingNumber=9195552010, calledNumber=4085556400,
                    redirectNumber=
Mar 28 00:45:18.441: accountNumber=, finalDestFlag=0,
                    guid=1acb.27d8.98f4.006b.0000.0000.2071.a5e8

```

```
Mar 28 00:45:18.441: peer_tag=1
Mar 28 00:45:18.441: ccCallHandoff (callID=0x34)
Mar 28 00:45:18.445: :/acceptCall/
Mar 28 00:45:18.445: Accepting CallID=52
Mar 28 00:45:18.445: ccCallSetupAck (callID=0x34)
Mar 28 00:45:18.445: ccCallProceeding (callID=0x34, prog_ind=0x0)
Mar 28 00:45:18.445: ccCallConnect (callID=0x34)
Mar 28 00:45:18.445: :/ani/
Mar 28 00:45:18.445: :/dnis/
Mar 28 00:45:18.445: :[authenticate]
Mar 28 00:45:18.445: authenticate
Mar 28 00:45:18.445:     account=9195552010
Mar 28 00:45:18.445:     password=4085556400
Mar 28 00:45:18.445: start_authentication service: ivr tcl authentication
Mar 28 00:45:18.445: AAA: parse name= idb type=-1 tty=-1
Mar 28 00:45:18.445: AAA/MEMORY: create_user (0x61EBED14) user='9195552010'
    ruser='' port='' rem_addr=''
    authen_type=ASCII service=LOGIN priv=0
Mar 28 00:45:18.445: AAA/AUTHEN/START (2776990538):
    port='' list='h323' action=LOGIN service=LOGIN
Mar 28 00:45:18.445: AAA/AUTHEN/START (2776990538): found list h323
Mar 28 00:45:18.445: AAA/AUTHEN/START (2776990538): Method=LOCAL
Mar 28 00:45:18.445: AAA/AUTHEN (2776990538): User not found, end of method list
Mar 28 00:45:18.445: AAA/AUTHEN (2776990538): status = FAIL
Mar 28 00:45:18.445: voip_authenticate: Authentication server ERROR: server MSG:
Mar 28 00:45:18.445: AAA/MEMORY: free_user (0x61EBED14)
    user='9195552010' ruser='' port=''
    rem_addr='' authen_type=ASCII service=LOGIN priv=0
Mar 28 00:45:18.449: ISDN Se0:23: TX -> CONNECT pd = 8 callref = 0x8002
Mar 28 00:45:18.449: cid(52) ta_get_event returning authentication failed
Mar 28 00:45:18.449: :[callID]
Mar 28 00:45:18.449: :/puts/
Mar 28 00:45:18.449: cid( 52) running state get_account
Mar 28 00:45:18.453: TA_PromptCmd. CallID=52

Mar 28 00:45:18.453: ccCallApp (callID=0x34)
Mar 28 00:45:18.453: prompt and collect app got callID 52
Mar 28 00:45:18.453:     Playing prompt enter_account.au
Mar 28 00:45:18.453:     Prompt interrupt enabled
Mar 28 00:45:18.453:     No return on play complete
Mar 28 00:45:18.453:     Not matching against dial plan
Mar 28 00:45:18.453:     Abort key is * Termination key is #
Mar 28 00:45:18.453:     Matching against 1 patterns.
Mar 28 00:45:18.453:     Pattern .+
Mar 28 00:45:18.453: ccCallSetContext (callID=0x34, context=0x61A3AAA4)
Mar 28 00:45:18.453: ms_create() Iniz ply_timer
Mar 28 00:45:18.453: ccAssociateStream (callID=0x34 coder=5
    vad=0 recordFunc=0x0 evQ=0x61BE4420)
Mar 28 00:45:18.453: cc_API_call_associated (vdbPtr=0x61B9ADAC,
    callID=0x34, disp=0)
Mar 28 00:45:18.453: ms_associateDone(): xmitFunc = playFunc 0x60B8B358
Mar 28 00:45:18.453: ms_associateDone(): CallID 52 First Buf Play
    at 6d07h of enter_account.au
Mar 28 00:45:18.453: ms_associateDone() 6d07h, Tstart(ply: iSndDly 1000, pSnce 0)
Mar 28 00:45:18.545: ISDN Se0:23: RX <- CONNECT_ACK pd = 8 callref = 0x02
Mar 28 00:45:18.545: ISDN Se0:23: CALL_PROGRESS: CALL_CONNECTED
    call id 0x1B, bchan -1, dsl 0
Mar 28 00:45:19.453: $ $ms_process() >>ms_start_play()
Mar 28 00:45:19.453: ms_start_play() 6d07h mgdTstop(ply)
Mar 28 00:45:20.241: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
    callID=0x34, digit=1,
    flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:20.245: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:20.353: cc_api_call_digit (vdbPtr=0x61B9ADAC,
    callID=0x34, digit=1, duration=160) digit=1
```

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Mar 28 00:45:20.353: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:20.353: ms_stop_play(): Play Stopped at 6d07h
Mar 28 00:45:20.353: ccDisassociateStream (callID=0x34)
Mar 28 00:45:20.521: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=2,
      flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:20.525: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:20.593: cc_api_call_digit (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=2, duration=120) digit=2
Mar 28 00:45:20.781: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=3,
      flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:20.785: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:20.853: cc_api_call_digit (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=3, duration=120) digit=3
Mar 28 00:45:21.101: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=4,
      flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:21.105: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:21.193: cc_api_call_digit (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=4, duration=140) digit=4
Mar 28 00:45:21.553: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=#,
      flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:21.553: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:21.673: cc_api_call_digit (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=#, duration=170) digit=#
Mar 28 00:45:21.673: pcapp CallID 52 returning PCAPP_MATCHED. string=1234
Mar 28 00:45:21.673: ccCallAppReturn (callID=0x34)
Mar 28 00:45:21.673: ms_delete() invoking ms_stop_play() for just in case...
Mar 28 00:45:21.673: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:21.673: ms_delete(): mc_delete_dynamicS() mc_delete_read()
Mar 28 00:45:21.673: cid(52) ta_get_event returning collect success
Mar 28 00:45:21.677: :[callID]
Mar 28 00:45:21.677: :/puts/
Mar 28 00:45:21.677: cid( 52) running state get_pin
Mar 28 00:45:21.677: ta_PromptCmd. CallID=52

Mar 28 00:45:21.677: ccCallApp (callID=0x34)
Mar 28 00:45:21.681: prompt and collect app got callID 52
Mar 28 00:45:21.681:   Playing prompt enter_pin.au
Mar 28 00:45:21.681:   Prompt interrupt enabled
Mar 28 00:45:21.681:   No return on play complete
Mar 28 00:45:21.681:   Not matching against dial plan
Mar 28 00:45:21.681:   Abort key is *   Termination key is #
Mar 28 00:45:21.681:   Matching against 1 patterns.
Mar 28 00:45:21.681:   Pattern .+
Mar 28 00:45:21.681: ccCallSetContext (callID=0x34, context=0x61A986B0)
Mar 28 00:45:21.681: ms_create() Iniz ply_timer
Mar 28 00:45:21.681: ccAssociateStream (callID=0x34 coder=5 vad=0
      recordFunc=0x0 evQ=0x61BE4420)
Mar 28 00:45:21.681: cc_api_call_associated (vdbPtr=0x61B9ADAC,
      callID=0x34, disp=0)
Mar 28 00:45:21.681: ms_associateDone(): xmitFunc = playFunc 0x60B8B358
Mar 28 00:45:21.681: ms_associateDone(): CallID 52 First Buf
      Play at 6d07h of enter_pin.au
Mar 28 00:45:21.681: ms_associateDone() 6d07h, Tstart(ply:
      iSndDly 1000, pSnce 0)
Mar 28 00:45:22.681: $ $ms_process() >>ms_start_play()
Mar 28 00:45:22.681: ms_start_play() 6d07h mgdTstop(ply)
Mar 28 00:45:23.433: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC, callID=0x34,
      digit=5, flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:23.433: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:23.533: cc_api_call_digit (vdbPtr=0x61B9ADAC,
      callID=0x34, digit=5, duration=150) digit=5
```

```
Mar 28 00:45:23.533: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:23.533: ms_stop_play(): Play Stopped at 6d07h
Mar 28 00:45:23.533: ccDisassociateStream (callID=0x34)
Mar 28 00:45:23.693: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=6,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:23.693: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:23.793: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x34, digit=6, duration=150) digit=6
Mar 28 00:45:24.041: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=7, flags=0x1,
timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:24.045: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:24.121: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x34, digit=7, duration=130) digit=7
Mar 28 00:45:24.321: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=8,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:24.325: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:24.421: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x34, digit=8, duration=150) digit=8
Mar 28 00:45:24.653: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=#,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:24.653: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:24.741: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x34, digit=#, duration=140) digit=#
Mar 28 00:45:24.745: pcapp CallID 52 returning PCAPP_MATCHED. string=5678
Mar 28 00:45:24.745: ccCallAppReturn (callID=0x34)
Mar 28 00:45:24.745: ms_delete() invoking ms_stop_play() for just in case...
Mar 28 00:45:24.745: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:24.745: ms_delete(): mc_delete_dynamicS() mc_delete_read()
Mar 28 00:45:24.745: cid(52) ta_get_event returning collect success
Mar 28 00:45:24.745: :[callID]
Mar 28 00:45:24.745: :/puts/
Mar 28 00:45:24.745: cid( 52) running state authenticate
Mar 28 00:45:24.749: :[authenticate]
Mar 28 00:45:24.749: authenticate
Mar 28 00:45:24.749:     account=1234
Mar 28 00:45:24.749:     password=5678
Mar 28 00:45:24.749: start_authentication service: ivr tcl authentication
Mar 28 00:45:24.749: AAA: parse name= idb type=-1 tty=-1
Mar 28 00:45:24.749: AAA/MEMORY: create_user (0x61B0354C) user='1234' ruser=''
port='' rem_addr='' authen_type=ASCII service=LOGIN priv=0
Mar 28 00:45:24.749: AAA/AUTHEN/START (3238629809): port=''
list='h323' action=LOGIN service=LOGIN
Mar 28 00:45:24.749: AAA/AUTHEN/START (3238629809): found list h323
Mar 28 00:45:24.749: AAA/AUTHEN/START (3238629809): Method=LOCAL
Mar 28 00:45:24.749: AAA/AUTHEN (3238629809): status = GETPASS
Mar 28 00:45:24.749: AAA/AUTHEN/CONT (3238629809): continue_login (user='1234')
Mar 28 00:45:24.749: AAA/AUTHEN (3238629809): status = GETPASS
Mar 28 00:45:24.749: AAA/AUTHEN/CONT (3238629809): Method=LOCAL
Mar 28 00:45:24.749: AAA/AUTHEN (3238629809): status = PASS
Mar 28 00:45:24.749: AAA/MEMORY: free_user (0x61B0354C) user='1234' ruser=''
port='' rem_addr='' authen_type=ASCII service=LOGIN priv=0
Mar 28 00:45:24.749: cid(52) ta_get_event returning authenticated
Mar 28 00:45:24.753: :[callID]
Mar 28 00:45:24.753: :/puts/
Mar 28 00:45:24.753: cid( 52) running state authen_pass
Mar 28 00:45:24.753: :/dnis/
Mar 28 00:45:24.753: :/did/
Mar 28 00:45:24.757: :[callID]
Mar 28 00:45:24.757: :/puts/
Mar 28 00:45:24.757: cid( 52) running state get_dest
Mar 28 00:45:24.757: ta_PromptCmd. CallID=52
```

```
Mar 28 00:45:24.757: ccCallApp (callID=0x34)
Mar 28 00:45:24.757: prompt and collect app got callID 52
Mar 28 00:45:24.757:   Playing prompt enter_destination.au
Mar 28 00:45:24.757:   Prompt interrupt enabled
Mar 28 00:45:24.757:   No return on play complete
Mar 28 00:45:24.757:   Matching against dial plan
Mar 28 00:45:24.757:   Abort key is *   Termination key is #
Mar 28 00:45:24.757:   Matching against 0 patterns.
Mar 28 00:45:24.757: ccCallSetContext (callID=0x34, context=0x61A3AAA4)
Mar 28 00:45:24.761: ms_create() Iniz ply_timer
Mar 28 00:45:24.761: ccAssociateStream (callID=0x34 coder=5 vad=0
recordFunc=0x0 evQ=0x61BE4420)
Mar 28 00:45:24.761: cc_api_call_associated (vdbPtr=0x61B9ADAC,
callID=0x34, disp=0)
Mar 28 00:45:24.761: ms_associateDone(): xmitFunc = playFunc 0x60B8B358
Mar 28 00:45:24.761: ms_associateDone(): CallID 52 First Buf Play
at 6d07h of enter_destination.au
Mar 28 00:45:24.761: ms_associateDone() 6d07h, Tstart(ply: iSndDly 1000, pSnce 0)
Mar 28 00:45:25.761: $ $ms_process() >>ms_start_play()
Mar 28 00:45:25.761: ms_start_play() 6d07h mgdTstop(ply)
Mar 28 00:45:29.393: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=6,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:29.393: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:29.573: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x34, digit=6, duration=230) digit=6
Mar 28 00:45:29.573: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:29.573: ms_stop_play(): Play Stopped at 6d07h
Mar 28 00:45:29.573: ccDisassociateStream (callID=0x34)
Mar 28 00:45:29.801: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=4,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:29.805: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:29.921: cc_api_call_digit (vdbPtr=0x61B9ADAC, callID=0x34,
digit=4, duration=170) digit=4
Mar 28 00:45:30.181: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=0,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:30.185: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:30.281: cc_api_call_digit (vdbPtr=0x61B9ADAC, callID=0x34,
digit=0, duration=150) digit=0
Mar 28 00:45:30.533: cc_api_call_digit_begin (vdbPtr=0x61B9ADAC,
callID=0x34, digit=0,
flags=0x1, timestamp=0xDB1154A6, expiration=0x0)
Mar 28 00:45:30.533: pcapp CallID 52 event CC_EV_CALL_DIGIT_BEGIN ignored
Mar 28 00:45:30.673: cc_api_call_digit (vdbPtr=0x61B9ADAC, callID=0x34,
digit=0, duration=190) digit=0
Mar 28 00:45:30.673: pcapp CallID 52 returning PCAPP_MATCHED. string=6400
Mar 28 00:45:30.673: ccCallAppReturn (callID=0x34)
Mar 28 00:45:30.673: ms_delete() invoking ms_stop_play() for just in case...
Mar 28 00:45:30.673: ms_stop_play() call 52 mgdTstop at 6d07h
Mar 28 00:45:30.673: ms_delete(): mc_delete_dynamicS() mc_delete_read()
Mar 28 00:45:30.673: cid(52) ta_get_event returning collect success
Mar 28 00:45:30.677: :[callID]
Mar 28 00:45:30.677: :/puts/
Mar 28 00:45:30.677: cid( 52) running state place_call
Mar 28 00:45:30.677: :[placeCall]
Mar 28 00:45:30.677: Placing call for callID 52 to destination=6400
Mar 28 00:45:30.677: ccCallApp (callID=0x34)
Mar 28 00:45:30.681: placecall CallID 52 got event CC_EV_CALL_HANDOFF
Mar 28 00:45:30.681: ccCallSetContext (callID=0x34, context=0x61EBED14)
Mar 28 00:45:30.681: Matched peers(1)
Mar 28 00:45:30.681: placecall pc_setupPeer cid(52), destPat(4085556400), matched(10),
prefix(), peer(61C088AC)
Mar 28 00:45:30.681: ccCallSetupRequest (Inbound call = 0x34, outbound peer =2, dest=,
```

```
params=0x61A650F8 mode=0, *callID=0x61BC6EF0)
Mar 28 00:45:30.681: callingNumber=9195552010, calledNumber=4085556400, redirectNumber=
Mar 28 00:45:30.681: accountNumber=1234, finalDestFlag=0,
guid=1acb.27d8.98f4.006b.0000.0000.2071.a5e8
Mar 28 00:45:30.681: peer_tag=2
Mar 28 00:45:30.681: ccIFCallSetupRequest: (vdbPtr=0x6174EC64, dest=,
callParams={called=4085556400,
calling=9195552010, fdest=0, voice_peer_tag=2}, mode=0x0)
Mar 28 00:45:30.681: ccCallSetContext (callID=0x35, context=0x61C72B0C)
Mar 28 00:45:30.681: placecall cid(52) state change PC_CS_INIT to PC_CS_CALL_SETTING
Mar 28 00:45:30.681: RASlib::ras_sendto: msg length 115 from 172.16.120.2:49831
to 172.16.120.1:1719
Mar 28 00:45:30.685: RASLib::RASSendARQ: ARQ (seq# 12165) sent to 172.16.120.1
Mar 28 00:45:30.685: start_h323_accounting:
Mar 28 00:45:30.685: start_h323_ccapi_accounting: Error: Null userp
Mar 28 00:45:30.689: RASLib::RASRecvData: successfully rcvd message
of length 7 from 172.16.120.1:1719
Mar 28 00:45:30.689: RASLib::RASRecvData: RIP (seq# 12165) rcvd
from [172.16.120.1:1719] on sock[6179E6A4]
Mar 28 00:45:30.705: RASLib::RASRecvData: successfully rcvd message
of length 24 from 172.16.120.1:1719
Mar 28 00:45:30.705: RASLib::RASRecvData: ACF (seq# 12165) rcvd from
[172.16.120.1:1719] on sock [0x6179E6A4]
Mar 28 00:45:31.713: cc_api_call_alert(vdbPtr=0x6174EC64, callID=0x35,
prog_ind=0x8, sig_ind=0x1)
Mar 28 00:45:31.713: placecall CallID 53 got event CC_EV_CALL_ALERT
Mar 28 00:45:31.713: ccConferenceCreate (confID=0x61BC6F40, callID1=0x34,
callID2=0x35, tag=0x0)
Mar 28 00:45:31.713: cc_api_bridge_done (confID=0x14, srcIF=0x6174EC64, srcCallID=0x35,
dstCallID=0x34, disposition=0, tag=0x0)
Mar 28 00:45:31.713: placecall cid(52) state change PC_CS_CALL_SETTING to
PC_CS_CONFERENCING_ALERT
Mar 28 00:45:31.713: cc_api_bridge_done (confID=0x14, srcIF=0x61B9ADAC, srcCallID=0x34,
dstCallID=0x35, disposition=0, tag=0x0)
Mar 28 00:45:31.713: cc_api_caps_ind (dstVdbPtr=0x6174EC64, dstCallId=0x35,
srcCallId=0x34, caps={codec=0xEBF7, fax_rate=0xFF,
vad=0x3, modem=0x3 codec_bytes=48, signal_type=2})
Mar 28 00:45:31.717: placecall CallID 52 got event CC_EV_CONF_CREATE_DONE
Mar 28 00:45:31.717: placecall cid(52) state change PC_CS_CONFERENCING_ALERT
to PC_CS_CONFERENCE_ALERT
Mar 28 00:45:32.321: cc_api_caps_ind (dstVdbPtr=0x61B9ADAC, dstCallId=0x34,
srcCallId=0x35, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
codec_bytes=20, signal_type=0})
Mar 28 00:45:32.321: cc_api_caps_ack (dstVdbPtr=0x61B9ADAC, dstCallId=0x34,
srcCallId=0x35, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
codec_bytes=20, signal_type=0})
Mar 28 00:45:32.325: cc_api_caps_ack (dstVdbPtr=0x6174EC64, dstCallId=0x35,
srcCallId=0x34, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
codec_bytes=20, signal_type=0})
Mar 28 00:45:35.745: RASlib::ras_sendto: msg length 76 from 172.16.120.2:49831
to 172.16.120.1:1719
Mar 28 00:45:35.745: RASLib::RASSendRRQ: RRQ (seq# 12166) sent to 172.16.120.1
Mar 28 00:45:35.749: RASLib::RASRecvData: successfully rcvd message of
length 52 from 172.16.120.1:1719
Mar 28 00:45:35.749: RASLib::RASRecvData: RCF (seq# 12166) rcvd from
[172.16.120.1:1719] on sock [0x6179E6A4]
Mar 28 00:45:40.673: cc_api_call_digit (vdbPtr=0x61B9ADAC, callID=0x34,
digit=T, duration=0)
Mar 28 00:45:40.673: placecall CallID 52 got event CC_EV_CALL_DIGIT
Mar 28 00:45:43.845: cc_api_call_connected(vdbPtr=0x6174EC64, callID=0x35)
Mar 28 00:45:43.845: placecall CallID 53 got event CC_EV_CALL_CONNECTED
Mar 28 00:45:43.845: placecall CallID 52 returning PLACECALL_ACTIVE.
Mar 28 00:45:43.845: ccCallAppReturn (callID=0x34)
Mar 28 00:45:43.845: pCall(0x61B00C24), settlement_credit_time=0
Mar 28 00:45:43.845: ccCallSetContext (callID=0x35, context=0x61B00C24)
Mar 28 00:45:43.845: cid(52) ta_get_event returning active
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Mar 28 00:45:43.845: :[callID]
Mar 28 00:45:43.845: :/puts/
Mar 28 00:45:43.845: cid(52) running state active
Mar 28 00:45:43.849: :/creditTimeLeft/
Mar 28 00:45:43.849: :[waitEvent]
Mar 28 00:45:43.849: Waiting Event for callID 52
Mar 28 00:45:51.269: cc_api_call_disconnected(vdbPtr=0x6174EC64, callID=0x35, cause=0x10)
Mar 28 00:45:51.273: ccConferenceDestroy (confID=0x14, tag=0x0)
Mar 28 00:45:51.273: cc_api_bridge_drop_done (confID=0x14, srcIF=0x6174EC64,
srcCallID=0x35, dstCallID=0x34, disposition=0 tag=0x0)
Mar 28 00:45:51.273: cc_api_bridge_drop_done (confID=0x14, srcIF=0x61B9ADAC,
srcCallID=0x34,
dstCallID=0x35, disposition=0 tag=0x0)
Mar 28 00:45:51.273: ccCallDisconnect (callID=0x35, cause=0x10 tag=0x0)
Mar 28 00:45:51.273: RASLib::ras_sendto: msg length 76 from 172.16.120.2:49831
to 172.16.120.1:1719
Mar 28 00:45:51.273: RASLib::RASSendDRQ: DRQ (seq# 12167) sent to 172.16.120.1
Mar 28 00:45:51.277: RASLib::RASRecvData: successfully rcvd message of length
3 from 172.16.120.1:1719
Mar 28 00:45:51.277: RASLib::RASRecvData: DCF (seq# 12167) rcvd from
[172.16.120.1:1719] on sock [0x6179E6A4]
Mar 28 00:45:51.277: stop_h323_ccapi_accounting: Error: Null userp
Mar 28 00:45:51.281: cc_api_call_disconnect_done(vdbPtr=0x6174EC64,
callID=0x35, disp=0, tag=0x0)
Mar 28 00:45:51.281: cid(53) outgoing disconnected
Mar 28 00:45:51.281: cid(52) ta_get_event returning outgoing disconnected
Mar 28 00:45:51.281: ta_WaitEventCmd(): ta_get_event(event [outgoing disconnected])
Mar 28 00:45:51.281: TCL script eval for callID 52 completed. code=OK
Mar 28 00:45:51.281: ccCallDisconnect (callID=0x34, cause=0x10 tag=0x0)
Mar 28 00:45:51.297: stop_h323_ccapi_accounting: Error: Null userp
Mar 28 00:45:51.297: cc_api_call_disconnect_done(vdbPtr=0x61B9ADAC,
callID=0x34, disp=0, tag=0x0)
Mar 28 00:45:51.305: %ISDN-6-DISCONNECT: Interface Serial0:18 disconnected
from 9195552010 , call lasted 32 seconds
Mar 28 00:45:51.305: ISDN Se0:23: TX -> DISCONNECT pd = 8 callref = 0x8002
Mar 28 00:45:51.305: Cause i = 0x8090 - Normal call clearing
Mar 28 00:45:51.353: ISDN Se0:23: RX <- RELEASE pd = 8 callref = 0x02
Mar 28 00:45:51.353: ISDN Se0:23: TX -> RELEASE_COMP pd = 8 callref = 0x8002
Mar 28 00:45:51.365: %LINK-3-UPDOWN: Interface Serial0:18, changed state to down
Mar 28 00:46:20.748: RASLib::ras_sendto: msg length 76 from 172.16.120.2:49831
to 172.16.120.1:1719
Mar 28 00:46:20.748: RASLib::RASSendRRQ: RRQ (seq# 12168) sent to 172.16.120.1
Mar 28 00:46:20.752: RASLib::RASRecvData: successfully rcvd message of
length 52 from 172.16.120.1:1719
Mar 28 00:46:20.752: RASLib::RASRecvData: RCF (seq# 12168) rcvd from
[172.16.120.1:1719] on sock [0x6179E6A4]

Raleigh5300A#

Raleigh5300A#

Raleigh5300A#**show call active voice**

GENERIC:
SetupTime=54456184 ms
Index=1
PeerAddress=9195552010
PeerSubAddress=
PeerId=1
PeerIfIndex=56
LogicalIfIndex=26
ConnectTime=54456185
CallDuration=00:00:44
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=1475
TransmitBytes=75244

ReceivePackets=318
ReceiveBytes=10176
TELE:
ConnectionId=[0x1ACB27D8 0x98F4006F 0x0 0x20755AB8]
TxDuration=29800 ms
VoiceTxDuration=6360 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=-55
ACOMLevel=0
OutSignalLevel=-42
InSignalLevel=-56
InfoActivity=2
ERLLevel=15
SessionTarget=
ImgPages=0
GENERIC:
SetupTime=54457502 ms
Index=1
PeerAddress=4085556400
PeerSubAddress=
PeerId=2
PeerIfIndex=57
LogicalIfIndex=0
ConnectTime=54458807
CallDuration=00:00:18
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=318
TransmitBytes=6360
ReceivePackets=1121
ReceiveBytes=22420
VOIP:
ConnectionId[0x1ACB27D8 0x98F4006F 0x0 0x20755AB8]
RemoteIPAddress=172.16.110.2
RemoteUDPPort=17942
RoundTripDelay=2 ms
SelectedQoS=best-effort
tx_DtmfRelay=inband-voice
SessionProtocol=cisco
SessionTarget=ras
OnTimeRvPayout=15900
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPayoutDelay=70 ms
LoWaterPayoutDelay=50 ms
ReceiveDelay=50 ms
LostPackets=0
EarlyPackets=0
LatePackets=0
VAD = enabled
CoderTypeRate=g729r8
CodecBytes=20
SignalingType=cas
Raleigh5300A#

Raleigh5300A#**show call active voice brief**

```
<ID>: <start>hs.<index> +<connect> pid:<peer_id> <dir> <addr> <state>
  dur hh:mm:ss tx:<packets>/<bytes> rx:<packets>/<bytes> <state>
  IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms lost:<lost>/<early>/<late>
  delay:<last>/<min>/<max>ms <codec>
  FR <protocol><y/n><y/n><y/n><on/off> [int dlci cid] vad: dtmf: seq:
```

```
sig: <codec> (payload size)
Tele <int>: tx:<tot>/<v>/<fax>ms <codec> noise:<l> acom:<l> i/o:<l>/<l> dBm
```

```
6F : 54456184hs.1 +1 pid:1 Answer 9195552010 active
dur 00:00:40 tx:1279/73076 rx:172/5504
Tele 0:D:54: tx:25890/3440/0ms g729r8 noise:-55 acom:0 i/o:-55/-41 dBm
```

```
6F : 54457502hs.1 +1305 pid:2 Originate 4085556400 active
dur 00:00:14 tx:172/3440 rx:925/18500
IP 172.16.110.2:17942 rtt:2ms pl:15900/0ms lost:0/0/0 delay:50/50/70ms g729r8
```

SanJose5300A Output

```
SanJose5300A#show gateway
```

```
Gateway SJ5300A@cisco.com is registered to Gatekeeper SJgkl
```

```
Alias list (CLI configured)
```

```
H323-ID SJ5300A@cisco.com
```

```
Alias list (last RCF)
```

```
H323-ID SJ5300A@cisco.com
```

```
H323 resource thresholding is Disabled
```

```
SanJose5300A#show log
```

```
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
```

```
Console logging: level debugging, 1787 messages logged
```

```
Monitor logging: level debugging, 0 messages logged
```

```
Buffer logging: level debugging, 1787 messages logged
```

```
Trap logging: level informational, 97 message lines logged
```

```
Log Buffer (50000 bytes):
```

```
Mar 28 00:45:25.585: RASLib::ras_sendto: msg length 74 from
172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:45:25.585: RASLib::RASSendRRQ: RRQ (seq# 12137) sent to 172.16.110.1
Mar 28 00:45:25.589: RASLib::RASRecvData: successfully rcvd message of
length 52 from 172.16.110.1:1719
Mar 28 00:45:25.589: RASLib::RASRecvData: RCF (seq# 12137) rcvd from
[172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:45:30.705: RASLib::ras_sendto: msg length 122 from
172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:45:30.705: RASLib::RASSendARQ: ARQ (seq# 12138) sent to 172.16.110.1
Mar 28 00:45:30.709: RASLib::RASRecvData: successfully rcvd message
of length 24 from 172.16.110.1:1719
Mar 28 00:45:30.713: RASLib::RASRecvData: ACF (seq# 12138) rcvd from
[172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:45:30.713: cc_api_call_setup_ind (vdbPtr=0x616F8D2C,
callInfo={called=408#4085556400,
calling=9195552010, fdest=1 peer_tag=2}, callID=0x6199B54C)
Mar 28 00:45:30.713: cc_process_call_setup_ind (event=0x619B2D6C) handed
call to app "SESSION"
Mar 28 00:45:30.713: sess_appl: ev(23=CC_EV_CALL_SETUP_IND), cid(39), disp(0)
Mar 28 00:45:30.713: ccCallSetContext (callID=0x27, context=0x61A60F64)
Mar 28 00:45:30.713: ssaCallSetupInd finalDest cllng(9195552010),
clled(408#4085556400)
Mar 28 00:45:30.713: ssaSetupPeer cid(39) peer list: tag(1) called
number (408#4085556400)
Mar 28 00:45:30.713: ssaSetupPeer cid(39), destPat(408#4085556400),
matched(11), prefix(6), peer(61A03B88)
Mar 28 00:45:30.713: ccCallProceeding (callID=0x27, prog_ind=0x0)
```

Mar 28 00:45:30.713: ccCallSetupRequest (Inbound call = 0x27, outbound peer =1, dest=, params=0x61A60F78 mode=0, *callID=0x619BB9F0)
Mar 28 00:45:30.713: callingNumber=9195552010, calledNumber=408#4085556400, redirectNumber=
Mar 28 00:45:30.713: accountNumber=, finalDestFlag=1, guid=lacb.27d8.98f4.006b.0000.0000.2071.a5e8
Mar 28 00:45:30.713: peer_tag=1
Mar 28 00:45:30.713: ccIFCallSetupRequest: (vdbPtr=0x619AC884, dest=, callParams={called=408#4085556400, calling=9195552010, fdest=1, voice_peer_tag=1}, mode=0x0)
Mar 28 00:45:30.717: ccCallSetContext (callID=0x28, context=0x6194F3AC)
Mar 28 00:45:30.717: cc_api_call_proceeding(vdbPtr=0x619AC884, callID=0x28, prog_ind=0x0)
Mar 28 00:45:30.717: sess_appl: ev(20=CC_EV_CALL_PROCEEDING), cid(40), disp(0)
Mar 28 00:45:30.717: ssaTraceSct: cid(40)st(1)oldst(0)cfid(-1)csz(0)in(0)fDest(0)-cid2(39)st2(1)oldst2(0)
Mar 28 00:45:30.717: ssaIgnore cid(40), st(1),oldst(1), ev(20)
Mar 28 00:45:31.701: cc_api_call_alert(vdbPtr=0x619AC884, callID=0x28, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:45:31.701: sess_appl: ev(7=CC_EV_CALL_ALERT), cid(40), disp(0)
Mar 28 00:45:31.701: ssaTraceSct: cid(40)st(1)oldst(1)cfid(-1)csz(0)in(0)fDest(0)-cid2(39)st2(1)oldst2(0)
Mar 28 00:45:31.701: ccCallAlert (callID=0x27, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:45:31.701: ccConferenceCreate (confID=0x619BBA38, callID1=0x27, callID2=0x28, tag=0x0)
Mar 28 00:45:31.701: cc_api_bridge_done (confID=0x14, srcIF=0x616F8D2C, srcCallID=0x27, dstCallID=0x28, disposition=0, tag=0x0)
Mar 28 00:45:31.705: cc_api_bridge_done (confID=0x14, srcIF=0x619AC884, srcCallID=0x28, dstCallID=0x27, disposition=0, tag=0x0)
Mar 28 00:45:31.705: cc_api_caps_ind (dstVdbPtr=0x616F8D2C, dstCallId=0x27, srcCallId=0x28, caps={codec=0xEBF7, fax_rate=0xFF, vad=0x3, modem=0x3 codec_bytes=1637472312, signal_type=2})
Mar 28 00:45:31.705: sess_appl: ev(28=CC_EV_CONF_CREATE_DONE), cid(39), disp(0)
Mar 28 00:45:31.705: ssaTraceSct: cid(39)st(3)oldst(0)cfid(20)csz(0)in(1)fDest(1)-cid2(40)st2(3)oldst2(1)
Mar 28 00:45:32.517: cc_api_caps_ind (dstVdbPtr=0x619AC884, dstCallId=0x28, srcCallId=0x27, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1 codec_bytes=20, signal_type=0})
Mar 28 00:45:32.517: cc_api_caps_ack (dstVdbPtr=0x619AC884, dstCallId=0x28, srcCallId=0x27, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1 codec_bytes=20, signal_type=0})
Mar 28 00:45:32.521: cc_api_caps_ack (dstVdbPtr=0x616F8D2C, dstCallId=0x27, srcCallId=0x28, caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1 codec_bytes=20, signal_type=0})
Mar 28 00:45:43.834: cc_api_call_connected(vdbPtr=0x619AC884, callID=0x28)
Mar 28 00:45:43.834: sess_appl: ev(8=CC_EV_CALL_CONNECTED), cid(40), disp(0)
Mar 28 00:45:43.834: ssaTraceSct: cid(40)st(4)oldst(1)cfid(20)csz(0)in(0)fDest(0)-cid2(39)st2(4)oldst2(3)
Mar 28 00:45:43.834: ccCallConnect (callID=0x27)
Mar 28 00:45:43.834: ssaFlushPeerTagQueue cid(39) peer list: (empty)
Mar 28 00:45:51.258: cc_api_call_disconnected(vdbPtr=0x619AC884, callID=0x28, cause=0x10)
Mar 28 00:45:51.258: sess_appl: ev(12=CC_EV_CALL_DISCONNECTED), cid(40), disp(0)
Mar 28 00:45:51.258: ssaTraceSct: cid(40)st(5)oldst(4)cfid(20)csz(0)in(0)fDest(0)-cid2(39)st2(5)oldst2(3)
Mar 28 00:45:51.258: ssa: Disconnected cid(40) state(5) cause(0x10)
Mar 28 00:45:51.258: ccConferenceDestroy (confID=0x14, tag=0x0)
Mar 28 00:45:51.258: cc_api_bridge_drop_done (confID=0x14, srcIF=0x616F8D2C, srcCallID=0x27, dstCallID=0x28, disposition=0 tag=0x0)
Mar 28 00:45:51.258: cc_api_bridge_drop_done (confID=0x14, srcIF=0x619AC884, srcCallID=0x28, dstCallID=0x27, disposition=0 tag=0x0)
Mar 28 00:45:51.258: sess_appl: ev(29=CC_EV_CONF_DESTROY_DONE), cid(39), disp(0)
Mar 28 00:45:51.258: ssaTraceSct: cid(39)st(6)oldst(3)cfid(20)csz(0)in(1)fDest(1)-cid2(40)st2(6)oldst2(5)
Mar 28 00:45:51.258: ccCallDisconnect (callID=0x27, cause=0x10 tag=0x0)
Mar 28 00:45:51.258: ccCallDisconnect (callID=0x28, cause=0x10 tag=0x0)

Mar 28 00:45:51.262: RASLib::ras_sendto: msg length 76 from 172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:45:51.262: RASLib::RASSendDRQ: DRQ (seq# 12139) sent to 172.16.110.1
Mar 28 00:45:51.266: RASLib::RASRecvData: successfully rcvd message of length 3 from 172.16.110.1:1719
Mar 28 00:45:51.266: RASLib::RASRecvData: DCF (seq# 12139) rcvd from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:45:51.266: cc_api_call_disconnect_done(vdbPtr=0x0, callID=0x27, disp=0, tag=0x0)
Mar 28 00:45:51.270: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE), cid(39), disp(0)
Mar 28 00:45:51.270: ssaTraceSct: cid(39)st(7)oldst(6)cfid(-1)csize(0)in(1)fDest(1)-cid2(40)st2(7)oldst2(5)
Mar 28 00:45:51.278: cc_api_call_disconnect_done(vdbPtr=0x619AC884, callID=0x28, disp=0, tag=0x61726DDC)
Mar 28 00:45:51.278: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE), cid(40), disp(0)
Mar 28 00:45:51.278: ssaTraceSct: cid(40)st(7)oldst(5)cfid(-1)csize(1)in(0)fDest(0)
Mar 28 00:46:10.590: RASLib::ras_sendto: msg length 74 from 172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:46:10.590: RASLib::RASSendRRQ: RRQ (seq# 12140) sent to 172.16.110.1
Mar 28 00:46:10.594: RASLib::RASRecvData: successfully rcvd message of length 52 from 172.16.110.1:1719
Mar 28 00:46:10.594: RASLib::RASRecvData: RCF (seq# 12140) rcvd from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:46:55.595: RASLib::ras_sendto: msg length 74 from 172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:46:55.595: RASLib::RASSendRRQ: RRQ (seq# 12141) sent to 172.16.110.1
Mar 28 00:46:55.599: RASLib::RASRecvData: successfully rcvd message of length 52 from 172.16.110.1:1719
Mar 28 00:46:55.599: RASLib::RASRecvData: RCF (seq# 12141) rcvd from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:47:40.600: RASLib::ras_sendto: msg length 74 from 172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:47:40.600: RASLib::RASSendRRQ: RRQ (seq# 12142) sent to 172.16.110.1
Mar 28 00:47:40.604: RASLib::RASRecvData: successfully rcvd message of length 52 from 172.16.110.1:1719
Mar 28 00:47:40.604: RASLib::RASRecvData: RCF (seq# 12142) rcvd from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:48:25.604: RASLib::ras_sendto: msg length 74 from 172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:48:25.604: RASLib::RASSendRRQ: RRQ (seq# 12143) sent to 172.16.110.1
Mar 28 00:48:25.608: RASLib::RASRecvData: successfully rcvd message of length 52 from 172.16.110.1:1719
Mar 28 00:48:25.608: RASLib::RASRecvData: RCF (seq# 12143) rcvd from [172.16.110.1:1719] on sock [0x61752218]

SanJose5300A#
SanJose5300A#

SanJose5300A#
SanJose5300A#**show call active voice brief**

```
<ID>: <start>hs.<index> +<connect> pid:<peer_id> <dir> <addr> <state>
dur hh:mm:ss tx:<packets>/<bytes> rx:<packets>/<bytes> <state>
IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms lost:<lost>/<early>/<late>
delay:<last>/<min>/<max>ms <codec>
FR <protocol><y/n><y/n><y/n><on/off> [int dlci cid] vad: dtmf: seq:
sig: <codec> (payload size)
Tele <int>: tx:<tot>/<v>/<fax>ms <codec> noise:<l> acom:<l> i/o:<l>/<l> dBm
```

6F : 54422877hs.1 +1301 pid:2 Answer 9195552010 active
dur 00:00:38 tx:2122/42440 rx:836/16720
IP 172.16.120.2:16938 rtt:2ms pl:16720/0ms lost:0/0/0 delay:30/30/70ms g729r8

6F : 54422895hs.1 +1283 pid:1 Originate 408#4085556400 active
dur 00:00:38 tx:836/-8996 rx:2143/68576
Tele 0:1 (42): tx:50050/42860/0ms g729r8 noise:-66 acom:0 i/o:-40/-71 dBm

SanJose5300A#show call actvice voice
GENERIC:
SetupTime=54422877 ms
Index=1
PeerAddress=9195552010
PeerSubAddress=
PeerId=2
PeerIfIndex=17
LogicalIfIndex=0
ConnectTime=54424178
CallDuration=00:00:44
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=2414
TransmitBytes=48280
ReceivePackets=836
ReceiveBytes=16720
VOIP:
ConnectionId[0x1ACB27D8 0x98F4006F 0x0 0x20755AB8]
RemoteIPAddress=172.16.120.2
RemoteUDPPort=16938
RoundTripDelay=2 ms
SelectedQoS=best-effort
tx_DtmfRelay=inband-voice
SessionProtocol=cisco
SessionTarget=
OnTimeRvPlayout=16720
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=30 ms
ReceiveDelay=30 ms
LostPackets=0
EarlyPackets=0
LatePackets=0
VAD = enabled
CoderTypeRate=g729r8
CodecBytes=20
SignalingType=cas
GENERIC:
SetupTime=54422895 ms
Index=1
PeerAddress=408#4085556400
PeerSubAddress=
PeerId=1
PeerIfIndex=16
LogicalIfIndex=13
ConnectTime=54424178
CallDuration=00:00:44
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=836
TransmitBytes=-12488
ReceivePackets=2434
ReceiveBytes=77888
TELE:
ConnectionId=[0x1ACB27D8 0x98F4006F 0x0 0x20755AB8]
TxDuration=55880 ms
VoiceTxDuration=48690 ms
FaxTxDuration=0 ms

```
CoderTypeRate=g729r8
NoiseLevel=-66
ACOMLevel=0
OutSignalLevel=-70
InSignalLevel=-42
InfoActivity=2
ERLLevel=15
SessionTarget=
ImgPages=0
SanJose5300A#
```

Raleigh3600A Output

Raleigh3640A#**show debug**

```
H.323 RAS:
  H.323 RAS Messages debugging is on
Raleigh3640A#und all
```

Raleigh3640A#**show gatekeeper endpoint**

```
                GATEKEEPER ENDPOINT REGISTRATION
                =====
CallSignalAddr  Port  RASSignalAddr  Port  Zone Name          Type  F
-----
172.16.120.2    1720  172.16.120.2    49831  RALgk1             VOIP-GW
      H323-ID: RAL5300A@cisco.com
Total number of active registrations = 1
```

Raleigh3640A#**show gatekeeper gw-type-prefix**

```
GATEWAY TYPE PREFIX TABLE
=====
Prefix: 408#*
```

```
Prefix: 919#*
Zone RALgk1 master gateway list:
  172.16.120.2:1720 RAL5300A
```

Raleigh3640A#**show log**

```
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
  Console logging: level debugging, 277 messages logged
  Monitor logging: level debugging, 0 messages logged
  Buffer logging: level debugging, 277 messages logged
  Trap logging: level informational, 107 message lines logged
```

Log Buffer (50000 bytes):

```
Mar 28 00:44:50.742: RASLib::RASRecvData: successfully rcvd
message of length 76 from 172.16.120.2:49831
Mar 28 00:44:50.742: RASLib::RASRecvData: RRQ (seq# 12164)
rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:44:50.746: RASlib::ras_sendto: msg length 52
from 172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:44:50.746: RASLib::RASSendRCF: RCF (seq# 12164)
sent to 172.16.120.2
Mar 28 00:45:30.682: RASLib::RASRecvData: successfully
rcvd message of length 115 from 172.16.120.2:49831
Mar 28 00:45:30.686: RASLib::RASRecvData: ARQ (seq# 12165)
rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
RASLib::parse_arq_nonstd: ARQ Nonstd
decode succeeded, remlen = 0
Mar 28 00:45:30.686: RASlib::ras_sendto: msg length 7 from
172.16.120.1:1719 to 172.16.120.2:49831
```

```

Mar 28 00:45:30.686: RASLib::RASSendRIP: RIP (seq# 12165) sent to 172.16.120.2
Mar 28 00:45:30.686: RASLib::RAS_WK_TInit: ipsock [0x60F0ED1C] setup successful
Mar 28 00:45:30.690: RASLib::ras_sendto: msg length 79
                        from 172.16.120.1:55415 to 172.16.110.1:1719
Mar 28 00:45:30.690: RASLib::RASSendLRQ: LRQ (seq# 28) sent to 172.16.110.1
Mar 28 00:45:30.698: RASLib::RASRecvData: successfully
                        rcvd message of length 128 from 172.16.110.1:1719
Mar 28 00:45:30.698: RASLib::RASRecvData: LCF (seq# 28)
                        rcvd from [172.16.110.1:1719] on sock [0x60F0ED1C]
                        RASLib::parse_lcf_nonstd: LCF Nonstd
                        decode succeeded, remlen = 0
Mar 28 00:45:30.702: RASLib::ras_sendto: msg length 24 from
                        172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:45:30.702: RASLib::RASSendACF: ACF (seq# 12165) sent to 172.16.120.2
Mar 28 00:45:35.746: RASLib::RASRecvData: successfully rcvd message of
                        length 76 from 172.16.120.2:49831
Mar 28 00:45:35.746: RASLib::RASRecvData: RRQ (seq# 12166) rcvd
                        from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:45:35.750: RASLib::ras_sendto: msg length 52 from
                        172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:45:35.750: RASLib::RASSendRCF: RCF (seq# 12166) sent to 172.16.120.2
Mar 28 00:45:51.274: RASLib::RASRecvData: successfully rcvd
                        message of length 76 from 172.16.120.2:49831
Mar 28 00:45:51.274: RASLib::RASRecvData: DRQ (seq# 12167)
                        rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:45:51.274: RASLib::ras_sendto: msg length 3
                        from 172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:45:51.278: RASLib::RASSendDCF: DCF (seq# 12167)
                        sent to 172.16.120.2
Mar 28 00:46:20.750: RASLib::RASRecvData: successfully
                        rcvd message of length 76 from 172.16.120.2:49831
Mar 28 00:46:20.750: RASLib::RASRecvData: RRQ (seq# 12168)
                        rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:46:20.750: RASLib::ras_sendto: msg length 52 from
                        172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:46:20.754: RASLib::RASSendRCF: RCF (seq# 12168)
                        sent to 172.16.120.2
Mar 28 00:47:05.750: RASLib::RASRecvData: successfully
                        rcvd message of length 76 from 172.16.120.2:49831
Mar 28 00:47:05.754: RASLib::RASRecvData: RRQ (seq# 12169)
                        rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:47:05.754: RASLib::ras_sendto: msg length 52
                        from 172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:47:05.758: RASLib::RASSendRCF: RCF (seq# 12169)
                        sent to 172.16.120.2
Mar 28 00:47:50.754: RASLib::RASRecvData: successfully
                        rcvd message of length 76 from 172.16.120.2:49831
Mar 28 00:47:50.758: RASLib::RASRecvData: RRQ (seq# 12170)
                        rcvd from [172.16.120.2:49831] on sock [0x60F2F9A0]
Mar 28 00:47:50.758: RASLib::ras_sendto: msg length 52
                        from 172.16.120.1:1719 to 172.16.120.2:49831
Mar 28 00:47:50.758: RASLib::RASSendRCF: RCF (seq# 12170) sent to 172.16.120.2
Raleigh3640A#

```

Raleigh3640A#

Raleigh3640A#show gatekeeper call

Total number of active calls = 1.

GATEKEEPER CALL INFO

=====

LocalCallID	Age(secs)	BW				
24-6872	45	64(Kbps)				
Endpt(s): Alias	E.164Addr	CallSignalAddr	Port	RASSignalAddr	Port	
src EP: RAL5300A	9195552010	172.16.120.2	1720	172.16.120.2	49831	
dst EP:	408#408555640	172.16.110.2	1720	172.16.110.2	1720	

Raleigh3640A#

SanJose3640A Output

SanJose3640A#**show debug**

H.323 RAS:

H.323 RAS Messages debugging is on

SanJose3640A#**show gatekeeper endpoint**

GATEKEEPER ENDPOINT REGISTRATION

=====

CallSignalAddr	Port	RASSignalAddr	Port	Zone Name	Type	F
172.16.110.2	1720	172.16.110.2	52521	SJgk1	VOIP-GW	

H323-ID: SJ5300A@cisco.com

Total number of active registrations = 1

SanJose3640A#**show gatekeeper gw-type-prefix**

GATEWAY TYPE PREFIX TABLE

=====

Prefix: 919#*

Prefix: 408#*

Zone SJgk1 master gateway list:

172.16.110.2:1720 SJ5300A

SanJose3640A#**show log**

Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)

Console logging: level debugging, 1301 messages logged

Monitor logging: level debugging, 0 messages logged

Buffer logging: level debugging, 1293 messages logged

Trap logging: level informational, 103 message lines logged

Log Buffer (50000 bytes):

```
Mar 28 00:45:25.592: RASLib::RASRecvData: successfully rcvd
message of length 74 from 172.16.110.2:52521
Mar 28 00:45:25.592: RASLib::RASRecvData: RRQ (seq# 12137) rcvd
from [172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:45:25.596: RASlib::ras_sendto: msg length 52 from
172.16.110.1:1719 to 172.16.110.2:52521
Mar 28 00:45:25.596: RASLib::RASSendRCF: RCF (seq# 12137) sent to 172.16.110.2
Mar 28 00:45:30.692: RASLib::RASRecvData: successfully rcvd message
of length 79 from 172.16.120.1:55415
Mar 28 00:45:30.692: RASLib::RASRecvData: LRQ (seq# 28) rcvd from
[172.16.120.1:55415] on sock [0x60FE9B04]
RASLib::parse_lrq_nonstd: LRQ Nonstd decode succeeded, remlen = 0
Mar 28 00:45:30.696: RASlib::ras_sendto: msg length 128 from
172.16.110.1:1719 to 172.16.120.1:55415
Mar 28 00:45:30.696: RASLib::RASSendLCF: LCF (seq# 28) sent to 172.16.120.1
Mar 28 00:45:30.712: RASLib::RASRecvData: successfully rcvd message
of length 122 from 172.16.110.2:52521
Mar 28 00:45:30.712: RASLib::RASRecvData: ARQ (seq# 12138) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
RASLib::parse_arq_nonstd: ARQ Nonstd decode succeeded, remlen = 0
Mar 28 00:45:30.716: RASlib::ras_sendto: msg length 24 from 172.16.110.1:1719
to 172.16.110.2:52521
Mar 28 00:45:30.716: RASLib::RASSendACF: ACF (seq# 12138) sent to 172.16.110.2
Mar 28 00:45:51.268: RASLib::RASRecvData: successfully rcvd message
of length 76 from 172.16.110.2:52521
```

```

Mar 28 00:45:51.268: RASLib::RASRecvData: DRQ (seq# 12139) rcvd
from [172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:45:51.268: RASLib::ras_sendto: msg length 3 from
172.16.110.1:1719 to 172.16.110.2:52521
Mar 28 00:45:51.268: RASLib::RASSendDCF: DCF (seq# 12139) sent to 172.16.110.2
Mar 28 00:46:10.596: RASLib::RASRecvData: successfully rcvd message of
length 74 from 172.16.110.2:52521
Mar 28 00:46:10.596: RASLib::RASRecvData: RRQ (seq# 12140) rcvd
from [172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:46:10.600: RASLib::ras_sendto: msg length 52 from 172.16.110.1:1719
to 172.16.110.2:52521
Mar 28 00:46:10.600: RASLib::RASSendRCF: RCF (seq# 12140) sent to 172.16.110.2
Mar 28 00:46:55.600: RASLib::RASRecvData: successfully rcvd message of
length 74 from 172.16.110.2:52521
Mar 28 00:46:55.600: RASLib::RASRecvData: RRQ (seq# 12141) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:46:55.604: RASLib::ras_sendto: msg length 52 from 172.16.110.1:1719
to 172.16.110.2:52521
Mar 28 00:46:55.604: RASLib::RASSendRCF: RCF (seq# 12141) sent to 172.16.110.2
Mar 28 00:47:40.604: RASLib::RASRecvData: successfully rcvd message of
length 74 from 172.16.110.2:52521
Mar 28 00:47:40.608: RASLib::RASRecvData: RRQ (seq# 12142) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:47:40.608: RASLib::ras_sendto: msg length 52 from 172.16.110.1:1719
to 172.16.110.2:52521
Mar 28 00:47:40.608: RASLib::RASSendRCF: RCF (seq# 12142) sent to 172.16.110.2
Mar 28 00:48:25.608: RASLib::RASRecvData: successfully rcvd message of
length 74 from 172.16.110.2:52521
Mar 28 00:48:25.612: RASLib::RASRecvData: RRQ (seq# 12143) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:48:25.612: RASLib::ras_sendto: msg length 52 from 172.16.110.1:1719
to 172.16.110.2:52521
Mar 28 00:48:25.612: RASLib::RASSendRCF: RCF (seq# 12143) sent to 172.16.110.2
SanJose3640A#

```

```
SanJose3640A#
```

```
SanJose3640A#show gatekeeper calls
```

```
Total number of active calls = 1.
```

```
GATEKEEPER CALL INFO
```

```
=====
```

LocalCallID	Age(secs)	BW				
21-6872	63	64(Kbps)				
Endpt(s): Alias	E.164Addr	CallSignalAddr	Port	RASSignalAddr	Port	
src EP:	9195552010					
dst EP: SJ5300A	408#408555640	172.16.110.2	1720	172.16.110.2	52521	

Troubleshoot

This section provides the information to troubleshoot your configuration.

Troubleshooting Commands

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

Note: Refer to Important Information on Debug Commands before you issue **debug** commands.

- **debug voip aaa** – Enables debugging messages for gateway aaa to be output to the system console.
- **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 voip ccapi inout** – Debugs the call control API.

- **debug voip ivr** – Debugs the IVR application.
- **debug ras** – Displays the types and addressing of Registration, Admission and Status Protocol (RAS) messages sent and received.

Related Information

- **TCL IVR API Version 1.0 Programmer's Guide**
 - **Configuring Interactive Voice Response for Cisco Access Platforms**
 - **Cisco H.323 Gateway Security and Accounting Enhancements**
 - **Voice Technology Support**
 - **Voice and Unified Communications Product Support**
 - **Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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Updated: Jan 17, 2007

Document ID: 12163
