

H.320 Gateway to H.323 Gatekeeper Video Call Flow

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Introduction

This document describes the call flow of a basic H.320 gateway to H.323 gatekeeper video call. H.320 is an ITU-T recommendation for multimedia data, voice, and video calls over ISDN networks.

H.320 consists of these protocols:

- H.221 Defines the frame structure for audiovisual teleservices across 1 or more ISDN B-Channels.
- H.230 Defines the control and information signals used in an audiovisual system.
- H.242 Defines signaling procedures, such as mode initialization, capabilities exchange, and mode switching required to establish a multimedia call.

Each H.320 video call consists of one primary call and zero or more secondary calls. For example, a 128K video call consists of 1 primary call and 1 secondary call.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- H.320 Gateway: Cisco 3725 with NM-HDV2 (5510 DSP)

- H.323 Gatekeeper: Cisco 3660
- H.323 Video Terminal: Polycom V500
- Bandwidth = 384K

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

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

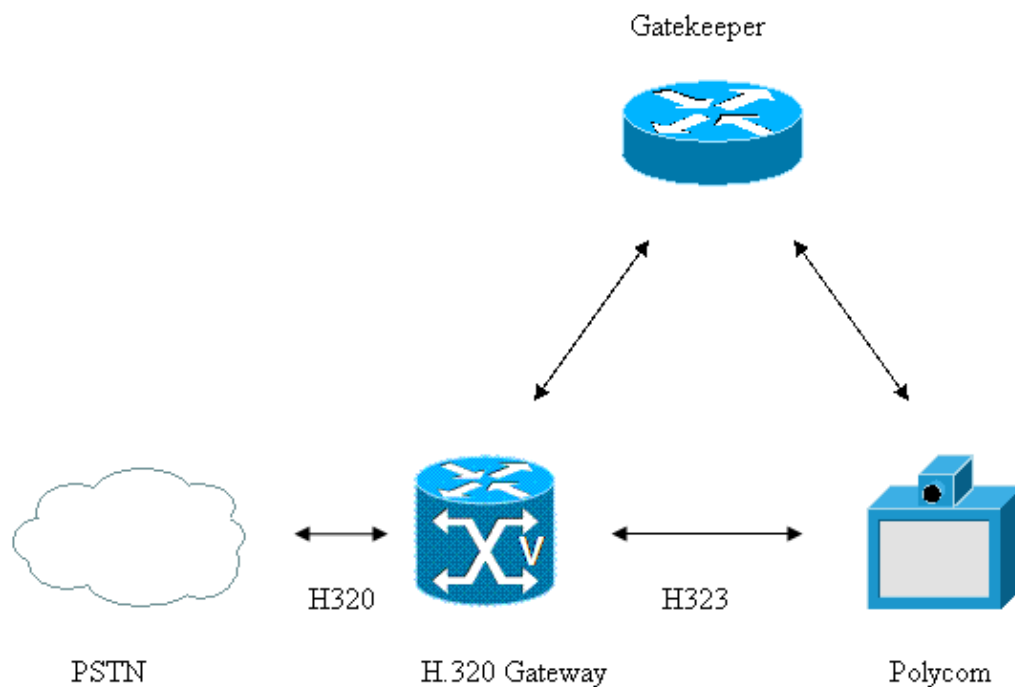
Configure

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

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

Network Diagram

This document uses this network setup:



Dial Plan

This document uses this dial plan:

- Video Endpoint in PSTN: 919-392-6000
 - ◆ H.320 Primary called number: 919-392-6000
 - ◆ H.320 Secondary called numbers: 919-392-6001 to 919-392-6005
- Polycom: 919-991-5600

- ◆ H.320 Primary called number: 919-991-5600
- ◆ H.320 Secondary called numbers: 919-991-5601 to 919-991-5605

Configuration

This document uses this configuration:

```

DevicH.320 Gateway Configuratione Name 1
voice class h323 1

    !--- Slow start is required for Video calls

    call start slow

voice class called number inbound 1

    index 1 9199915601
    index 2 9199915602
    index 3 9199915603
    index 4 9199915604
    index 5 9199915605

voice class called number outbound 1

    index 1 9193926001
    index 2 9193926002
    index 3 9193926003
    index 4 9193926004
    index 5 9193926005

controller T1 2/0

    framing esf
    linecode b8zs
    pri-group timeslots 1-24

interface Serial2/1:23

    no ip address
    encapsulation hdlc isdn switch-type primary-ni

    !--- Specifies gateway to accept data, voice and video
    !--- calls on the same ISDN interface

    isdn integrate calltype all
    no cdp enable

dial-peer voice 9190 pots

    description "Inbound H320 Dial-peer"

    !--- Specifies that this is a H.320 dial-peer

    information-type video

    !--- Specifies the list of called-numbers used to associate
    !--- secondary calls with primary call of an inbound video call

    voice-class called-number inbound 1

    !--- Specifies the list of called-numbers used for

```

```

!--- making secondary calls of an outbound video call

voice-class called-number outbound 1
incoming called-number 919991....

!--- Maximum bandwidth allowed for a video call
!--- across this dial-peer

bandwidth maximum 384
direct-inward-dial
port 2/1:23
forward-digits all

dial-peer voice 9910 voip

description "Dial-peer to Polycom"
destination-pattern 919991....
voice-class h323 1

!--- Specifies video codec to be used

video codec h263+

!--- Specifies the RTP Payload Type to be used
!--- for the Video codec

rtp payload-type cisco-codec-video-h263+ 110
session target ras
incoming called-number 919392....
codec g711ulaw
no vad

```

Bandwidth Consumption

The video call described in this document uses 384K bandwidth.

Bandwidth consumption of the video call:

```

= 384K
= 6 * 64K
= 6 B-Channels
= 1 H.320 Primary call and 5 Secondary calls

```

Call Flow Example

This section describes the call flow that results from this configuration example.

1. An ISDN call from the PSTN arrives at H.320 gateway with 919-991-5600 as the called number, bearer capability (bearer cap) is set to *Unrestricted Digital* across B-channel=1.
2. H.320 gateway performs incoming dial-peer search. Since the bearer cap is set to *Unrestricted digital*, it first searches for H.320 POTS dial peer (dial peers configured with informaton type set to *video*) and matches dial peer 9190. The first call is called the primary Call.
3. H.320 gateway performs outgoing dial-peer search and routes the call across dial peer 9910.
4. H.320 gateway sends an admission request (ARQ) to the gatekeeper and receives an admission confirmation (ACF) message.
5. H.320 gateway sends an H.225 SETUP message to Polycom.
6. H.320 gateway receives an H.225 CONNECT message from Polycom, and the video call gets connected on the IP leg.
7. H.320 gateway sends an ISDN CONNECT message to the PSTN, and the Primary call gets connected

8. H.320 gateway sends H.221 initial capabilities across POTS leg.
9. H.221 frame synchronization is established across the B-channel = 1 (also known as initial channel or primary call).
10. After the frame synchronization is established, Polycom initiates 5 secondary calls one after the other. Frame synchronization is established across B-channels 2 to 6 (also known as additional channels or secondary calls).
11. H.320 gateway associates incoming secondary calls of the range of 919-991-5601 to 919-991-5605 with the primary call (Step 2) with the command **voice-class called-number inbound 1**, which is defined as shown in the configuration.
12. H.320 gateway and Polycom exchange audio and video capabilities and open logical channels (OLCs) for audio and video streams across IP leg and POTS leg.

Capacity Planning

Before you place video traffic on a network, ensure that adequate bandwidth exists for all necessary applications. First, calculate the minimum bandwidth requirements for each major application (for example, voice, video, and data). The sum represents the minimum bandwidth requirement for any specific link. This amount should consume no more than 75 percent of the total bandwidth available on that link. This 75 percent rule assumes that some bandwidth is necessary for overhead traffic. Examples of overhead traffic include routing protocol updates and Layer 2 keepalives, as well as additional applications, such as e-mail and HTTP traffic. Have voice and video traffic occupy no more than 33 percent of link capacity

H.323 Video

According to the H.323 standard, video capabilities in H.323 terminals are optional. However, when you implement the H.323 terminals, the terminals must support the H.261 codec, with optional support for the H.263 standard.

- H.261 Video codec for audiovisual services at multiples of 64 kbps. H.261-compliant devices fully encode initial frames. The devices then code only the differences between the initial and subsequent frames for minimal packet transmissions. Optional motion compensation improves image quality.
- H.263 Video codec for video plain old telephone service (POTS). The H.263 standard is a backward-compatible update to the H.261 standard. H.263 significantly enhances picture quality with a half-pixel motion estimation technique, which is a requirement.

Verify

Use this section to confirm that your configuration works properly.

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

- **show voice call summary**

```
PORT CODEC VAD VTSP STATE VPM STATE
=====
2/1:23.1 h320p n S_CONNECT S_TSP_CONNECT
2/1:23.2 h320s - S_CONNECT S_TSP_CONNECT
2/1:23.3 h320s - S_CONNECT S_TSP_CONNECT
2/1:23.4 h320s - S_CONNECT S_TSP_CONNECT
2/1:23.5 h320s - S_CONNECT S_TSP_CONNECT
2/1:23.6 h320s - S_CONNECT S_TSP_CONNEC
```

h320p --> H.320 Primary Call; h320s --> H.320 Secondary Call

- **show call active video brief**

In this output, the Rx/Tx counters for a video call are reported only for the Primary call and are not reported for Secondary calls.

tx:H263+ 2056/1616633 à Refers to number of H.221 bytes transmitted by the H.320 Gateway across the POTS leg

rx:H263+ 2175/1231395 à Refers to the number of H.221 bytes received by the H.320 Gateway across the POTS Leg

Rx/Tx includes audio, video and signaling information carried across H.221 frames.

Telephony call-legs: 6

SIP call-legs: 0

H323 call-legs: 1

Call agent controlled call-legs: 0

SCCP call-legs: 0

Multicast call-legs: 0

Media call-legs: 0

Total call-legs: 7

11F6 : 271 87874530ms.1 +130 pid:9190 Answer 9193926000 active

dur 00:01:14 tx:3585/602280 rx:6686/534880

Tele 2/1:23 (271) [2/1.1] tx:0/0/0ms g711ulaw noise:0 acom:

0 i/0:0/0 dBm

video: h320:Primary tx:H263+ 2056/1616633 rx:H263+ 2175/1231395

11F6 : 272 87874540ms.1 +110 pid:9910 Originate 9199915600 active

dur 00:01:14 tx:8777/2192461 rx:5789/1830054

IP 14.50.5.52:49192 SRTP: off rtt:0ms pl:0/0ms lost:0/0/0 delay:

0/0/0ms g711ulaw TextRelay: off

media inactive detected:n media contrl rcvd:n/a timestamp:n/a

long duration call detected:n long duration call duration:n/a

timestamp:n/a

11F7 : 273 87874820ms.1 +0 pid:9190 Answer 9193926000 active

dur 00:01:13 tx:0/0 rx:0/0

Tele 2/1:23 (273) [2/1.2] tx:0/0/0ms None noise:0 acom:0 i/0:0/0 dBm

video: h320:Secondary

11F8 : 274 87875140ms.1 +0 pid:9190 Answer 9193926000 active

dur 00:01:13 tx:0/0 rx:0/0

Tele 2/1:23 (274) [2/1.3] tx:0/0/0ms None noise:0 acom:0 i/0:0/0 dBm

video: h320:Secondary

11F9 : 275 87875460ms.1 +0 pid:9190 Answer 9193926000 active

dur 00:01:13 tx:0/0 rx:0/0

Tele 2/1:23 (275) [2/1.4] tx:0/0/0ms None noise:0 acom:0 i/0:0/0 dBm

video: h320:Secondary

11FA : 276 87875780ms.1 +0 pid:9190 Answer 9193926000 active

dur 00:01:14 tx:0/0 rx:0/0

Tele 2/1:23 (276) [2/1.5] tx:0/0/0ms None noise:0 acom:0 i/0:0/0 dBm

video: h320:Secondary

11FB : 277 87876100ms.1 +0 pid:9190 Answer 9193926000 active

dur 00:01:13 tx:0/0 rx:0/0

Tele 2/1:23 (277) [2/1.6] tx:0/0/0ms None noise:0 acom:0 i/0:0/0 dBm

video: h320:Secondary

Telephony call-legs: 6

SIP call-legs: 0

H323 call-legs: 1

Call agent controlled call-legs: 0

SCCP call-legs: 0

Multicast call-legs: 0

Media call-legs: 0

Total call-legs: 7

• show call active video

POTS LEG Primary Call

GENERIC:

SetupTime=87874530 ms
Index=1
PeerAddress=9193926000
PeerSubAddress=
PeerId=9190
PeerIfIndex=120
LogicalIfIndex=61
ConnectTime=87874660 ms
CallDuration=00:01:39 sec
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=video
TransmitPackets=4853
TransmitBytes=815304
ReceivePackets=9223
ReceiveBytes=737840

TELE:

ConnectionId=[0x37D44522 0x532111DB 0x801B000D 0x28D3D7C0]
IncomingConnectionId=[0x37D44522 0x532111DB 0x801B000D 0x28D3D7C0]
CallID=271
TxDuration=0 ms
VoiceTxDuration=0 ms
FaxTxDuration=0 ms
CoderTypeRate=g711ulaw
NoiseLevel=0
ACOMLevel=0
OutSignalLevel=0
InSignalLevel=0
InfoActivity=0
ERLLevel=0
SessionTarget=
ImgPages=0
CallerName=
CallerIDBlocked=False
LongDurationCallDetected=no
LongDurCallTimeStamp=
LongDurCallDuration=
OriginalCallingNumber=9193926000
OriginalCallingOctet=0x21
OriginalCalledNumber=9199915600
OriginalCalledOctet=0xA1
OriginalRedirectCalledNumber=
OriginalRedirectCalledOctet=0xFF
TranslatedCallingNumber=9193926000
TranslatedCallingOctet=0x21
TranslatedCalledNumber=9199915600
TranslatedCalledOctet=0xA1
TranslatedRedirectCalledNumber=
TranslatedRedirectCalledOctet=0xFF
GwReceivedCalledNumber=9199915600
GwReceivedCalledOctet3=0xA1
GwReceivedCallingNumber=9193926000
GwReceivedCallingOctet3=0x21
GwReceivedCallingOctet3a=0x82
DSPIdentifier=2/3:1

VIDEO:

H320CallType=Primary
VideoTransmitCodec=H263+
VideoReceiveCodec=H263+
VideoUsedBandwidth=3840
H221 STATS (AUDIO):
TxPackets=9123
TxDuration=91230 ms
RxPackets=4561

RxDuration=91130 ms
BadHeaders=0
PacketsLate=0
PacketsEarly=1
ReceiveDelay=35 ms
ConcealmentDuration=0 ms
BufferOverflowDiscards=80
H221 STATS (VIDEO):
TxPackets=2958
TxBytes=2547987
PSC=2686 --> Number of Picture Start Codes detected
GBSC=2686 --> Number of Group of Block Start Codes detected
TxVideoFormat=7
RxPackets=3037
RxBytes=1999240
VideoBytesConsumed=1986099
FillBytesConsumed=1658651
PSCPaketDrops=0 --> Number of packets dropped at beginning of
stream due to missing Picture Start Code
LatePacket=0
OutOfSequence=0
BadHeader=0
BadSSRC=0
BadPayloadType=0
BufferOverflow=0
ControlHeaderOverflow=0
FilteredDelay=450 ms --> Average delay of received video packets
MinimumDelay=3 ms
MaximumDelay=619 ms
RxVideoFormat=7

POTS LEG Secondary Call

GENERIC:
SetupTime=87874820 ms
Index=1
PeerAddress=9193926000
PeerSubAddress=
PeerId=9190
PeerIfIndex=120
LogicalIfIndex=62
ConnectTime=87874820 ms
CallDuration=00:01:44 sec
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=video
TransmitPackets=0
TransmitBytes=0
ReceivePackets=0
ReceiveBytes=0
TELE:
ConnectionId=[0x38016FD6 0x532111DB 0x801C000D 0x28D3D7C0]
IncomingConnectionId=[0x37D44522 0x532111DB 0x801B000D 0x28D3D7C0]
CallID=273
TxDuration=0 ms
VoiceTxDuration=0 ms
FaxTxDuration=0 ms
CoderTypeRate=None
NoiseLevel=0
ACOMLevel=0
OutSignalLevel=0
InSignalLevel=0
InfoActivity=0
ERLevel=0
SessionTarget=

ImgPages=0
CallerName=
CallerIDBlocked=False
LongDurationCallDetected=no
LongDurCallTimeStamp=
LongDurCallDuration=
OriginalCallingNumber=9193926000
OriginalCallingOctet=0x21
OriginalCalledNumber=9199915601
OriginalCalledOctet=0xA1
OriginalRedirectCalledNumber=
OriginalRedirectCalledOctet=0xFF
TranslatedCallingNumber=9193926000
TranslatedCallingOctet=0x21
TranslatedCalledNumber=9199915601
TranslatedCalledOctet=0xA1
TranslatedRedirectCalledNumber=
TranslatedRedirectCalledOctet=0xFF
GwReceivedCalledNumber=9199915601
GwReceivedCalledOctet3=0xA1
GwReceivedCallingNumber=9193926000
GwReceivedCallingOctet3=0x21
GwReceivedCallingOctet3a=0x82
VIDEO:
H320CallType=Secondary

IP LEG

GENERIC:
SetupTime=87874540 ms
Index=1
PeerAddress=9199915600
PeerSubAddress=
PeerId=9910
PeerIfIndex=121
LogicalIfIndex=0
ConnectTime=87874650 ms
CallDuration=00:01:41 sec
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=speech
TransmitPackets=12528
TransmitBytes=3429599
ReceivePackets=8123
ReceiveBytes=2914089
VOIP:
ConnectionId[0x37D44522 0x532111DB 0x801B000D 0x28D3D7C0]
IncomingConnectionId[0x37D44522 0x532111DB 0x801B000D 0x28D3D7C0]
CallID=272
RemoteIPAddress=14.50.5.52
RemoteSignallingIPAddress=14.50.5.52
RemoteSignallingPort=1720
RemoteMediaIPAddress=14.50.5.52
RoundTripDelay=0 ms
tx_DtmfRelay=inband-voice
FastConnect=FALSE

AnnexE=FALSE

Separate H245 Connection=TRUE

H245 Tunneling=FALSE

SessionProtocol=cisco
ProtocolCallId=

SessionTarget=ras
OnTimeRvPlayout=0
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=0 ms
LoWaterPlayoutDelay=0 ms
TxPakNumber=0
TxSignalPak=0
TxComfortNoisePak=0
TxDuration=0
TxVoiceDuration=0
RxPakNumber=0
RxSignalPak=0
RxComfortNoisePak=0
RxDuration=0
RxVoiceDuration=0
RxOutOfSeq=0
RxLatePak=0
RxEarlyPak=0
RxBadProtocol=0
PlayDelayCurrent=0
PlayDelayMin=0
PlayDelayMax=0
PlayDelayClockOffset=0
PlayDelayJitter=0 ms
PlayErrPredictive=0
PlayErrInterpolative=0
PlayErrSilence=0
PlayErrBufferOverflow=0
PlayErrRetroactive=0
PlayErrTalkspurt=0
OutSignalLevel=0
InSignalLevel=0
LevelTxPowerMean=0
LevelRxPowerMean=0
LevelBgNoise=0
ERLLevel=0
ACOMLevel=0
ErrRxDrop=0
ErrTxDrop=0
ErrTxControl=0
ErrRxControl=0
Outgoing Area=Video-GK
VideoTransmitCodec=H263+
VideoTransmitPackets=0
VideoTransmitBytes=0
VideoReceiveCodec=H263+
VideoReceivePackets=0
VideoReceiveBytes=0
VideoCap_Codec=H263+
VideoCap_Format=4CIF
VideoLostPackets=0
VideoEarlyPackets=0
VideoLatePackets=0
VideoUsedBandwidth=7300
VideoNumberOfChannels=2

Incoming Channel Number = 3
Type = VIDEO
RX Bandwidth = 3010
RemotePort = 49192
LocalPort = 18982
SelectedQos = best-effort
Incoming Channel Number = 2

```
Type = AUDIO
RX Bandwidth = 640
RemotePort = 49190
LocalPort = 16640
SelectedQos = best-effort
```

```
ReceiveDelay=0 ms
LostPackets=0
EarlyPackets=0
LatePackets=0
SRTP = off
TextRelay = off
VAD = disabled
CoderTypeRate=g711ulaw
CodecBytes=160
Media Setting=flow-through
AlertTimepoint=87874600 ms
```

- **show voip rtp connections**

```
VoIP RTP active connections :
No. CallId dstCallId LocalRTP RmtRTP LocalIP RemoteIP
1 272 271 16640 49190 14.1.16.220 14.50.5.52
2 278 279 18982 49192 14.1.16.220 14.50.5.52
Found 2 active RTP connections
```

Troubleshoot

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

Debug Commands

- **debug h225 asn1**
- **debug h225 q931**
- **debug h245 asn1**
- **debug isdn q931**
- **debug voip h221 inout**
- **debug voip ccapi inout**

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

Debug Outputs

This section provides debug outputs for this sample call flow:

1. Incoming SETUP with Called Number = 9199915600 and Bearer-Cap Set to Unrestricted Digital
2. Inbound Dial-Peer 9190 is Matched
3. Outbound Dial-Peer 9910 is Matched
4. H.320 Gateway Sends ARQ Request to Gatekeeper
5. H.320 Gateway Receives ACF Response from Gatekeeper
6. H.320 Gateway Sends H.225 SETUP Message to Polycom
7. Call Gets Connected on the IP Leg
8. H.320 Gateway Sends CONNECT on the ISDN Side and Call Gets Connected
9. H.320 Gateway Sends Initial Capability Set
10. Frame Synchronization is Established Across B-Channel 1
11. H.320 Gateway Receives the First Secondary Call
12. First Secondary Call Gets Connected
13. Frame Synchronization is Established Across B-Channel 2

14. H.320 Gateway Receives the Second Secondary Call
15. Second Secondary Call Gets Connected
16. H.320 Gateway Receives BAS Command from the Video Endpoint in the PSTN
17. Frame Synchronization is Established Across B-Channel 3
18. H.320 Gateway Receives the Third Secondary Call
19. Third Secondary Call Gets Connected
20. Frame Synchronization is Established Across B-Channel 4
21. H.320 Gateway Receives the Fourth Secondary Call
22. Fourth Secondary Call Gets Connected
23. Frame Synchronization is Established Across B-Channel 4
24. H.320 Gateway Receives the Fifth Secondary Call
25. Fifth Secondary Call gets Connected
26. Frame Synchronization is Established Across B-Channel 6
27. H.320 Gateway Receives Capability Set from Video Endpoint in the PSTN
28. H.320 Gateway Sends Capability Set to the Video Endpoint in the PSTN
29. H.320 Gateway Advertises Audio (G711ulaw) and Video (H.263) Capabilities via TCS to the Polycom Across the IP Leg
30. H.320 Gateway Sends MSD Request to Polycom
31. H.320 Gateway Receives Polycom's Audio (G.722, G.728, G.711) and Video (H.263) Capability Set
32. H.320 Gateway Sends TCS ACK to Polycom
33. H.320 Gateway Receives MSD Request from Polycom
34. H.320 Gateway Sends MSD ACK to Polycom
35. H.320 Gateway Receives TCS ACK from Polycom
36. H.320 Gateway Receives MSD ACK from Polycom
37. H.320 Gateway Receives Audio OLC (G.711) from Polycom
38. H.320 Gateway Sets Outgoing Audio Mode Across the POTS Leg
39. H.320 Gateway sends Audio OLC ACK to Polycom
40. H.320 Gateway Receives Video OLC (H.263) from Polycom
41. RTP payload Type for H.263 Video Stream from Polycom to H.320 Gateway is Set to 96
42. H.320 Gateway Sets Outgoing Video Mode Across the POTS Leg
43. H.320 Gateway Sends Video OLC ACK to Polycom
44. H.320 Gateway Sends Audio Indicate Active Control and Information Signal to the Remote Video Endpoint in the PSTN
45. Video Endpoint in the PSTN Sets the Transfer Rate and Audio Mode
46. H.320 Gateway Sends Audio OLC (G.711) to Polycom
47. H.320 Gateway Receives Audio OLC ACK from Polycom
48. Video Endpoint in the PSTN Sets the Video Mode
49. H.320 Gateway Receives Audio Indicate Active Control and Information Signal from the Remote Video Endpoint in the PSTN
50. H.320 Gateway Sends Video OLC (H.263) to Polycom
51. RTP Payload Type for H.263 Video Stream from H.320 Gateway to Polycom is set to 110
52. H.320 Gateway receives Video OLC ACK from Polycom
53. H.320 Gateway Receives Video Fast Update (VFU) Picture Request from Polycom
54. H.320 Gateway Sends Video Fast Update Picture Control and Information Signal to the Video Endpoint in the PSTN
55. H.320 Gateway Receives Flow Control Command from Polycom
56. H.320 Gateway Sends Flow Control Command to the Video Endpoint in the PSTN
57. H.320 Gateway Sends Flow Control Command to the Polycom
58. H.320 Gateway Receives Flow control Command from the Video Endpoint in the PSTN
59. H.320 Gateway Sends Flow Control Command to the Polycom
60. Video Endpoint in the PSTN Disconnects the Video Call
61. H.320 Gateway Clears the Call on the IP Leg
62. H.320 Gateway Sends DRQ to Gatekeeper

Incoming SETUP with Called Number = 9199915600 and Bearer-Cap Set to Unrestricted Digital

This is the H.320 primary call.

```
001297: Oct 4 21:02:10.563: RCF (seq# 2048) rcvd
001298: Oct 4 21:02:16.748: ISDN Se2/1:23 Q931:
      RX <- SETUP pd = 8 callref = 0x009F
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98381
Exclusive, Channel 1
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915600'
Plan:ISDN, Type:National
001299: Oct 4 21:02:16.756:
      //-1/736483928021/CCAPI/cc_api_display_ie_subfields:
cc_api_call_setup_ind_common:
cisco-username=
----- ccCallInfo IE subfields -----
cisco-ani=9193926000
cisco-anitype=2
cisco-aniplan=1
cisco-anipi=0
cisco-anisi=2
dest=9199915600
cisco-desttype=2
cisco-destplan=1
cisco-rdie=FFFFFFFF
cisco-rdn=
cisco-rdntype=-1
cisco-rdnplan=-1
cisco-rdnpi=-1
cisco-rdnsi=-1
cisco-redirectreason=-1 fwd_final_type =0
final_redirectNumber =
hunt_group_timeout =0
```

Inbound Dial-Peer 9190 is Matched

```
001300: Oct 4 21:02:16.756: //-1/736483928021/CCAPI/
      cc_api_call_setup_ind_common:
Interface=0x65A8CAD4, Call Info(
Calling Number=9193926000,(Calling Name=)(TON=National,
      NPI=ISDN, Screening=User, Failed, Presentation=Allowed),
Called Number=9199915600(TON=National, NPI=ISDN),
Calling Translated=FALSE, Subscriber Type Str=RegularLine,
      FinalDestinationFlag=TRUE,
Incoming Dial-peer=9190, Progress Indication=NULL(0), Calling IE Present=TRUE,
Source Trkgrp Route Label=, Target Trkgrp Route Label=,
      CLID Transparent=FALSE), Call Id=-1
001301: Oct 4 21:02:16.756: //-1/736483928021/CCAPI/ccCheckClipClir:
In: Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
      Presentation=Allowed)
001302: Oct 4 21:02:16.756: //-1/736483928021/CCAPI/ccCheckClipClir:
Out: Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
      Presentation=Allowed)
001303: Oct 4 21:02:16.756: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:
001304: Oct 4 21:02:16.756: :cc_get_feature_vsa malloc success
```

001305: Oct 4 21:02:16.756: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001306: Oct 4 21:02:16.756: cc_get_feature_vsa count is 1
001307: Oct 4 21:02:16.756: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001308: Oct 4 21:02:16.756: :FEATURE_VSA attributes are: feature_name:0,
 fearture_time:1710265896,feature_id:78
001309: Oct 4 21:02:16.756:
 //280/736483928021/CCAPI/cc_api_call_setup_ind_common:
Set Up Event Sent;
Call Info(Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User,
 Failed, Presentation=Allowed),
Called Number=9199915600(TON=National, NPI=ISDN))
001310: Oct 4 21:02:16.760: //280/736483928021/CCAPI/cc_process_call_setup_ind:
Event=0x6587C660
001311: Oct 4 21:02:16.760: //280/736483928021/CCAPI/ccCallSetContext:
Context=0x64C5F570
001312: Oct 4 21:02:16.760: //280/736483928021/CCAPI/cc_process_call_setup_ind:
>>>>CCAPI handed cid 280 with tag 9190 to app "_ManagedAppProcess_Default"
001313: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCallProceeding:
Progress Indication=NULL(0)
001314: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCallSetupRequest:
Destination=, Calling IE Present=TRUE, Mode=0,
Outgoing Dial-peer=9910, Params=0x64C5DA10, Progress Indication=NULL(0)
001315: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCheckClipClir:
In: Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
 Presentation=Allowed)
001316: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCheckClipClir:
Out: Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
 Presentation=Allowed)
001317: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCallSetupRequest:
Destination Pattern=919991...., Called Number=9199915600, Digit Strip=FALSE
001318: Oct 4 21:02:16.764: //280/736483928021/CCAPI/ccCallSetupRequest:
Calling Number=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
 Presentation=Allowed),
Called Number=9199915600(TON=National, NPI=ISDN),
Redirect Number=, Display Info=
Account Number=, Final Destination Flag=TRUE,
Guid=73648392-5322-11DB-8021-000D28D3D7C0, Outgoing Dial-peer=9910
001319: Oct 4 21:02:16.764:
 //280/736483928021/CCAPI/cc_api_display_ie_subfields:
ccCallSetupRequest:
cisco-username=
----- ccCallInfo IE subfields -----
cisco-ani=9193926000
cisco-anitype=2
cisco-aniplan=1
cisco-anipi=0
cisco-anisi=2
dest=9199915600
cisco-desttype=2
cisco-destplan=1
cisco-rdie=FFFFFFFF
cisco-rdn=
cisco-rdntype=-1
cisco-rdnplan=-1
cisco-rdnpi=-1
cisco-rdnsi=-1
cisco-redirectreason=-1 fwd_final_type =0
final_redirectNumber =
hunt_group_timeout =0

Outbound Dial-Peer 9910 is Matched

```
001320: Oct 4 21:02:16.768: //280/736483928021/CCAPI/
      ccIFCallSetupRequestPrivate:
Interface=0x65D7A87C, Interface Type=1, Destination=, Mode=0x0,
Call Params(Calling Number=9193926000,(Calling Name=)(TON=National, NPI=ISDN,
      Screening=User, Failed, Presentation=Allowed),
Called Number=9199915600(TON=National, NPI=ISDN), Calling Translated=FALSE,
Subscriber Type Str=RegularLine, FinalDestinationFlag=TRUE,
      Outgoing Dial-peer=9910, Call Count On=FALSE,
Source Trkgrp Route Label=, Target Trkgrp Route Label=, tg_label_flag=0,
      Application Call Id=)
001321: Oct 4 21:02:16.768: //-1/xxxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001322: Oct 4 21:02:16.768: :cc_get_feature_vsa malloc success
001323: Oct 4 21:02:16.768: //-1/xxxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001324: Oct 4 21:02:16.768: cc_get_feature_vsa count is 2
001325: Oct 4 21:02:16.768: //-1/xxxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001326: Oct 4 21:02:16.768: :FEATURE_VSA attributes are: feature_name:0,
      fearture_time:1710266976,feature_id:79
001327: Oct 4 21:02:16.768:
      //281/736483928021/CCAPI/ccIFCallSetupRequestPrivate:
SPI Call Setup Request Is Success; Interface Type=1, FlowMode=1
001328: Oct 4 21:02:16.768: //281/736483928021/CCAPI/ccCallSetContext:
Context=0x64C5D9C0
001329: Oct 4 21:02:16.768: //280/736483928021/CCAPI/ccSaveDialpeerTag:
Outgoing Dial-peer=9910
```

H.320 Gateway Sends ARQ Request to Gatekeeper

```
001330: Oct 4 21:02:16.768: H225 NONSTD OUTGOING PDU ::=

value ARQnonStandardInfo ::=
{
  sourceAlias
  {
  }
  sourceExtAlias
  {
  }
  callingOctet3a 130
  interfaceSpecificBillingId "ISDN 2/1:23"
  gtd '49414D2C0D0A50524E2C6973646E2A2C2C4E492A...'H
}

001331: Oct 4 21:02:16.772: H225 NONSTD OUTGOING ENCODE BUFFER ::=
      80000010A801820C144953444E20322F313A323380A300A049414D2C0D0A50524
      E2C6973646E2A2C2C4E492A2A2A2C0D0A5553492C726174652C632C642C632C310
      D0A544D522C30310D0A43504E2C30342C2C312C393139393931353630300D0A434
      74E2C30342C2C312C792C332C393139333932363030300D0A4350432C30390D0A46
      43492C2C2C2C2C2C792C0D0A4743492C3733363438333932353332323131646
      2383032313030306432386433643763300D0A0D0A

001332: Oct 4 21:02:16.772:
001333: Oct 4 21:02:16.772: RAS OUTGOING PDU ::=

value RasMessage ::= admissionRequest :
{
  requestSeqNum 2049
  callType pointToPoint : NULL
  callModel direct : NULL
  endpointIdentifier {"65766C6C00000001"}
  destinationInfo
  {
  }
}
```


H.320 Gateway Receives ACF Response from Gatekeeper

001344: Oct 4 21:02:16.780: RAS INCOMING PDU ::=

```
value RasMessage ::= admissionConfirm :
{
requestSeqNum 2049
bandWidth 179200
callModel direct : NULL
destCallSignalAddress ipAddress :
{
ip '0E320534'H
port 1720
}
irrFrequency 240
nonStandardData
{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
}
data '00020480C4C6C593334009005600690064006500...'H
}
willRespondToIRR FALSE
uuiesRequested
{
setup FALSE
callProceeding FALSE
connect FALSE
alerting FALSE
information FALSE
releaseComplete FALSE
facility FALSE
progress FALSE
empty FALSE
}
usageSpec
{
{
when
{
end NULL
inIrr NULL
}
}
callStartingPoint
{
connect NULL
}
required
{
nonStandardUsageTypes
{
}
}
startTime NULL
endTime NULL
terminationCause NULL
}
}
}
```

001345: Oct 4 21:02:16.784: ACF (seq# 2049) rcvd

001346: Oct 4 21:02:16.784: H225 NONSTD INCOMING ENCODE BUFFER::=

```

00020480C4C6C5933340090056006900640065006F002D00470057002D0032010
480C4CCC48933
001347: Oct 4 21:02:16.784:
001348: Oct 4 21:02:16.784: H225 NONSTD INCOMING PDU ::=

value ACFnonStandardInfo ::=
{
srcTerminalAlias
{
e164 : "9193926000",
h323-ID : {"Video-GW-2"}
}
dstTerminalAlias
{
e164 : "9199915600"
}
}

parse_acf_nonstd: ACF Nonstd decode succeeded, remlen = 1652959360
001349: Oct 4 21:02:16.792: h323chan_chn_process_read_socket
001350: Oct 4 21:02:16.792: h323chan_chn_process_read_socket: fd=3 of
type CONNECT_PENDING has data
001351: Oct 4 21:02:16.792: H450 OUTGOING PDU ::=

value CmnArg ::=
{
featureList
{
ssCFreRoutingSupported NULL
ssCTreRoutingSupported NULL
}
}

001352: Oct 4 21:02:16.792: H450 OUTGOING ENCODE BUFFER::= 43000000
001353: Oct 4 21:02:16.792:
001354: Oct 4 21:02:16.792: H450 OUTGOING PDU ::=

value H4501SupplementaryService ::=
{
networkFacilityExtension
{
sourceEntity endpoint : NULL
destinationEntity endpoint : NULL
}
interpretationApdu discardAnyUnrecognizedInvokePdu : NULL
serviceApdu rosApdus :
{
invoke :
{
invokeId 44
opcode local : 85
argument {"43000000"}
}
}
}

001355: Oct 4 21:02:16.792: H450 OUTGOING ENCODE BUFFER::=
60000110002C0001550443000000
001356: Oct 4 21:02:16.792:
001357: Oct 4 21:02:16.792: H225 NONSTD OUTGOING PDU ::=

value H323_UU_NonStdInfo ::=
{
version 2
protoParam qsigNonStdInfo :
{

```



```
sourceCallSignalAddress ipAddress :
{
ip '0E0110DC'H
port 15025
}
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
mediaWaitForConnect FALSE
canOverlapSend FALSE
multipleCalls TRUE
maintainConnection TRUE
}
h4501SupplementaryService
{
'60000110002C0001550443000000'H
}
h245Tunneling FALSE
nonStandardControl
{

{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
}
data '60010200010429040288901803A9838128033131...'H
}
}
}
}
```

```
001361: Oct 4 21:02:16.804: H225.0 OUTGOING ENCODE BUFFER::=
20A0060008914A00040140090056006900640065006F002D00470057002D003228C0B5
0000120B436973636F47617465776179003240023C0504010020402C05010000736483
92532211DB8021000D28D3D7C000CD0D800007000E0110DC3AB1110073651FB9532211
DB817D90162806D3F1010001000180018011A010010E60000110002C00015504430000
000100370140B50000123060010200010429040288901803A9838128033131316C0C21
8239313933393236303030700BA139313939393135363030
```

```
001362: Oct 4 21:02:16.804:
Q931 Message IE Decodes
Protocol Discriminator : 0x08
CRV Length : 2
CRV Value : 0x001C
Message Type : 0x05: SETUP
Bearer Capability: Length Of IE=4
Data 88188CA5
```

```
Calling Party Number: Length Of IE=12
Data 218239313933393236303030
Called Party Number: Length Of IE=11
Data A139313939393135363030
User-User: Length Of IE=200
Data 0520A0060008914A00040140090056006900640065006F002D00470057002D003228C0B5
0000120B436973636F47617465776179003240023C0504010020402C0501000073648392
532211DB8021000D28D3D7C000CD0D800007000E0110DC3AB1110073651FB9532211DB81
7D90162806D3F1010001000180018011A010010E60000110002C00015504430000000100
370140B50000123060010200010429040288901803A9838128033131316C0C2182393139
33393236303030700BA139313939393135363030
```

```
001363: Oct 4 21:02:16.808: h323chan_chn_process_read_socket
001364: Oct 4 21:02:16.808: h323chan_chn_process_read_socket: fd=3 of type
CONNECTED has data
001365: Oct 4 21:02:16.808: h323chan_chn_process_read_socket: h323chan
accepted/connected fd=3
```

001366: Oct 4 21:02:16.836: h323chan_chn_process_read_socket
001367: Oct 4 21:02:16.836: h323chan_chn_process_read_socket: fd=3 of type
CONNECTED has data
001368: Oct 4 21:02:16.836: h323chan_chn_process_read_socket: h323chan
accepted/connected fd=3

Q931 Message IE Decodes

Protocol Discriminator : 0x08

CRV Length : 2

CRV Value : 0x801C

Message Type : 0x01: ALERTING

User-User: Length Of IE=87

Data 052380060008914A000422C0B500233103563530301E52656C6561736520372E352E31202
D2031314A616E323030352031353A353801B0D800110073651FB9532211DB817D90162806
D3F1010001800100014010800100

001369: Oct 4 21:02:16.836: H225.0 INCOMING ENCODE BUFFER ::= 2380060008914A000
422C0B500233103563530301E52656C6561736520372E352E31202D2031314A616E323030
352031353A353801B0D800110073651FB9532211DB817D90162806D3F1010001800100014
010800100

001370: Oct 4 21:02:16.836:

001371: Oct 4 21:02:16.836: H225.0 INCOMING PDU ::=

value H323_UserInformation ::=

```
{
  h323-uu-pdu
  {
    h323-message-body alerting :
    {
      protocolIdentifier { 0 0 8 2250 0 4 }
      destinationInfo
      {
        vendor
        {
          vendor
          {
            t35CountryCode 181
            t35Extension 0
            manufacturerCode 9009
          }
          productId '56353030'H
          versionId '52656C6561736520372E352E31202D2031314A61...'H
        }
        terminal
        {
        }
        mc FALSE
        undefinedNode FALSE
      }
      callIdentifier
      {
        guid '73651FB9532211DB817D90162806D3F1'H
      }
      multipleCalls FALSE
      maintainConnection TRUE
      presentationIndicator presentationAllowed : NULL
      screeningIndicator 2
    }
    h245Tunneling FALSE
  }
}
```

001372: Oct 4 21:02:16.840: //281/736483928021/CCAPI/cc_api_set_delay_xport:

CallInfo(delay xport=TRUE)

001373: Oct 4 21:02:16.840: //281/736483928021/CCAPI/cc_api_call_alert:

Interface=0x65D7A87C, Progress Indication=NULL(0), Signal Indication=SIGNAL

```

RINGBACK(1)
001374: Oct 4 21:02:16.840: //281/736483928021/CCAPI/cc_api_call_alert:
Call Entry(Retry Count=0, Responded=TRUE)
001375: Oct 4 21:02:16.844: //280/736483928021/CCAPI/ccCallAlert:
Progress Indication=NULL(0), Signal Indication=SIGNAL RINGBACK(1)
001376: Oct 4 21:02:16.844: //280/736483928021/CCAPI/ccCallAlert:
Call Entry(Responded=TRUE, AlertSent=TRUE)
001377: Oct 4 21:02:16.844: //280/736483928021/CCAPI/ccGenerateToneInfo:
Stop Tone On Digit=FALSE, Tone=Ring Back,
Tone Direction=Network, Params=0x0, Call Id=280
001378: Oct 4 21:02:16.844: //280/736483928021/H221():
h221_set_initial_outgoing_caps:
001379: Oct 4 21:02:16.844: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, Include B-channel In H.320 Call=TRUE
001380: Oct 4 21:02:16.844: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=1, Connected=0, Not InSync=1, InSync=0
001381: Oct 4 21:02:16.848: ISDN Se2/1:23 Q931: TX ->
ALERTING pd = 8 callref = 0x809F
001382: Oct 4 21:02:16.880: h323chan_chn_process_read_socket
001383: Oct 4 21:02:16.880: h323chan_chn_process_read_socket:
fd=3 of type CONNECTED has data
001384: Oct 4 21:02:16.880: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=3

Q931 Message IE Decodes
Protocol Discriminator : 0x08
CRV Length : 2
CRV Value : 0x801C
Message Type : 0x07: CONNECT
Display: Length Of IE=3
Data 323232
User-User: Length Of IE=110
Data 0522C0060008914A0004000E3205340A2322C0B500233103563530301E52656C6
561736520372E352E31202D2031314A616E323030352031353A35380073648392
532211DB8021000D28D3D7C01D0CC0110073651FB9532211DB817D90162806D3F
1010001800100014010800100
001385: Oct 4 21:02:16.884: H225.0 INCOMING ENCODE BUFFER ::= 22C006000
8914A0004000E3205340A2322C0B500233103563530301E52656C656173652037
2E352E31202D2031314A616E323030352031353A35380073648392532211DB802
1000D28D3D7C01D0CC0110073651FB9532211DB817D90162806D3F10100018001
00014010800100
001386: Oct 4 21:02:16.884:

```

Call Gets Connected on the IP Leg

```

001387: Oct 4 21:02:16.884: H225.0 INCOMING PDU ::=

value H323_UserInformation ::=
{
h323-uu-pdu
{
h323-message-body connect :
{
protocolIdentifier { 0 0 8 2250 0 4 }
h245Address ipAddress :
{
ip '0E320534'H
port 2595
}
destinationInfo
{
vendor
{
vendor

```

```
{
t35CountryCode 181
t35Extension 0
manufacturerCode 9009
}
productId '56353030'H
versionId '52656C6561736520372E352E31202D2031314A61...'H
}
terminal
{
}
mc FALSE
undefinedNode FALSE
}
conferenceID '73648392532211DB8021000D28D3D7C0'H
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
multipleCalls FALSE
maintainConnection TRUE
presentationIndicator presentationAllowed : NULL
screeningIndicator 2
}
h245Tunneling FALSE
}
}
```

```
001388: Oct 4 21:02:16.888: //281/736483928021/CCAPI/cc_api_call_connected:
Interface=0x65D7A87C, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001389: Oct 4 21:02:16.888: //281/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=TRUE, Retry Count=0)
001390: Oct 4 21:02:16.888: //281/736483928021/CCAPI/cc_api_event_indication:
Event=148, Call Id=281
001391: Oct 4 21:02:16.888: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001392: Oct 4 21:02:16.888: H225 NONSTD OUTGOING PDU ::=
```

```
value IRRperCallnonStandardInfo ::=
{
startTime 1159995736
}
```

```
001393: Oct 4 21:02:16.888: H225 NONSTD OUTGOING ENCODE BUFFER ::= 7045242158
001394: Oct 4 21:02:16.888:
001395: Oct 4 21:02:16.888: RAS OUTGOING PDU ::=
```

```
value RasMessage ::= infoRequestResponse :
{
requestSeqNum 2050
endpointType
{
vendor
{
vendor
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
productId '436973636F47617465776179'H
versionId '32'H
}
gateway
{
```

```
protocol
{
voice :
{
supportedPrefixes
{

{
prefix dialedDigits : "1#"
}
}, h323 :
{
supportedPrefixes
{
}
}
}
}
mc FALSE
undefinedNode FALSE
}
endpointIdentifier {"65766C6C00000001"}
rasAddress ipAddress :
{
ip '0E0110DC'H
port 53355
}
callSignalAddress
{
ipAddress :
{
ip '0E0110DC'H
port 1720
}
}
endpointAlias
{
dialedDigits : "7561",
dialedDigits : "4321",
dialedDigits : "8000",
dialedDigits : "7111",
dialedDigits : "7931",
dialedDigits : "7560",
dialedDigits : "7701",
dialedDigits : "7702",
dialedDigits : "7565",
h323-ID : {"Video-GW-2"}
}
perCallInfo
{

{
nonStandardData
{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data '7045242158'H
}
callReferenceValue 28
conferenceID '73648392532211DB8021000D28D3D7C0'H
originator TRUE
```

```

h245
{
}
callSignaling
{
}
callType pointToPoint : NULL
bandWidth 179200
callModel direct : NULL
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
substituteConfIDs
{
}
usageInformation
{
nonStandardUsageFields
{
}
connectTime 1159995736
}
}
needResponse FALSE
unsolicited TRUE
}

```

```

001396: Oct 4 21:02:16.900: RAS OUTGOING ENCODE BUFFER::=
5AC0080128C0B50000120B436973636F47617465776179003240023C05040100
20402C0501000780003600350037003600360043003600430030003000300030
0030003000300031000E0110DCD06B01000E0110DC06B80A0180A89401807654
0180B3330180A4440180AC640180A8930180AA340180AA350180A89840090056
006900640065006F002D00470057002D003201E100B500001205704524215800
1C73648392532211DB8021000D28D3D7C0802002BC0003C900110073651FB953
2211DB817D90162806D3F10100072000C0452421570E2401000180

```

```

001397: Oct 4 21:02:16.900: h323chan_dgram_send:Sent UDP msg. Bytes sent:
219 to 14.50.3.101:1719 fd=2

```

```

001398: Oct 4 21:02:16.900: RASLib::GW_RASSendIRR: IRR (seq# 2050) sent to
14.50.3.101

```

```

001399: Oct 4 21:02:16.900: //280/736483928021/CCAPI/ccGenerateToneInfo:
Stop Tone On Digit=FALSE, Tone=NULL,
Tone Direction=Network, Params=0x0, Call Id=280

```

```

001400: Oct 4 21:02:16.900: //280/xxxxxxxxxxxx/CCAPI/ccConferenceCreate:
(confID=0x64D15380, callID1=0x118, callID2=0x119, tag=0x0)

```

```

001401: Oct 4 21:02:16.900: //280/736483928021/CCAPI/ccConferenceCreate:
Conference Id=0x64D15380, Call Id1=280, Call Id2=281, Tag=0x0

```

```

001402: Oct 4 21:02:16.900: //280/xxxxxxxxxxxx/CCAPI/cc_api_bridge_done:
Conference Id=0x12, Source Interface=0x65A8CAD4, Source Call Id=280,
Destination Call Id=281, Disposition=0x0, Tag=0xFFFFFFFF

```

```

001403: Oct 4 21:02:16.904: //281/xxxxxxxxxxxx/CCAPI/cc_api_get_xcode_stream:

```

```

001404: Oct 4 21:02:16.904: cc_api_get_xcode_stream : 4369

```

```

001405: Oct 4 21:02:16.904: //281/xxxxxxxxxxxx/CCAPI/cc_api_bridge_done:
Conference Id=0x12, Source Interface=0x65D7A87C, Source Call Id=281,
Destination Call Id=280, Disposition=0x0, Tag=0x0

```

```

001406: Oct 4 21:02:16.904: //280/736483928021/CCAPI/cc_generic_bridge_done:
Conference Id=0x12, Source Interface=0x65D7A87C, Source Call Id=281,
Destination Call Id=280, Disposition=0x0, Tag=0x0

```

```

001407: Oct 4 21:02:16.904: //280/736483928021/CCAPI/ccConferenceCreate:
Call Entry(Conference Id=0x12, Destination Call Id=281)

```

```

001408: Oct 4 21:02:16.904: //281/736483928021/CCAPI/ccConferenceCreate:
Call Entry(Conference Id=0x12, Destination Call Id=280)

```

```

001409: Oct 4 21:02:16.904:

```

```
//280/736483928021/CCAPI/cc_process_notify_bridge_done:
Conference Id=0x12, Call Id1=280, Call Id2=281
001410: Oct 4 21:02:16.904: //280/736483928021/CCAPI/ccCallConnect:
Progress Indication=NULL(0), Data Bitmask=0x0
001411: Oct 4 21:02:16.904: //280/736483928021/CCAPI/ccCallConnect:
Call Entry(Connected=TRUE, Responded=TRUE)
```

H.320 Gateway Sends CONNECT on the ISDN Side and Call Gets Connected

This is the primary call.

```
001412: Oct 4 21:02:16.908: ISDN Se2/1:23 Q931: TX -> CONNECT pd = 8
callref = 0x809F
001413: Oct 4 21:02:16.916: ISDN Se2/1:23 Q931: RX <- CONNECT_ACK pd = 8
callref = 0x009F
001414: Oct 4 21:02:16.916: %ISDN-6-CONNECT: Interface Serial2/1:0 is now
connected to 9193926000 N/A
```

H.320 Gateway Sends Initial Capability Set

```
001415: Oct 4 21:02:17.056: //280/736483928021/H221():
h221_outgoing_message_entry:
Outgoing BAS Command=Send Initial Caps
001416: Oct 4 21:02:17.056: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, Include B-channel In H.320 Call=TRUE
```

Frame Synchronization is Established Across B-Channel 1

```
001417: Oct 4 21:02:17.056: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, B-channel H.221 Sync=TRUE
001418: Oct 4 21:02:17.056: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=1, Connected=0, Not InSync=0, InSync=1
```

H.320 Gateway Receives the First Secondary Call

```
001419: Oct 4 21:02:17.056: ISDN Se2/1:23 Q931:
RX <- SETUP pd = 8 callref = 0x00A0
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98382
Exclusive, Channel 2
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915601'
Plan:ISDN, Type:National
001420: Oct 4 21:02:17.060:
//1/7392E89B8022/CCAPI/cc_api_create_cc_entry_common:
Interface=0x65A8CAD4, Call Id=-1,
Call Info=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
Presentation=Allowed),
Called Number=9199915601(TON=National, NPI=ISDN),
FinalDestinationFlag=FALSE, Incoming Dial-peer=9190
001421: Oct 4 21:02:17.060: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:
001422: Oct 4 21:02:17.060: :cc_get_feature_vsa malloc success
001423: Oct 4 21:02:17.060: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:
```

```

001424: Oct 4 21:02:17.060: cc_get_feature_vsa count is 3
001425: Oct 4 21:02:17.060: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001426: Oct 4 21:02:17.060: :FEATURE_VSA attributes are: feature_name:0,
      fearture_time:1710267192,feature_id:80
001427: Oct 4 21:02:17.060: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=2, Q.931 Connect Indicated=TRUE
001428: Oct 4 21:02:17.060: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=1, Connected=0, Not InSync=0, InSync=1
001429: Oct 4 21:02:17.060: //282/736483928021/CCAPI/cc_api_call_connected:
Interface=0x65A8CAD4, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001430: Oct 4 21:02:17.060: //282/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=FALSE, Retry Count=0)
001431: Oct 4 21:02:17.064: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=2, Include B-channel In H.320 Call=TRUE
001432: Oct 4 21:02:17.064: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=2, Connected=1, Not InSync=1, InSync=1
001433: Oct 4 21:02:17.064: ISDN Se2/1:23 Q931:
      TX -> CALL_PROC pd = 8 callref = 0x80A0
Channel ID i = 0xA98382
Exclusive, Channel 2

```

First Secondary Call Gets Connected

```

001434: Oct 4 21:02:17.064: ISDN Se2/1:23 Q931: TX ->
      CONNECT pd = 8 callref = 0x80A0
001435: Oct 4 21:02:17.076: ISDN Se2/1:23 Q931: RX <- CONNECT_ACK pd = 8
      callref = 0x00A0
001436: Oct 4 21:02:17.076: %ISDN-6-CONNECT: Interface Serial2/1:1 is now
      connected to 9193926000 N/A

```

Frame Synchronization is Established Across B-Channel 2

```

001437: Oct 4 21:02:17.376: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=2, B-channel H.221 Sync=TRUE
001438: Oct 4 21:02:17.376: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=2, Connected=1, Not InSync=0, InSync=2

```

H.320 Gateway Receives the Second Secondary Call

```

001439: Oct 4 21:02:17.376: ISDN Se2/1:23 Q931: RX <- SETUP pd =
      8 callref = 0x00A1
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98383
Exclusive, Channel 3
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915602'
Plan:ISDN, Type:National
001440: Oct 4 21:02:17.380:
      //-1/73C3BCD78023/CCAPI/cc_api_create_cc_entry_common:

```

```

Interface=0x65A8CAD4, Call Id=-1,
Call Info=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
Presentation=Allowed),
Called Number=9199915602(TON=National, NPI=ISDN),
FinalDestinationFlag=FALSE, Incoming Dial-peer=9190
001441: Oct 4 21:02:17.380: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001442: Oct 4 21:02:17.380: :cc_get_feature_vsa malloc success
001443: Oct 4 21:02:17.380: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001444: Oct 4 21:02:17.380: cc_get_feature_vsa count is 4
001445: Oct 4 21:02:17.380: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001446: Oct 4 21:02:17.380: :FEATURE_VSA attributes are: feature_name:0,
feature_time:1710266760,feature_id:81
001447: Oct 4 21:02:17.380: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=3, Q.931 Connect Indicated=TRUE
001448: Oct 4 21:02:17.380: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=2, Connected=1, Not InSync=0, InSync=2
001449: Oct 4 21:02:17.380: //283/736483928021/CCAPI/cc_api_call_connected:
Interface=0x65A8CAD4, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001450: Oct 4 21:02:17.380: //283/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=FALSE, Retry Count=0)
001451: Oct 4 21:02:17.380: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=3, Include B-channel In H.320 Call=TRUE
001452: Oct 4 21:02:17.384: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=3, Connected=2, Not InSync=1, InSync=2
001453: Oct 4 21:02:17.384: ISDN Se2/1:23 Q931: TX ->
CALL_PROC pd = 8 callref = 0x80A1
Channel ID i = 0xA98383
Exclusive, Channel 3

```

Second Secondary Call Gets Connected

```

001454: Oct 4 21:02:17.384: ISDN Se2/1:23 Q931: TX ->
CONNECT pd = 8 callref = 0x80A1
001455: Oct 4 21:02:17.392: ISDN Se2/1:23 Q931: RX <- CONNECT_ACK
pd = 8 callref = 0x00A1
001456: Oct 4 21:02:17.396: %ISDN-6-CONNECT: Interface Serial2/1:2
is now connected to 9193926000 N/A
001457: Oct 4 21:02:17.532: //280/736483928021/H221():
dsmp_h221_update_dsp_timestamp:
BAS Message Timestamp=500(ms), Last Squelch Timestamp=0(ms)
Last Fast Video Update Timestamp=0(ms), Update Bas Timestamp=FALSE
001458: Oct 4 21:02:17.536: //280/736483928021/H221():
h221_incoming_message_entry:
DSP Message Squelch Status=0x0, H221 Squelch Map=0x0

```

H.320 Gateway Receives BAS Command from the Video Endpoint in the PSTN

The H.320 gateway receives the BAS command from the video endpoint in the PSTN, which indicates that it can accept H.263 capabilities.

```

001459: Oct 4 21:02:17.536: //280/736483928021/H221():
h221_incoming_handle_mbe:
MBE Received=H.263, Length=18
001460: Oct 4 21:02:17.536: //280/736483928021/H221():
h221_incoming_message_entry:
Return Code=H221 Partial Message

```

```
001461: Oct 4 21:02:17.536: //280/736483928021/H221():
      dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x0
001462: Oct 4 21:02:17.536: //280/736483928021/H221():
      dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x0
```

Frame Synchronization is Established Across B-Channel 3

```
001463: Oct 4 21:02:17.696: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=3, B-channel H.221 Sync=TRUE
001464: Oct 4 21:02:17.696: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=3, Connected=2, Not InSync=0, InSync=3
```

H.320 Gateway Receives the Third Secondary Call

```
001465: Oct 4 21:02:17.696: ISDN Se2/1:23 Q931:
      RX <- SETUP pd = 8 callref = 0x00A2
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98384
Exclusive, Channel 4
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915603'
Plan:ISDN, Type:National
001466: Oct 4 21:02:17.700:
      //-1/73F4907B8024/CCAPI/cc_api_create_cc_entry_common:
Interface=0x65A8CAD4, Call Id=-1,
Call Info=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
      Presentation=Allowed),
Called Number=9199915603(TON=National, NPI=ISDN),
FinalDestinationFlag=FALSE, Incoming Dial-peer=9190
001467: Oct 4 21:02:17.700: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001468: Oct 4 21:02:17.700: :cc_get_feature_vsa malloc success
001469: Oct 4 21:02:17.700: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001470: Oct 4 21:02:17.700: cc_get_feature_vsa count is 5
001471: Oct 4 21:02:17.700: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001472: Oct 4 21:02:17.700: :FEATURE_VSA attributes are:
      feature_name:0,feature_time:1710266544,feature_id:82
001473: Oct 4 21:02:17.700: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=4, Q.931 Connect Indicated=TRUE
001474: Oct 4 21:02:17.700: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=3, Connected=2, Not InSync=0, InSync=3
001475: Oct 4 21:02:17.700: //284/736483928021/CCAPI/cc_api_call_connected:
Interface=0x65A8CAD4, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001476: Oct 4 21:02:17.700: //284/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=FALSE, Retry Count=0)
001477: Oct 4 21:02:17.700: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=4, Include B-channel In H.320 Call=TRUE
001478: Oct 4 21:02:17.704: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
```

```
B-Channel(s)=4, Connected=3, Not InSync=1, InSync=3
001479: Oct 4 21:02:17.704: ISDN Se2/1:23 Q931: TX -> CALL_PROC
      pd = 8 callref = 0x80A2
Channel ID i = 0xA98384
Exclusive, Channel 4
```

Third Secondary Call Gets Connected

```
001480: Oct 4 21:02:17.704: ISDN Se2/1:23 Q931: TX ->
      CONNECT pd = 8 callref = 0x80A2
001481: Oct 4 21:02:17.712: ISDN Se2/1:23 Q931: RX <- CONNECT_ACK pd =
      8 callref = 0x00A2
001482: Oct 4 21:02:17.716: %ISDN-6-CONNECT: Interface Serial2/1:3
      is now connected to 9193926000 N/A
```

Frame Synchronization is Established Across B-Channel 4

```
001483: Oct 4 21:02:18.016: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=4, B-channel H.221 Sync=TRUE
001484: Oct 4 21:02:18.016: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=4, Connected=3, Not InSync=0, InSync=4
```

H.320 Gateway Receives the Fourth Secondary Call

```
001485: Oct 4 21:02:18.016: ISDN Se2/1:23 Q931:
      RX <- SETUP pd = 8 callref = 0x00A3
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98385
Exclusive, Channel 5
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915604'
Plan:ISDN, Type:National
001486: Oct 4 21:02:18.020:
      //-1/742566BC8025/CCAPI/cc_api_create_cc_entry_common:
Interface=0x65A8CAD4, Call Id=-1,
Call Info=9193926000(TON=National, NPI=ISDN, Screening=User, Failed,
Presentation=Allowed),
Called Number=9199915604(TON=National, NPI=ISDN),
FinalDestinationFlag=FALSE, Incoming Dial-peer=9190
001487: Oct 4 21:02:18.020: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001488: Oct 4 21:02:18.020: :cc_get_feature_vsa malloc success
001489: Oct 4 21:02:18.020: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001490: Oct 4 21:02:18.020: cc_get_feature_vsa count is 6
001491: Oct 4 21:02:18.020: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001492: Oct 4 21:02:18.020: :FEATURE_VSA attributes are: feature_name:
      0, fearture_time:1710266328, feature_id:83
001493: Oct 4 21:02:18.020: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=5, Q.931 Connect Indicated=TRUE
001494: Oct 4 21:02:18.020: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=4, Connected=3, Not InSync=0, InSync=4
001495: Oct 4 21:02:18.020: //285/736483928021/CCAPI/cc_api_call_connected:
```

```
Interface=0x65A8CAD4, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001496: Oct 4 21:02:18.020: //285/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=FALSE, Retry Count=0)
001497: Oct 4 21:02:18.024: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=5, Include B-channel In H.320 Call=TRUE
001498: Oct 4 21:02:18.024: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=5, Connected=4, Not InSync=1, InSync=4
001499: Oct 4 21:02:18.024: ISDN Se2/1:23 Q931: TX ->
CALL_PROC pd = 8 callref = 0x80A3
Channel ID i = 0xA98385
Exclusive, Channel 5
```

Fourth Secondary Call Gets Connected

```
001500: Oct 4 21:02:18.024: ISDN Se2/1:23 Q931: TX ->
CONNECT pd = 8 callref = 0x80A3
001501: Oct 4 21:02:18.032: //280/736483928021/H221():
dsmp_h221_update_dsp_timestamp:
BAS Message Timestamp=1000(ms), Last Squelch Timestamp=0(ms)
Last Fast Video Update Timestamp=0(ms), Update Bas Timestamp=FALSE
001502: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_message_entry:
DSP Message Squelch Status=0x0, H221 Squelch Map=0x0

001503: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=Cisco H.221
Version Indication, Version=(1.0)
001504: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=Caps From H.320
Peer Endpoint Present
001505: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=H.263 Non-Standard
Caps, Custom Picture Number=0
001506: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Standard MPI Received=TRUE, Standard MPI=2
001507: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Standard Pixel Aspect Ratio Received=TRUE, Aspect Ratio=10:11 (3)
001508: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=H.263 Non-Standard
Caps, Custom Picture Number=1
001509: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Standard MPI Received=TRUE, Standard MPI=1
001510: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Standard Pixel Aspect Ratio Received=TRUE, Aspect Ratio=10:11 (3)
001511: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=Cisco
H.221 Minimum Bchannel Caps Indication, B-channel Caps=1
001512: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_unsupported_other_mode:
BAS=0x60
001513: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_incoming_unsupported_other_mode:
BAS=0x70
001514: Oct 4 21:02:18.036: //280/736483928021/H221():
```

```

h221_incoming_handle_cap_mark:
Audio Codec(s)=0x0, H.261 Cap=FALSE, H.263 Cap=TRUE,
H.264 Cap=FALSE, B-channel Caps=6
001515: Oct 4 21:02:18.036: //280/736483928021/H221():
dsmtp_h221_check_for_bas_sqelch:
H221 Sqelch Map=0x0
001516: Oct 4 21:02:18.036: //280/736483928021/H221():
dsmtp_h221_check_for_bas_sqelch:
H221 Sqelch Map=0x0
001517: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_outgoing_message_entry:
Outgoing BAS Command=Send Caps
001518: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, Include B-channel In H.320 Call=TRUE
001519: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, B-channel H.221 Sync=TRUE
001520: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=1, Q.931 Connect Indicated=TRUE

```

Frame Synchronization is Established Across B-Channel 4

```

001521: Oct 4 21:02:18.036: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=5, Connected=5, Not InSync=1, InSync=4
001522: Oct 4 21:02:18.036: ISDN Se2/1:23 Q931: RX <- CONNECT_ACK pd
= 8 callref = 0x00A3
001523: Oct 4 21:02:18.040: %ISDN-6-CONNECT: Interface Serial2/1:4
is now connected to 9193926000 N/A
001524: Oct 4 21:02:18.336: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel=5, B-channel H.221 Sync=TRUE
001525: Oct 4 21:02:18.336: //280/736483928021/H221():
h221_set_outgoing_bchnl_map:
B-Channel(s)=5, Connected=5, Not InSync=0, InSync=5

```

H.320 Gateway Receives the Fifth Secondary Call

```

001526: Oct 4 21:02:18.336: ISDN Se2/1:23 Q931:
RX <- SETUP pd = 8 callref = 0x00A4
Bearer Capability i = 0x8890
Standard = CCITT
Transfer Capability = Unrestricted Digital
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xA98386
Exclusive, Channel 6
Display i = '111'
Calling Party Number i = 0x2182, '9193926000'
Plan:ISDN, Type:National
Called Party Number i = 0xA1, '9199915605'
Plan:ISDN, Type:National
001527: Oct 4 21:02:18.340:
//-1/74563AF88026/CCAPI/cc_api_create_cc_entry_common:
Interface=0x65A8CAD4, Call Id=-1,
Call Info=9193926000(TON=National, NPI=ISDN, Screening=User,
Failed, Presentation=Allowed),
Called Number=9199915605(TON=National, NPI=ISDN),
FinalDestinationFlag=FALSE, Incoming Dial-peer=9190
001528: Oct 4 21:02:18.340: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:
001529: Oct 4 21:02:18.340: :cc_get_feature_vsa malloc success
001530: Oct 4 21:02:18.340: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

```

```

001531: Oct 4 21:02:18.340: cc_get_feature_vsa count is 7
001532: Oct 4 21:02:18.340: //-1/xxxxxxxxxxxx/CCAPI/cc_get_feature_vsa:

001533: Oct 4 21:02:18.340: :FEATURE_VSA attributes are:
      feature_name:0,fearture_time:1710266112,feature_id:84
001534: Oct 4 21:02:18.340: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=6, Q.931 Connect Indicated=TRUE
001535: Oct 4 21:02:18.340: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=5, Connected=5, Not InSync=0, InSync=5
001536: Oct 4 21:02:18.340: //286/736483928021/CCAPI/cc_api_call_connected:
Interface=0x65A8CAD4, Data Bitmask=0x0, Progress Indication=NULL(0),
Connection Handle=0
001537: Oct 4 21:02:18.340: //286/736483928021/CCAPI/cc_api_call_connected:
Call Entry(Connected=TRUE, Responded=FALSE, Retry Count=0)
001538: Oct 4 21:02:18.340: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=6, Include B-channel In H.320 Call=TRUE
001539: Oct 4 21:02:18.344: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel(s)=6, Connected=6, Not InSync=1, InSync=5
001540: Oct 4 21:02:18.344: ISDN Se2/1:23 Q931:
      TX -> CALL_PROC pd = 8 callref = 0x80A4
Channel ID i = 0xA98386
Exclusive, Channel 6

```

Fifth Secondary Call gets Connected

```

001541: Oct 4 21:02:18.344: ISDN Se2/1:23 Q931:
      TX -> CONNECT pd = 8 callref = 0x80A4
001542: Oct 4 21:02:18.352: ISDN Se2/1:23 Q931:
      RX <- CONNECT_ACK pd = 8 callref = 0x00A4
001543: Oct 4 21:02:18.356: %ISDN-6-CONNECT:
      Interface Serial2/1:5 is now connected to 9193926000 N/A
001544: Oct 4 21:02:18.532: //280/736483928021/H221():
      dsmp_h221_update_dsp_timestamp:
BAS Message Timestamp=1500(ms), Last Squelch Timestamp=0(ms)
Last Fast Video Update Timestamp=0(ms), Update Bas Timestamp=FALSE
001545: Oct 4 21:02:18.536: //280/736483928021/H221():
      h221_incoming_message_entry:
DSP Message Squelch Status=0x0, H221 Squelch Map=0x0
001546: Oct 4 21:02:18.536: //280/736483928021/H221():
      h221_incoming_handle_mbe:
MBE Received=H.263, Length=18
001547: Oct 4 21:02:18.536: //280/736483928021/H221():
      h242_incoming_handle_mbe_h263_caps:
Identical H.263 Caps Detected, skip parsing
001548: Oct 4 21:02:18.536: //280/736483928021/H221():
      h221_incoming_message_entry:
Return Code=H221 Partial Message
001549: Oct 4 21:02:18.536: //280/736483928021/H221():
      dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x0
001550: Oct 4 21:02:18.536: //280/736483928021/H221():
      dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x0

```

Frame Synchronization is Established Across B-Channel 6

```

001551: Oct 4 21:02:18.656: //280/736483928021/H221():
      h221_set_outgoing_bchnl_map:
B-Channel=6, B-channel H.221 Sync=TRUE
001552: Oct 4 21:02:18.656: //280/736483928021/H221():

```

```
h221_set_outgoing_bchnl_map:
B-Channel(s)=6, Connected=6, Not InSync=0, InSync=6
001553: Oct 4 21:02:19.032: //280/736483928021/H221():
  dsmp_h221_update_dsp_timestamp:
BAS Message Timestamp=2000(ms), Last Squelch Timestamp=0(ms)
Last Fast Video Update Timestamp=0(ms), Update Bas Timestamp=FALSE
001554: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_message_entry:
DSP Message Squelch Status=0x0, H221 Squelch Map=0x0
```

H.320 Gateway Receives Capability Set from Video Endpoint in the PSTN

The capability set specifies the Minimum Picture Interval (MPI), aspect ratio, audio codec, video codec, and the number of b-channels that is supported by the video endpoint.

```
001555: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=Cisco
  H.221 Version Indication, Version=(1.0)
001556: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=Caps From
  H.320 Peer Endpoint Present
001557: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=
  H.263 Non-Standard Caps, Custom Picture Number=0
001558: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Standard MPI Received=TRUE, Standard MPI=2
001559: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Standard Pixel Aspect Ratio Received=TRUE, Aspect Ratio=10:11 (3)
001560: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=
  H.263 Non-Standard Caps, Custom Picture Number=1
001561: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Standard MPI Received=TRUE, Standard MPI=1
001562: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Standard Pixel Aspect Ratio Received=TRUE, Aspect Ratio=10:11 (3)
001563: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_ns_cap_comm:
Cisco GW non-standard Indication Received, Command=
  Cisco H.221 Minimum Bchannel Caps Indication, B-channel Caps=1
001564: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_handle_cap_mark:
Audio Codec(s)=0x2A, H.261 Cap=FALSE, H.263 Cap=TRUE,
  H.264 Cap=FALSE, B-channel Caps=6
001565: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_unsupported_other_mode:
BAS=0x60
001566: Oct 4 21:02:19.036: //280/736483928021/H221():
  h221_incoming_unsupported_other_mode:
BAS=0x70
001567: Oct 4 21:02:19.036: //280/736483928021/H221():
  dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x0
001568: Oct 4 21:02:19.036: //280/736483928021/H221():
  dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x0
```

H.320 Gateway Sends Capability Set to the Video Endpoint in the PSTN

```
001569: Oct 4 21:02:19.036: //280/736483928021/H221():
      dsmp_h221_build_audio_caps_ind:
Audio Codec(s)=G.711 u-law,
001570: Oct 4 21:02:19.036: //280/736483928021/H221():
      dsmp_h221_calculate_max_video_bandwidth_internal:
Calculation Type=Max Capability, B-Channel(s)=6, Bandwidth=3017
001571: Oct 4 21:02:19.036: //280/736483928021/H221():
      dsmp_h221_build_video_caps_ind:
Number Of Caps=1
001572: Oct 4 21:02:19.036: //280/736483928021/H221():
      dsmp_h221_build_video_caps_ind:
Video Caps=H.263, Max Bit Rate=3017
16CIF=0, 4CIF=2, CIF=1, QCIF=1
format_bit_mask=0xF, cc_h263_base_caps_mask=0x204,
      cc_h263_options_mask=0x200000, ccH263Options->bit_mask=0x10000000
001573: Oct 4 21:02:19.040: //280/736483928021/CCAPI/cc_api_caps_ind:
Destination Interface=0x65D7A87C, Destination Call Id=281, Source Call Id=280,
Caps(Codec=0x1, Fax Rate=0x1, Vad=0x1,
Modem=0x2, Codec Bytes=20, Signal Type=3)
001574: Oct 4 21:02:19.040: //280/736483928021/CCAPI/cc_api_caps_ind:
Caps(Playout Mode=1, Playout Initial=60(ms), Playout Min=40(ms),
Playout Max=250(ms), Fax Nom=300(ms))
001575: Oct 4 21:02:19.044: h323chan_chn_process_read_socket
001576: Oct 4 21:02:19.044: h323chan_chn_process_read_socket:
      fd=4 of type CONNECT_PENDING has data
```

H.320 Gateway Advertises Audio (G711ulaw) and Video (H.263) Capabilities via TCS to the Polycom Across the IP Leg

```
001577: Oct 4 21:02:19.044: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
{
sequenceNumber 1
protocolIdentifier { 0 0 8 245 0 7 }
multiplexCapability h2250Capability :
{
maximumAudioDelayJitter 20
receiveMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{
{
centralizedControl FALSE
distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
transmitMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{
{
centralizedControl FALSE
```

```

distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
receiveAndTransmitMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{

{
centralizedControl FALSE
distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
mcCapability
{
centralizedConferenceMC FALSE
decentralizedConferenceMC FALSE
}
rtcpVideoControlCapability FALSE
mediaPacketizationCapability
{
h261aVideoPacketization FALSE
rtpPayloadType
{

{
payloadDescriptor rfc-number : 2429
}
}
}
logicalChannelSwitchingCapability FALSE
t120DynamicPortCapability FALSE
}
capabilityTable
{

{
capabilityTableEntryNumber 34
capability receiveRTPAudioTelephonyEventCapability :
{
dynamicRTPPayloadType 101
audioTelephoneEvent "0-16"
}
},
{
capabilityTableEntryNumber 3
capability receiveAudioCapability : g711Ulaw64k : 20
},
{
capabilityTableEntryNumber 39
capability receiveVideoCapability : h263VideoCapability :
{
sqcifMPI 1
qcifMPI 1

```

```

cifMPI 1
cif4MPI 2
maxBitRate 3017
unrestrictedVector FALSE
arithmeticCoding FALSE
advancedPrediction TRUE
pbFrames FALSE
temporalSpatialTradeOffCapability FALSE
errorCompensation FALSE
h263Options
{
advancedIntraCodingMode FALSE
deblockingFilterMode FALSE
improvedPBFramesMode FALSE
unlimitedMotionVectors FALSE
fullPictureFreeze FALSE
partialPictureFreezeAndRelease FALSE
resizingPartPicFreezeAndRelease FALSE
fullPictureSnapshot FALSE
partialPictureSnapshot FALSE
videoSegmentTagging FALSE
progressiveRefinement FALSE
dynamicPictureResizingByFour FALSE
dynamicPictureResizingSixteenthPel FALSE
dynamicWarpingHalfPel FALSE
dynamicWarpingSixteenthPel FALSE
independentSegmentDecoding FALSE
slicesInOrder-NonRect FALSE
slicesInOrder-Rect FALSE
slicesNoOrder-NonRect FALSE
slicesNoOrder-Rect FALSE
alternateInterVLCMode FALSE
modifiedQuantizationMode TRUE
reducedResolutionUpdate FALSE
separateVideoBackChannel FALSE
customPictureFormat
{
{
maxCustomPictureWidth 176
maxCustomPictureHeight 120
minCustomPictureWidth 176
minCustomPictureHeight 120
mPI
{
standardMPI 2
}
}
pixelAspectInformation pixelAspectCode :
{
3
}
},
{
maxCustomPictureWidth 88
maxCustomPictureHeight 60
minCustomPictureWidth 88
minCustomPictureHeight 60
mPI
{
standardMPI 1
}
}
pixelAspectInformation pixelAspectCode :
{
3
}
}

```

```

}
}
}
}
}
capabilityDescriptors
{
{
capabilityDescriptorNumber 1
simultaneousCapabilities
{
{
3
},
{
39
},
{
34
}
}
}
}
}
}
001578: Oct 4 21:02:19.060: H245 MSC OUTGOING ENCODE BUFFER ::=
0270010600088175000780198000140001000001000001000402040008097C0
66001000100028000218A061404302D313680000220C01380002609FC00000A
0BC820705001001B080000104000AF007700AF00774120400057003B0057003
B40204000800102000002000026000021
001579: Oct 4 21:02:19.060:

```

H.320 Gateway Sends MSD Request to Polycom

```

001580: Oct 4 21:02:19.064: H245 MSC OUTGOING PDU ::=
value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :
{
terminalType 60
statusDeterminationNumber 4223
}
001581: Oct 4 21:02:19.064: H245 MSC OUTGOING ENCODE BUFFER ::= 01003C40107F
001582: Oct 4 21:02:19.064:
001583: Oct 4 21:02:19.064: h323chan_chn_process_read_socket
001584: Oct 4 21:02:19.064: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data
001585: Oct 4 21:02:19.064: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4
001586: Oct 4 21:02:19.088: h323chan_chn_process_read_socket
001587: Oct 4 21:02:19.088: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data
001588: Oct 4 21:02:19.088: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4
001589: Oct 4 21:02:19.088: h245_decode_one_pdu: more_pdus = 0,
bytesLeftToDecode = 433
001590: Oct 4 21:02:19.088: H245 MSC INCOMING ENCODE BUFFER ::=
02700106000881750007801C00003C00010000010000010004020D0108097C1007
000881710000001180000024301660C0B5000001019340BB80010CB50000010101
20000180000124301660C0B50000010192407D00010CB500000101012000018000

```

```
0224301660C0B50000010191405DC0010CB5000001010120000180000324301160
00060007B8350100407D0001001200018000042430116000060007B8350100405D
C0010012000180000524301660C0B50000010196403E80010CB500000101012000
0180000621401380000722400780000820C01380000920401380000A0C00216000
0700088171000001400F000502914002A2001D0032001400620015004200078000
0B09FC00000A0EFF20705001001B080000104000AF007700AF0077412040005700
3B0057003B40204080000C0C000900C0B500233102210180000D0C001220C0B500
0001019D010CB50000010101101080000E08B0000EFF40000F48C600328000104A
0C09000006000881600100003280001104B5002331045153404400800003090000
00010002000300040005000600070008000904000A000B000C000D000E01000F00
10000011
```

001591: Oct 4 21:02:19.092:

H.320 Gateway Receives Polycom's Audio (G.722, G.728, G.711) and Video (H.263) Capability Set

001592: Oct 4 21:02:19.092: H245 MSC INCOMING PDU ::=

```
value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
{
sequenceNumber 1
protocolIdentifier { 0 0 8 245 0 7 }
multiplexCapability h2250Capability :
{
maximumAudioDelayJitter 60
receiveMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{
{
centralizedControl FALSE
distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
transmitMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{
{
centralizedControl FALSE
distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
receiveAndTransmitMultipointCapability
{
multicastCapability FALSE
multiUniCastConference FALSE
mediaDistributionCapability
{
```

```

{
centralizedControl FALSE
distributedControl FALSE
centralizedAudio FALSE
distributedAudio FALSE
centralizedVideo FALSE
distributedVideo FALSE
}
}
}
mcCapability
{
centralizedConferenceMC FALSE
decentralizedConferenceMC FALSE
}
rtcpVideoControlCapability FALSE
mediaPacketizationCapability
{
h261aVideoPacketization FALSE
rtpPayloadType
{
{
payloadDescriptor rfc-number : 2429
},
{
payloadDescriptor oid : { 0 0 8 241 0 0 0 }
}
}
}
}
capabilityTable
{
{
capabilityTableEntryNumber 1
capability receiveAudioCapability : genericAudioCapability :
{
capabilityIdentifier h221NonStandard :
{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 1
}
}
data '93'H
}
maxBitRate 48000
collapsing
{
{
parameterIdentifier h221NonStandard :
{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 1
}
}
data '01'H
}
parameterValue unsignedMin : 1
}
}
}
}
}

```



```

parameterValue unsignedMin : 1
}
}
},
{
capabilityTableEntryNumber 7
capability receiveAudioCapability : g722-64k : 20
},
{
capabilityTableEntryNumber 8
capability receiveAudioCapability : g728 : 8
},
{
capabilityTableEntryNumber 9
capability receiveAudioCapability : g711Ulaw64k : 20
},
{
capabilityTableEntryNumber 10
capability receiveAudioCapability : g711Alaw64k : 20
},
{
capabilityTableEntryNumber 11
capability receiveVideoCapability : genericVideoCapability :
{
capabilityIdentifier standard : { 0 0 8 241 0 0 1 }
maxBitRate 3840
collapsing
{
{
parameterIdentifier standard : 41
parameterValue booleanArray : 64
},
{
parameterIdentifier standard : 42
parameterValue unsignedMin : 29
},
{
parameterIdentifier standard : 3
parameterValue unsignedMin : 20
},
{
parameterIdentifier standard : 6
parameterValue unsignedMin : 21
},
{
parameterIdentifier standard : 4
parameterValue unsignedMin : 7
}
}
},
{
capabilityTableEntryNumber 12
capability receiveVideoCapability : h263VideoCapability :
{
sqcifMPI 1
qcifMPI 1
cifMPI 1
cif4MPI 2
maxBitRate 3840
unrestrictedVector FALSE
arithmeticCoding FALSE
advancedPrediction TRUE
pbFrames FALSE

```

```

temporalSpatialTradeOffCapability FALSE
errorCompensation FALSE
h263Options
{
advancedIntraCodingMode FALSE
deblockingFilterMode FALSE
improvedPBFramesMode FALSE
unlimitedMotionVectors FALSE
fullPictureFreeze FALSE
partialPictureFreezeAndRelease FALSE
resizingPartPicFreezeAndRelease FALSE
fullPictureSnapshot FALSE
partialPictureSnapshot FALSE
videoSegmentTagging FALSE
progressiveRefinement FALSE
dynamicPictureResizingByFour FALSE
dynamicPictureResizingSixteenthPel FALSE
dynamicWarpingHalfPel FALSE
dynamicWarpingSixteenthPel FALSE
independentSegmentDecoding FALSE
slicesInOrder-NonRect FALSE
slicesInOrder-Rect FALSE
slicesNoOrder-NonRect FALSE
slicesNoOrder-Rect FALSE
alternateInterVLCMode FALSE
modifiedQuantizationMode TRUE
reducedResolutionUpdate FALSE
separateVideoBackChannel FALSE
customPictureFormat
{
{
maxCustomPictureWidth 176
maxCustomPictureHeight 120
minCustomPictureWidth 176
minCustomPictureHeight 120
mPI
{
standardMPI 2
}
pixelAspectRatioInformation pixelAspectRatioCode :
{
3
}
},
{
maxCustomPictureWidth 88
maxCustomPictureHeight 60
minCustomPictureWidth 88
minCustomPictureHeight 60
mPI
{
standardMPI 1
}
pixelAspectRatioInformation pixelAspectRatioCode :
{
3
}
}
},
{
capabilityTableEntryNumber 13
capability receiveVideoCapability : genericVideoCapability :

```

```

{
  capabilityIdentifier h221NonStandard :
  {
    nonStandardIdentifier h221NonStandard :
    {
      t35CountryCode 181
      t35Extension 0
      manufacturerCode 9009
    }
    data '2101'H
  }
},
{
  capabilityTableEntryNumber 14
  capability receiveVideoCapability : genericVideoCapability :
  {
    capabilityIdentifier h221NonStandard :
    {
      nonStandardIdentifier h221NonStandard :
      {
        t35CountryCode 181
        t35Extension 0
        manufacturerCode 1
      }
      data '9D'H
    }
    collapsing
  }
  {
    parameterIdentifier h221NonStandard :
    {
      nonStandardIdentifier h221NonStandard :
      {
        t35CountryCode 181
        t35Extension 0
        manufacturerCode 1
      }
      data '01'H
    }
    parameterValue booleanArray : 16
  }
},
{
  capabilityTableEntryNumber 15
  capability receiveVideoCapability : h261VideoCapability :
  {
    qcifMPI 1
    cifMPI 1
    temporalSpatialTradeOffCapability FALSE
    maxBitRate 3840
    stillImageTransmission FALSE
  }
},
{
  capabilityTableEntryNumber 16
  capability receiveAndTransmitDataApplicationCapability :
  {
    application h224 : hdlcFrameTunnelling : NULL
    maxBitRate 50
  }
},
{

```

```
capabilityTableEntryNumber 17
capability receiveAndTransmitDataApplicationCapability :
{
  application genericDataCapability :
  {
    capabilityIdentifier standard : { 0 0 8 224 1 0 }
  }
  maxBitRate 50
}
},
{
  capabilityTableEntryNumber 18
  capability nonStandard :
  {
    nonStandardIdentifier h221NonStandard :
    {
      t35CountryCode 181
      t35Extension 0
      manufacturerCode 9009
    }
    data '51534044'H
  }
}
}
}
capabilityDescriptors
{
  {
    capabilityDescriptorNumber 0
    simultaneousCapabilities
    {
      {
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        10
      },
      {
        11,
        12,
        13,
        14,
        15
      },
      {
        16,
        17
      },
      {
        18
      }
    }
  }
}
```

```

001593: Oct 4 21:02:19.140: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0
001594: Oct 4 21:02:19.140: h245_decode_nonstd_cap: parse_tcs_nonstd failed
001595: Oct 4 21:02:19.140: h245_decode_nonstd_cap: parse_tcs_nonstd failed
001596: Oct 4 21:02:19.140: h245_decode_one_pdu: Read Pkt body: more_pdus:0
      rc:0 asn_rc:0
001597: Oct 4 21:02:19.144: //281/736483928021/CCAPI/cc_api_caps_ind:
Destination Interface=0x65A8CAD4, Destination Call Id=280, Source Call Id=281,
Caps(Codec=0x1, Fax Rate=0x2, Vad=0x2,
Modem=0x0, Codec Bytes=20, Signal Type=2)
001598: Oct 4 21:02:19.144: //281/736483928021/CCAPI/cc_api_caps_ind:
Caps(Playout Mode=1, Playout Initial=60(ms), Playout Min=40(ms),
Playout Max=250(ms), Fax Nom=300(ms))
001599: Oct 4 21:02:19.144: //280/736483928021/CCAPI/cc_api_caps_ack:
Destination Interface=0x65D7A87C, Destination Call Id=281, Source Call Id=280,
Caps(Codec=g711ulaw(0x1), Fax Rate=FAX_RATE_VOICE(0x2), Vad=ON(0x2),
Modem=OFF(0x0), Codec Bytes=20, Signal Type=2, Seq Num Start=0)
001600: Oct 4 21:02:19.148: //280/736483928021/H221():
      dsmp_h221_decode_ccapi_audio_caps:
Audio Codec(s)=G.711 u-law,
001601: Oct 4 21:02:19.148: //280/736483928021/H221():
      dsmp_h221_decode_ccapi_video_caps:
Video Caps=H.263, Max Bit Rate=3840
16CIF=0, 4CIF=2, CIF=1, QCIF=1
format_bit_mask=0xF, cc_h263_base_caps_mask=0x204,
      cc_h263_options_mask=0x200000, ccH263Options->bit_mask=0x10000000
001602: Oct 4 21:02:19.148: //280/736483928021/H221():
      h221_outgoing_message_entry:
Outgoing BAS Command=Send Caps

```

H.320 Gateway Sends TCS ACK to Polycom

```

001603: Oct 4 21:02:19.148: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :
{
sequenceNumber 1
}

001604: Oct 4 21:02:19.148: H245 MSC OUTGOING ENCODE BUFFER ::= 218001
001605: Oct 4 21:02:19.148:
001606: Oct 4 21:02:19.148: h323chan_chn_process_read_socket
001607: Oct 4 21:02:19.148: h323chan_chn_process_read_socket:
      fd=4 of type CONNECTED has data
001608: Oct 4 21:02:19.148: h323chan_chn_process_read_socket:
      h323chan accepted/connected fd=4

001609: Oct 4 21:02:19.148: h245_decode_one_pdu: more_pdus = 0,
      bytesLeftToDecode = 7
001610: Oct 4 21:02:19.148: H245 MSC INCOMING ENCODE BUFFER ::=
      01003280741139
001611: Oct 4 21:02:19.148:

```

H.320 Gateway Receives MSD Request from Polycom

```

001612: Oct 4 21:02:19.148: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :
{
terminalType 50
statusDeterminationNumber 7606585
}

001613: Oct 4 21:02:19.152: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0

```

```
001614: Oct 4 21:02:19.152: h245_decode_one_pdu: Read Pkt body:
      more_pdus:0 rc:0 asn_rc:0
```

H.320 Gateway Sends MSD ACK to Polycom

```
001615: Oct 4 21:02:19.152: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response :
  masterSlaveDeterminationAck :
  {
  decision slave : NULL
  }

001616: Oct 4 21:02:19.152: H245 MSC OUTGOING ENCODE BUFFER ::= 20A0
001617: Oct 4 21:02:19.152:
001618: Oct 4 21:02:19.152: h323chan_chn_process_read_socket
001619: Oct 4 21:02:19.152: h323chan_chn_process_read_socket:
      fd=4 of type CONNECTED has data
001620: Oct 4 21:02:19.152: h323chan_chn_process_read_socket:
      h323chan accepted/connected fd=4

001621: Oct 4 21:02:19.152: h245_decode_one_pdu: more_pdus = 0,
      bytesLeftToDecode = 3
001622: Oct 4 21:02:19.152: H245 MSC INCOMING ENCODE BUFFER ::= 218001
001623: Oct 4 21:02:19.152:
```

H.320 Gateway Receives TCS ACK from Polycom

```
001624: Oct 4 21:02:19.152: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :
  {
  sequenceNumber 1
  }

001625: Oct 4 21:02:19.152: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0
001626: Oct 4 21:02:19.152: h245_decode_one_pdu: Read Pkt body:
      more_pdus:0 rc:0 asn_rc:0
001627: Oct 4 21:02:19.152: //281/736483928021/CCAPI/cc_api_caps_ack:
Destination Interface=0x65A8CAD4, Destination Call Id=280, Source Call Id=281,
Caps(Codec=gsmefr(0x0), Fax Rate=Invalid(0x0), Vad=Invalid(0x0),
Modem=OFF(0x0), Codec Bytes=0, Signal Type=0, Seq Num Start=0)
001628: Oct 4 21:02:19.152: h323chan_chn_process_read_socket
001629: Oct 4 21:02:19.152: h323chan_chn_process_read_socket:
      fd=4 of type CONNECTED has data
001630: Oct 4 21:02:19.152: h323chan_chn_process_read_socket:
      h323chan accepted/connected fd=4

001631: Oct 4 21:02:19.152: h245_decode_one_pdu: more_pdus = 0,
      bytesLeftToDecode = 2
001632: Oct 4 21:02:19.152: H245 MSC INCOMING ENCODE BUFFER ::= 2080
001633: Oct 4 21:02:19.152:
001634: Oct 4 21:02:19.152: H245 MSC INCOMING PDU ::=
```

H.320 Gateway Receives MSD ACK from Polycom

```
value MultimediaSystemControlMessage ::= response :
  masterSlaveDeterminationAck :
  {
  decision master : NULL
  }
```

```

001635: Oct 4 21:02:19.152: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0
001636: Oct 4 21:02:19.152: h245_decode_one_pdu: Read Pkt body:
      more_pdus:0 rc:0 asn_rc:0
001637: Oct 4 21:02:19.172: h323chan_chn_process_read_socket
001638: Oct 4 21:02:19.172: h323chan_chn_process_read_socket:
      fd=4 of type CONNECTED has data
001639: Oct 4 21:02:19.172: h323chan_chn_process_read_socket:
      h323chan accepted/connected fd=4

001640: Oct 4 21:02:19.172: h245_decode_one_pdu: more_pdus = 0,
      bytesLeftToDecode = 19
001641: Oct 4 21:02:19.172: H245 MSC INCOMING ENCODE BUFFER::=
      030000010C6013800A040001000E320534C02B
001642: Oct 4 21:02:19.172:

```

H.320 Gateway Receives Audio OLC (G.711) from Polycom

Polycom's RTCP ipaddress:port for audio stream is 14.50.5.52:49195.

```

001643: Oct 4 21:02:19.172: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : openLogicalChannel :
{
  forwardLogicalChannelNumber 2
  forwardLogicalChannelParameters
  {
    dataType audioData : g711Ulaw64k : 20
    multiplexParameters h2250LogicalChannelParameters :
    {
      sessionID 1
      mediaControlChannel unicastAddress : ipAddress :
      {
        network '0E320534'H
        tsapIdentifier 49195
      }
    }
  }
}

```

```

001644: Oct 4 21:02:19.172: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0
001645: Oct 4 21:02:19.172: h245_decode_one_pdu: Read Pkt body:
      more_pdus:0 rc:0 asn_rc:0
001646: Oct 4 21:02:19.172: //281/736483928021/CCAPI/cc_api_event_indication:
      Event=140, Call Id=281
001647: Oct 4 21:02:19.172: //281/736483928021/CCAPI/cc_api_event_indication:
      Event Is Sent To Conferenced SPI(s) Directly
001648: Oct 4 21:02:19.176: //280/736483928021/H221():
      dsmp_h221_set_outgoing_requested_audio_mode:
      Outgoing Audio Mode=G.711 u-law 56k

```

H.320 Gateway Sets Outgoing Audio Mode Across the POTS Leg

```

001649: Oct 4 21:02:19.176: //280/736483928021/H221():
      h221_lock_audio_mode:
      Incoming Audio Mode=OFF, Outgoing Audio Mode=G.711 u-law 56k
001650: Oct 4 21:02:19.176: //280/736483928021/H221():
      h221_outgoing_message_entry:
      Outgoing BAS Command=Send Caps
001651: Oct 4 21:02:19.176: //280/736483928021/H221():
      dsmp_h221_populate_config_rtp_params:
      Direction=Outgoing, Type=Audio
001652: Oct 4 21:02:19.176: //280/736483928021/H221():
      dsmp_h221_populate_config_rtp_params:

```

```
Audio Mode=G.711 u-law 56k, Coding Type=0x65, Channel Mask=0xFE
001653: Oct 4 21:02:19.176: //280/736483928021/CCAPI/cc_api_event_indication:
Event=141, Call Id=280
001654: Oct 4 21:02:19.176: //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
```

H.320 Gateway sends Audio OLC ACK to Polycom

The H.320 gateway's RTP and RTCP ipaddress:port for audio stream is 14.1.16.220:18718 and 14.1.16.220:18719.

```
001655: Oct 4 21:02:19.176: H245 MSC OUTGOING PDU ::=
value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
{
forwardLogicalChannelNumber 2
forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
{
mediaChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18718
}
mediaControlChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18719
}
flowControlToZero FALSE
}
}

001656: Oct 4 21:02:19.176: H245 MSC OUTGOING ENCODE BUFFER ::=
22C000010480134C000E0110DC491E000E0110DC491F03000100
001657: Oct 4 21:02:19.176:
001658: Oct 4 21:02:19.204: h323chan_chn_process_read_socket
001659: Oct 4 21:02:19.204: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data
001660: Oct 4 21:02:19.204: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4

001661: Oct 4 21:02:19.204: h245_decode_one_pdu: more_pdus = 0,
bytesLeftToDecode = 63
001662: Oct 4 21:02:19.204: H245 MSC INCOMING ENCODE BUFFER ::=
0300000208FE0000050BC100705001001B080000104000AF007700AF007741204000
57003B0057003B4020408011046002000E320534C02D04000448097CC0
001663: Oct 4 21:02:19.204:
```

H.320 Gateway Receives Video OLC (H.263) from Polycom

Polycom's RTCP ipaddress:port for Video stream is 14.50.5.52:49197.

RTP payload Type for H.263 Video Stream from Polycom to H.320 Gateway is Set to 96

```
001664: Oct 4 21:02:19.204: H245 MSC INCOMING PDU ::=
value MultimediaSystemControlMessage ::= request : openLogicalChannel :
{
forwardLogicalChannelNumber 3
forwardLogicalChannelParameters
{
dataType videoData : h263VideoCapability :
{
```

```

sqcifMPI 1
qcifMPI 1
cifMPI 1
cif4MPI 2
maxBitRate 3010
unrestrictedVector FALSE
arithmeticCoding FALSE
advancedPrediction FALSE
pbFrames FALSE
temporalSpatialTradeOffCapability FALSE
errorCompensation FALSE
h263Options
{
advancedIntraCodingMode FALSE
deblockingFilterMode FALSE
improvedPBFramesMode FALSE
unlimitedMotionVectors FALSE
fullPictureFreeze FALSE
partialPictureFreezeAndRelease FALSE
resizingPartPicFreezeAndRelease FALSE
fullPictureSnapshot FALSE
partialPictureSnapshot FALSE
videoSegmentTagging FALSE
progressiveRefinement FALSE
dynamicPictureResizingByFour FALSE
dynamicPictureResizingSixteenthPel FALSE
dynamicWarpingHalfPel FALSE
dynamicWarpingSixteenthPel FALSE
independentSegmentDecoding FALSE
slicesInOrder-NonRect FALSE
slicesInOrder-Rect FALSE
slicesNoOrder-NonRect FALSE
slicesNoOrder-Rect FALSE
alternateInterVLCMode FALSE
modifiedQuantizationMode TRUE
reducedResolutionUpdate FALSE
separateVideoBackChannel FALSE
customPictureFormat
{
{
maxCustomPictureWidth 176
maxCustomPictureHeight 120
minCustomPictureWidth 176
minCustomPictureHeight 120
mPI
{
standardMPI 2
}
}
pixelAspectRatioInformation pixelAspectRatioCode :
{
3
}
},
{
maxCustomPictureWidth 88
maxCustomPictureHeight 60
minCustomPictureWidth 88
minCustomPictureHeight 60
mPI
{
standardMPI 1
}
}
pixelAspectRatioInformation pixelAspectRatioCode :
{
3

```

```

}
}
}
}
}
multiplexParameters h2250LogicalChannelParameters :
{
sessionID 2
mediaControlChannel unicastAddress : ipAddress :
{
network '0E320534'H
tsapIdentifier 49197
}
dynamicRTPPayloadType 96
mediaPacketization rtpPayloadType :
{
payloadDescriptor rfc-number : 2429
payloadType 96
}
}
}
}

001665: Oct 4 21:02:19.216: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
bytesLeftToDecode = 0
001666: Oct 4 21:02:19.216: h245_decode_one_pdu: Read Pkt body:
more_pdus:0 rc:0 asn_rc:0
001667: Oct 4 21:02:19.216: //281/736483928021/CCAPI/cc_api_event_indication:
Event=140, Call Id=281
001668: Oct 4 21:02:19.216: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly

```

H.320 Gateway Sets Outgoing Video Mode Across the POTS Leg

```

001669: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_set_outgoing_requested_video_mode:
Outgoing Video Mode=H.263
001670: Oct 4 21:02:19.216: //280/736483928021/H221():
h221_lock_video_mode:
Incoming Video Mode=OFF, Outgoing Video Mode=H.263
001671: Oct 4 21:02:19.216: //280/736483928021/H221():
h221_outgoing_message_entry:
Outgoing BAS Command=Send Caps
001672: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Direction=Outgoing, Type=Video
001673: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Audio Mode=G.711 u-law 56k, Coding Type=0x65, Channel Mask=0xFE
001674: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Video Mode=H.263, Coding Type=0xC9, RFC Number=0x2, Payload Type=0x60
001675: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_calculate_max_video_bandwidth_internal:
Calculation Type=Flow Control, B-Channel(s)=6, Bandwidth=3017
001676: Oct 4 21:02:19.216: //280/736483928021/H221():
dsmp_h221_populate_flow_control_internal:
Video Flow Control, Value=3017, Bandwidth Calculated From H.320 Legs=3017
001677: Oct 4 21:02:19.220: //280/736483928021/CCAPI/cc_api_event_indication:
Event=141, Call Id=280
001678: Oct 4 21:02:19.220: //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001679: Oct 4 21:02:19.220: //280/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=280
001680: Oct 4 21:02:19.220: //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly

```

H.320 Gateway Sends Video OLC ACK to Polycom

The H.320 Gateway's RTP and RTCP ipaddress:port for video stream is 14.1.16.220:18078 and 14.1.16.220:18079.

001681: Oct 4 21:02:19.220: H245 MSC OUTGOING PDU ::=

```
value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
{
forwardLogicalChannelNumber 3
forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
{
mediaChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18078
}
mediaControlChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18079
}
}
flowControlToZero FALSE
}
}
```

001682: Oct 4 21:02:19.220: H245 MSC OUTGOING ENCODE BUFFER::=
22C000020480134C000E0110DC469E000E0110DC469F03000100

001683: Oct 4 21:02:19.220:

001684: Oct 4 21:02:19.220: H245 MSC OUTGOING PDU ::=

```
value MultimediaSystemControlMessage ::= command : flowControlCommand :
{
scope logicalChannelNumber : 3
restriction maximumBitRate : 3017
}
}
```

001685: Oct 4 21:02:19.224: H245 MSC OUTGOING ENCODE BUFFER::= 48000002200BC9

001686: Oct 4 21:02:19.224:

001687: Oct 4 21:02:19.224: h323chan_chn_process_read_socket

001688: Oct 4 21:02:19.224: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data

001689: Oct 4 21:02:19.224: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4

001690: Oct 4 21:02:19.224: h245_decode_one_pdu: more_pdus = 0,
bytesLeftToDecode = 5

001691: Oct 4 21:02:19.224: H245 MSC INCOMING ENCODE BUFFER::= 6900000100

001692: Oct 4 21:02:19.224:

001693: Oct 4 21:02:19.224: H245 MSC INCOMING PDU ::=

```
value MultimediaSystemControlMessage ::= indication : miscellaneousIndication :
{
logicalChannelNumber 2
type logicalChannelActive : NULL
}
}
```

001694: Oct 4 21:02:19.224: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
bytesLeftToDecode = 0

001695: Oct 4 21:02:19.224: h245_decode_one_pdu: Read Pkt body:
more_pdus:0 rc:0 asn_rc:0

001696: Oct 4 21:02:19.224: //281/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=281

001697: Oct 4 21:02:19.224: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly

001698: Oct 4 21:02:19.224:

H.320 Gateway Sends Audio Indicate Active Control and Information Signal to the Remote Video Endpoint in the PSTN

The H.320 gateway sends audio indicate active control and information signal to the remote video endpoint in the PSTN in order to activate the audio channel.

```
//280/736483928021/H221:():h221_outgoing_message_entry:
Outgoing BAS Command=Send Miscellaneous
001699: Oct 4 21:02:19.224: //280/736483928021/H221:():
    h221_outgoing_send_misc_cmd_indication:
Send Miscellaneous Command=Audio Channel Active
001700: Oct 4 21:02:19.248: h323chan_chn_process_read_socket
001701: Oct 4 21:02:19.248: h323chan_chn_process_read_socket:
    fd=4 of type CONNECTED has data
001702: Oct 4 21:02:19.248: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=4

001703: Oct 4 21:02:19.248: h245_decode_one_pdu: more_pdus = 0,
    bytesLeftToDecode = 9
001704: Oct 4 21:02:19.248: H245 MSC INCOMING ENCODE BUFFER::=
    70E006000002200BC2
001705: Oct 4 21:02:19.248:
001706: Oct 4 21:02:19.248: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= indication : flowControlIndication :
{
scope logicalChannelNumber : 3
restriction maximumBitRate : 3010
}

001707: Oct 4 21:02:19.248: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
    bytesLeftToDecode = 0
001708: Oct 4 21:02:19.248: h245_decode_one_pdu: Read Pkt body:
    ore_pdus:0 rc:0 asn_rc:0
001709: Oct 4 21:02:19.532: //280/736483928021/H221:():
    dsmp_h221_update_dsp_timestamp:
BAS Message Timestamp=2500(ms), Last Squelch Timestamp=0(ms)
Last Fast Video Update Timestamp=0(ms), Update Bas Timestamp=FALSE
001710: Oct 4 21:02:19.536:
```

!--- Some debug outputs have been removed.

Video Endpoint in the PSTN Sets the Transfer Rate and Audio Mode

```
001815: Oct 4 21:02:24.036: //280/736483928021/H221:():
    h221_incoming_transfer_rate_mode:
Incoming B-channel Mode=6
001816: Oct 4 21:02:24.036: //280/736483928021/H221:():
    h221_incoming_audio_mode:
Incoming Audio Mode=G.711 u-law 56k
001817: Oct 4 21:02:24.036: //280/736483928021/H221:():
    h221_incoming_unsupported_other_mode:
BAS=0x60
001818: Oct 4 21:02:24.036: //280/736483928021/H221:():
    h221_incoming_unsupported_other_mode:
BAS=0x70
001819: Oct 4 21:02:24.036: //280/736483928021/H221:():
    h221_incoming_message_entry:
Return Code=H221 Partial Message
001820: Oct 4 21:02:24.036: //280/736483928021/H221:():
```

```

    dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x0
001821: Oct 4 21:02:24.036: //280/736483928021/H221():
    dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x0
001822: Oct 4 21:02:24.036: //280/736483928021/H221():
    h221_lock_audio_mode:
Incoming Audio Mode=G.711 u-law 56k, Outgoing Audio Mode=G.711 u-law 56k
001823: Oct 4 21:02:24.036: //280/736483928021/CCAPI/cc_api_event_indication:
Event=140, Call Id=280
001824: Oct 4 21:02:24.036: //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly

```

H.320 Gateway Sends Audio OLC (G.711) to Polycom

The H.320 Gateway's RTCP ipaddress:port for audio stream is 14.1.16.220:18719.

```

001825: Oct 4 21:02:24.036: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request : openLogicalChannel :
{
forwardLogicalChannelNumber 1
forwardLogicalChannelParameters
{
dataType audioData : g711Ulaw64k : 20
multiplexParameters h2250LogicalChannelParameters :
{
sessionID 1
mediaControlChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18719
}
silenceSuppression FALSE
}
}
}

001826: Oct 4 21:02:24.040: H245 MSC OUTGOING ENCODE BUFFER::=
0300000000C6013800B050001000E0110DC491F00
001827: Oct 4 21:02:24.040:
001828: Oct 4 21:02:24.052: h323chan_chn_process_read_socket
001829: Oct 4 21:02:24.052: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data
001830: Oct 4 21:02:24.052: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4

001831: Oct 4 21:02:24.052: h245_decode_one_pdu: more_pdus = 0,
bytesLeftToDecode = 23
001832: Oct 4 21:02:24.052: H245 MSC INCOMING ENCODE BUFFER::=
22C000000480101C00000E320534C02A000E320534C02B
001833: Oct 4 21:02:24.052:

```

H.320 Gateway Receives Audio OLC ACK from Polycom

Polycom's RTP and RTCP ipaddress:port for the audio stream is 14.50.5.52:49194 and 14.50.5.52:49195.

```

001834: Oct 4 21:02:24.052: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
{
forwardLogicalChannelNumber 1
forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
{

```

```

sessionID 1
mediaChannel unicastAddress : ipAddress :
{
network '0E320534'H
tsapIdentifier 49194
}
mediaControlChannel unicastAddress : ipAddress :
{
network '0E320534'H
tsapIdentifier 49195
}
}
}

001835: Oct 4 21:02:24.052: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
bytesLeftToDecode = 0
001836: Oct 4 21:02:24.052: h245_decode_one_pdu: Read Pkt body:
more_pdus:0 rc:0 asn_rc:0
001837: Oct 4 21:02:24.056: //281/736483928021/CCAPI/cc_api_event_indication:
Event=141, Call Id=281
001838: Oct 4 21:02:24.056: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001839: Oct 4 21:02:24.056: RAS OUTGOING PDU ::=

value RasMessage ::= bandwidthRequest :
{
requestSeqNum 2051
endpointIdentifier {"65766C6C00000001"}
conferenceID '73648392532211DB8021000D28D3D7C0'H
callReferenceValue 28
bandWidth 7300
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
answeredCall FALSE
}

001840: Oct 4 21:02:24.056: RAS OUTGOING ENCODE BUFFER::=
320008021E0036003500370036003600430036004300300030003000300030003
00030003173648392532211DB8021000D28D3D7C0001C401C8415080011007365
1FB9532211DB817D90162806D3F10100
001841: Oct 4 21:02:24.056: h323chan_dgram_send:Sent UDP msg.
Bytes sent: 81 to 14.50.3.101:1719 fd=2

001842: Oct 4 21:02:24.056: RASLib::GW_RASSendBRQ:
BRQ (seq# 2051) sent to 14.50.3.101
001843: Oct 4 21:02:24.056: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Direction=Incoming, Type=Audio
001844: Oct 4 21:02:24.056: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Audio Mode=G.711 u-law 56k, Coding Type=0x65, Channel Mask=0xFE
001845: Oct 4 21:02:24.060: h323chan_chn_process_read_socket
001846: Oct 4 21:02:24.060: h323chan_chn_process_read_socket:
fd=2 of type CONNECTED has data
001847: Oct 4 21:02:24.060: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=2

001848: Oct 4 21:02:24.060: h323chan_dgram_recvdata:rcvd from
[14.50.3.101:1719] on fd=2

001849: Oct 4 21:02:24.060: RAS INCOMING ENCODE BUFFER::= 340802401C84
001850: Oct 4 21:02:24.060:
001851: Oct 4 21:02:24.060: RAS INCOMING PDU ::=

```

```
value RasMessage ::= bandwidthConfirm :
{
requestSeqNum 2051
bandWidth 7300
}
```

!--- Some debug outputs are removed

Video Endpoint in the PSTN Sets the Video Mode

```
001870: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_incoming_video_mode:
Incoming Video Mode=H.263
001871: Oct 4 21:02:25.036: //280/736483928021/H221():
    dsmp_h221_video_mode:
Video Mode=H.263
001872: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_incoming_unsupported_other_mode:
BAS=0x60
001873: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_incoming_unsupported_other_mode:
BAS=0x70
001874: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_incoming_handle_table_4_H230:
Handling H.230 BAS=0x3
```

H.320 Gateway Receives Audio Indicate Active Control and Information Signal from the Remote Video Endpoint in the PSTN

H.320 gateway receives audio indicate active control and information signal from the remote video endpoint in the PSTN in order to activate the audio channel.

```
001875: Oct 4 21:02:25.036: //280/736483928021/H221():
    dsmp_h221_misc_command:
Received Miscellaneous Command=Audio Channel Active
001876: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_incoming_message_entry:
Return Code=H221 Partial Message
001877: Oct 4 21:02:25.036: //280/736483928021/H221():
    dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x0
001878: Oct 4 21:02:25.036: //280/736483928021/H221():
    dsmp_h221_check_for_bas_sqelch:
H221 Squelch Map=0x1
001879: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_lock_video_mode:
Incoming Video Mode=H.263, Outgoing Video Mode=H.263
001880: Oct 4 21:02:25.036: //280/736483928021/H221():
    h221_outgoing_message_entry:
Outgoing BAS Command=Send Mode
001881: Oct 4 21:02:25.036: //280/736483928021/H221():
    dsmp_h221_calculate_max_video_bandwidth_internal:
Calculation Type=Max Capability, B-Channel(s)=6, Bandwidth=3017
001882: Oct 4 21:02:25.036:
    //280/736483928021/CCAPI/cc_api_event_indication:
Event=140, Call Id=280
001883: Oct 4 21:02:25.036:
    //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001884: Oct 4 21:02:25.036:
    //280/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=280
```

```
001885: Oct 4 21:02:25.040:
      //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
```

H.320 Gateway Sends Video OLC (H.263) to Polycom

H.320 Gateway's RTCP ipaddress:port for video stream is 14.1.16.220:18079.

RTP Payload Type for H.263 Video Stream from H.320 Gateway to Polycom is set to 110

```
001886: Oct 4 21:02:25.040: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request : openLogicalChannel :
{
forwardLogicalChannelNumber 2
forwardLogicalChannelParameters
{
dataType videoData : h263VideoCapability :
{
qcifMPI 1
cifMPI 1
cif4MPI 2
maxBitRate 3017
unrestrictedVector FALSE
arithmeticCoding FALSE
advancedPrediction TRUE
pbFrames FALSE
temporalSpatialTradeOffCapability FALSE
errorCompensation FALSE
h263Options
{
advancedIntraCodingMode FALSE
deblockingFilterMode FALSE
improvedPBFramesMode FALSE
unlimitedMotionVectors FALSE
fullPictureFreeze FALSE
partialPictureFreezeAndRelease FALSE
resizingPartPicFreezeAndRelease FALSE
fullPictureSnapshot FALSE
partialPictureSnapshot FALSE
videoSegmentTagging FALSE
progressiveRefinement FALSE
dynamicPictureResizingByFour FALSE
dynamicPictureResizingSixteenthPel FALSE
dynamicWarpingHalfPel FALSE
dynamicWarpingSixteenthPel FALSE
independentSegmentDecoding FALSE
slicesInOrder-NonRect FALSE
slicesInOrder-Rect FALSE
slicesNoOrder-NonRect FALSE
slicesNoOrder-Rect FALSE
alternateInterVLCMode FALSE
modifiedQuantizationMode TRUE
reducedResolutionUpdate FALSE
separateVideoBackChannel FALSE
customPictureFormat
{
{
maxCustomPictureWidth 176
maxCustomPictureHeight 120
minCustomPictureWidth 176
minCustomPictureHeight 120
MPI
{
```

```

standardMPI 2
}
pixelAspectInformation pixelAspectCode :
{
3
}
},
{
maxCustomPictureWidth 88
maxCustomPictureHeight 60
minCustomPictureWidth 88
minCustomPictureHeight 60
mPI
{
standardMPI 1
}
}
pixelAspectInformation pixelAspectCode :
{
3
}
}
}
}
}
multiplexParameters h2250LogicalChannelParameters :
{
sessionID 2
mediaControlChannel unicastAddress : ipAddress :
{
network '0E0110DC'H
tsapIdentifier 18079
}
dynamicRTPPayloadType 110
mediaPacketization rtpPayloadType :
{
payloadDescriptor rfc-number : 2429
payloadType 110
}
}
}
}
}

001887: Oct 4 21:02:25.048: H245 MSC OUTGOING ENCODE BUFFER ::=
    0300000108EE0000A00BC820705001001B080000104000AF007700AF007
    74120400057003B0057003B4020408011046002000E0110DC469F740004
    48097CDC
001888: Oct 4 21:02:25.048:
001889: Oct 4 21:02:25.048: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= indication : miscellaneousIndication :
{
logicalChannelNumber 1
type logicalChannelActive : NULL
}

001890: Oct 4 21:02:25.048: H245 MSC OUTGOING ENCODE BUFFER ::= 6900000000
001891: Oct 4 21:02:25.052:
001892: Oct 4 21:02:25.068: h323chan_chn_process_read_socket
001893: Oct 4 21:02:25.068: h323chan_chn_process_read_socket:
    fd=4 of type CONNECTED has data
001894: Oct 4 21:02:25.068: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=4

001895: Oct 4 21:02:25.068: h245_decode_one_pdu: more_pdus = 0,
    bytesLeftToDecode = 23
001896: Oct 4 21:02:25.068: H245 MSC INCOMING ENCODE BUFFER ::=

```

22C000010480101C02000E320534C02C000E320534C02D
001897: Oct 4 21:02:25.068:

H.320 Gateway receives Video OLC ACK from Polycom

Polycom's RTP and RTCP ipaddress:port for video stream is 14.50.5.52:49196 and 14.50.5.52:49197.

```
001898: Oct 4 21:02:25.068: H245 MSC INCOMING PDU ::=
value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
{
forwardLogicalChannelNumber 2
forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
{
sessionID 2
mediaChannel unicastAddress : ipAddress :
{
network '0E320534'H
tsapIdentifier 49196
}
mediaControlChannel unicastAddress : ipAddress :
{
network '0E320534'H
tsapIdentifier 49197
}
}
}

001899: Oct 4 21:02:25.072: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
bytesLeftToDecode = 0
001900: Oct 4 21:02:25.072: h245_decode_one_pdu: Read Pkt body:
more_pdus:0 rc:0 asn_rc:0
001901: Oct 4 21:02:25.072: //281/736483928021/CCAPI/cc_api_event_indication:
Event=141, Call Id=281
001902: Oct 4 21:02:25.072: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001903: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Direction=Incoming, Type=Video
001904: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Audio Mode=G.711 u-law 56k, Coding Type=0x65, Channel Mask=0xFE
001905: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Video Mode=H.263, Coding Type=0xC9, RFC Number=0x2, Payload Type=0x6E
001906: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Direction=Outgoing, Type=Video
001907: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Audio Mode=G.711 u-law 56k, Coding Type=0x65, Channel Mask=0xFE
001908: Oct 4 21:02:25.072: //280/736483928021/H221():
dsmp_h221_populate_config_rtp_params:
Video Mode=H.263, Coding Type=0xC9, RFC Number=0x2, Payload Type=0x60
001909: Oct 4 21:02:25.072: h323chan_chn_process_read_socket
001910: Oct 4 21:02:25.072: h323chan_chn_process_read_socket:
fd=4 of type CONNECTED has data
001911: Oct 4 21:02:25.076: h323chan_chn_process_read_socket:
h323chan accepted/connected fd=4

001912: Oct 4 21:02:25.076: h245_decode_one_pdu: more_pdus = 0,
bytesLeftToDecode = 7
001913: Oct 4 21:02:25.076: H245 MSC INCOMING ENCODE BUFFER::= 48000001200C80
001914: Oct 4 21:02:25.076:
001915: Oct 4 21:02:25.076: H245 MSC INCOMING PDU ::=
```

```

value MultimediaSystemControlMessage ::= command : flowControlCommand :
{
scope logicalChannelNumber : 2
restriction maximumBitRate : 3200
}

001916: Oct 4 21:02:25.076: h245_decode_one_pdu:
      H245ASNDecodePdu rc = 0, bytesLeftToDecode = 0
001917: Oct 4 21:02:25.076: h245_decode_one_pdu:
      Read Pkt body: more_pdus:0 rc:0 asn_rc:0
001918: Oct 4 21:02:25.076: //281/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=281
001919: Oct 4 21:02:25.076: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001920: Oct 4 21:02:25.076: h323chan_chn_process_read_socket
001921: Oct 4 21:02:25.076: h323chan_chn_process_read_socket:
      fd=4 of type CONNECTED has data
001922: Oct 4 21:02:25.076: h323chan_chn_process_read_socket:
      h323chan accepted/connected fd=4

001923: Oct 4 21:02:25.076: h245_decode_one_pdu: more_pdus = 0,
      bytesLeftToDecode = 4
001924: Oct 4 21:02:25.076: H245 MSC INCOMING ENCODE BUFFER ::= 4C000128
001925: Oct 4 21:02:25.076:

```

H.320 Gateway Receives Video Fast Update (VFU) Picture Request from Polycom

In this output, the H.320 gateway receives a VFU picture request from the Polycom, which indicates that it is ready to receive video stream.

```

001926: Oct 4 21:02:25.076: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= command : miscellaneousCommand :
{
logicalChannelNumber 2
type videoFastUpdatePicture : NULL
}

001927: Oct 4 21:02:25.076: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
      bytesLeftToDecode = 0
001928: Oct 4 21:02:25.076: h245_decode_one_pdu: Read Pkt body:
      more_pdus:0 rc:0 asn_rc:0
001929: Oct 4 21:02:25.076: //281/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=281
001930: Oct 4 21:02:25.076: //281/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly
001931: Oct 4 21:02:25.076: //280/736483928021/H221():
      h221_outgoing_message_entry:
Outgoing BAS Command=Send Miscellaneous
001932: Oct 4 21:02:25.076: //280/736483928021/H221():
      h221_outgoing_send_misc_cmd_indication:
Send Miscellaneous Command=Flow Control
001933: Oct 4 21:02:25.076: //280/736483928021/H221():
      h221_outgoing_send_misc_cmd_indication:
Sending Non-Standard Flow-Control To Cisco Peer, Value=3200
001934: Oct 4 21:02:25.076: //280/736483928021/H221():
      h221_outgoing_message_entry:
Outgoing BAS Command=Send Miscellaneous
001935: Oct 4 21:02:25.076:

```

H.320 Gateway Sends Video Fast Update Picture Control and Information Signal to the Video Endpoint in the PSTN

```
//280/736483928021/H221():h221_outgoing_send_misc_cmd_indication:  
Send Miscellaneous Command=Video Fast Update Picture
```

!--- Some debug outputs have been removed.

```
001973: Oct 4 21:02:26.168: h323chan_chn_process_read_socket:  
      h323chan accepted/connected fd=4  
  
001974: Oct 4 21:02:26.168: h245_decode_one_pdu: more_pdus = 0,  
      bytesLeftToDecode = 7  
001975: Oct 4 21:02:26.168: H245 MSC INCOMING ENCODE BUFFER ::= 48000001200C80  
001976: Oct 4 21:02:26.168:
```

H.320 Gateway Receives Flow Control Command from Polycom

```
001977: Oct 4 21:02:26.168: H245 MSC INCOMING PDU ::=  
  
value MultimediaSystemControlMessage ::= command : flowControlCommand :  
{  
  scope logicalChannelNumber : 2  
  restriction maximumBitRate : 3200  
}  
  
001978: Oct 4 21:02:26.168: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,  
      bytesLeftToDecode = 0  
001979: Oct 4 21:02:26.168: h245_decode_one_pdu: Read Pkt body:  
      more_pdus:0 rc:0 asn_rc:0  
001980: Oct 4 21:02:26.168: //281/736483928021/CCAPI/cc_api_event_indication:  
Event=151, Call Id=281  
001981: Oct 4 21:02:26.168: //281/736483928021/CCAPI/cc_api_event_indication:  
Event Is Sent To Conferenced SPI(s) Directly  
001982: Oct 4 21:02:26.168: //280/736483928021/H221():  
      h221_outgoing_message_entry:  
Outgoing BAS Command=Send Miscellaneous  
001983: Oct 4 21:02:26.168:
```

H.320 Gateway Sends Flow Control Command to the Video Endpoint in the PSTN

```
//280/736483928021/H221():h221_outgoing_send_misc_cmd_indication:  
Send Miscellaneous Command=Flow Control  
001984: Oct 4 21:02:26.168: //280/736483928021/H221():  
      h221_outgoing_send_misc_cmd_indication:  
Sending Non-Standard Flow-Control To Cisco Peer, Value=3200
```

!--- Some debug outputs have been removed

H.320 Gateway Sends Flow Control Command to the Polycom

H.320 Gateway Receives Flow Control Command from the Video Endpoint in the PSTN

```
002005: Oct 4 21:02:26.536: //280/736483928021/H221():  
      h221_incoming_ns_cap_comm:  
Cisco GW non-standard Indication Received, Command=Flow Control, Value=3200  
002006: Oct 4 21:02:26.536: //280/736483928021/H221():dsmp_h221_misc_command:  
Received Miscellaneous Command=Flow Control  
002007: Oct 4 21:02:26.536: //280/736483928021/H221():
```

```

    dsmp_h221_calculate_max_video_bandwidth_internal:
Calculation Type=Flow Control, B-Channel(s)=6, Bandwidth=3017
002008: Oct 4 21:02:26.536: //280/736483928021/H221():
    dsmp_h221_populate_flow_control_internal:
Video Flow Control, Value=3017, Bandwidth Calculated From H.320 Legs=3017
Flow Control Bandwidth Received From H.320 Peer=3200
002009: Oct 4 21:02:26.536: //280/736483928021/H221():
    dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x1
002010: Oct 4 21:02:26.536: //280/736483928021/H221():
    dsmp_h221_check_for_bas_squelch:
H221 Squelch Map=0x1
002011: Oct 4 21:02:26.536: //280/736483928021/CCAPI/cc_api_event_indication:
Event=151, Call Id=280
002012: Oct 4 21:02:26.536: //280/736483928021/CCAPI/cc_api_event_indication:
Event Is Sent To Conferenced SPI(s) Directly

```

H.320 Gateway Sends Flow Control Command to the Polycom

```

002013: Oct 4 21:02:26.536: H245 MSC OUTGOING PDU ::=
value MultimediaSystemControlMessage ::= command : flowControlCommand :
{
scope logicalChannelNumber : 3
restriction maximumBitRate : 3017
}
002014: Oct 4 21:02:26.536: H245 MSC OUTGOING ENCODE BUFFER ::= 48000002200BC9

```

!--- Some debug outputs have been removed

Video Endpoint in the PSTN Disconnects the Video Call

```

002136: Oct 4 21:02:55.578: RCF (seq# 2052) rcvd
002137: Oct 4 21:03:14.223: ISDN Se2/1:23 Q931:
    RX <- DISCONNECT pd = 8 callref = 0x00A0
Cause i = 0x829F - Normal, unspecified
002138: Oct 4 21:03:14.227: %ISDN-6-DISCONNECT:
    Interface Serial2/1:1 disconnected from 9193926000 ,
    call lasted 57 seconds
002139: Oct 4 21:03:14.227: ISDN Se2/1:23 Q931:
    RX <- DISCONNECT pd = 8 callref = 0x00A1
Cause i = 0x829F - Normal, unspecified
002140: Oct 4 21:03:14.227: ISDN Se2/1:23 Q931:
    TX -> RELEASE pd = 8 callref = 0x80A0
002141: Oct 4 21:03:14.227: ISDN Se2/1:23 Q931:
    RX <- DISCONNECT pd = 8 callref = 0x00A2
Cause i = 0x829F - Normal, unspecified
002142: Oct 4 21:03:14.231: %ISDN-6-DISCONNECT:
    Interface Serial2/1:2 disconnected from 9193926000 ,
    call lasted 56 seconds
002143: Oct 4 21:03:14.231: %ISDN-6-DISCONNECT:
    Interface Serial2/1:3 disconnected from 9193926000 ,
    call lasted 56 seconds
002144: Oct 4 21:03:14.231: ISDN Se2/1:23 Q931:
    RX <- DISCONNECT pd = 8 callref = 0x00A3
Cause i = 0x829F - Normal, unspecified
002145: Oct 4 21:03:14.231: ISDN Se2/1:23 Q931:
    RX <- DISCONNECT pd = 8 callref = 0x00A4
Cause i = 0x829F - Normal, unspecified
002146: Oct 4 21:03:14.235: ISDN Se2/1:23 Q931:
    TX -> RELEASE pd = 8 callref = 0x80A1
002147: Oct 4 21:03:14.235: ISDN Se2/1:23 Q931:

```

TX -> RELEASE pd = 8 callref = 0x80A2
002148: Oct 4 21:03:14.235: ISDN Se2/1:23 Q931:
RX <- DISCONNECT pd = 8 callref = 0x009F
Cause i = 0x829F - Normal, unspecified
002149: Oct 4 21:03:14.239: %ISDN-6-DISCONNECT:
Interface Serial2/1:4 disconnected from 9193926000 ,
call lasted 56 seconds
002150: Oct 4 21:03:14.239: %ISDN-6-DISCONNECT:
Interface Serial2/1:5 disconnected from 9193926000 ,
call lasted 55 seconds
002151: Oct 4 21:03:14.239: %ISDN-6-DISCONNECT:
Interface Serial2/1:0 disconnected from 9193926000 ,
call lasted 57 seconds
002152: Oct 4 21:03:14.239: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x00A0
002153: Oct 4 21:03:14.243: ISDN Se2/1:23 Q931:
TX -> RELEASE pd = 8 callref = 0x80A3
002154: Oct 4 21:03:14.243: ISDN Se2/1:23 Q931:
TX -> RELEASE pd = 8 callref = 0x80A4
002155: Oct 4 21:03:14.243: ISDN Se2/1:23 Q931:
TX -> RELEASE pd = 8 callref = 0x809F
002156: Oct 4 21:03:14.243: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x00A1
002157: Oct 4 21:03:14.243:
//280/736483928021/CCAPI/cc_api_call_disconnected:
Cause Value=31, Interface=0x65A8CAD4, Call Id=280
002158: Oct 4 21:03:14.243:
//280/736483928021/CCAPI/cc_api_call_disconnected:
Call Entry(Responded=TRUE, Cause Value=31, Retry Count=0)
002159: Oct 4 21:03:14.243: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x00A2
002160: Oct 4 21:03:14.247: //280/736483928021/CCAPI/ccConferenceDestroy:
Conference Id=0xl2, Tag=0x0
002161: Oct 4 21:03:14.247: //280/xxxxxxxxxxxx/CCAPI/cc_api_bridge_drop_done:
Conference Id=0xl2, Source Interface=0x65A8CAD4, Source Call Id=280,
Destination Call Id=281, Disposition=0x0, Tag=0x0
002162: Oct 4 21:03:14.247: //281/xxxxxxxxxxxx/CCAPI/cc_api_bridge_drop_done:
Conference Id=0xl2, Source Interface=0x65D7A87C, Source Call Id=281,
Destination Call Id=280, Disposition=0x0, Tag=0x0
002163: Oct 4 21:03:14.247: //280/736483928021/CCAPI/cc_generic_bridge_done:
Conference Id=0xl2, Source Interface=0x65D7A87C, Source Call Id=281,
Destination Call Id=280, Disposition=0x0, Tag=0x0
002164: Oct 4 21:03:14.247: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x00A3
002165: Oct 4 21:03:14.255: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x00A4
002166: Oct 4 21:03:14.255: ISDN Se2/1:23 Q931:
RX <- RELEASE_COMP pd = 8 callref = 0x009F
002167: Oct 4 21:03:14.255: //280/736483928021/CCAPI/ccCallDisconnect:
Cause Value=31, Tag=0x0, Call Entry(Previous Disconnect Cause=0,
Disconnect Cause=31)
002168: Oct 4 21:03:14.255: //280/736483928021/CCAPI/ccCallDisconnect:
Cause Value=31, Call Entry(Responded=TRUE, Cause Value=31)
002169: Oct 4 21:03:14.255: //280/736483928021/CCAPI/cc_api_get_transfer_info:
Transfer Number Is Null
002170: Oct 4 21:03:14.255: //281/736483928021/CCAPI/ccCallDisconnect:
Cause Value=31, Tag=0x0, Call Entry(Previous Disconnect Cause=0,
Disconnect Cause=0)
002171: Oct 4 21:03:14.255: //281/736483928021/CCAPI/ccCallDisconnect:
Cause Value=31, Call Entry(Responded=TRUE, Cause Value=31)
002172: Oct 4 21:03:14.259: //281/736483928021/CCAPI/cc_api_get_transfer_info:
Transfer Number Is Null
002173: Oct 4 21:03:14.259:
//282/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=282,
Call Entry(Disconnect Cause=0, Voice Class Cause Code=0, Retry Count=0)

```

002174: Oct 4 21:03:14.259:
    //282/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002175: Oct 4 21:03:14.259: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002176: Oct 4 21:03:14.259: :cc_free_feature_vsa freeing 65F09B30
002177: Oct 4 21:03:14.259: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002178: Oct 4 21:03:14.259: vsacount in free is 6
002179: Oct 4 21:03:14.259:
    //283/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=283,
Call Entry(Disconnect Cause=0, Voice Class Cause Code=0, Retry Count=0)
002180: Oct 4 21:03:14.259:
    //283/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002181: Oct 4 21:03:14.259: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002182: Oct 4 21:03:14.259: :cc_free_feature_vsa freeing 65F09980
002183: Oct 4 21:03:14.259: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002184: Oct 4 21:03:14.259: vsacount in free is 5
002185: Oct 4 21:03:14.263:
    //284/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=284,
Call Entry(Disconnect Cause=0, Voice Class Cause Code=0, Retry Count=0)
002186: Oct 4 21:03:14.263:
    //284/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002187: Oct 4 21:03:14.263: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002188: Oct 4 21:03:14.263: :cc_free_feature_vsa freeing 65F098A8
002189: Oct 4 21:03:14.263: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002190: Oct 4 21:03:14.263: vsacount in free is 4
002191: Oct 4 21:03:14.263:
    //285/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=285,
Call Entry(Disconnect Cause=0, Voice Class Cause Code=0, Retry Count=0)
002192: Oct 4 21:03:14.263:
    //285/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002193: Oct 4 21:03:14.263: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002194: Oct 4 21:03:14.263: :cc_free_feature_vsa freeing 65F097D0
002195: Oct 4 21:03:14.263: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002196: Oct 4 21:03:14.263: vsacount in free is 3
002197: Oct 4 21:03:14.263: H225 NONSTD OUTGOING PDU ::=

value H323_UU_NonStdInfo ::=
{
version 2
protoParam qsigNonStdInfo :
{
iei 8
rawMesg '0802829F1C269E8100036774640000001B52454C...'H
}
}

002198: Oct 4 21:03:14.263: H225 NONSTD OUTGOING ENCODE BUFFER::=
6001020001082C0802829F1C269E8100036774640000001B52454C2C0D0A50524
E2C6973646E2A2C2C4E492A2A2A2C0D0A0D0A
002199: Oct 4 21:03:14.263:

```

H.320 Gateway Clears the Call on the IP Leg

002200: Oct 4 21:03:14.267: H225.0 OUTGOING PDU ::=

```
value H323_UserInformation ::=
{
h323-uu-pdu
{
h323-message-body releaseComplete :
{
protocolIdentifier { 0 0 8 2250 0 4 }
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
}
h245Tunneling FALSE
nonStandardControl
{

{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data '6001020001082C0802829F1C269E810003677464...'H
}
}
tunnelledSignallingMessage
{
tunnelledProtocolID
{
id tunnelledProtocolAlternateID :
{
protocolType "gtd"
}
}
messageContent
{
'52454C2C0D0A50524E2C6973646E2A2C2C4E492A...'H
}
tunnellingRequired NULL
}
}
}
```

002201: Oct 4 21:03:14.271: H225.0 OUTGOING ENCODE BUFFER::=
2580060008914A00041100110073651FB9532211DB817D90162806D3
F110A801003A0140B5000012336001020001082C0802829F1C269E81
00036774640000001B52454C2C0D0A50524E2C6973646E2A2C2C4E49
2A2A2A2C0D0A0D0A224204677464011B52454C2C0D0A50524E2C6973
646E2A2C2C4E492A2A2A2C0D0A0D0A

002202: Oct 4 21:03:14.271:

Q931 Message IE Decodes

Protocol Discriminator : 0x08

CRV Length : 2

CRV Value : 0x001C

Message Type : 0x5A: RELEASE_COMP

Cause: Length Of IE=2

Data 829F

User-User: Length Of IE=128

Data 052580060008914A00041100110073651FB9532211DB817D90162806D3
F110A801003A0140B5000012336001020001082C0802829F1C269E8100
036774640000001B52454C2C0D0A50524E2C6973646E2A2C2C4E492A2A

```

2A2C0D0A0D0A224204677464011B52454C2C0D0A50524E2C6973646E2A
2C2C4E492A2A2A2C0D0A0D0A
002203: Oct 4 21:03:14.271: H225 NONSTD OUTGOING PDU ::=

value RasnonStdUsageInformation ::=
{
rasMessageSpecificData drqRasnonStdUsageData :
{
callReleaseSource callingPartyInPstn : NULL
}
}

002204: Oct 4 21:03:14.271: H225 NONSTD OUTGOING ENCODE BUFFER::= 4800
002205: Oct 4 21:03:14.271:
002206: Oct 4 21:03:14.271: H225 NONSTD OUTGOING PDU ::=

value DRQnonStandardInfo ::=
{
gtd '52454C2C0D0A50524E2C6973646E2A2C2C4E492A...'H
}

002207: Oct 4 21:03:14.271: H225 NONSTD OUTGOING ENCODE BUFFER::=
40001A52454C2C0D0A50524E2C6973646E2A2C2C4E492A2A2A2C0D0A0D0A
002208: Oct 4 21:03:14.271:

```

H.320 Gateway Sends DRQ to Gatekeeper

```

002209: Oct 4 21:03:14.271: RAS OUTGOING PDU ::=

value RasMessage ::= disengageRequest :
{
requestSeqNum 2053
endpointIdentifier {"65766C6C00000001"}
conferenceID '73648392532211DB8021000D28D3D7C0'H
callReferenceValue 28
disengageReason normalDrop : NULL
nonStandardData
{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data '40001A52454C2C0D0A50524E2C6973646E2A2C2C...'H
}
callIdentifier
{
guid '73651FB9532211DB817D90162806D3F1'H
}
answeredCall FALSE
usageInformation
{
nonStandardUsageFields
{

{
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data '4800'H
}
}
}
}

```

```
connectTime 1159995736
endTime 1159995793
}
terminationCause releaseCompleteCauseIE : '0802809F'H
}

002210: Oct 4 21:03:14.275: RAS OUTGOING ENCODE BUFFER::=
    3F08041E0036003500370036003600430036004300300030003000300030003000
    300030003173648392532211DB8021000D28D3D7C0001C28B50000121E4000
    1A52454C2C0D0A50524E2C6973646E2A2C2C4E492A2A2A2C0D0A0D0A1908C0
    110073651FB9532211DB817D90162806D3F1010014300140B5000012024800
    C045242157C04524219005440802809F
002211: Oct 4 21:03:14.279: h323chan_dgram_send:Sent UDP msg.
    Bytes sent: 140 to 14.50.3.101:1719 fd=2

002212: Oct 4 21:03:14.279: RASLib::GW_RASSendDRQ: DRQ (seq# 2053)
    sent to 14.50.3.101
002213: Oct 4 21:03:14.279: h323chan_chn_process_read_socket
002214: Oct 4 21:03:14.279: h323chan_chn_process_read_socket:
    fd=2 of type CONNECTED has data
002215: Oct 4 21:03:14.279: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=2

002216: Oct 4 21:03:14.279: h323chan_dgram_recvddata:rcvd
    from [14.50.3.101:1719] on fd=2

002217: Oct 4 21:03:14.279: RAS INCOMING ENCODE BUFFER::= 400804
002218: Oct 4 21:03:14.279:
002219: Oct 4 21:03:14.279: RAS INCOMING PDU ::=

value RasMessage ::= disengageConfirm :
{
requestSeqNum 2053
}

002220: Oct 4 21:03:14.283: DCF (seq# 2053) rcvd
002221: Oct 4 21:03:14.283:
    //286/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=286,
Call Entry(Disconnect Cause=0, Voice Class Cause Code=0, Retry Count=0)
002222: Oct 4 21:03:14.283:
    //286/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002223: Oct 4 21:03:14.287: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002224: Oct 4 21:03:14.287: :cc_free_feature_vsa freeing 65F096F8
002225: Oct 4 21:03:14.287: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002226: Oct 4 21:03:14.287: vsacount in free is 2
002227: Oct 4 21:03:14.287:
    //280/736483928021/H221():h221_free_context_saved_map:
002228: Oct 4 21:03:14.287:
    //280/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65A8CAD4, Tag=0x0, Call Id=280,
Call Entry(Disconnect Cause=31, Voice Class Cause Code=0, Retry Count=0)
002229: Oct 4 21:03:14.287:
    //280/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent
002230: Oct 4 21:03:14.291: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002231: Oct 4 21:03:14.291: :cc_free_feature_vsa freeing 65F09620
002232: Oct 4 21:03:14.291: //-1/xxxxxxxxxxxx/CCAPI/cc_free_feature_vsa:

002233: Oct 4 21:03:14.291: vsacount in free is 1
002234: Oct 4 21:03:14.307: h323chan_chn_process_read_socket
002235: Oct 4 21:03:14.307: h323chan_chn_process_read_socket:
```

```

    fd=4 of type CONNECTED has data
002236: Oct 4 21:03:14.307: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=4

002237: Oct 4 21:03:14.307: h245_decode_one_pdu: more_pdus = 0,
    bytesLeftToDecode = 2
002238: Oct 4 21:03:14.307: H245 MSC INCOMING ENCODE BUFFER ::= 4A40
002239: Oct 4 21:03:14.307:
002240: Oct 4 21:03:14.307: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= command : endSessionCommand :
    disconnect : NULL

002241: Oct 4 21:03:14.307: h245_decode_one_pdu: H245ASNDecodePdu rc = 0,
    bytesLeftToDecode = 0
002242: Oct 4 21:03:14.307: h245_decode_one_pdu:
    Read Pkt body: more_pdus:0 rc:0 asn_rc:0
002243: Oct 4 21:03:14.307: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= command : endSessionCommand :
    disconnect : NULL

002244: Oct 4 21:03:14.307: H245 MSC OUTGOING ENCODE BUFFER ::= 4A40
002245: Oct 4 21:03:14.307:
002246: Oct 4 21:03:14.319: h323chan_chn_process_read_socket
002247: Oct 4 21:03:14.319: h323chan_chn_process_read_socket: fd=4 of
    type CONNECTED has data
002248: Oct 4 21:03:14.319: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=4

002249: Oct 4 21:03:14.319: h323chan_chn_process_read_socket
002250: Oct 4 21:03:14.319: h323chan_chn_process_read_socket:
    fd=3 of type CONNECTED has data
002251: Oct 4 21:03:14.319: h323chan_chn_process_read_socket:
    h323chan accepted/connected fd=3

002252: Oct 4 21:03:14.319:
    //281/736483928021/CCAPI/cc_api_call_disconnect_done:
Disposition=0, Interface=0x65D7A87C, Tag=0x0, Call Id=281,
Call Entry(Disconnect Cause=31, Voice Class Cause Code=0, Retry Count=0)
002253: Oct 4 21:03:14.319:
    //281/736483928021/CCAPI/cc_api_call_disconnect_done:
Call Disconnect Event Sent

```

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Related Information

- **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Basic Two Zone Cisco Gateway-to-Gatekeeper Configuration**
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