VoIP avec PPP sur ligne louée à large bande passante et LLQ

Contenu

Introduction

Ce document fournit des exemples de configuration pour deux routeurs Cisco 3640. Les configurations permettent aux routeurs de communiquer avec VoIP avec PPP sur une ligne louée à bande passante élevée avec mise en file d’attente à faible latence (LLQ). Pour plus d'informations sur LLQ, référez-vous au document Liens VoIP sur PPP avec qualité de service (LLQ / IP RTP Priority, LFI, cRTP).

Remarque : lorsque ce document traite de la bande passante élevée en termes de VoIP et de QoS, la bande passante élevée est toute bande passante supérieure à 768 kbits/s.

Conditions préalables

Conditions requises

Aucune spécification déterminée n'est requise pour ce document.

Components Used

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

- Logiciel Cisco IOS® Version 12.2(19a) IP Plus ou toute autre version du logiciel Cisco IOS des versions 12.2, 12.2T, 12.3 ou 12.3T
- Deux routeurs Cisco 3640 avec au moins 48 DRAM et 16 Mo de mémoire flash
- Deux modules de réseau à logements de cartes d'interface voix/télécopie Cisco NM-2V plus deux cartes d'interface VIC-2FXS
- Deux interfaces sérieDans cet exemple, les deux interfaces série sont NM-1E2Ws, avec une carte d'interface WAN WIC-1T chacune.
- Téléphones analogiques pour connexion aux ports FXS (Foreign Exchange Station) pour les appels vocaux

Remarque : Les modules de réseau NM-1E2W, NM-1E1R2W et NM-2E2W ne disposent pas d'une puissance de performance suffisante pour prendre en charge la carte WIC-2T. Le manque de prise en charge est dû à des limitations matérielles.

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.

Informations générales

Si le temps nécessaire pour envoyer un paquet de 1 500 octets sur le câble est supérieur à 10 ms, vous devez fragmenter les paquets. Ce document présente une configuration sans fragmentation. La configuration concerne une liaison de 1 544 kilobits pour laquelle le délai de transmission d’un paquet de 1 500 octets est inférieur à 10 ms.

Remarque : Dans certains cas où vous disposez d'une connexion T1 complète et dédiée, une fonction de fragmentation peut être inutile. Mais vous avez toujours besoin d'un mécanisme de QoS. Utilisez LLQ dans ce cas. Si le temps nécessaire pour envoyer un paquet de 1 500 octets sur le câble est inférieur à 10 ms, vous n'avez pas besoin de fragmenter les paquets. La bande passante totale de T1 est suffisante pour permettre aux paquets vocaux d'entrer et de quitter la file d'attente sans délai.

Remarque : si vous avez activé la fragmentation sur le routeur, le mécanisme de mise en file d'attente est activé 100 % du temps. Si vous avez configuré LLQ, la valeur que vous avez configurée limite le trafic pour la file d'attente prioritaire. Lorsque vous n'avez pas activé la fragmentation, le routeur applique uniquement la stratégie QoS en cas d'encombrement.

En outre, dans le cas de débits de ligne supérieurs à 768 kbits/s, le protocole cRTP (Real-Time Transport Protocol) compressé peut être inutile. Reportez-vous au document Liens VoIP sur PPP avec qualité de service [LLQ / IP RTP Priority, LFI, cRTP]. L'utilisation de cRTP permet d'économiser de la bande passante car cRTP compresse les en-têtes RTP IP. Dans la section Configurations de ce document, l'activation de cRTP est inutile. Le T1 autorise une bande passante suffisante pour que les paquets vocaux circulent, sans compression, sur le câble sans problème.

Attention : Si vous décidez d'utiliser cRTP, sachez que cRTP utilise des ressources CPU. Le cRTP peut surtaxer un routeur qui a une lourde charge de trafic vocal.

Remarque : dans cette configuration, les deux routeurs se connectent dos à dos sur une ligne louée. Mais dans la plupart des topologies, les routeurs avec activation vocale peuvent exister n'importe où. En général, les routeurs vocaux se connectent à un réseau local à d'autres routeurs connectés au réseau étendu. Si vos routeurs vocaux ne se connectent pas via PPP sur une ligne louée, vous devez configurer toutes les commandes de configuration de connectivité WAN sur les routeurs qui se connectent au WAN ; vous ne configurez pas les commandes sur les routeurs vocaux, que les configurations de ce document affichent.

Remarque : Cette configuration peut fonctionner pour les routeurs des gammes Cisco 1700, 2600, 3600 et 3700.

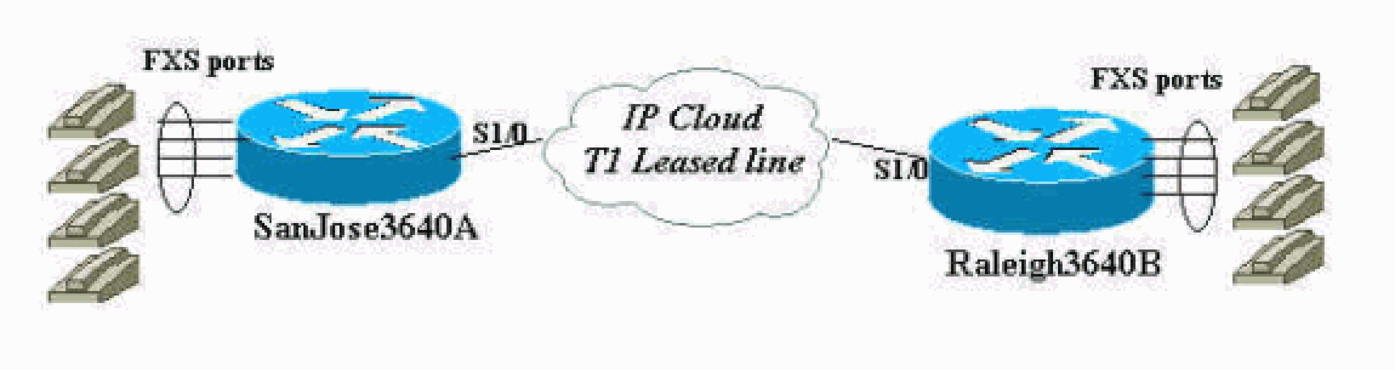
Configuration

Cette section vous fournit des informations pour configurer les fonctionnalités décrites dans ce document.

Remarque : Pour en savoir plus sur les commandes utilisées dans le présent document, utilisez l'outil de recherche de commandes (clients inscrits seulement).

Diagramme du réseau

Ce document utilise la configuration réseau suivante :



Configurations

Ce document utilise les configurations suivantes :

- San Jose
- Raleigh

San Jose

```
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#
```

Vérification

Après avoir entré ces configurations dans vos routeurs, vérifiez qu'elles fonctionnent correctement. Les commandes et les résultats respectifs présentés ici montrent que la mise en oeuvre des configurations a réussi.

Certaines commandes **show** sont prises en charge par l'Output Interpreter Tool (clients enregistrés uniquement), qui vous permet de voir une analyse de la sortie de la commande show.

- **show interface serial 1/0** : vous permet de vérifier l'état de votre interface série.
- **show call active voice brief** : vous permet d'afficher les informations d'appel pendant un appel.
- **show call active voice** : permet d'afficher les informations d'appel pendant un appel.
- **show policy-map interface** : permet de vérifier la stratégie QoS que l'interface utilise.
- **show access-list 102** : vous permet de vérifier la sélection des paquets par la liste d'accès

pour la classe de voix. Exécutez la commande une deuxième fois après quelques secondes et vérifiez qu'il y a une augmentation du nombre de paquets. Émettez la commande **clear access-list counters 102**, si nécessaire.
- **show voice call summary** : permet de vérifier l'état des appels. La commande vous indique si les appels ont une connexion.
- **show voice port summary** : vous permet de vérifier l'état des ports voix. La commande affiche les ports vocaux en mode raccroché ou décroché.
- **show voice dsp** : permet de vérifier l'état du processeur de signal numérique (DSP) et du codec (coder-décoder) que chaque appel utilise.

Vérification du routeur San Jose

Avant d'effectuer la vérification, vérifiez les interfaces pour vous assurer que vous disposez de la connectivité nécessaire pour passer des appels. Exécutez la commande **show interface serial 1/0** pour vérifier l'état de votre interface série. Avec les configurations de ce document, assurez-vous que vos interfaces série et multiliaison sont dans un état `de mise en service du protocole de ligne`. Assurez-vous également de voir ceci :

- **`LCP Open, multilink Open`** : indique l'établissement de la connexion PPP.
- **`Ouvrir : IPCP, CDPCP`** : indique que l'envoi du trafic IP est possible via la liaison PPP.
- **`Stratégie de mise en file d'attente : Pondéré`** - Correspond à l'interface de ligne de commande (CLI) de sortie service-policy sous interface série. La stratégie consiste à configurer LLQ de manière à hiérarchiser la voix par rapport aux données.

```
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#
```

Ce résultat montre une connectivité réussie entre les routeurs. Si vous ne voyez pas `que le` `protocole de ligne est actif`, vérifiez la fréquence d’horloge qui se trouve sur l’interface DCE. Certaines interfaces série ne prennent pas en charge la vitesse élevée, comme le NM-8A/S. Vérifiez également que les paramètres des deux côtés correspondent et, plus important encore, que l’encapsulation correspond.

Le résultat de la commande **show call active voice brief** indique deux appels réussis. L'un d'eux provient du routeur Raleigh vers le routeur San Jose, et l'autre de San Jose vers Raleigh. Cette liste explique le résultat qui apparaît en gras :

- **`Answer 1001 active`** : indique que San Jose est le routeur d'où provient l'appel.
- **`Télé 3/0/0`** : indique qu'il s'agit de la branche d'appel téléphonique.
- **`Originate 2001 active`** : indique qu'un téléphone du côté Raleigh reçoit l'appel.
- **`IP 192.168.1.2`** : indique qu'il s'agit du segment d'appel IP.
- **`Answer 2002 active`** : indique que Raleigh est le routeur auquel l'appel est envoyé.
- **`IP 192.168.1.2`** : indique qu'il s'agit du segment d'appel IP.
- **`Originate 1002 active`** : indique qu'un téléphone du côté de San Jose reçoit l'appel.
- **`Télé 3/0/1`** : indique qu'il s'agit de la branche d'appel téléphonique.

```
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#
```

Cette sortie de la commande **show call active voice** fournit plus de détails sur l'appel actif :

```
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:
```

La sortie de la commande **show policy-map interface** inclut cette instruction en gras :

- **`débit offert de 30 secondes 51 000 bits/s`** - Affiche la bande passante requise par les deux appels, 51 kbits/s.

```
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#
```

La sortie de la commande **show access-lists 102** inclut cette instruction en gras :

- **100676 Correspondances** - Montre que la hiérarchisation des paquets RTP se produit parce que les paquets atteignent la liste d'accès 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#
```

Vérification du routeur Raleigh

La procédure de vérification du routeur Raleigh est similaire à celle du routeur San Jose.

```
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#
```

Dépannage

Cette section fournit des informations que vous pouvez utiliser pour dépanner votre configuration.

Dépannage des commandes

Certaines commandes **show** sont prises en charge par l'Output Interpreter Tool (clients enregistrés uniquement), qui vous permet de voir une analyse de la sortie de la commande show.

Remarque : Avant d'émettre des commandes **debug**, reportez-vous à Informations importantes sur les commandes de débogage.

- **debug voip ccapi inout** - Trace le chemin d'exécution via l'interface de programmation d'application de contrôle d'appels (API).
- **debug vpm all** : active le débogage sur toutes les zones VPM (Virtual Voice Port Module).
- **show log** : affiche le résultat des débogages activés.

Comme les côtés Raleigh et San Jose sont très similaires en configuration et en configuration, ce document montre les commandes **debug voip ccapi inout** et **debug vpm all** pour le routeur San Jose uniquement.

Si l'établissement de l'appel pose problème, émettez les commandes **debug** répertoriées dans cette section. Comparez le résultat avec les informations ici. Vous pouvez utiliser un logiciel, tel que Compare it ou Beyond Compare, pour comparer les deux fichiers texte et trouver les différences. Le résultat ici sert de référence pour un appel réussi.

Tout d'abord, déterminez ce qui se passe sur le routeur pendant l'appel. Émettez les commandes **debug voip ccapi inout** et **debug vpm all**. Le résultat de la sortie de la commande **show debug**, comme indiqué ici, montre l'activation de la commande **debug vpm all** dans le routeur San Jose. Vous pouvez déterminer l'activation de la commande **debug vpm all** car le résultat affiche quatre commandes debug activées, en plus de la commande **debug voip ccapi inout**. Ces quatre commandes ont une activation automatique lorsque vous émettez la commande **debug vpm all**.

Attention : Vous devez désactiver ces commandes **debug** après avoir généré la sortie dont vous avez besoin. Désactivez les commandes **debug** avec le problème de la commande **undebug all**. Si vous quittez l'activation du débogage, vous pouvez rencontrer des problèmes de performances du routeur. Les commandes de débogage avec activation consomment des ressources 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.
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*Mar 1 00:05:10.063: dsp_digit_collect_off: [3/0/0] packet_len=8 channel_id=128 packet_id=
 36
*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)
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*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)
*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#
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,
 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#
```

Informations connexes

- VoIP sur liaisons PPP avec qualité de service (LLQ / IP RTP Priority, LFI, cRTP)
- VoIP sur relais de trame avec qualité de service (fragmentation, formatage du trafic, LLQ / IP RTP Priority)
- QoS (Qualité de service) VoIP pour interopérabilité Frame Relay et ATM avec LLQ, PPP LFI et cRTP
- Compréhension des homologues de numérotation et des signaux d'appel sur des plates-formes Cisco IOS
- Dépannage et débogage des appels VoIP – Notions élémentaires
- Assistance technique concernant la technologie vocale
- Support produit pour Voix et Communications IP
- Dépannage des problèmes de téléphonie IP Cisco
- Documentation et assistance techniques