VoIP con PPP sobre línea arrendada de alto ancho de banda y LLQ

Contenido

Introducción

Este documento proporciona configuraciones de ejemplo para dos routers Cisco 3640. Las configuraciones permiten que los routers se comuniquen con VoIP con PPP en una línea alquilada de ancho de banda alto con cola de latencia baja (LLQ). Para obtener más información sobre LLQ, consulte el documento VoIP sobre links PPP con calidad de servicio (LLQ / IP RTP Priority, LFI, cRTP).

Nota: Cuando este documento analiza el ancho de banda alto en términos de VoIP y QoS, el ancho de banda alto es cualquier ancho de banda superior a 768 kbps.

Prerequisites

Requirements

No hay requisitos específicos para este documento.

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Cisco IOS® Software Release 12.2(19a) IP Plus o cualquier otra versión de Cisco IOS Software de 12.2, 12.2T, 12.3 o 12.3T
- Dos routers Cisco 3640 con al menos 48 DRAM y 16 Mb de memoria Flash
- Dos módulos de red de ranura de tarjeta de interfaz de voz/fax Cisco NM-2V más dos tarjetas de interfaz VIC-2FXS
- Dos interfaces serialesEn este ejemplo, las dos interfaces seriales son NM-1E2Ws, con una tarjeta de interfaz WAN WIC-1T cada una.
- Teléfonos analógicos para la conexión a puertos de estación de intercambio remoto (FXS) para llamadas de voz

Nota: Los módulos de red NM-1E2W, NM-1E1R2W y NM-2E2W no tienen suficiente potencia de rendimiento para admitir WIC-2T. La falta de soporte se debe a las limitaciones de hardware.

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.

Convenciones

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

Antecedentes

Si el tiempo necesario para enviar un paquete de 1500 bytes a través del cable es superior a 10 ms, debe fragmentar los paquetes. Este documento presenta una configuración sin fragmentación. La configuración es para un link de 1544 kilobits para el cual el retraso de transmisión para un paquete de 1500 bytes es menor a 10 ms.

Nota: En algunos casos en los que tiene una conexión T1 completa dedicada, una función de fragmentación puede ser innecesaria. Sin embargo, todavía necesita un mecanismo de QoS. Utilice LLQ en este caso. Si la cantidad de tiempo necesaria para enviar un paquete de 1500 bytes al cable es inferior a 10 ms, no es necesario fragmentar los paquetes. El T1 completo ofrece suficiente ancho de banda para permitir el ingreso y la salida de los paquetes de voz de la cola sin problemas de retardo.

Nota: Si ha activado la fragmentación en el router, hay habilitación del mecanismo de colocación en cola el 100% del tiempo. Si ha configurado LLQ, el valor que ha configurado limita el tráfico para la cola de prioridad. Cuando no ha activado la fragmentación, el router sólo aplica la política de QoS en caso de congestión.

Además, en el caso de velocidades de línea superiores a 768 kbps, el protocolo de transporte en tiempo real comprimido (cRTP) puede ser innecesario. Consulte el documento VoIP sobre links PPP con calidad de servicio [LLQ / IP RTP Priority, LFI, cRTP]. El uso de cRTP ayuda a ahorrar ancho de banda porque cRTP comprime los encabezados IP RTP. En la sección Configuraciones de este documento, la habilitación de cRTP es innecesaria. El T1 permite suficiente ancho de banda para que los paquetes de voz se transmitan, sin compresión, al cable sin problemas.

Precaución: Si decide utilizar cRTP, tenga en cuenta que cRTP utiliza recursos de CPU. El cRTP puede gravar en exceso a un router que tiene una pesada carga de tráfico de voz.

Nota: En esta configuración, los dos routers se conectan adosados sobre una línea arrendada.

Pero, en la mayoría de las topologías, los routers con habilitación de voz pueden existir en cualquier lugar. Normalmente, los routers de voz se conectan con conectividad LAN a otros routers que se conectan a la WAN. Si los routers de voz no se conectan a través de PPP sobre una línea arrendada, debe configurar todos los comandos de configuración de conectividad WAN en los routers que se conectan a la WAN; no configura los comandos en los routers de voz, que muestran las configuraciones en este documento.

**Nota:** Esta configuración puede funcionar para los Cisco 1700, 2600, 3600 y 3700 Series Routers.

Configurar

En esta sección encontrará la información para configurar las funciones descritas en este documento.

Nota: Para encontrar información adicional sobre los comandos usados en este documento, utilice la Command Lookup Tool (sólo clientes registrados) .

Diagrama de la red

En este documento, se utiliza esta configuración de red:
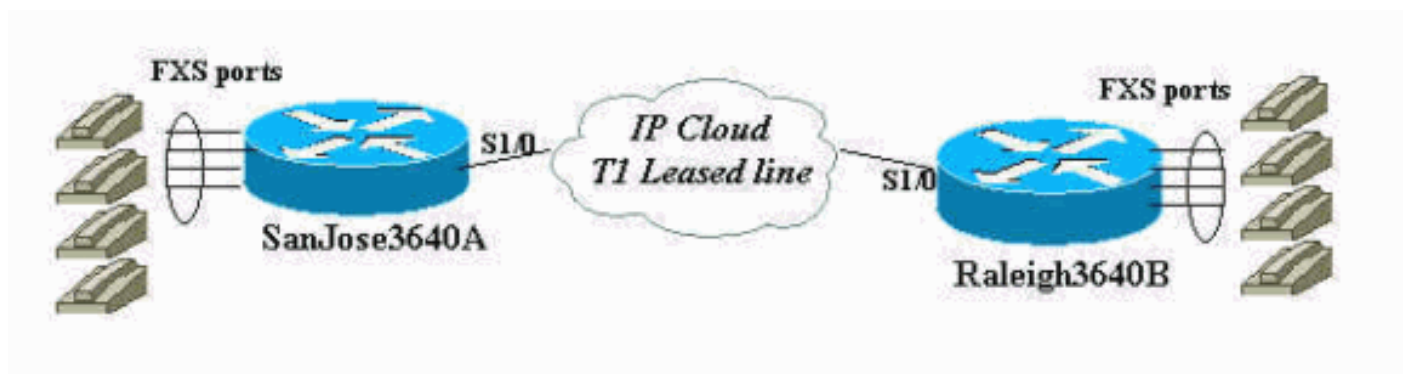
Configuraciones

En este documento, se utilizan estas configuraciones:

- San José
- Raleigh

San José

```
SanJose3640A# show run
Building configuration...

Current configuration : 1425 bytes
!
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname SanJose3640A
!
```

```
logging buffered 50000 debugging
!
ip subnet-zero
!
!
no ip domain-lookup
!
call rsvp-sync
!
!
!
!
!
!
class-map match-all voice-signaling
 match access-group 103
class-map match-all voice-traffic
 match access-group 102
!
!
policy-map voice-policy
 class voice-traffic
  priority 51
```

!--- These are two uncompressed G729 VoIP calls at 24 kpbs each !--- that have voice activity detection (VAD) disablement. You also need !--- to consider the Layer 2 (L2) overhead. class voice-signaling bandwidth 16 *!--- This assigns a queue for voice signaling traffic that ensures 8 kbps. !---* **Note**: This action is optional and has nothing to do with good voice !--- quality. This queue assignment is a way to secure signaling.

```
 class class-default
  fair-queue
```
!--- The class-default class classifies traffic that does !--- not fall into one of the class definitions. The **fair-queue** command !--- associates the default class weighted fair queuing (WFQ).

```
!
!
!
interface Ethernet1/0
 ip address 10.89.251.158 255.255.255.192
 half-duplex
!
interface Serial1/0
 bandwidth 1544
 ip address 192.168.1.1 255.255.255.0
 service-policy output voice-policy
 encapsulation ppp
 load-interval 30
 clockrate 2000000
!
ip classless
ip route 0.0.0.0 0.0.0.0 10.89.251.129
no ip http server
!
access-list 102 permit udp any any range 16384 32767
access-list 103 permit tcp any eq 1720 any
```

```
access-list 103 permit tcp any any eq 1720
!
voice-port 3/0/0
!
voice-port 3/0/1
!
voice-port 3/1/0
!
voice-port 3/1/1
!
dial-peer cor custom
!
!
!
dial-peer voice 1 voip
 incoming called-number .
 destination-pattern 2...
 session target ipv4:192.168.1.2
 dtmf-relay h245-alphanumeric
 no vad
!
dial-peer voice 2 pots
 destination-pattern 1001
 port 3/0/0
!
dial-peer voice 3 pots
 destination-pattern 1002
 port 3/0/1
!
!
line con 0
line aux 0
line vty 0 4
password cisco
login
!
end

SanJose3640A#

SanJose3640A#
SanJose3640A# show version
Cisco Internetwork Operating System Software
IOS (tm) 3600 Software (C3640-IS-M), Version 12.2(19a),
RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Mon 29-Sep-03 23:45 by pwade
Image text-base: 0x60008930, data-base: 0x61134000

ROM: System Bootstrap, Version 11.1(20)AA2, EARLY
DEPLOYMENT RELEASE SOFTWARE (fc1)

SanJose3640A uptime is 5 minutes
System returned to ROM by reload
System image file is "flash:c3640-is-mz.122-19a.bin"

cisco 3640 (R4700) processor (revision 0x00) with
126976K/4096K bytes of memory.
Processor board ID 15636516
R4700 CPU at 100Mhz, Implementation 33, Rev 1.0
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology
Corp).
```

```
1 Ethernet/IEEE 802.3 interface(s)
1 Serial network interface(s)
2 Voice FXO interface(s)
2 Voice FXS interface(s)
DRAM configuration is 64 bits wide with parity disabled.
125K bytes of non-volatile configuration memory.
32768K bytes of processor board System flash
(Read/Write)
16384K bytes of processor board PCMCIA Slot1 flash
(Read/Write)


Configuration register is 0x2102


SanJose3640A#
```

Raleigh

```
Raleigh3640A# show run
Building configuration...

Current configuration : 1406 bytes
!
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Raleigh3640A
!
logging buffered 50000 debugging
!
ip subnet-zero
!
!
no ip domain-lookup
!
call rsvp-sync
!
!
!
!
!
!
!
class-map match-all voice-signaling
 match access-group 103
class-map match-all voice-traffic
 match access-group 102
!
!
policy-map voice-policy
 class voice-traffic
  priority 51
!--- These are two uncompressed G729 VoIP calls at 24
kpbs each !--- that have VAD disablement. You also need
to consider !--- the L2 overhead. class voice-signaling
bandwidth 16 !--- This assigns a queue for voice
signaling traffic that ensures 8 kbps. !--- Note: This
action is optional and has nothing to do with good voice
!--- quality. This queue assignment is a way to secure
signaling.
```

```
 class class-default
   fair-queue
!--- The class-default class classifies traffic that
does !--- not fall into one of the class definitions.
The fair-queue command !--- associates the default class
WFQ.

!
!
!
interface Ethernet1/0
 ip address 10.89.251.159 255.255.255.192
 half-duplex
!
interface Serial1/0
 bandwidth 1544
 ip address 192.168.1.2 255.255.255.0
 service-policy output voice-policy
 encapsulation ppp
 load-interval 30
!
ip classless
ip route 0.0.0.0 0.0.0.0 10.89.251.129
no ip http server
!
access-list 102 permit udp any any range 16384 32767
access-list 103 permit tcp any eq 1720 any
access-list 103 permit tcp any any eq 1720
!
voice-port 3/0/0
!
voice-port 3/0/1
!
voice-port 3/1/0
!
voice-port 3/1/1
!
dial-peer cor custom
!
!
!
dial-peer voice 1 voip
 incoming called-number .
 destination-pattern 1...
 session target ipv4:192.168.1.1
 dtmf-relay h245-alphanumeric
 no vad
!
dial-peer voice 2 pots
 destination-pattern 2001
 port 3/0/0
!
dial-peer voice 3 pots
 destination-pattern 2002
 port 3/0/1
!
!
line con 0
line aux 0
line vty 0 4
password cisco
login
!
end
```

```
Raleigh3640A#
Raleigh3640A#
Raleigh3640A# show version
Cisco Internetwork Operating System Software
IOS (tm) 3600 Software (C3640-IS-M), Version 12.2(19a),
RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Mon 29-Sep-03 23:45 by pwade
Image text-base: 0x60008930, data-base: 0x61134000

ROM: System Bootstrap, Version 12.1(17r) [cmong 17r],
RELEASE SOFTWARE (fc1)

Raleigh3640A uptime is 6 minutes
System returned to ROM by reload
System image file is "flash:c3640-is-mz.122-19a.bin"

cisco 3640-A (R4700) processor (revision 0x00) with
94208K/4096K bytes of memory.
Processor board ID 29851759
R4700 CPU at 100Mhz, Implementation 33, Rev 1.0
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology
Corp).
1 Ethernet/IEEE 802.3 interface(s)
1 Serial network interface(s)
2 Voice FXO interface(s)
2 Voice FXS interface(s)
DRAM configuration is 64 bits wide with parity disabled.
123K bytes of non-volatile configuration memory.
32768K bytes of processor board System flash
(Read/Write)
16384K bytes of processor board PCMCIA Slot0 flash
(Read/Write)

Configuration register is 0x2102

Raleigh3640A#
```

Verificación

Después de ingresar estas configuraciones en los routers, verifique que funcionen correctamente. Los comandos y los resultados respectivos aquí demuestran una implementación exitosa de las configuraciones.

La herramienta Output Interpreter (sólo para clientes registrados) permite utilizar algunos comandos "show" y ver un análisis del resultado de estos comandos.

- **show interface serial 1/0**: permite verificar el estado de su interfaz serial.
- **show call active voice brief**: permite ver la información de la llamada durante una llamada.
- **show call active voice**: permite ver la información de la llamada durante una llamada.
- **show policy-map interface**: permite verificar la política de QoS que utiliza la interfaz.
- **show access-list 102**: permite verificar la selección de paquetes por la lista de acceso para la clase de voz. Ejecute el comando una segunda vez después de unos segundos y verifique que haya un aumento en el conteo de paquetes. Ejecute el comando **clear access-list counters 102**, si es necesario.

- **show voice call summary**: permite verificar el estado de las llamadas. El comando muestra si las llamadas tienen conexión.
- **show voice port summary**: permite verificar el estado de los puertos de voz. El comando muestra los puertos de voz como colgado o descolgado.
- **show voice dsp**: permite verificar el estado del procesador de señales digitales (DSP) y el codificador-descodificador (códec) que utiliza cada llamada.

Verificación para el router San José

Antes de realizar la verificación, verifique las interfaces para asegurarse de que dispone de la conectividad necesaria para realizar llamadas. Ejecute el comando **show interface serial 1/0** para verificar el estado de su interfaz serial. Con las Configuraciones en este documento, asegúrese de que sus interfaces seriales y multilink estén en un `estado ascendente del protocolo de línea`. Asegúrese también de ver lo siguiente:

- `LCP Open, multilink Open` —Indica el establecimiento de la conexión PPP.
- `Abierto: IPCP, CDPCP` —Le dice que el envío del tráfico IP es posible a través del link PPP.
- `Estrategia de almacenamiento en cola ponderada justa` : corresponde a la interfaz de línea de comandos (CLI) de salida de política de servicio en la interfaz serial. La estrategia es que la configuración de LLQ dé prioridad a la voz sobre los datos.

```
SanJose3640A# show interface serial 1/0
Serial1/0 is up, line protocol is up
Hardware is QUICC Serial
Internet address is 192.168.1.1/24
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set
Keepalive set (10 sec)
LCP Open
Open: IPCP, CDPCP
Last input 00:00:27, output 00:00:02, output hang never
Last clearing of "show interface" counters 00:00:05
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/1/256 (active/max active/max total)
Reserved Conversations 1/1 (allocated/max allocated)
Available Bandwidth 1091 kilobits/sec
30 second input rate 0 bits/sec, 0 packets/sec
30 second output rate 0 bits/sec, 0 packets/sec
1 packets input, 16 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
1 packets output, 16 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
DCD=up DSR=up DTR=up RTS=up CTS=up

SanJose3640A#
```

Este resultado muestra una conectividad exitosa entre los routers. Si no ve que `el protocolo de línea esté activo`, verifique la velocidad del reloj que está en la interfaz DCE. Algunas interfaces seriales no admiten alta velocidad, como el NM-8A/S. Además, verifique que los parámetros de ambos lados coincidan y, lo más importante, que la encapsulación coincida.

La salida del comando **show call active voice brief** muestra dos llamadas exitosas. Una llamada proviene del router Raleigh al router San José y la otra es de San José a Raleigh. Esta lista explica el resultado que aparece en negrita:

- **Answer 1001 active** —Indica que San José es el router desde el que se origina la llamada.
- **Tele 3/0/0** : indica que éste es el tramo de llamada de telefonía.
- **Originar 2001 activo** —Indica que un teléfono del lado Raleigh recibe la llamada.
- **IP 192.168.1.2** —Indica que éste es el tramo de llamada IP.
- **Answer 2002 active** —Indica que Raleigh es el router al que envía la llamada.
- **IP 192.168.1.2** —Indica que éste es el tramo de llamada IP.
- **Originar 1002 activo** —Indica que un teléfono del lado de San José recibe la llamada.
- **Tele 3/0/1** —Indica que éste es el tramo de llamada de telefonía.

```
SanJose3640A# 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>
IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms lost:<lost>/<early>/<late>
delay:<last>/<min>/<max>ms <codec>
MODEMPASS <method> buf:<fills>/<drains> loss <overall%> <multipkt>/<corrected>
last <buf event time>s dur:<Min>/<Max>s
FR <protocol> [int dlci cid] vad:<y/n> dtmf:<y/n> seq:<y/n>
<codec> (payload size)
ATM <protocol> [int vpi/vci cid] vad:<y/n> dtmf:<y/n> seq:<y/n>
<codec> (payload size)
Tele <int>: tx:<tot>/<v>/<fax>ms <codec> noise:<l> acom:<l> i/o:<l>/<l> dBm
Proxy <ip>:<audio udp>,<video udp>,<tcp0>,<tcp1>,<tcp2>,<tcp3> endpt: <type>/<manf>
bw: <req>/<act> codec: <audio>/<video>
tx: <audio pkts>/<audio bytes>,<video pkts>/<video bytes>,<t120 pkts>/<t120 bytes>
rx: <audio pkts>/<audio bytes>,<video pkts>/<video bytes>,<t120 pkts>/<t120 bytes>


Total call-legs: 4
11E8 : 115599hs.1 +318 pid:2 Answer 1001 active
dur 00:00:29 tx:1545/30900 rx:1544/30880
Tele 3/0/0:20: tx:30890/30890/0ms g729r8 noise:0 acom:2 i/0:-35/-44 dBm

11E8 : 115823hs.1 +94 pid:1 Originate 2001 active
dur 00:00:31 tx:1556/31120 rx:1602/32040
IP 192.168.1.2:17360 rtt:4ms pl:25590/0ms lost:0/1/0 delay:69/69/70ms g729r8

11F0 : 116855hs.1 +156 pid:1 Answer 2002 active
dur 00:00:20 tx:1087/21740 rx:1009/20180
IP 192.168.1.2:16772 rtt:2ms pl:17270/0ms lost:0/0/0 delay:69/69/70ms g729r8

11F0 : 116855hs.2 +156 pid:3 Originate 1002 active
dur 00:00:20 tx:1009/20180 rx:1087/21740
Tele 3/0/1 (23): tx:21740/21740/0ms g729r8 noise:0 acom:5 i/0:-40/-40 dBm

Total call-legs: 4

SanJose3640A#
```

Este resultado del comando **show call active voice** proporciona más detalles sobre la llamada activa:

```
SanJose3640A# show call active voice
Total call-legs: 4
```

```
GENERIC:
SetupTime=115599 ms
Index=1
PeerAddress=1001
PeerSubAddress=
PeerId=2
PeerIfIndex=9
LogicalIfIndex=4
ConnectTime=115917
CallDuration=00:05:05
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=15338
TransmitBytes=306760
ReceivePackets=15337
ReceiveBytes=306740
TELE:
ConnectionId=[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
IncomingConnectionId=[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
TxDuration=306740 ms
VoiceTxDuration=306740 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=0
ACOMLevel=5
OutSignalLevel=-43
InSignalLevel=-36
InfoActivity=2
ERLLevel=5
SessionTarget=
ImgPages=0
GENERIC:
SetupTime=115823 ms
Index=1
PeerAddress=2001
PeerSubAddress=
PeerId=1
PeerIfIndex=8
LogicalIfIndex=0
ConnectTime=115917
CallDuration=00:05:07
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=15357
TransmitBytes=307140
ReceivePackets=15403
ReceiveBytes=308060
VOIP:
ConnectionId[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
IncomingConnectionId[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
RemoteIPAddress=192.168.1.2
RemoteUDPPort=17360
RemoteSignallingIPAddress=192.168.1.2
RemoteSignallingPort=1720
RemoteMediaIPAddress=192.168.1.2
RemoteMediaPort=17360
RoundTripDelay=1 ms
SelectedQoS=best-effort
tx_DtmfRelay=h245-alphanumeric
FastConnect=TRUE
```

```
Separate H245 Connection=FALSE

H245 Tunneling=TRUE

SessionProtocol=cisco
SessionTarget=ipv4:192.168.1.2
OnTimeRvPlayout=300810
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=69 ms
ReceiveDelay=69 ms
LostPackets=0
EarlyPackets=2
LatePackets=0
VAD = disabled
CoderTypeRate=g729r8
CodecBytes=20
GENERIC:
SetupTime=116855 ms
Index=1
PeerAddress=2002
PeerSubAddress=
PeerId=1
PeerIfIndex=8
LogicalIfIndex=0
ConnectTime=117011
CallDuration=00:04:56
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=14915
TransmitBytes=298300
ReceivePackets=14837
ReceiveBytes=296740
VOIP:
ConnectionId[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
IncomingConnectionId[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
RemoteIPAddress=192.168.1.2
RemoteUDPPort=16772
RemoteSignallingIPAddress=192.168.1.2
RemoteSignallingPort=11004
RemoteMediaIPAddress=192.168.1.2
RemoteMediaPort=16772
RoundTripDelay=7 ms
SelectedQoS=best-effort
tx_DtmfRelay=h245-alphanumeric
FastConnect=TRUE

Separate H245 Connection=FALSE

H245 Tunneling=TRUE

SessionProtocol=cisco
SessionTarget=
OnTimeRvPlayout=295580
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
```

```
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=69 ms
ReceiveDelay=69 ms
LostPackets=0
EarlyPackets=0
LatePackets=0
VAD = disabled
CoderTypeRate=g729r8
CodecBytes=20
GENERIC:
SetupTime=116855 ms
Index=2
PeerAddress=1002
PeerSubAddress=
PeerId=3
PeerIfIndex=10
LogicalIfIndex=5
ConnectTime=117011
CallDuration=00:04:59
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=14952
TransmitBytes=299040
ReceivePackets=15030
ReceiveBytes=300600
TELE:
ConnectionId=[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
IncomingConnectionId=[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
TxDuration=300600 ms
VoiceTxDuration=300600 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=0
ACOMLevel=5
OutSignalLevel=-40
InSignalLevel=-41
InfoActivity=2
ERLLevel=5
SessionTarget=
ImgPages=0Total call-legs: 4

SanJose3640A#$
```

```
Other shows:
```

El resultado del comando **show policy-map interface** incluye esta sentencia en negrita:

- **Velocidad ofrecida de 30 segundos de 51000 bps** —Muestra el ancho de banda que requieren las dos llamadas, 51 kpbs.

```
SanJose3640A# show policy-map interface
Serial1/0

Service-policy output: voice-policy

Class-map: voice-traffic (match-all)
99403 packets, 6401420 bytes
30 second offered rate 51000 bps, drop rate 0 bps
Match: access-group 102
```

```
Queueing
Strict Priority
Output Queue: Conversation 264
Bandwidth 51 (kbps) Burst 1275 (Bytes)
(pkts matched/bytes matched) 407/65676
(total drops/bytes drops) 0/0

Class-map: voice-signaling (match-all)
158 packets, 12926 bytes
30 second offered rate 0 bps, drop rate 0 bps
Match: access-group 103
Queueing
Output Queue: Conversation 265
Bandwidth 16 (kbps) Max Threshold 64 (packets)
(pkts matched/bytes matched) 158/12926
(depth/total drops/no-buffer drops) 0/0/0

Class-map: class-default (match-any)
75 packets, 9221 bytes
30 second offered rate 0 bps, drop rate 0 bps
Match: any
Queueing
Flow Based Fair Queueing
Maximum Number of Hashed Queues 256
(total queued/total drops/no-buffer drops) 0/0/0
SanJose3640A#
```

El resultado del comando **show access-lists 102** incluye esta sentencia en negrita:

- **100676 coincide** —Muestra que la priorización de los paquetes RTP ocurre porque los paquetes alcanzan la lista de acceso 102.

```
SanJose3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (100676 matches)
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (100930 matches)
SanJose3640A#
SanJose3640A#
SanJose3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (101076 matches)
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (101198 matches)
SanJose3640A#
SanJose3640A#
SanJose3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (101304 matches)
SanJose3640A#
SanJose3640A#
```

```
SanJose3640A#
SanJose3640A# show voice call sum
PORT CODEC VAD VTSP STATE VPM STATE
============ ======== === ==================== =====================
3/0/0 g729r8 n S_CONNECT FXSLS_CONNECT
3/0/1 g729r8 n S_CONNECT FXSLS_CONNECT
3/1/0 - - - FXOLS_ONHOOK
3/1/1 - - - FXOLS_ONHOOK

SanJose3640A#
SanJose3640A#


SanJose3640A#
SanJose3640A# show voice port sum
IN OUT
PORT CH SIG-TYPE ADMIN OPER STATUS STATUS EC
====== == ========== ===== ==== ======== ======== ==
3/0/0 -- fxs-ls up up off-hook idle y
3/0/1 -- fxs-ls up up off-hook idle y
3/1/0 -- fxo-ls up dorm idle on-hook y
3/1/1 -- fxo-ls up dorm idle on-hook y

SanJose3640A#


SanJose3640A# show voice dsp

DSP DSP DSPWARE CURR BOOT PAK TX/RX
TYPE NUM CH CODEC VERSION STATE STATE RST AI VOICEPORT TS ABORT PACK COUNT
==== === == ======== ======= ===== ======= === == ========= == ===== ============
C542 001 01 g729r8 3.4.55 busy idle 0 0 3/0/0 NA 0 62487/61902
C542 002 01 g729r8 3.4.55 busy idle 0 0 3/0/1 NA 0 44362/44194
C542 003 01 g711ulaw 3.4.55 IDLE idle 0 0 3/1/0 NA 0 541/546
C542 004 01 g711ulaw 3.4.55 IDLE idle 0 0 3/1/1 NA 0 535/532

SanJose3640A#
```

Verificación del router Raleigh

El procedimiento de verificación para el router Raleigh es similar al procedimiento para el router San José.

```
Raleigh3640A# show interface serial 1/0
Serial1/0 is up, line protocol is up
Hardware is QUICC Serial
Internet address is 192.168.1.2/24
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set
Keepalive set (10 sec)
LCP Open
Open: IPCP, CDPCP
Last input 00:00:15, output 00:00:00, output hang never
Last clearing of "show interface" counters 00:12:33
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/1/256 (active/max active/max total)
Reserved Conversations 1/1 (allocated/max allocated)
Available Bandwidth 1091 kilobits/sec
```

```
30 second input rate 0 bits/sec, 0 packets/sec
30 second output rate 0 bits/sec, 0 packets/sec
167 packets input, 6849 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
169 packets output, 6907 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
11 carrier transitions
DCD=up DSR=up DTR=up RTS=up CTS=up


Raleigh3640A#

Raleigh3640A#
Raleigh3640A#
Raleigh3640A#
Raleigh3640A# show call active voice
Total call-legs: 4

GENERIC:
SetupTime=209451 ms
Index=1
PeerAddress=1001
PeerSubAddress=
PeerId=1
PeerIfIndex=8
LogicalIfIndex=0
ConnectTime=209543
CallDuration=00:08:20
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=25054
TransmitBytes=501080
ReceivePackets=25008
ReceiveBytes=500160
VOIP:
ConnectionId[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
IncomingConnectionId[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
RemoteIPAddress=192.168.1.1
RemoteUDPPort=17210
RemoteSignallingIPAddress=192.168.1.1
RemoteSignallingPort=11006
RemoteMediaIPAddress=192.168.1.1
RemoteMediaPort=17210
RoundTripDelay=3 ms
SelectedQoS=best-effort
tx_DtmfRelay=h245-alphanumeric
FastConnect=TRUE

Separate H245 Connection=FALSE

H245 Tunneling=TRUE

SessionProtocol=cisco
SessionTarget=
OnTimeRvPlayout=497610
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=69 ms
```

```
ReceiveDelay=69 ms
LostPackets=0
EarlyPackets=1
LatePackets=0
VAD = disabled
CoderTypeRate=g729r8
CodecBytes=20
GENERIC:
SetupTime=209451 ms
Index=2
PeerAddress=2001
PeerSubAddress=
PeerId=2
PeerIfIndex=9
LogicalIfIndex=4
ConnectTime=209543
CallDuration=00:08:21
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=25074
TransmitBytes=501480
ReceivePackets=25120
ReceiveBytes=502400
TELE:
ConnectionId=[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
IncomingConnectionId=[0x38D3783F 0x14F111CC 0x801CFDB1 0x2D0CC4A5]
TxDuration=502410 ms
VoiceTxDuration=502410 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=0
ACOMLevel=1
OutSignalLevel=-41
InSignalLevel=-37
InfoActivity=2
ERLLevel=1
SessionTarget=
ImgPages=0
GENERIC:
SetupTime=210097 ms
Index=1
PeerAddress=2002
PeerSubAddress=
PeerId=3
PeerIfIndex=10
LogicalIfIndex=5
ConnectTime=210638
CallDuration=00:08:10
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=2
TransmitPackets=24606
TransmitBytes=492120
ReceivePackets=24605
ReceiveBytes=492100
TELE:
ConnectionId=[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
IncomingConnectionId=[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
TxDuration=492110 ms
VoiceTxDuration=492110 ms
FaxTxDuration=0 ms
```

```
CoderTypeRate=g729r8
NoiseLevel=0
ACOMLevel=0
OutSignalLevel=-46
InSignalLevel=-33
InfoActivity=2
ERLLevel=0
SessionTarget=
ImgPages=0
GENERIC:
SetupTime=210480 ms
Index=1
PeerAddress=1002
PeerSubAddress=
PeerId=1
PeerIfIndex=8
LogicalIfIndex=0
ConnectTime=210638
CallDuration=00:08:11
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=24587
TransmitBytes=491740
ReceivePackets=24664
ReceiveBytes=493280
VOIP:
ConnectionId[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
IncomingConnectionId[0x6C135AD4 0x14F311CC 0x8024CE4C 0xAA60AB15]
RemoteIPAddress=192.168.1.1
RemoteUDPPort=18884
RemoteSignallingIPAddress=192.168.1.1
RemoteSignallingPort=1720
RemoteMediaIPAddress=192.168.1.1
RemoteMediaPort=18884
RoundTripDelay=4 ms
SelectedQoS=best-effort
tx_DtmfRelay=h245-alphanumeric
FastConnect=TRUE

Separate H245 Connection=FALSE

H245 Tunneling=TRUE

SessionProtocol=cisco
SessionTarget=ipv4:192.168.1.1
OnTimeRvPlayout=487570
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=69 ms
ReceiveDelay=69 ms
LostPackets=0
EarlyPackets=1
LatePackets=0
VAD = disabled
CoderTypeRate=g729r8
CodecBytes=20Total call-legs: 4

Raleigh3640A#
Raleigh3640A#
```

```
Raleigh3640A# show policy interface
Serial1/0

Service-policy output: voice-policy

Class-map: voice-traffic (match-all)
113186 packets, 7289624 bytes
30 second offered rate 51000 bps, drop rate 0 bps
Match: access-group 102
Queueing
Strict Priority
Output Queue: Conversation 264
Bandwidth 51 (kbps) Burst 1275 (Bytes)
(pkts matched/bytes matched) 471/75864
(total drops/bytes drops) 0/0

Class-map: voice-signaling (match-all)
162 packets, 13339 bytes
30 second offered rate 0 bps, drop rate 0 bps
Match: access-group 103
Queueing
Output Queue: Conversation 265
Bandwidth 16 (kbps) Max Threshold 64 (packets)
(pkts matched/bytes matched) 162/13339
(depth/total drops/no-buffer drops) 0/0/0

Class-map: class-default (match-any)
194 packets, 16761 bytes
30 second offered rate 0 bps, drop rate 0 bps
Match: any
Queueing
Flow Based Fair Queueing
Maximum Number of Hashed Queues 256
(total queued/total drops/no-buffer drops) 0/0/0
Raleigh3640A#


Raleigh3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (113963 matches)
Raleigh3640A#
Raleigh3640A#
Raleigh3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (114093 matches)
Raleigh3640A#
Raleigh3640A#
Raleigh3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (114188 matches)
Raleigh3640A#
Raleigh3640A#
Raleigh3640A# show access-lists 102
Extended IP access list 102
permit udp any any range 16384 32767 (114404 matches)
Raleigh3640A#
Raleigh3640A#


Raleigh3640A#
Raleigh3640A# show voice call sum
PORT CODEC VAD VTSP STATE VPM STATE
============ ======== === =================== =======================
```

```
3/0/0 g729r8 n S_CONNECT FXSLS_CONNECT
3/0/1 g729r8 n S_CONNECT FXSLS_CONNECT
3/1/0 - - - FXOLS_ONHOOK
3/1/1 - - - FXOLS_ONHOOK


Raleigh3640A#



Raleigh3640A# show voice port sum
IN OUT
PORT CH SIG-TYPE ADMIN OPER STATUS STATUS EC
====== == ========== ===== ==== ======== ======== ==
3/0/0 -- fxs-ls up up off-hook idle y
3/0/1 -- fxs-ls up up off-hook idle y
3/1/0 -- fxo-ls up dorm idle on-hook y
3/1/1 -- fxo-ls up dorm idle on-hook y

Raleigh3640A#

Raleigh3640A#
Raleigh3640A# show voice dsp

DSP DSP DSPWARE CURR BOOT PAK TX/RX
TYPE NUM CH CODEC VERSION STATE STATE RST AI VOICEPORT TS ABORT PACK COUNT
==== === == ======== ======= ===== ======= === == ========= == ===== ============
C542 001 01 g729r8 3.4.55 busy idle 0 0 3/0/0 NA 0 69615/68771
C542 002 01 g729r8 3.4.55 busy idle 0 0 3/0/1 NA 0 51511/51520
C542 003 01 g711ulaw 3.4.55 IDLE idle 0 0 3/1/0 NA 0 541/546
C542 004 01 g711ulaw 3.4.55 IDLE idle 0 0 3/1/1 NA 0 535/532

Raleigh3640A#
```

Troubleshoot

En esta sección encontrará información que puede utilizar para solucionar problemas de configuración.

Comandos para Troubleshooting

La herramienta Output Interpreter (sólo para clientes registrados) permite utilizar algunos comandos "show" y ver un análisis del resultado de estos comandos.

Nota: Antes de ejecutar comandos debug, consulte Información Importante sobre Comandos Debug.

- debug voip ccapi inout: rastrea la ruta de ejecución a través de la interfaz de programación de aplicaciones (API) de control de llamadas.
- debug vpm all: permite la depuración en todas las áreas del módulo de puerto de voz virtual (VPM).
- show log: muestra el resultado de las depuraciones habilitadas.

Dado que los lados de Raleigh y San José son muy similares en la configuración y configuración, este documento muestra los comandos debug voip ccapi inout y debug vpm all solamente para el router de San José.

Si el establecimiento de llamadas es un problema, ejecute los comandos debug que se enumeran en esta sección. Compare el resultado con la información aquí. Puede utilizar software, como

Comparar o Más allá de Comparar, para comparar los dos archivos de texto y encontrar las diferencias. La salida aquí sirve como referencia para una llamada exitosa.

Primero, determine qué ocurre en el router durante la llamada. Ejecute los comandos **debug voip ccapi inout** y **debug vpm all**. La salida del problema del comando **show debug**, como aparece aquí, muestra la habilitación del comando **debug vpm all** en el router San José. Puede determinar la habilitación del comando **debug vpm all** porque el resultado muestra cuatro comandos debug habilitados, además del comando **debug voip ccapi inout**. Estos cuatro comandos tienen habilitación automática cuando ejecuta el comando **debug vpm all**.

Precaución: Debe inhabilitar estos comandos **debug** después de generar el resultado que necesita. Inhabilite los comandos **debug** con el comando **undebug all**. Si deja debug enablement, puede experimentar problemas de rendimiento del router. Los comandos de depuración con habilitación consumen recursos de CPU.

```
SanJose3640A# show debug
voip:
voip ccAPI function enter/exit debugging is on
Voice Port Module session debugging is on
Voice Port Module DSP message debugging is on
Voice Port Module error debugging is on
Voice Port Module signaling debugging is on
Voice Port Module voaal2 debugging is on
Voice Port Module trunk conditioning is on
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#! Call from 1001 to 2001
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#
*Mar 1 00:05:07.675: htsp_dsp_message: SEND/RESP_SIG_STATUS: state=0xC timestamp=33146
 systime=30767
*Mar 1 00:05:07.679: htsp_process_event: [3/0/0, FXSLS_ONHOOK, E_DSP_SIG_
 1100] fxsls_onhook_offhook htsp_setup_ind
*Mar 1 00:05:07.679: [3/0/0] get_local_station_id calling num= calling name= calling
 time=00/00 00:00
*Mar 1 00:05:07.679: cc_api_call_setup_ind (vdbPtr=0x6217C270, callInfo={called=,called_
 oct3=0x81,calling=,calling_oct3=0x0,calling_oct3a=0x0,calling_xlated=false,
 subscriber_type_str=RegularLine,fdest=0,peer_tag=2, prog_ind=3,callingIE_present 0},
 callID=0x61DAB4F4)
*Mar 1 00:05:07.679: cc_api_call_setup_ind calling number is null, answer addr dest
 pattern  1001 e164_ans_addr 0 e164_dest_pattern 1
*Mar 1 00:05:07.679: cc_api_call_setup_ind valid dest pattern, copying 1001 to calling
 number
*Mar 1 00:05:07.679: cc_api_call_setup_ind type 3 , prot 0
*Mar 1 00:05:07.683: cc_process_call_setup_ind (event=0x62107860)
*Mar 1 00:05:07.683: >>>>CCAPI handed cid 5 with tag 2 to app "DEFAULT"
*Mar 1 00:05:07.683: sess_appl: ev(24=CC_EV_CALL_SETUP_IND), cid(5), disp(0)
*Mar 1 00:05:07.683: sess_appl: ev(SSA_EV_CALL_SETUP_IND), cid(5), disp(0)
*Mar 1 00:05:07.683: ssaCallSetupInd
*Mar 1 00:05:07.683: ccCallSetContext (callID=0x5, context=0x620005E8)
*Mar 1 00:05:07.683: ssaCallSetupInd cid(5), st(SSA_CS_MAPPING),oldst(0),
 ev(24)ev->e.evCallSetupInd.nCallInfo.finalDestFlag = 0
*Mar 1 00:05:07.683: ccCallSetupAck (callID=0x5)
*Mar 1 00:05:07.683: ccCallReportDigits (callID=0x5, enable=0x1)
*Mar 1 00:05:07.683: cc_api_call_report_digits_done (vdbPtr=0x6217C270, callID=0x5,
```

```
 disp=0)
*Mar  1 00:05:07.683: sess_appl: ev(53=CC_EV_CALL_REPORT_DIGITS_DONE), cid(5), disp(0)
*Mar  1 00:05:07.683: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_CALL_REPORT_DIGITS_DONE)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:07.683: ssaReportDigitsDone cid(5) peer list: (empty)
*Mar  1 00:05:07.683: ssaReportDigitsDone callid=5 Enable succeeded
*Mar  1 00:05:07.687: ccGenerateTone (callID=0x5 tone=8)
*Mar  1 00:05:07.687: dsp_digit_collect_on: [3/0/0] packet_len=20 channel_id=128 packet_id=
 35 min_inter_delay=240 max_inter_delay=9760 mim_make_time=10 max_make_time=100
 min_brake_time=10 max_brake_time=100
*Mar  1 00:05:07.687: dsp_soutput: [3/0/0]
*Mar  1 00:05:07.687: dsp_digit_collect_on: [3/0/0] packet_len=20 channel_id=128 packet_id=
 35 min_inter_delay=240 max_inter_delay=9760 mim_make_time=10 max_make_time=100
 min_brake_time=10 max_brake_time=100
*Mar  1 00:05:07.687: dsp_soutput: [3/0/0]
*Mar  1 00:05:07.687: htsp_process_event: [3/0/0, FXSLS_WAIT_SETUP_ACK, E_HTSP_SETUP_ACK]
*Mar  1 00:05:09.455: cc_api_call_digit_begin (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5, digit=2, digit_begin_flags=0x1, rtp_timestamp=0xEB32A6E0
 rtp_expiration=0x0, dest_mask=0x1)
*Mar  1 00:05:09.455: sess_appl: ev(10=CC_EV_CALL_DIGIT_BEGIN), cid(5), disp(0)
*Mar  1 00:05:09.455: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_DIGIT_BEGIN)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:09.455: ssaIgnore cid(5), st(SSA_CS_MAPPING),oldst(0), ev(10)
*Mar  1 00:05:09.515: cc_api_call_digit_end (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5,digit=2,duration=95,xruleCallingTag=0,xruleCalledTag=0, dest_mask=0x1),
 digit_tone_mode=0
*Mar  1 00:05:09.515: sess_appl: ev(9=CC_EV_CALL_DIGIT_END), cid(5), disp(0)
*Mar  1 00:05:09.515: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_CALL_DIGIT)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:09.515: ssaDigit
*Mar  1 00:05:09.515: ssaDigit, 0. sct->digit , sct->digit len 0, usrDigit 2,
 digit_tone_mode=0
*Mar  1 00:05:09.515: ssaDigit,1. callinfo.called , digit 2, callinfo.calling 1001,
 xrulecallingtag 0, xrulecalledtag 0
*Mar  1 00:05:09.515: ssaDigit, 7. callinfo.calling 1001, sct->digit 2, result 1
*Mar  1 00:05:09.635: cc_api_call_digit_begin (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5, digit=0, digit_begin_flags=0x1, rtp_timestamp=0xEB32A6E0
 rtp_expiration=0x0, dest_mask=0x1)
*Mar  1 00:05:09.635: sess_appl: ev(10=CC_EV_CALL_DIGIT_BEGIN), cid(5), disp(0)
*Mar  1 00:05:09.635: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_DIGIT_BEGIN)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:09.635: ssaIgnore cid(5), st(SSA_CS_MAPPING),oldst(0), ev(10)
*Mar  1 00:05:09.695: cc_api_call_digit_end (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5,digit=0,duration=95,xruleCallingTag=0,xruleCalledTag=0, dest_mask=0x1),
 digit_tone_mode=0
*Mar  1 00:05:09.695: sess_appl: ev(9=CC_EV_CALL_DIGIT_END), cid(5), disp(0)
*Mar  1 00:05:09.695: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_CALL_DIGIT)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:09.695: ssaDigit
*Mar  1 00:05:09.695: ssaDigit, 0. sct->digit 2, sct->digit len 1, usrDigit 0,
 digit_tone_mode=0
*Mar  1 00:05:09.695: ssaDigit,1. callinfo.called , digit 20, callinfo.calling 1001,
 xrulecallingtag 0, xrulecalledtag 0
*Mar  1 00:05:09.695: ssaDigit, 7. callinfo.calling 1001, sct->digit 20, result 1
*Mar  1 00:05:09.815: cc_api_call_digit_begin (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5, digit=0, digit_begin_flags=0x1, rtp_timestamp=0xEB32A6E0
 rtp_expiration=0x0, dest_mask=0x1)
*Mar  1 00:05:09.815: sess_appl: ev(10=CC_EV_CALL_DIGIT_BEGIN), cid(5), disp(0)
*Mar  1 00:05:09.815: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_DIGIT_BEGIN)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar  1 00:05:09.815: ssaIgnore cid(5), st(SSA_CS_MAPPING),oldst(0), ev(10)
*Mar  1 00:05:09.875: cc_api_call_digit_end (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5,digit=0,duration=95,xruleCallingTag=0,xruleCalledTag=0, dest_mask=0x1),
 digit_tone_mode=0
```

```
*Mar 1 00:05:09.875: sess_appl: ev(9=CC_EV_CALL_DIGIT_END), cid(5), disp(0)
*Mar 1 00:05:09.875: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_CALL_DIGIT)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:09.875: ssaDigit
*Mar 1 00:05:09.875: ssaDigit, 0. sct->digit 20, sct->digit len 2, usrDigit 0,
 digit_tone_mode=0
*Mar 1 00:05:09.875: ssaDigit,1. callinfo.called , digit 200, callinfo.calling 1001,
 xrulecallingtag 0, xrulecalledtag 0
*Mar 1 00:05:09.875: ssaDigit, 7. callinfo.calling 1001, sct->digit 200, result 1
*Mar 1 00:05:09.995: cc_api_call_digit_begin (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5, digit=1, digit_begin_flags=0x1, rtp_timestamp=0xEB32A6E0
 rtp_expiration=0x0, dest_mask=0x1)
*Mar 1 00:05:09.995: sess_appl: ev(10=CC_EV_CALL_DIGIT_BEGIN), cid(5), disp(0)
*Mar 1 00:05:09.995: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_DIGIT_BEGIN)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:09.995: ssaIgnore cid(5), st(SSA_CS_MAPPING),oldst(0), ev(10)
*Mar 1 00:05:10.055: cc_api_call_digit_end (dstVdbPtr=0x0, dstCallId=0xFFFFFFFF,
 srcCallId=0x5,digit=1,duration=95,xruleCallingTag=0,xruleCalledTag=0, dest_mask=0x1),
 digit_tone_mode=0
*Mar 1 00:05:10.055: sess_appl: ev(9=CC_EV_CALL_DIGIT_END), cid(5), disp(0)
*Mar 1 00:05:10.055: cid(5)st(SSA_CS_MAPPING)ev(SSA_EV_CALL_DIGIT)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:10.055: ssaDigit
*Mar 1 00:05:10.055: ssaDigit, 0. sct->digit 200, sct->digit len 3, usrDigit 1,
 digit_tone_mode=0
*Mar 1 00:05:10.055: ssaDigit,1. callinfo.called , digit 2001, callinfo.calling 1001,
 xrulecallingtag 0, xrulecalledtag 0
*Mar 1 00:05:10.055: ssaDigit, 7. callinfo.calling 1001, sct->digit 2001, result 0
*Mar 1 00:05:10.055: ccCallReportDigits (callID=0x5, enable=0x0)
*Mar 1 00:05:10.055: cc_api_call_report_digits_done (vdbPtr=0x6217C270, callID=0x5,
 disp=0)
*Mar 1 00:05:10.055: ssaSetupPeer cid(5) peer list: tag(1) called number (2001)
*Mar 1 00:05:10.055: ssaSetupPeer cid(5), destPat(2001), matched(1), prefix(),
 peer(622FB888), peer->encapType (2)
*Mar 1 00:05:10.055: ccCallProceeding (callID=0x5, prog_ind=0x0)
*Mar 1 00:05:10.059: ccCallSetupRequest (Inbound call = 0x5, outbound peer =1, dest=,
 params=0x621129C8 mode=0, *callID=0x6
 2112D38, prog_ind = 3) callingIE_present 0
*Mar 1 00:05:10.059: ccCallSetupRequest numbering_type 0x81
*Mar 1 00:05:10.059: ccCallSetupRequest encapType 2 clid_restrict_disable 1 null_orig_clg
 1 clid_transparent 0 callingNumber 1001
*Mar 1 00:05:10.059: dest pattern 2..., called 2001, digit_strip 0
*Mar 1 00:05:10.059: callingNumber=1001, calledNumber=2001, redirectNumber= display_info=
 calling_oct3a=0
*Mar 1 00:05:10.059: accountNumber=, finalDestFlag=0,
guid=3f30.bbbe.14ef.11cc.8008.fdb1.2d0c.c4a5
*Mar 1 00:05:10.059: peer_tag=1
*Mar 1 00:05:10.059: ccIFCallSetupRequestPrivate: (vdbPtr=0x620BCAF0, dest=,
 callParams={called=2001,called_oct3=0x81, calling=1001,calling_oct3=0x0, calling_xlated=
 false, subscriber_type_str=RegularLine, fdest=0, voice_peer_tag=1},mode=0x0) vdbP
 tr type = 1
*Mar 1 00:05:10.059: ccIFCallSetupRequestPrivate: (vdbPtr=0x620BCAF0, dest=, callParams=
 {called=2001, called_oct3 0x81, calling=1001,calling_oct3 0x0, calling_xlated=false,
 fdest=0, voice_peer_tag=1}, mode=0x0, xltrc=-5)
*Mar 1 00:05:10.059: ccSaveDialpeerTag (callID=0x5, dialpeer_tag=0x1)
*Mar 1 00:05:10.059: ccCallSetContext (callID=0x6, context=0x61DAD8A0)
*Mar 1 00:05:10.059: sess_appl: ev(53=CC_EV_CALL_REPORT_DIGITS_DONE), cid(5), disp(0)
*Mar 1 00:05:10.059: cid(5)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_REPORT_DIGITS_DONE)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:10.059: -cid2(6)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_MAPPING)
*Mar 1 00:05:10.059: ssaReportDigitsDone cid(5) peer list: (empty)
*Mar 1 00:05:10.059: ssaReportDigitsDone callid=5 Reporting disabled.
*Mar 1 00:05:10.063: dsp_digit_collect_off: [3/0/0] packet_len=8 channel_id=128 packet_id=
 36
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*Mar  1 00:05:10.063: dsp_soutput: [3/0/0]
*Mar  1 00:05:10.063: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_PROCEEDING]
*Mar  1 00:05:10.095: cc_api_call_proceeding(vdbPtr=0x620BCAF0, callID=0x6,
 prog_ind=0x0)
*Mar  1 00:05:10.099: sess_appl: ev(21=CC_EV_CALL_PROCEEDING), cid(6), disp(0)
*Mar  1 00:05:10.099: cid(6)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_PROCEEDING)
 oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(0)fDest(0)
*Mar  1 00:05:10.099: -cid2(5)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_CALL_SETTING)
*Mar  1 00:05:10.099: ssaCallProc
*Mar  1 00:05:10.099: ccGetDialpeerTag (callID=0x5)
*Mar  1 00:05:10.099: ssaIgnore cid(6), st(SSA_CS_CALL_SETTING),oldst(1), ev(21)
*Mar  1 00:05:10.103: cc_api_call_cut_progress(vdbPtr=0x620BCAF0, callID=0x6, prog_ind=0x8,
 sig_ind=0x1)
*Mar  1 00:05:10.103: sess_appl: ev(22=CC_EV_CALL_PROGRESS), cid(6), disp(0)
*Mar  1 00:05:10.107: cid(6)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_PROGRESS)
 oldst(SSA_CS_CALL_SETTING)cfid(-1)csize(0)in(0)fDest(0)
*Mar  1 00:05:10.107: -cid2(5)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_CALL_SETTING)
*Mar  1 00:05:10.107: ssaCutProgress
*Mar  1 00:05:10.107: ccGetDialpeerTag (callID=0x5)
*Mar  1 00:05:10.107: ccCallCutProgress (callID=0x5, prog_ind=0x8, sig_ind=0x1)
*Mar  1 00:05:10.107: **ccConferenceCreate** (confID=0x6211310C, callID1=0x5,
 callID2=0x6, tag=0x0)
*Mar  1 00:05:10.107: cc_api_bridge_done (confID=0x3, srcIF=0x620BCAF0, srcCallID=0x6,
 dstCallID=0x5, disposition=0, tag=0x0)htsp_alert_notify
*Mar  1 00:05:10.107: cc_api_bridge_done (confID=0x3, srcIF=0x6217C270, srcCallID=0x5,
 dstCallID=0x6, disposition=0, tag=0x0)
*Mar  1 00:05:10.107: cc_api_caps_ind (dstVdbPtr=0x620BCAF0, dstCallId=0x6, srcCallId=0x5,
 caps={codec=0x2EBFB, fax_rate=0x7F, vad=0x3, modem=0x2 codec_bytes=0, signal_type=3})
*Mar  1 00:05:10.107: cc_api_caps_ind (Playout: mode 1, initial 60,min 40, max 200)
*Mar  1 00:05:10.111: cc_api_caps_ind (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2})
*Mar  1 00:05:10.111: cc_api_caps_ind (Playout: mode 1, initial 60,min 40, max 200)
*Mar  1 00:05:10.111: cc_api_caps_ack (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9062})
*Mar  1 00:05:10.111: cc_api_caps_ack (dstVdbPtr=0x620BCAF0, dstCallId=0x6, srcCallId=0x5,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9062})
*Mar  1 00:05:10.111: cc_api_voice_mode_event , callID=0x5
*Mar  1 00:05:10.111: Call Pointer =620005E8
*Mar  1 00:05:10.115: cc_api_caps_ind (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2})
*Mar  1 00:05:10.115: cc_api_caps_ind (Playout: mode 1, initial 60,min 40, max 200)
*Mar  1 00:05:10.115: cc_api_caps_ack (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9062})
*Mar  1 00:05:10.123: cc_api_caps_ack (dstVdbPtr=0x620BCAF0, dstCallId=0x6, srcCallId=0x5,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9062})
*Mar  1 00:05:10.123: cc_api_voice_mode_event , callID=0x5
*Mar  1 00:05:10.123: Call Pointer =620005E8
*Mar  1 00:05:10.123: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_VOICE_CUT_THROUGH]
*Mar  1 00:05:10.123: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_VOICE_CUT_THROUGH]
*Mar  1 00:05:10.123: sess_appl: ev(29=CC_EV_CONF_CREATE_DONE), cid(5), disp(0)
*Mar  1 00:05:10.123: cid(5)st(SSA_CS_CONFERENCING_PROGRESS)ev(SSA_EV_CONF_CREATE_DONE)
 oldst(SSA_CS_CALL_SETTING)cfid(3)csize(0)in(1)fDest(0)
*Mar  1 00:05:10.127: -cid2(6)st2(SSA_CS_CONFERENCING_PROGRESS)oldst2(SSA_CS_CALL_SETTING)
*Mar  1 00:05:10.127: ssaConfCreateDoneAlert
*Mar  1 00:05:10.127: sess_appl: ev(51=CC_EV_VOICE_MODE_DONE), cid(5), disp(0)
*Mar  1 00:05:10.127: cid(5)st(SSA_CS_CONFERENCED_ALERT)ev(SSA_EV_VOICE_MODE_DONE)
 oldst(SSA_CS_CONFERENCING_PROGRESS)cfid(3)csize(0)in(1)fDest(0)
*Mar  1 00:05:10.127: -cid2(6)st2(SSA_CS_CONFERENCED_ALERT)oldst2(SSA_CS_CALL_SETTING)
*Mar  1 00:05:10.127: ssaIgnore cid(5), st(SSA_CS_CONFERENCED_ALERT),oldst(4), ev(51)
*Mar  1 00:05:10.127: sess_appl: ev(51=CC_EV_VOICE_MODE_DONE), cid(5), disp(2)
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*Mar 1 00:05:10.127: cid(5)st(SSA_CS_CONFERENCED_ALERT)ev(SSA_EV_VOICE_MODE_DONE)
 oldst(SSA_CS_CONFERENCED_ALERT)cfid(3)csize(0)in(1)fDest(0)
*Mar 1 00:05:10.127: -cid2(6)st2(SSA_CS_CONFERENCED_ALERT)oldst2(SSA_CS_CALL_SETTING)
*Mar 1 00:05:10.127: ssaIgnore cid(5), st(SSA_CS_CONFERENCED_ALERT),oldst(4), ev(51)
*Mar 1 00:05:10.127: cc_process_notify_bridge_done (event=0x6210BDB8)
*Mar 1 00:05:10.131: cc_api_caps_ind (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2})
*Mar 1 00:05:10.131: cc_api_caps_ind (Playout: mode 1, initial 60,min 40, max 200)
*Mar 1 00:05:10.131: cc_api_caps_ack (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9063})
*Mar 1 00:05:10.131: cc_api_caps_ind (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2})
*Mar 1 00:05:10.131: cc_api_caps_ind (Playout: mode 1, initial 60,min 40, max 200)
*Mar 1 00:05:10.131: cc_api_caps_ack (dstVdbPtr=0x6217C270, dstCallId=0x5, srcCallId=0x6,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9063})
*Mar 1 00:05:10.135: cc_api_caps_ack (dstVdbPtr=0x620BCAF0, dstCallId=0x6, srcCallId=0x5,
 caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20, signal_type=2,
 seq_num_start=9063})
*Mar 1 00:05:10.135: cc_api_voice_mode_event , callID=0x5
*Mar 1 00:05:10.135: Call Pointer =620005E8
```
***Mar 1 00:05:10.135: cc_api_caps_ack (dstVdbPtr=0x620BCAF0, dstCallId=0x6,
srcCallId=0x5, caps={codec=0x4, fax_rate=0x2, vad=0x1, modem=0x0 codec_bytes=20,
signal_type=2, seq_num_start=9063})**
```
*Mar 1 00:05:10.135: cc_api_voice_mode_event , callID=0x5
*Mar 1 00:05:10.135: Call Pointer =620005E8
*Mar 1 00:05:10.135: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_VOICE_CUT_THROUGH]
*Mar 1 00:05:10.135: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_VOICE_CUT_THROUGH]
*Mar 1 00:05:10.135: sess_appl: ev(51=CC_EV_VOICE_MODE_DONE), cid(5), disp(0)
*Mar 1 00:05:10.135: cid(5)st(SSA_CS_CONFERENCED_ALERT)ev(SSA_EV_VOICE_MODE_DONE)
 oldst(SSA_CS_CONFERENCED_ALERT)cfid(3)csize(0)in(1)fDest(0)
*Mar 1 00:05:10.135: -cid2(6)st2(SSA_CS_CONFERENCED_ALERT)oldst2(SSA_CS_CALL_SETTING)
*Mar 1 00:05:10.135: ssaIgnore cid(5), st(SSA_CS_CONFERENCED_ALERT),oldst(4), ev(51)
*Mar 1 00:05:10.135: sess_appl: ev(51=CC_EV_VOICE_MODE_DONE), cid(5), disp(0)
*Mar 1 00:05:10.135: cid(5)st(SSA_CS_CONFERENCED_ALERT)ev(SSA_EV_VOICE_MODE_DONE)
 oldst(SSA_CS_CONFERENCED_ALERT)cfid(3)csize(0)in(1)fDest(0)
*Mar 1 00:05:10.139: -cid2(6)st2(SSA_CS_CONFERENCED_ALERT)oldst2(SSA_CS_CALL_SETTING)
*Mar 1 00:05:10.139: ssaIgnore cid(5), st(SSA_CS_CONFERENCED_ALERT),oldst(4), ev(51)
*Mar 1 00:05:18.303: cc_api_call_connected(vdbPtr=0x620BCAF0, callID=0x6), prog_ind =
 2cc_api_call_connected: setting callEntry->connected to TRUE

*Mar 1 00:05:18.303: sess_appl: ev(8=CC_EV_CALL_CONNECTED), cid(6), disp(0)
*Mar 1 00:05:18.303: cid(6)st(SSA_CS_CONFERENCED_ALERT)ev(SSA_EV_CALL_CONNECTED)
 oldst(SSA_CS_CALL_SETTING)cfid(3)csize(0)in(0)fDest(0)
*Mar 1 00:05:18.307: -cid2(5)st2(SSA_CS_CONFERENCED_ALERT)oldst2(SSA_CS_CONFERENCED_ALERT)
*Mar 1 00:05:18.307: ssaConnectAlert
*Mar 1 00:05:18.307: ccGetDialpeerTag (callID=0x5)
```
***Mar 1 00:05:18.307: ccCallConnect (callID=0x5), prog_ind = 2ccCallConnect:
setting callEntry->connected to TRUE**
```
*Mar 1 00:05:18.307: ssaFlushPeerTagQueue cid(5) peer list: (empty)htsp_connect: no_
 offhook 0
*Mar 1 00:05:18.307: htsp_process_event: [3/0/0, FXSLS_OFFHOOK, E_HTSP_CONNECT]fxsls_
 offhook_connect
*Mar 1 00:05:18.307: [3/0/0] set signal state = 0x6 timestamp = 0
*Mar 1 00:05:18.307: dsp_set_sig_state: [3/0/0] packet_len=12 channel_id=128 packet_id=39
 state=0x6 timestamp=0x0
*Mar 1 00:05:18.307: dsp_soutput: [3/0/0]
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#! call connected
SanJose3640A#
```

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SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#! 1001 disconnecting the call
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#
SanJose3640A#
*Mar 1 00:05:57.019: htsp_dsp_message: SEND/RESP_SIG_STATUS: state=0x4 timestamp=16952
 systime=35702
*Mar 1 00:05:57.019: htsp_process_event: [3/0/0, FXSLS_CONNECT, E_DSP_SIG_0100]fxsls_
 offhook_onhook, HF duration=500
*Mar 1 00:05:57.023: htsp_timer - 500 msec
*Mar 1 00:05:57.523: htsp_process_event: [3/0/0, FXSLS_CONNECT, E_HTSP_EVENT_TIMER]fxsls_
 connect_wait_release_req
*Mar 1 00:05:57.523: htsp_timer_stop
*Mar 1 00:05:57.523: cc_api_call_disconnected(vdbPtr=0x6217C270, callID=0x5, cause=0x10)
*Mar 1 00:05:57.523: sess_appl: ev(11=CC_EV_CALL_DISCONNECTED), cid(5), disp(0)
*Mar 1 00:05:57.523: cid(5)st(SSA_CS_ACTIVE)ev(SSA_EV_CALL_DISCONNECTED)
 oldst(SSA_CS_CONFERENCED_ALERT)cfid(3)csize(0)in(1)fDest(0)
*Mar 1 00:05:57.523: -cid2(6)st2(SSA_CS_ACTIVE)oldst2(SSA_CS_CONFERENCED_ALERT)
*Mar 1 00:05:57.523: ssa: Disconnected cid(5) state(5) cause(0x10)
*Mar 1 00:05:57.523: ccConferenceDestroy (confID=0x3, tag=0x0)
*Mar 1 00:05:57.523: cc_api_bridge_drop_done (confID=0x3, srcIF=0x620BCAF0, srcCallID=0x6,
 dstCallID=0x5, disposition=0 tag=0x0)
*Mar 1 00:05:57.523: cc_api_bridge_drop_done (confID=0x3, srcIF=0x6217C270, srcCallID=0x5,
 dstCallID=0x6, disposition=0 tag=0x0)
*Mar 1 00:05:57.523: sess_appl: ev(30=CC_EV_CONF_DESTROY_DONE), cid(5), disp(0)
*Mar 1 00:05:57.523: cid(5)st(SSA_CS_CONF_DESTROYING)ev(SSA_EV_CONF_DESTROY_DONE)
 oldst(SSA_CS_ACTIVE)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:57.527: -cid2(6)st2(SSA_CS_CONF_DESTROYING)oldst2(SSA_CS_CONFERENCED_ALERT)
*Mar 1 00:05:57.527: ssaConfDestroyDone
*Mar 1 00:05:57.527: ccCallDisconnect (callID=0x5, cause=0x10 tag=0x0)
*Mar 1 00:05:57.527: ccCallDisconnect: existing_cause = 0x0, new_cause = 0x10
*Mar 1 00:05:57.527: ccCallDisconnect (callID=0x6, cause=0x10 tag=0x0)
*Mar 1 00:05:57.527: ccCallDisconnect: existing_cause = 0x0, new_cause = 0x10htsp_release_
 req: cause 16, no_onhook 0
*Mar 1 00:05:57.531: htsp_process_event: [3/0/0, FXSLS_WAIT_RELEASE_REQ,
 E_HTSP_RELEASE_REQ] fxsls_waitrls_req_rls
*Mar 1 00:05:57.531: [3/0/0] set signal state = 0x4 timestamp = 0
*Mar 1 00:05:57.531: dsp_set_sig_state: [3/0/0] packet_len=12 channel_id=128 packet_id=39
 state=0x4 timestamp=0x0
*Mar 1 00:05:57.531: dsp_soutput: [3/0/0]htsp_report_onhook_sig
*Mar 1 00:05:57.531: cc_api_call_feature: (vdbPtr=0x6217C270, callID=0x5,
 feature_ind.type=5

*Mar 1 00:05:57.535: cc_api_call_disconnect_done(vdbPtr=0x6217C270, callID=0x5, disp=0,
 tag=0x0)
*Mar 1 00:05:57.535: hdsprm_close_cleanup
*Mar 1 00:05:57.535: sess_appl: ev(28=CC_EV_CALL_FEATURE), cid(5), disp(0)
*Mar 1 00:05:57.535: cid(5)st(SSA_CS_DISCONNECTING)ev(SSA_EV_CALL_FEATURE)
 oldst(SSA_CS_CONF_DESTROYING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:57.535: -cid2(6)st2(SSA_CS_DISCONNECTING)oldst2(SSA_CS_CONFERENCED_ALERT)
*Mar 1 00:05:57.535: ssaIgnore cid(5), st(SSA_CS_DISCONNECTING),oldst(7), ev(28)
*Mar 1 00:05:57.539: sess_appl: ev(12=CC_EV_CALL_DISCONNECT_DONE), cid(5), disp(0)
*Mar 1 00:05:57.539: cid(5)st(SSA_CS_DISCONNECTING)ev(SSA_EV_CALL_DISCONNECT_DONE)
 oldst(SSA_CS_DISCONNECTING)cfid(-1)csize(0)in(1)fDest(0)
*Mar 1 00:05:57.539: -cid2(6)st2(SSA_CS_DISCONNECTING)oldst2(SSA_CS_CONFERENCED_ALERT)
*Mar 1 00:05:57.539: ssaDisconnectDone
*Mar 1 00:05:57.543: cc_api_icpif: expect factor = 0
*Mar 1 00:05:57.543: g113_calculate_impairment (delay=101,loss=0), Io=0 Iq=0 Idte=0 Idd=0
 Ie=9 Itot=9
*Mar 1 00:05:57.543: cc_api_call_disconnect_done(vdbPtr=0x620BCAF0, callID=0x6, disp=0,
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```
 tag=0x0)
*Mar 1 00:05:57.547: sess_appl: ev(12=CC_EV_CALL_DISCONNECT_DONE), cid(6), disp(0)
*Mar 1 00:05:57.547: cid(6)st(SSA_CS_DISCONNECTING)ev(SSA_EV_CALL_DISCONNECT_DONE)
 oldst(SSA_CS_CONFERENCED_ALERT)cfid(-1)csize(1)in(0)fDest(0)
*Mar 1 00:05:57.547: ssaDisconnectDone
SanJose3640A#

SanJose3640A#
```

Información Relacionada

- Voz sobre IP sobre links PPP con calidad de servicio (LLQ/ prioridad IP RTP , LFI, cRTP)
- VoIP sobre Frame Relay con calidad de servicio (fragmentación, diseño de tráfico y prioridad LLQ / IP RTP)
- VoIP (Voz sobre IP) QoS (Calidad de servicio) para el Frame Relay para la interconexión ATM con LLQ (Cola de baja latencia), PPP LFI y cRTP
- Introducción de los pares de marcado y tramos del llamada en las plataformas del IOS de Cisco
- Técnicas básicas para resolver problemas y depurar llamadas VoIP
- Soporte de tecnología de voz
- Soporte para productos de comunicaciones IP y por voz
- Troubleshooting de Cisco IP Telephony
- Asistencia técnica y documentación