VoIP with Gatekeeper

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Contents

Introduction

This document illustrates how to configure and verify a VoIP network with a gatekeeper.

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)
- Cisco AS5300 and Cisco 3640 routers

Note: There is a requirement to load Cisco IOS feature set x for the gatekeeper functionality on all Cisco platforms.

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

Conventions

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

Background Information

A gatekeeper is an H.323 entity on a LAN that provides address translation and control access to the LAN for H.323 terminals and gateways. The gatekeeper can provide other services to the H.323 terminals and gateways, such as bandwidth management and the location of gateways. A gatekeeper maintains a registry of devices in the multimedia network. The devices register with the gatekeeper at startup and request admission to a call from the gatekeeper.

You can use the gatekeeper configuration in this document for these purposes:

- To help scale a VoIP implementation where you have installed several gateways and end devices

  This configuration allows changes to be made at a central point, the gatekeeper.
- To help control Call Admission Control (CAC) in order to limit the number of calls on the network
- To implement the use of a proxy on the network to handle your VoIP calls separately from your data traffic

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 network is a simple topology with two Cisco AS5300 gateways. One gateway is in San Jose, and the other gateway is in Raleigh. At each site, there is a gatekeeper configuration that runs on a Cisco 3640. In the topology that this section shows, a gatekeeper is not really necessary in order to place simple VoIP calls between the two gateways. But the diagram includes a gatekeeper in order to show how the complete configuration looks.

The Cisco gatekeeper configurations for this topology differ from a regular VoIP implementation in these ways:

- Each gateway for the gateway setup registers with the local gatekeeper with use of the **h323 gateway voip interface** commands. In this case, the gateways are AS5300s, and the gatekeeper is the 3640.
- The **session target** in the **dial peer voice 2 voip** command points to Registration, Admission, and Status (RAS) instead of the appropriate **ipv4:*ip address*** . RAS performs these tasks:

  - ♦ Defines the location for the gateway to register with the gatekeeper
  - ♦ Sends admission requests for each call
  - ♦ Conducts certain status information polling for calls

In the H.323 network, you have one primary gatekeeper per zone. The gatekeeper can control multiple gateways or end H.323 devices in the zone. In the configuration that this section illustrates, a call routes to the appropriate zone and gatekeeper. Then, the gatekeeper replies to the call request with the IP address of the registered gateway that has the technology prefix (**tech prefix**) that matches the called number.

Call Process

These steps explain how the gatekeeper process works. A phone on the Raleigh side places a call to a phone on the San Jose side:

1. Raleigh 5300A receives a call from the PBX to 4085556400, which is a phone that connects to the San Jose PBX.

   This number matches the number under the **dial peer voice 2 voip** and also has a technology prefix of **408#**.
2. The admission request to the Raleigh gatekeeper, Raleigh 3640A, includes the technology prefix and called number in the format **408#4085556400**.

   The **4085556400** matches the **zone prefix** command of **408.....**
3. The Raleigh gatekeeper sends a location request to the San Jose gatekeeper, San Jose 3640A.
4. Because the San Jose gatekeeper configuration contains San Jose 5300A with a technology prefix of **408#**, the San Jose gatekeeper replies to the Raleigh gatekeeper with the San Jose 5300 IP address.
5. This IP address forwards to Raleigh 5300A via an Admission Confirmation (ACF).
6. Raleigh 5300A opens a normal H.323 call with San Jose 5300A.

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 00:15:38 UTC Tue Mar 28 2000
! NVRAM config last updated at 00:15:39 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
```

```
enable secret < password > [Choose a strong password with at least one capital letter, one numbe
!
!
!
resource pool disable
!
!
!
!
!
clock calendar valid
ip subnet zero
!
isdn switch type primary ess
isdn voice call failure 0
mta receive maximum recipients 0
!
!
controller T1 0
 framing esf
 clock source line primary
 linecode b8zs
 pri group timeslots 1š4
!
controller T1 1
 clock source line secondary 1
!
controller T1 2
!
controller T1 3
!
!
voice port 0:D
!
!
dial peer voice 1 pots
 answer address 9195552001
 destination pattern 919#9195552...
 direct inward dial
 port 0:D
 prefix 919
!
dial peer voice 2 voip
 destination pattern 4085556400
 tech prefix 408#
 session target ras
!
num exp 6... 4085556...
 gateway

  !
  interface Ethernet0
  no ip address
  shutdown
!
interface Serial0:23
 no ip address
 ip mroute cache
 isdn switch type primary ess
 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
 login
!
ntp clock period 17179850
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 numbe
!
!
!
!
!
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 17179864
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 numbe
!
!
!
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 1œ 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 17179892
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.120Ÿ.T
logging buffered 50000 debugging
enable secret < password > [Choose a strong password with at least one capital letter, one numbe
!
!
!
!
!
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™.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 server 172.16.110.10
end
```

Verify

This section provides information you can use to confirm that your configuration works properly.

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

- **show debug** Displays the **debug** commands that are enabled
- **undebug all** Turns off all debugs
- **show gatekeeper** Displays the status of the gatekeeper
- **show log** Displays log file output
- **show call active voice brief** Displays an abbreviated version of the contents of the active call table

  The display shows all the calls with current connection through the router.
- **show call active voice** Displays the contents of the active call table

  This display shows all the calls with current connection through the router.
- **show gatekeeper endpoints** Displays the endpoints registration status to the gatekeeper
- **show gatekeeper call** Displays active calls that the gatekeeper processed
- **show gatekeeper gw** Displays the endpoints registration status for the technology prefix

Verification for Raleigh 5300A Router

```
Raleigh5300A# show debug
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:
  voip ccAPI function enter/exit debugging is on
Raleigh5300A# undebug all
All possible debugging has been turned off
Raleigh5300A# show gatekeeper
 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 log
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
    Console logging: level debugging, 1048 messages logged
    Monitor logging: level debugging, 0 messages logged
    Buffer logging: level debugging, 1048 messages logged
    Trap logging: level informational, 106 message lines logged


Log Buffer (50000 bytes):
Mar 28 00:22:47.624: ISDN Se0:23: RX <   SETUP pd = 8  callref = 0x30
Mar 28 00:22:47.624:         Bearer Capability i = 0x8090A2
Mar 28 00:22:47.624:         Channel ID i = 0xA98393
Mar 28 00:22:47.624:  Calling Party Number i = 0x2180, '9195552010', Plan:ISDN,
Type:National
Mar 28 00:22:47.624:  Called Party Number i = 0xA1, '4085556400', Plan:ISDN,
Type:National
Mar 28 00:22:47.628: ISDN Se0:23: TX  >  CALL_PROC pd = 8  callref = 0x8030
Mar 28 00:22:47.628:         Channel ID i = 0xA98393
Mar 28 00:22:47.628: ISDN Se0:23: TX  >  ALERTING pd = 8  callref = 0x8030
Mar 28 00:22:48.016: cc_api_call_setup_ind (vdbPtr=0x61B9ADAC,
```

```
callInfo={called=4085556400,
calling=9195552010, fdest=1 peer_tag=1}, callID=0x61A088C4)
Mar 28 00:22:48.020: cc_process_call_setup_ind (event=0x61BB71B8)
handed call to app "SESSION"
Mar 28 00:22:48.020: sess_appl: ev(23=CC_EV_CALL_SETUP_IND), cid(32), disp(0)
Mar 28 00:22:48.020: ccCallSetContext (callID=0x20, context=0x61A2C368)
Mar 28 00:22:48.020: ssaCallSetupInd finalDest cllng(9195552010),
clled(4085556400)
Mar 28 00:22:48.020: ssaSetupPeer cid(32) peer list:  tag(2)
called number (4085556400)
Mar 28 00:22:48.020: ssaSetupPeer cid(32), destPat(4085556400),
matched(10), prefix(),
peer(61C088AC)
Mar 28 00:22:48.020: ccCallProceeding (callID=0x20, prog_ind=0x0)
Mar 28 00:22:48.020: ccCallSetupRequest (Inbound call = 0x20, outbound
peer =2, dest=,
params=0x61A2C37C mode=0, *callID=0x61BBE868)
Mar 28 00:22:48.020: callingNumber=9195552010, calledNumber=4085556400,
redirectNumber=
Mar 28 00:22:48.020: accountNumber=, finalDestFlag=1,
guid=1acb.27d8.98f4.0043.0000.0000.205d.0abc
Mar 28 00:22:48.020: peer_tag=2
Mar 28 00:22:48.020: ccIFCallSetupRequest: (vdbPtr=0x6174EC64, dest=, callParams=
{called=4085556400, calling=9195552010, fdest=1, voice_peer_tag=2}, mode=0x0)
Mar 28 00:22:48.020: ccCallSetContext (callID=0x21, context=0x61A8FD88)
Mar 28 00:22:48.024: RASlib::ras_sendto: msg length 115 from 172.16.120.2:51726 to
172.16.120.1:1719
Mar 28 00:22:48.024: RASLib::RASSendARQ: ARQ (seq# 12119) sent to 172.16.120.1
Mar 28 00:22:48.028: RASLib::RASRecvData: successfully
rcvd message of length 7 from 172.16.120.1:1719
Mar 28 00:22:48.028: RASLib::RASRecvData: RIP (seq# 12119) rcvd
from [172.16.120.1:1719] on sock[61A18664]
Mar 28 00:22:48.044: RASLib::RASRecvData: successfully rcvd message
of length 24 from 172.16.120.1:1719
Mar 28 00:22:48.044: RASLib::RASRecvData: ACF (seq# 12119)
rcvd from [172.16.120.1:1719] on sock [0x61A18664]
Mar 28 00:22:49.232: cc_api_call_alert(vdbPtr=0x6174EC64,
callID=0x21, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:22:49.232: sess_appl: ev(7=CC_EV_CALL_ALERT), cid(33), disp(0)
Mar 28 00:22:49.232: ssaTraceSct: cid(33)st(1)oldst(0)cfid(™)
csize(0)in(0)fDest(0) cid2(32)st2(1)oldst2(0)
Mar 28 00:22:49.232: ccCallAlert (callID=0x20, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:22:49.232: ccConferenceCreate (confID=0x61BBE8B0,
callID1=0x20, callID2=0x21, tag=0x0)
Mar 28 00:22:49.232: cc_api_bridge_done (confID=0xD, srcIF=0x6174EC64,
srcCallID=0x21,
dstCallID=0x20, disposition=0, tag=0x0)
Mar 28 00:22:49.232: cc_api_bridge_done (confID=0xD,
srcIF=0x61B9ADAC, srcCallID=0x20,
dstCallID=0x21, disposition=0, tag=0x0)
Mar 28 00:22:49.232: cc_api_caps_ind (dstVdbPtr=0x6174EC64,
     dstCallId=0x21, srcCallId=0x20,
     caps={codec=0xEBF7, fax_rate=0xFF, vad=0x3, modem=0x3
           codec_bytes=1638535964, signal_type=2})
Mar 28 00:22:49.236: sess_appl: ev(28=CC_EV_CONF_CREATE_DONE), cid(32), disp(0)
Mar 28 00:22:49.236: ssaTraceSct: cid(32)st(3)oldst(0)cfid(13)
csize(0)in(1)fDest(1) cid2(33)st2(3)oldst2(1)
Mar 28 00:22:49.844: cc_api_caps_ind (dstVdbPtr=0x61B9ADAC,
    dstCallId=0x20, srcCallId=0x21,
     caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
           codec_bytes=20, signal_type=0})
Mar 28 00:22:49.844: cc_api_caps_ack (dstVdbPtr=0x61B9ADAC,
   dstCallId=0x20, srcCallId=0x21,
     caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
           codec_bytes=20, signal_type=0})
Mar 28 00:22:49.848: cc_api_caps_ack (dstVdbPtr=0x6174EC64,
```

```
    dstCallId=0x21, srcCallId=0x20,
     caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
           codec_bytes=20, signal_type=0})
Mar 28 00:22:51.504: cc_api_call_connected(vdbPtr=0x6174EC64, callID=0x21)
Mar 28 00:22:51.508: sess_appl: ev(8=CC_EV_CALL_CONNECTED), cid(33), disp(0)
Mar 28 00:22:51.508: ssaTraceSct: cid(33)st(4)oldst(1)cfid(13)
csize(0)in(0)fDest(0) cid2(32)st2(4)oldst2(3)
Mar 28 00:22:51.508: ccCallConnect (callID=0x20)
Mar 28 00:22:51.508: ssaFlushPeerTagQueue cid(32) peer list: (empty)
Mar 28 00:22:51.508: ISDN Se0:23: TX  >  CONNECT pd = 8  callref = 0x8030
Mar 28 00:22:51.564: ISDN Se0:23: RX <   CONNECT_ACK pd = 8  callref = 0x30
Mar 28 00:22:51.564: ISDN Se0:23: CALL_PROGRESS:
CALL_CONNECTED call id 0x11, bchan ™, dsl 0
Mar 28 00:22:54.620: cc_api_call_digit_begin
(vdbPtr=0x61B9ADAC, callID=0x20, digit=1, flags=0x1,
timestamp=0xCAAF06B, expiration=0x0)
Mar 28 00:22:54.620: sess_appl: ev(10=CC_EV_CALL_DIGIT_BEGIN),
cid(32), disp(0)
Mar 28 00:22:54.620: ssaTraceSct: cid(32)st(5)oldst(3)cfid(13)
csize(0)in(1)fDest(1) cid2(33)st2(5)
oldst2(4)
Mar 28 00:22:54.620: ccCallDigitBegin (callID=0x21, db=0x61BBE8EC)
Mar 28 00:22:54.700: cc_api_call_digit (vdbPtr=0x61B9ADAC,
callID=0x20, digit=1, duration=130)
Mar 28 00:22:54.700: sess_appl: ev(9=CC_EV_CALL_DIGIT), cid(32), disp(0)
Mar 28 00:22:54.700: ssaTraceSct: cid(32)st(5)oldst(5)cfid(13)
csize(0)in(1)fDest(1) cid2(33)st2(5)
oldst2(4)
Mar 28 00:22:54.700: ccCallDigitEnd (callID=0x21, de=0x61BBE8EC)
Mar 28 00:22:55.120: ISDN Se0:23: RX <   DISCONNECT pd = 8  callref = 0x30
Mar 28 00:22:55.120:         Cause i = 0x8090   Normal call clearing
Mar 28 00:22:55.120: %ISDN  DISCONNECT: Interface Serial0:18
disconnected from 9195552010 , call lasted 3 seconds
Mar 28 00:22:55.124: ISDN Se0:23: TX  >  RELEASE pd = 8  callref = 0x8030
Mar 28 00:22:55.124: cc_api_call_disconnected(vdbPtr=0x61B9ADAC,
callID=0x20, cause=0x10)
Mar 28 00:22:55.124: sess_appl: ev(12=CC_EV_CALL_DISCONNECTED),
cid(32), disp(0)
Mar 28 00:22:55.124: ssaTraceSct: cid(32)st(5)oldst(5)cfid(13)
csize(0)in(1)fDest(1) cid2(33)st2(5)oldst2(4)
Mar 28 00:22:55.124: ssa: Disconnected cid(32) state(5) cause(0x10)
Mar 28 00:22:55.124: ccConferenceDestroy (confID=0xD, tag=0x0)
Mar 28 00:22:55.124: cc_api_bridge_drop_done (confID=0xD,
srcIF=0x6174EC64, srcCallID=0x21,
dstCallID=0x20, disposition=0 tag=0x0)
Mar 28 00:22:55.124: cc_api_bridge_drop_done (confID=0xD,
srcIF=0x61B9ADAC, srcCallID=0x20,
dstCallID=0x21, disposition=0 tag=0x0)
Mar 28 00:22:55.124: sess_appl: ev(29=CC_EV_CONF_DESTROY_DONE), cid(32), disp(0)
Mar 28 00:22:55.124: ssaTraceSct: cid(32)st(6)oldst(5)cfid(™)
csize(0)in(1)fDest(1) cid2(33)st2(6)oldst2(4)
Mar 28 00:22:55.124: ccCallDisconnect (callID=0x20, cause=0x10 tag=0x0)
Mar 28 00:22:55.124: ccCallDisconnect (callID=0x21, cause=0x10 tag=0x0)
Mar 28 00:22:55.128: RASlib::ras_sendto: msg length 76 from 172.16.120.2:51726 to
172.16.120.1:1719
Mar 28 00:22:55.128: RASLib::RASSendDRQ: DRQ (seq# 12120) sent to 172.16.120.1
Mar 28 00:22:55.132: RASLib::RASRecvData: successfully rcvd message
of length 3 from 172.16.120.1:1719
Mar 28 00:22:55.132: RASLib::RASRecvData: DCF (seq# 12120) rcvd
from [172.16.120.1:1719] on sock [0x61A18664]
Mar 28 00:22:55.132: cc_api_call_disconnect_done(vdbPtr=0x6174EC64,
callID=0x21, disp=0, tag=0x0)
Mar 28 00:22:55.132: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE),
cid(33), disp(0)
Mar 28 00:22:55.132: ssaTraceSct: cid(33)st(7)oldst(4)cfid(™)
csize(0)in(0)fDest(0) cid2(32)st2(7)oldst2(6)
```

```
Mar 28 00:22:55.140: cc_api_call_disconnect_done(vdbPtr=0x61B9ADAC,
callID=0x20, disp=0, tag=0x0)
Mar 28 00:22:55.140: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE), cid(32), disp(0)
Mar 28 00:22:55.140: ssaTraceSct: cid(32)st(7)oldst(6)cfid(™)
csize(1)in(1)fDest(1)
Mar 28 00:22:55.172: ISDN Se0:23: RX <   RELEASE_COMP pd = 8  callref = 0x30
Mar 28 00:23:14.251: RASlib::ras_sendto: msg length 76 from 172.16.120.2:51726 to
172.16.120.1:1719
Mar 28 00:23:14.251: RASLib::RASSendRRQ: RRQ (seq# 12121) sent to 172.16.120.1
Mar 28 00:23:14.255: RASLib::RASRecvData: successfully rcvd message
of length 52 from 172.16.120.1:1719
Mar 28 00:23:14.255: RASLib::RASRecvData: RCF (seq# 12121) rcvd
from [172.16.120.1:1719] on sock [0x61A18664]
Mar 28 00:23:59.255: RASlib::ras_sendto: msg length 76 from
172.16.120.2:51726 to 172.16.120.1:1719
Mar 28 00:23:59.255: RASLib::RASSendRRQ: RRQ (seq# 12122) sent to 172.16.120.1
Mar 28 00:23:59.259: RASLib::RASRecvData: successfully rcvd message
of length 52 from 172.16.120.1:1719
Mar 28 00:23:59.259: RASLib::RASRecvData: RCF (seq# 12122)
rcvd from [172.16.120.1:1719] on sock [0x61A18664]
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 dici 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

4B   : 54320146hs.1 +1112 pid:1 Answer 9195552010 active
 dur 00:00:15 tx:954/15972 rx:259/8288
 Tele 0:D:36: tx:24500/5180/0ms g729r8 noise: 5 acom:0  i/0: 6/œ4 dBm


4B   : 54320146hs.2 +1112 pid:2 Originate 4085556400 active
 dur 00:00:15 tx:259/5180 rx:954/19080
 IP 172.16.110.2:17024 rtt:4ms pl:16250/0ms lost:0/0/0 delay:50/50/70ms g729r8



Raleigh5300A# show call active voice
 GENERIC:
SetupTime=54320146 ms
Index=1
PeerAddress=9195552010
PeerSubAddress=
PeerId=1
PeerIfIndex=56
LogicalIfIndex=26
ConnectTime=54321258
CallDuration=00:00:24
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=1414
TransmitBytes=20900
ReceivePackets=615
ReceiveBytes=19680
TELE:
ConnectionId=[0x1ACB27D8 0x98F4004B 0x0 0x206098B4]
TxDuration=33700 ms
```

```
VoiceTxDuration=12300 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel= 5
ACOMLevel=0
OutSignalLevel=œ5
InSignalLevel= 5
InfoActivity=2
ERLLevel=19
SessionTarget=
ImgPages=0
 GENERIC:
SetupTime=54320146 ms
Index=2
PeerAddress=4085556400
PeerSubAddress=
PeerId=2
PeerIfIndex=57
LogicalIfIndex=0
ConnectTime=54321258
CallDuration=00:00:24
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=615
TransmitBytes=12300
ReceivePackets=1415
ReceiveBytes=28300
VOIP:
ConnectionId[0x1ACB27D8 0x98F4004B 0x0 0x206098B4]
RemoteIPAddress=172.16.110.2
RemoteUDPPort=17024
RoundTripDelay=4 ms
SelectedQoS=best effort
tx_DtmfRelay=inband voice
SessionProtocol=cisco
SessionTarget=ras
OnTimeRvPlayout=25900
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=50 ms
ReceiveDelay=50 ms
LostPackets=0
EarlyPackets=0
LatePackets=0
VAD = enabled
CoderTypeRate=g729r8
CodecBytes=20
SignalingType=cas
Raleigh5300A#
```

Verification for Raleigh 3640A Router

```
Raleigh3640A# show gatekeeper end
                    GATEKEEPER ENDPOINT REGISTRATION
                    ================================
CallSignalAddr  Port  RASSignalAddr   Port  Zone Name         Type    F

172.16.120.2    1720  172.16.120.2    51726 RALgk1            VOIP GW
    H323 ID: RAL5300A@cisco.com
Total number of active registrations = 1
```

```
Raleigh3640A# show gatekeeper gw
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, 239 messages logged
    Monitor logging: level debugging, 0 messages logged
    Buffer logging: level debugging, 239 messages logged
    Trap logging: level informational, 106 message lines logged


Log Buffer (50000 bytes):
Mar 28 00:22:48.019: RASLib::RASRecvData: successfully rcvd message of
length 115 from 172.16.120.2:51726
Mar 28 00:22:48.019: RASLib::RASRecvData: ARQ (seq# 12119) rcvd from
[172.16.120.2:51726] on sock [0x60F2F9A0]      RASLib::parse_arq_nonstd: ARQ
 Nonstd decode succeeded, remlen = 0
Mar 28 00:22:48.023:  RASlib::ras_sendto: msg length 7 from
172.16.120.1:1719 to 172.16.120.2:51726
Mar 28 00:22:48.023: RASLib::RASSendRIP: RIP (seq# 12119) sent to
172.16.120.2
Mar 28 00:22:48.023: RASLib::RAS_WK_TInit: ipsock [0x612328CC] setup
successful
Mar 28 00:22:48.027:       RASlib::ras_sendto: msg length 79 from
172.16.120.1:52893 to 172.16.110.1:1719
Mar 28 00:22:48.027: RASLib::RASSendLRQ: LRQ (seq# 20) sent to 172.16.110.1
Mar 28 00:22:48.035: RASLib::RASRecvData: successfully rcvd message of length
 128 from 172.16.110.1:1719
Mar 28 00:22:48.035:  RASLib::RASRecvData: LCF (seq# 20) rcvd from
[172.16.110.1:1719] on sock [0x612328CC] RASLib::parse_lcf_nonstd:
LCF Nonstd decode succeeded, remlen = 0
Mar 28 00:22:48.039: RASlib::ras_sendto: msg length 24 from 172.16.120.1:1719 to
 172.16.120.2:51726
Mar 28 00:22:48.039: RASLib::RASSendACF: ACF (seq# 12119) sent to 172.16.120.2
Mar 28 00:22:55.123: RASLib::RASRecvData: successfully rcvd message of length
76 from 172.16.120.2:51726
Mar 28 00:22:55.123: RASLib::RASRecvData: DRQ (seq# 12120) rcvd from
[172.16.120.2:51726] on sock [0x60F2F9A0]
Mar 28 00:22:55.127: RASlib::ras_sendto: msg length 3 from 172.16.120.1:1719 to
172.16.120.2:51726
Mar 28 00:22:55.127: RASLib::RASSendDCF: DCF (seq# 12120) sent to 172.16.120.2
Mar 28 00:23:14.247: RASLib::RASRecvData: successfully rcvd message of length 76
 from 172.16.120.2:51726
Mar 28 00:23:14.251: RASLib::RASRecvData: RRQ (seq# 12121) rcvd from
 [172.16.120.2:51726] on sock [0x60F2F9A0]
Mar 28 00:23:14.251: RASlib::ras_sendto: msg length 52 from 172.16.120.1:1719 to
 172.16.120.2:51726
Mar 28 00:23:14.251: RASLib::RASSendRCF: RCF (seq# 12121) sent to 172.16.120.2
Mar 28 00:23:59.251: RASLib::RASRecvData: successfully rcvd message of length 76
from 172.16.120.2:51726
Mar 28 00:23:59.251: RASLib::RASRecvData: RRQ (seq# 12122) rcvd from
[172.16.120.2:51726] on sock [0x60F2F9A0]
Mar 28 00:23:59.255: RASlib::ras_sendto: msg length 52 from
172.16.120.1:1719 to 172.16.120.2:51726
Mar 28 00:23:59.255: RASLib::RASSendRCF: RCF (seq# 12122) sent to 172.16.120.2
Mar 28 00:24:44.255: RASLib::RASRecvData: successfully rcvd message of length 76
```

```
from 172.16.120.2:51726
Mar 28 00:24:44.255: RASLib::RASRecvData: RRQ (seq# 12123) rcvd from
[172.16.120.2:51726] on sock [0x60F2F9A0]
Mar 28 00:24:44.259: RASlib::ras_sendto: msg length 52 from 172.16.120.1:1719
 to 172.16.120.2:51726
Mar 28 00:24:44.259: RASLib::RASSendRCF: RCF (seq# 12123) sent to 172.16.120.2
Raleigh3640A#


Raleigh3640A# show gatekeeper call
Total number of active calls = 1.
                        GATEKEEPER CALL INFO
                        ====================
LocalCallID                      Age(secs)   BW
18 872                          41          64(Kbps)
 Endpt(s): Alias        E.164Addr     CallSignalAddr  Port  RASSignalAddr   Port
   src EP: RAL5300A     9195552010    172.16.120.2    1720  172.16.120.2    51726
   dst EP:              408#408555640 172.16.110.2    1720  172.16.110.2    1720


Raleigh3640A#
```

Verification for San Jose 5300A Router

```
SanJose5300A# show gatekeeper
 Gateway  SJ5300A@cisco.com  is registered to Gatekeeper SJgk1


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, 1695 messages logged
    Monitor logging: level debugging, 0 messages logged
    Buffer logging: level debugging, 1695 messages logged
    Trap logging: level informational, 96 message lines logged


Log Buffer (50000 bytes):
Mar 28 00:22:48.043: RASlib::ras_sendto: msg length 122 from
172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:22:48.043: RASLib::RASSendARQ: ARQ (seq# 12092) sent to
172.16.110.1
Mar 28 00:22:48.047: RASLib::RASRecvData: successfully rcvd message of length
 24 from 172.16.110.1:1719
Mar 28 00:22:48.047: RASLib::RASRecvData: ACF (seq# 12092) rcvd from
[172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:22:48.047: cc_api_call_setup_ind (vdbPtr=0x616F8D2C,
callInfo={called=408#4085556400,
 calling=9195552010, fdest=1 peer_tag=2}, callID=0x6199B54C)
Mar 28 00:22:48.051: cc_process_call_setup_ind (event=0x619B3954)
handed call to app "SESSION"
Mar 28 00:22:48.051: sess_appl: ev(23=CC_EV_CALL_SETUP_IND), cid(25), disp(0)
Mar 28 00:22:48.051: ccCallSetContext (callID=0x19, context=0x61A643D8)
Mar 28 00:22:48.051: ssaCallSetupInd finalDest cllng(9195552010),
clled(408#4085556400)
Mar 28 00:22:48.051: ssaSetupPeer cid(25) peer list:  tag(1)
called number (408#4085556400)
Mar 28 00:22:48.051: ssaSetupPeer cid(25), destPat(408#4085556400),
matched(11), prefix(6),
```

```
 peer(61A03B88)
Mar 28 00:22:48.051: ccCallProceeding (callID=0x19, prog_ind=0x0)
Mar 28 00:22:48.051: ccCallSetupRequest (Inbound call = 0x19,
outbound peer =1, dest=,
params=0x61A643EC mode=0, *callID=0x619BB9F0)
Mar 28 00:22:48.051: callingNumber=9195552010, calledNumber=408#4085556400,
redirectNumber=
Mar 28 00:22:48.051: accountNumber=, finalDestFlag=1,
guid=1acb.27d8.98f4.0043.0000.0000.205d.0abc
Mar 28 00:22:48.051: peer_tag=1
Mar 28 00:22:48.051: ccIFCallSetupRequest: (vdbPtr=0x619AC884,
dest=, callParams=
{called=408#4085556400, calling=9195552010, fdest=1, voice_peer_tag=1}, mode=0x0)
Mar 28 00:22:48.051: ccCallSetContext (callID=0x1A, context=0x61A6DCC8)
Mar 28 00:22:48.235: cc_api_call_proceeding(vdbPtr=0x619AC884, callID=0x1A,
      prog_ind=0x0)
Mar 28 00:22:48.235: sess_appl: ev(20=CC_EV_CALL_PROCEEDING), cid(26), disp(0)
Mar 28 00:22:48.235: ssaTraceSct: cid(26)st(1)oldst(0)cfid(™)
csize(0)in(0)fDest(0) cid2(25)st2(1)oldst2(0)
Mar 28 00:22:48.235: ssaIgnore cid(26), st(1),oldst(1), ev(20)
Mar 28 00:22:49.215: cc_api_call_alert(vdbPtr=0x619AC884,
callID=0x1A, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:22:49.215: sess_appl: ev(7=CC_EV_CALL_ALERT), cid(26), disp(0)
Mar 28 00:22:49.215: ssaTraceSct: cid(26)st(1)oldst(1)cfid(™)csize(0)in(0)fDest(0)
 cid2(25)st2(1)oldst2(0)
Mar 28 00:22:49.215: ccCallAlert (callID=0x19, prog_ind=0x8, sig_ind=0x1)
Mar 28 00:22:49.215: ccConferenceCreate (confID=0x619BBA38, callID1=0x19,
callID2=0x1A, tag=0x0)
Mar 28 00:22:49.219: cc_api_bridge_done (confID=0xD, srcIF=0x616F8D2C,
srcCallID=0x19,dstCallID=0x1A, disposition=0, tag=0x0)
Mar 28 00:22:49.219: cc_api_bridge_done (confID=0xD, srcIF=0x619AC884,
srcCallID=0x1A, dstCallID=0x19, disposition=0, tag=0x0)
Mar 28 00:22:49.219: cc_api_caps_ind (dstVdbPtr=0x616F8D2C, dstCallId=0x19,
srcCallId=0x1A, caps={codec=0xEBF7, fax_rate=0xFF, vad=0x3,
 modem=0x3codec_bytes=1637472312, signal_type=2})
Mar 28 00:22:49.219: sess_appl: ev(28=CC_EV_CONF_CREATE_DONE),
cid(25), disp(0)
Mar 28 00:22:49.219: ssaTraceSct: cid(25)st(3)oldst(0)cfid(13)
csize(0)in(1)fDest(1) cid2(26)st2(3)oldst2(1)
Mar 28 00:22:49.631: cc_api_caps_ind (dstVdbPtr=0x619AC884,
dstCallId=0x1A, srcCallId=0x19 caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
          codec_bytes=20, signal_type=0})
Mar 28 00:22:49.631: cc_api_caps_ack (dstVdbPtr=0x619AC884,
  dstCallId=0x1A, srcCallId=0x19,
     caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
          codec_bytes=20, signal_type=0})
Mar 28 00:22:49.635: cc_api_caps_ack (dstVdbPtr=0x616F8D2C,
 dstCallId=0x19, srcCallId=0x1A,
     caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x1
          codec_bytes=20, signal_type=0})
Mar 28 00:22:51.491: cc_api_call_connected(vdbPtr=0x619AC884, callID=0x1A)
Mar 28 00:22:51.491: sess_appl: ev(8=CC_EV_CALL_CONNECTED), cid(26), disp(0)
Mar 28 00:22:51.491: ssaTraceSct: cid(26)st(4)oldst(1)cfid(13)
csize(0)in(0)fDest(0) cid2(25)st2(4)oldst2(3)
Mar 28 00:22:51.491: ccCallConnect (callID=0x19)
Mar 28 00:22:51.491: ssaFlushPeerTagQueue cid(25) peer list: (empty)
Mar 28 00:22:55.119: cc_api_call_disconnected(vdbPtr=0x0, callID=0x19, cause=0x10)
Mar 28 00:22:55.119: sess_appl: ev(12=CC_EV_CALL_DISCONNECTED), cid(25), disp(0)
Mar 28 00:22:55.119: ssaTraceSct: cid(25)st(5)oldst(3)cfid(13)
csize(0)in(1)fDest(1) cid2(26) st2(5)oldst2(4)
Mar 28 00:22:55.119: ssa: Disconnected cid(25) state(5) cause(0x10)
Mar 28 00:22:55.119: ccConferenceDestroy (confID=0xD, tag=0x0)
Mar 28 00:22:55.119: cc_api_bridge_drop_done (confID=0xD,
srcIF=0x616F8D2C, srcCallID=0x19, dstCallID=0x1A, disposition=0 tag=0x0)
Mar 28 00:22:55.119: cc_api_bridge_drop_done (confID=0xD,
srcIF=0x619AC884, srcCallID=0x1A, dstCallID=0x19, disposition=0 tag=0x0)
```

```
Mar 28 00:22:55.119: sess_appl: ev(29=CC_EV_CONF_DESTROY_DONE),
cid(25), disp(0)
Mar 28 00:22:55.119: ssaTraceSct: cid(25)st(6)oldst(5)cfid(™)
csize(0)in(1)fDest(1) cid2(26)st2(6)oldst2(4)
Mar 28 00:22:55.119: ccCallDisconnect (callID=0x19, cause=0x10 tag=0x0)
Mar 28 00:22:55.119: ccCallDisconnect (callID=0x1A, cause=0x10 tag=0x0)
Mar 28 00:22:55.123: RASlib::ras_sendto: msg length 76 from
172.16.110.2:52521 to 172.16.110.1:1719
Mar 28 00:22:55.123: RASLib::RASSendDRQ: DRQ (seq# 12093) sent to
172.16.110.1
Mar 28 00:22:55.127: RASLib::RASRecvData: successfully rcvd message
of length 3 from 172.16.110.1:1719
Mar 28 00:22:55.127: RASLib::RASRecvData: DCF (seq# 12093) rcvd
from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:22:55.127: cc_api_call_disconnect_done(vdbPtr=0x0,
callID=0x19, disp=0, tag=0x0)
Mar 28 00:22:55.127: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE),
cid(25), disp(0)
Mar 28 00:22:55.127: ssaTraceSct: cid(25)st(7)oldst(6)cfid(™)
csize(0)in(1)fDest(1) cid2(26)st2 (7)oldst2(4)
Mar 28 00:22:55.139: cc_api_call_disconnect_done(vdbPtr=0x619AC884,
callID=0x1A, disp=0, tag=0x61A630BC)
Mar 28 00:22:55.139: sess_appl: ev(13=CC_EV_CALL_DISCONNECT_DONE),
cid(26), disp(0)
Mar 28 00:22:55.139: ssaTraceSct: cid(26)st(7)oldst(4)cfid(™)
csize(1)in(0)fDest(0)
Mar 28 00:22:55.443: RASlib::ras_sendto: msg length 74 from 172.16.110.2:52521 to
172.16.110.1:1719
Mar 28 00:22:55.443: RASLib::RASSendRRQ: RRQ (seq# 12094) sent to 172.16.110.1
Mar 28 00:22:55.447: RASLib::RASRecvData: successfully rcvd message
of length 52 from 172.16.110.1:1719
Mar 28 00:22:55.447: RASLib::RASRecvData: RCF (seq# 12094) rcvd
from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:23:40.448: RASlib::ras_sendto: msg length 74 from 172.16.110.2:52521 to
172.16.110.1:1719
Mar 28 00:23:40.448: RASLib::RASSendRRQ: RRQ (seq# 12095) sent to 172.16.110.1
Mar 28 00:23:40.452: RASLib::RASRecvData: successfully rcvd message
of length 52 from 172.16.110.1:1719
Mar 28 00:23:40.452: RASLib::RASRecvData: RCF (seq# 12095) rcvd from
[172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:24:25.452: RASlib::ras_sendto: msg length 74 from 172.16.110.2:52521 to
172.16.110.1:1719
Mar 28 00:24:25.452: RASLib::RASSendRRQ: RRQ (seq# 12096) sent to 172.16.110.1
Mar 28 00:24:25.456: RASLib::RASRecvData: successfully rcvd message of
length 52 from 172.16.110.1:1719
Mar 28 00:24:25.456: RASLib::RASRecvData: RCF (seq# 12096) rcvd
from [172.16.110.1:1719] on sock [0x61752218]
Mar 28 00:25:10.457: RASlib::ras_sendto: msg length 74 from 172.16.110.2:52521 to
172.16.110.1:1719
Mar 28 00:25:10.457: RASLib::RASSendRRQ: RRQ (seq# 12097) sent to 172.16.110.1
Mar 28 00:25:10.461: RASLib::RASRecvData: successfully rcvd message
of length 52 from 172.16.110.1:1719
Mar 28 00:25:10.461: RASLib::RASRecvData: RCF (seq# 12097) rcvd
from [172.16.110.1:1719] on sock [0x61752218]
SanJose5300A#

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 dici 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
```

```
4B   : 54285525hs.1 +1107 pid:2 Answer 9195552010 active
 dur 00:00:38 tx:2106/42120 rx:1023/20460
 IP 172.16.120.2:17698 rtt:4ms pl:19920/0ms lost:0/0/0 delay:30/30/70ms g729r8


4B   : 54285543hs.1 +1089 pid:1 Originate 408#4085556400 active
 dur 00:00:38 tx:1023/ 040 rx:2125/68000
 Tele 0:1 (30): tx:47730/42500/0ms g729r8 noise:Ÿ2 acom:0  i/0:œ1/œ1 dBm



SanJose5300A# show call active voice
 GENERIC:
SetupTime=54285525 ms
Index=1
PeerAddress=9195552010
PeerSubAddress=
PeerId=2
PeerIfIndex=17
LogicalIfIndex=0
ConnectTime=54286632
CallDuration=00:00:44
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=2415
TransmitBytes=48300
ReceivePackets=1055
ReceiveBytes=21100
VOIP:
ConnectionId[0x1ACB27D8 0x98F4004B 0x0 0x206098B4]
RemoteIPAddress=172.16.120.2
RemoteUDPPort=17698
RoundTripDelay=65535 ms
SelectedQoS=best effort
tx_DtmfRelay=inband voice
SessionProtocol=cisco
SessionTarget=
OnTimeRvPlayout=21090
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=54285543 ms
Index=1
PeerAddress=408#4085556400
PeerSubAddress=
PeerId=1
PeerIfIndex=16
LogicalIfIndex=13
ConnectTime=54286632
CallDuration=00:00:44
CallState=4
CallOrigin=1
```

```
ChargedUnits=0
InfoType=2
TransmitPackets=1055
TransmitBytes= 8108
ReceivePackets=2434
ReceiveBytes=77888
TELE:
ConnectionId=[0x1ACB27D8 0x98F4004B 0x0 0x206098B4]
TxDuration=53920 ms
VoiceTxDuration=48690 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=Ÿ2
ACOMLevel=0
OutSignalLevel=Ÿ1
InSignalLevel=œ3
InfoActivity=2
ERLLevel=9
SessionTarget=
ImgPages=0
SanJose5300A#
```

Verification for San Jose 3640A Router

```
SanJose3640A# show gatekeeper end
                    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
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, 1266 messages logged
    Monitor logging: level debugging, 0 messages logged
    Buffer logging: level debugging, 1258 messages logged
    Trap logging: level informational, 102 message lines logged


Log Buffer (50000 bytes):
Mar 28 00:22:48.025: RASLib::RASRecvData: successfully rcvd message of
length 79 from 172.16.120.1:52893
Mar 28 00:22:48.029: RASLib::RASRecvData: LRQ (seq# 20) rcvd from
[172.16.120.1:52893] on sock [0x60FE9B04] RASLib::parse_lrq_nonstd: LRQ Nonstd
decode succeeded, remlen = 0
Mar 28 00:22:48.033: RASlib::ras_sendto: msg length 128 from 172.16.110.1:1719
to 172.16.120.1:52893
Mar 28 00:22:48.033: RASLib::RASSendLCF: LCF (seq# 20) sent to 172.16.120.1
Mar 28 00:22:48.049: RASLib::RASRecvData: successfully rcvd message of length
122 from 172.16.110.2:52521
```

```
Mar 28 00:22:48.049: RASLib::RASRecvData: ARQ (seq# 12092) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04] RASLib::parse_arq_nonstd:
ARQ Nonstd decode succeeded, remlen = 0
Mar 28 00:22:48.053: RASlib::ras_sendto: msg length 24 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:22:48.053: RASLib::RASSendACF: ACF (seq# 12092) sent to 172.16.110.2
Mar 28 00:22:55.129: RASLib::RASRecvData: successfully rcvd message of length 76
from 172.16.110.2:52521
Mar 28 00:22:55.129: RASLib::RASRecvData: DRQ (seq# 12093) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:22:55.129: RASlib::ras_sendto: msg length 3 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:22:55.129: RASLib::RASSendDCF: DCF (seq# 12093) sent to 172.16.110.2
Mar 28 00:22:55.449: RASLib::RASRecvData: successfully rcvd message of length 74
from 172.16.110.2:52521
Mar 28 00:22:55.449: RASLib::RASRecvData: RRQ (seq# 12094) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:22:55.453: RASlib::ras_sendto: msg length 52 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:22:55.453: RASLib::RASSendRCF: RCF (seq# 12094) sent to 172.16.110.2
Mar 28 00:23:40.453: RASLib::RASRecvData: successfully rcvd message of length 74
from 172.16.110.2:52521
Mar 28 00:23:40.457: RASLib::RASRecvData: RRQ (seq# 12095) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:23:40.457: RASlib::ras_sendto: msg length 52 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:23:40.457: RASLib::RASSendRCF: RCF (seq# 12095) sent to 172.16.110.2
Mar 28 00:24:25.457: RASLib::RASRecvData: successfully rcvd message of length 74
from 172.16.110.2:52521
Mar 28 00:24:25.461: RASLib::RASRecvData: RRQ (seq# 12096) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:24:25.461: RASlib::ras_sendto: msg length 52 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:24:25.461: RASLib::RASSendRCF: RCF (seq# 12096) sent to 172.16.110.2
Mar 28 00:25:10.465: RASLib::RASRecvData: successfully rcvd message of length
74 from 172.16.110.2:52521
Mar 28 00:25:10.465: RASLib::RASRecvData: RRQ (seq# 12097) rcvd from
[172.16.110.2:52521] on sock [0x60FE9B04]
Mar 28 00:25:10.465: RASlib::ras_sendto: msg length 52 from 172.16.110.1:1719 to
172.16.110.2:52521
Mar 28 00:25:10.469: RASLib::RASSendRCF: RCF (seq# 12097) sent to 172.16.110.2
SanJose3640A#


SanJose3640A# show gatekeeper call
Total number of active calls = 1
```

Gatekeeper Call Information

```
.
                        GATEKEEPER CALL INFO
                        ====================
LocalCallID                      Age(secs)   BW
15 872                          60          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


SanJose3640A#
```

Troubleshoot

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

Troubleshooting Commands

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

- **debug ras**
- **debug h245 asn1**
- **debug h225 asn1**

Note: Refer to Understanding and Troubleshooting Gatekeeper TTL and Aging out Process. This document describes how the Cisco Gatekeeper ages out the endpoints with use of the Time to Live (TTL) value.

Related Information

- **Voice Technology Support**
- **Voice and IP Communications Product Support**
- **Troubleshooting Cisco IP Telephony**
- **Technical Support & Documentation − Cisco Systems**

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