Fluxo de chamada do Gateway de entrada PSTN do IOS para CVP (Fila de chamada e coleta)

Contents

Introduction

O Cisco Customer Voice Porta (CVP) fornece aplicações inteligentes de resposta de voz interativa (IVR) que podem ser acessadas por telefone. Há três tipos de implementações CVP:

- Serviço independente
- Controle de chamada CVP
- Fila de chamada e coleta

Este documento descreve o fluxo de chamada da perspectiva do gateway de entrada IOS® baseado em H.323 em uma fila de chamada e implantação de coleta.

Na implantação Call Queue and Collect, o CVP interage com o Intelligent Contact Management (ICM) para tomar decisões de roteamento de chamadas. O ICM solicita que o CVP forneça o tratamento da Unidade de Resposta de Voz (URV) à chamada recebida para reproduzir prompts de menu e coletar dígitos para determinar o grupo de habilidades a ser selecionado. Quando o grupo de habilidades é identificado e um agente do grupo de habilidades está disponível, o ICM solicita ao CVP para conectar a chamada recebida ao telefone IP do agente via Cisco CallManager. Se o agente não estiver disponível, o ICM solicitará que o CVP forneça o tratamento da fila de chamadas (por exemplo, reproduzir um prompt de música em espera). O CVP fornece tratamento de URV ou fila de chamadas usando um Gateway VXML.

Prerequisites

Requirements

Não existem requisitos específicos para este documento

Componentes Utilizados

As informações neste documento são baseadas nestas versões de software e hardware:

- Gateway de entrada PSTN do IOS: Cisco 2821, IOS 12.4(15)T1
- Gatekeeper IOS: Cisco 2651XM, IOS 12.4(7f)
- Gateway VXML do IOS: Cisco AS5400XM, IOS 12.4(15)T1
- Portal de voz da Cisco: CVP 4.0
- Cisco CallManager 5.1.2
- Servidor ASR / TTS: Nuance ASR v8.5 e TTS v4.0.6

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

Consulte as Convenções de Dicas Técnicas da Cisco para obter mais informações sobre convenções de documentos.

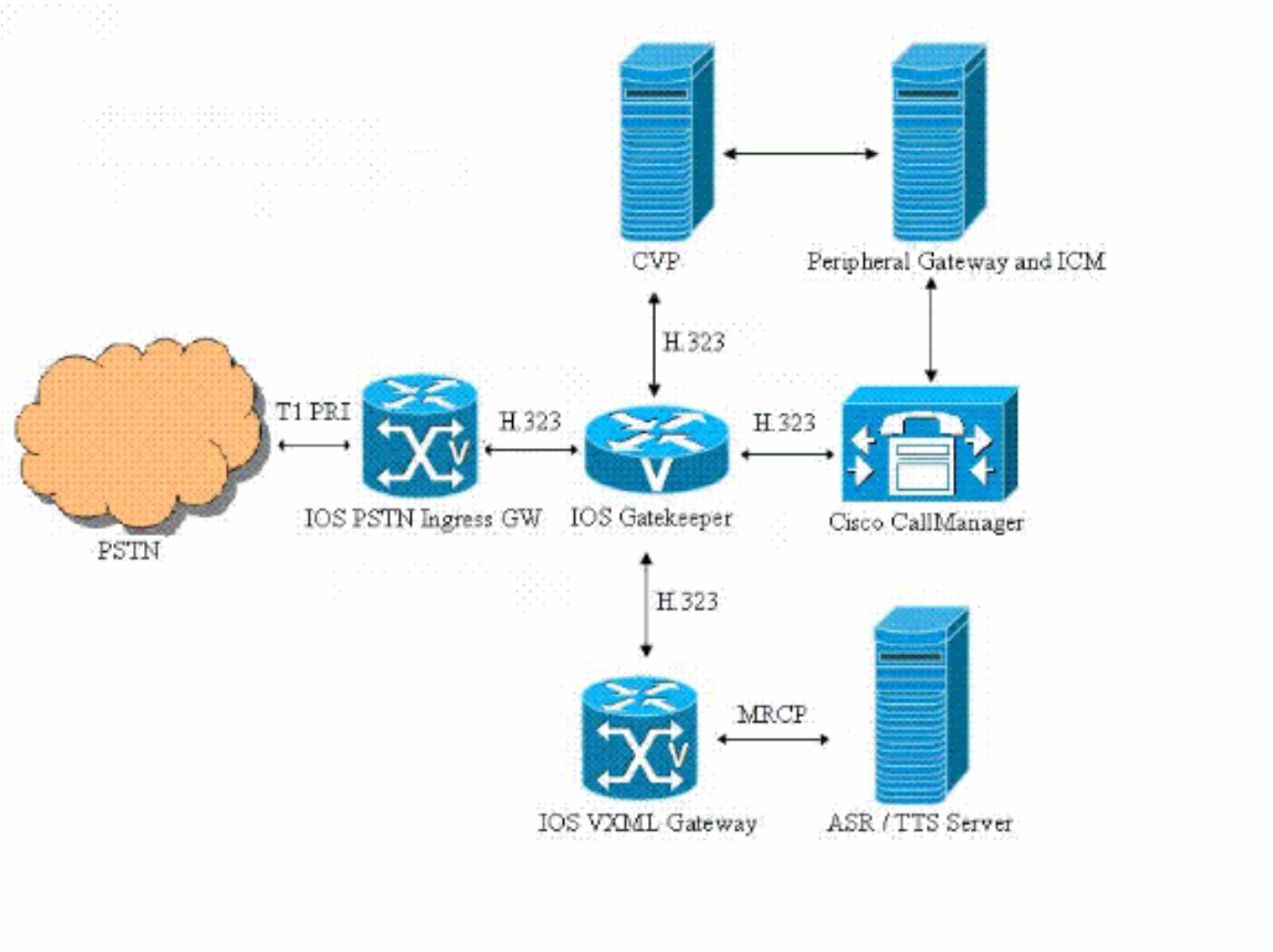
Configurar

Nesta seção, você encontrará informações para configurar os recursos descritos neste documento.

Nota:Use a Command Lookup Tool (somente clientes registrados) para obter mais informações sobre os comandos usados neste documento.

Diagrama de Rede

Este documento utiliza a seguinte configuração de rede:



Configurações

Este documento utiliza as seguintes configurações:

- Configuração do gateway de entrada
- Configuração de gatekeeper
- Configuração do gateway VXML

Configuração do gateway de entrada

```
!--- Configure the IOS PSTN Ingress GW to register with
the IOS Gatekeeper. interface GigabitEthernet0/1 ip
address 14.50.201.11 255.255.255.0 h323-gateway voip
interface h323-gateway voip id IPCC-GW ipaddr
14.50.201.14 1719 h323-gateway voip h323-id PSTN-GW
h323-gateway voip bind srcaddr 14.50.201.11 !---
Configure the T1 PRI. controller T1 1/0/0 framing esf
linecode b8zs pri-group timeslots 1-24 !--- Configure
the ISDN switch type and incoming-voice under the D-
channel interface. interface Serial1/0/0:23 no ip
address encapsulation hdlc isdn switch-type primary-ni
isdn incoming-voice voice no cdp enable !--- Configure a
POTS dial-peer that will be used as inbound dial-peer
for calls !--- coming in across the T1 PRI line. dial-
peer voice 2 pots description PSTN PRI Circuit incoming
```

```
called-number . direct-inward-dial port 1/0/0:23 !--- Configure an outbound voip dial-peer to route calls to the CVP. !--- Gateway sends ARQ to Gatekeeper for call routing decision. dial-peer voice 1 voip description "To IPCC" destination-pattern 800..... session target ras tech-prefix 2# dtmf-relay rtp-nte codec g711ulaw no vad
```

Configuração de gatekeeper

```
!--- Configure the local zones and zone prefixes. In this example, !--- VXML GW registers with Gatekeeper with Tech-Prefix 1# !--- CVP registers with Gatekeeper with Tech-Prefix 2# !--- CCM registers with CCM with Tech-Prefix 3# !--- CVP handles calls with called number in the 800555…. range !--- CCM handles calls with called numbers in the 75… range (agent dn range) !--- VXML Gateway handles calls with called numbers starting with 8001112222 (network vru label) gatekeeper zone local IPCC-GW cisco.com 14.50.201.14 zone local IPCC-VXML cisco.com zone local IPCC-CCM cisco.com zone local IPCC-CVP cisco.com zone prefix IPCC-CCM 75... zone prefix IPCC-CVP 800555.... zone prefix IPCC-VXML 8001112222* gw-type-prefix 1#* default-technology no shutdown!
```

Configuração do gateway VXML

```
!--- Define Hostname to IP Address mapping for ASR and TTS servers. ip host asrtts-en-us 14.50.201.16 !--- Define the amount of maximum memory to used for downloaded prompts. ivr prompt memory 15000 !--- Define the RTSP URI of ASR and TTS Server. ivr asr-server rtsp://asrtts-en-us/recognizer ivr tts-server rtsp://asrtts-en-us/synthesizer !--- Configure an application service for CVPError.tcl. application service cvperror flash:cvperror.tcl paramspace english language en paramspace english index 0 paramspace english location flash paramspace english prefix en !--- Configure an application service for CVP bootstrap.vxml and bootstrap.tcl. service new-call flash:bootstrap.vxml paramspace english language en paramspace english index 0 paramspace english location flash paramspace english prefix en ! service bootstrap flash:bootstrap.tcl paramspace english language en paramspace english index 0 paramspace english location flash paramspace english prefix en !--- Configure an application service for CVP handoff.tcl. service handoff flash:handoff.tcl paramspace english language en paramspace english index 0 paramspace english location flash paramspace english prefix en !--- Specify that the Gateway's RTP stream to the ASR / TTS to go around the !--- Content Service Switch instead of through the CSS. mrcp client rtpsetup enable !--- Specify the maximum memory size for the HTTP Client Cache. http client cache memory pool 15000 !--- Specify the maximum number of file that can be stored in the HTTP Client Cache. http client cache memory file 500 !--- Disable Persistent HTTP Connections. no http client connection persistent !--- Configure the VXML GW to register with the IOS Gatekeeper. interface GigabitEthernet0/0 ip address 14.50.201.15 255.255.255.0 h323-gateway voip interface h323-gateway voip id IPCC-VXML ipaddr 14.50.201.14 1719 h323-gateway voip h323-id
```

```
VXML-GW h323-gateway voip tech-prefix 1# h323-gateway
voip bind srcaddr 14.50.201.15 !--- Configure an inbound
voip dial-peer to block calls with called number !---
starting with 987654. voice translation-rule 1 rule 1
/987654/ // ! ! voice translation-profile block
translate called 1 dial-peer voice 987654 voip
description Dial-peer needed for PM Micro-App
translation-profile incoming block incoming called-
number 987654 !--- Configure a VoIP dial-peer that will
be used as inbound dial-peer for calls coming !--- in
from CVP. The "bootstrap"service is applied under this
dial-peer. !--- The "8001112222" in the destination-
pattern is the VRU label that is configured in ICM.
dial-peer voice 800 voip description ICM VRU Label
translation-profile incoming block service bootstrap
incoming called-number 8001112222T dtmf-relay rtp-nte
h245-signal h245-alphanumeric codec g711ulaw no vad
```

Exemplo de fluxo de chamada

Esta seção descreve o fluxo de chamada que resulta deste exemplo de configuração:

1. Uma chamada ISDN chega ao Gateway PSTN/VXML através do T1 PRI 1/0/0.
2. O IOS Gateway corresponde ao peer de discagem POTS 2 como o peer de discagem de entrada para esta chamada.
3. O IOS Gateway corresponde ao peer de discagem VoIP 1 como o peer de discagem de saída para esta chamada.
4. O IOS Gateway prepara o prefixo técnico "2#" para o número chamado e envia um ARQ para o Gatekeeper.
5. O gatekeeper roteia a chamada para o CVP.
6. O CVP atende a chamada e a conexão de mídia RTP é estabelecida entre o IOS Ingress Gateway e o CVP.
7. O CVP informa ao ICM sobre a nova chamada.
8. O ICM executa o script associado ao número chamado desta chamada.
9. O ICM solicita que o CVP forneça o tratamento da URV para reproduzir um prompt do menu (Main_Welcome_Menu.wav) e para coletar dígitos para identificar o grupo de habilidades.1 para TAC2 para vendasO ICM também envia a Etiqueta ICM (8001112222) da URV de rede para o CVP.
10. O CVP envia uma solicitação ARQ (com destino = rótulo URV de rede) ao gatekeeper.
11. O gatekeeper fornece o endereço IP do VXML Gateway na resposta ACF.
12. O CVP envia uma configuração H225 para o VXML Gateway, que estabelece uma sessão VXML para o CVP. Consulte estes URLs para entender o VXML Gateway e o CVP, e o VXML Gateway e as interações do servidor ASR/TTS:MRCPv1MRCPv2
13. O CVP desconecta sua conexão de mídia RTP existente ao Gateway de entrada enviando o Estudo de caso dividido em temas vazio do H245.
14. O CVP estabelece uma conexão de mídia RTP entre o Gateway de entrada e o Gateway VXML.
15. O chamador PSTN digita o dígito "1" para selecionar o grupo de habilidades "TAC". O Gateway de entrada envia o DTMF via RTP NTE para o VXML Gateway 16) O Gateway VXML relata os dígitos para o CVP via VXML, que, em seguida, relata ao ICM.
16. O VXML Gateway relata os dígitos para o CVP via VXML, que depois reporta para o ICM.
17. Em seguida, o ICM encontra um agente disponível do grupo de habilidades selecionado e

solicita ao CVP que roteie a chamada para o Agente enviando a Etiqueta do ICM (3#75001) do Agente.
18. O CVP desconecta a conexão de mídia RTP existente entre o Gateway de entrada e o Gateway VXML.
19. O CVP envia uma solicitação ARQ (com destino = rótulo do agente) ao gatekeeper.
20. O gatekeeper fornece o endereço IP do Cisco CallManager na resposta ACF.
21. O CVP envia uma configuração H225 para o Cisco CallManager, que estabelece uma chamada para o telefone IP do agente.
22. O CVP estabelece uma conexão de mídia RTP entre o Gateway de entrada e o Telefone do agente.
23. O chamador PSTN desliga a chamada após concluir a conversação com o agente.
24. O Gateway de entrada desconecta a chamada ao CVP e informa ao Gatekeeper sobre a terminação da chamada.
25. Em seguida, o CVP desconecta a chamada ao CCM.

Verificar

Use esta seção para confirmar se sua configuração funciona corretamente no IOS Gatekeeper.

A Output Interpreter Tool (somente clientes registrados) (OIT) oferece suporte a determinados comandos show. Use a OIT para exibir uma análise da saída do comando show.

- **show gatekeeper endpoints**

```
GATEKEEPER ENDPOINT REGISTRATION

                    ================================

CallSignalAddr  Port  RASSignalAddr   Port  Zone Name         Type    Flags

--------------- ----- --------------- ----- ---------         ----    -----

14.50.201.11    1720  14.50.201.11    53981 IPCC-GW           VOIP-GW

    ENDPOINT-ID: 8527186C00000002  VERSION: 4  AGE: 32 secs  SupportsAnnexE: FALSE

    g_supp_prots: 0x00000050

    H323-ID: PSTN-GW

    Voice Capacity Max.=  Avail.=  Current.= 0

14.50.201.15    1720  14.50.201.15    62367 IPCC-VXML         VOIP-GW

    ENDPOINT-ID: 84DB194800000003  VERSION: 4  AGE: 27 secs  SupportsAnnexE: FALSE

    g_supp_prots: 0x00000050

    H323-ID: VXML-GW

    Voice Capacity Max.=  Avail.=  Current.= 0

172.18.110.75   1720  172.18.110.75   1719  IPCC-CVP          VOIP-GW

    ENDPOINT-ID: 84F5E78C00000001  VERSION: 5  AGE: 3 secs  SupportsAnnexE: FALSE

    g_supp_prots: 0x00000040
```

```
    H323-ID: CVP

    Voice Capacity Max.=  Avail.=  Current.= 0

172.18.110.84   43843 172.18.110.84   49600 IPCC-CCM          VOIP-GW

    ENDPOINT-ID: 852A9F2C00000004  VERSION: 5  AGE: 27 secs  SupportsAnnexE: FALSE

    g_supp_prots: 0x00000050

    H323-ID: CCM-GK-Trunk_1

    Voice Capacity Max.=  Avail.=  Current.= 0

Total number of active registrations = 4
```

- show gatekeeper gw-type-prefix

```
GATEWAY TYPE PREFIX TABLE

=========================

Prefix: 1#*    (Default gateway-technology)

  Zone IPCC-GW master gateway list:

    14.50.201.11:1720 PSTN-GW

  Zone IPCC-VXML master gateway list:

    14.50.201.15:1720 VXML-GW



Prefix: 2#*

  Zone IPCC-CVP master gateway list:

    172.18.110.75:1720 CVP



Prefix: 3#*

  Zone IPCC-CCM master gateway list:

    172.18.110.84:43843 CCM-GK-Trunk_1
```

Use esta seção para confirmar se sua configuração funciona corretamente no **Gateway de Entrada PSTN do IOS**.

- show call ative voice brief

```
Call is connected to VXML Gateway



11E6 : 228 2061411860ms.1 +160 pid:2 Answer 9999 active

 dur 00:00:44 tx:1942/326256 rx:2221/354112

 Tele 1/0/0:23 (228) [1/0/0.1] tx:44300/44300/0ms g711ulaw noise:-79 acom:7
i/0:-44/-18 dBm
```

```
11E6 : 229 2061411870ms.1 +130 pid:1 Originate 2#8005555555 active

 dur 00:00:44 tx:2215/1169571516 rx:1942/310720

 IP 14.50.201.15:21134 SRTP: off rtt:0ms pl:35210/40ms lost:0/0/0 delay:55/55/65ms
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



Telephony call-legs: 1

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: 2
```

Call is connected to Agent IP Phone

```
11E6 : 228 2061411860ms.1 +160 pid:2 Answer 9999 active

 dur 00:01:06 tx:2848/478464 rx:3343/533632

 Tele 1/0/0:23 (228) [1/0/0.1] tx:66730/66730/0ms g711ulaw noise:-54 acom:7
i/0:-44/-44 dBm



11E6 : 229 2061411870ms.1 +130 pid:1 Originate 2#8005555555 active

 dur 00:01:06 tx:3336/1169571516 rx:2848/455680

 IP 14.50.202.26:17156 SRTP: off rtt:1ms pl:10290/0ms lost:0/0/0 delay:55/55/65ms
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



Telephony call-legs: 1

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: 2
```

Troubleshoot

Esta seção fornece informações que podem ser usadas para o troubleshooting da sua configuração.

Comandos para Troubleshooting

Configure o IOS Gateway para registrar as depurações em seu buffer de registro e desabilitar o "console de registro".

Estes são os comandos usados para configurar o Gateway para armazenar as depurações no buffer de registro do Gateway:

- **service timestamps debug datetime msec**
- **sequência de serviço**
- **no logging console**
- **logging buffered 500000 debug**
- **clear log**

Estes são os comandos **debug** usados para solucionar problemas da configuração:

Nota:Consulte Informações Importantes sobre Comandos de Depuração antes de usar comandos debug.

- **debug isdn q931**
- **debug voip ccapi inout**
- **debug ras**
- **debug h225 asn1**
- **debug h245 asn1**
- **debug cch323 h225**
- **debug cch323 h245**
- **debug voip rtp session nte names**

Saídas de depuração

Esta seção fornece saídas de depuração para este fluxo de chamada de exemplo:

1. Chamada recebida do PSTN para 800-555-555
2. O gateway de entrada corresponde ao correspondente de discagem de entrada 2
3. O gateway de entrada corresponde ao correspondente de discagem de saída 1
4. GW de entrada prepara o prefixo técnico "#2" e envia uma solicitação de admissão (ARQ)

ao gatekeeper
5. O GW de entrada envia o procedimento de chamada ISDN no segmento POTS
6. O GW de entrada recebe a confirmação de admissão do GK. O endereço IP destino é o endereço IP do CVP (172.18.110.75)
7. O GW envia a mensagem H225 FastStart Setup para o CVP
8. O GW recebe a mensagem de conexão H225 do CVP
9. GW envia resposta de solicitação de informações (IRR) ao gatekeeper
10. O GW estabelece a conexão TCP H245 para o CVP e envia a mensagem Terminal Capability Set (TCS) e Master Slave Calculation para o CVP
11. O GW recebe mensagens do Estudo de caso e do MSD do CVP
12. O GW de entrada envia a Ack do Estudo de caso e a Ack do MSD para o CVP
13. GW de entrada recebe TCS e MSD ACK do CVP
14. Agora, o CVP redireciona a conexão de mídia para o Gateway VXML. GW de entrada recebe TCS vazio do CVP
15. O GW de ingresso fecha seu canal lógico enviando CloseLogicalChannel (CLC) ao CVP
16. GW de entrada envia ACK do Estudo de caso para CVP
17. O GW de entrada envia a solicitação de largura de banda ao gatekeeper para atualizar a largura de banda atual (zero) usada para a chamada
18. O CVP fecha seu canal lógico enviando CLC para o GW de entrada
19. O GW de entrada recebe TCS e MSD do CVP. Este Estudo de caso dividido em temas fornece informações sobre os recursos de terminal do VXML Gateway
20. O GW de entrada envia seu Estudo de caso e o MSD para o CVP
21. O GW de entrada envia o MSD Ack e o TCS Ack para o CVP
22. O GW de entrada envia BRQ ao Gatekeeper para atualizar a largura de banda atual usada para a chamada (2*64=128 kbps)
23. O GW de entrada envia a solicitação OLC ao CVP
24. O GW de entrada recebe OLC do CVP. O CVP fornece o endereço IP do VXML Gateway para a conexão RTCP
25. O GW de entrada envia a resposta OLC Ack ao CVP
26. O GW de entrada recebe OLC Ack do CVP. O CVP fornece o endereço IP do VXML Gateway para a conexão RTP. A conexão RTP entre GW de entrada e GW VXML é estabelecida
27. O gateway detecta o dígito DTMF "1" e o envia via eventos DTMF Relay RTP NTE (RFC 2833) para o GW VXML
28. Agora, o CVP redireciona a chamada para o telefone IP do agente que atendeu a chamada. O GW de entrada recebe TCS vazio
29. Etapas 15 - 18 (saídas de depuração não exibidas)
30. O GW de entrada recebe TCS e MSD do CVP. Este Estudo de caso dividido em temas fornece informações sobre os recursos do terminal do telefone IP
31. Etapas 20 - 23 (saídas de depuração não exibidas)
32. O GW de entrada recebe OLC do CVP. O CVP fornece o endereço IP do CallManager para a conexão RTCP
33. GW envia resposta OLC Ack para CVP
34. GW recebe OLC Ack do CVP. O CVP fornece o endereço IP do telefone IP do agente para a conexão RTP. A conexão RTP entre o GW de entrada e o telefone IP é estabelecida
35. Após terminar a conversação com o agente, o chamador PSTN desliga a chamada. O GW de entrada recebe a desconexão ISDN do PSTN
36. O GW de entrada encerra a chamada H323 no segmento IP enviando a mensagem H225

Release Complete ao CVP

37. O GW envia DishireRequest (DRQ) ao Gatekeeper
38. A conexão H245 entre o GW e o CVP é fechada após a troca dos comandos CLC e EndSession

Observação: algumas das linhas na saída desta seção foram movidas para a segunda linha devido a restrições de espaço.

Chamada recebida do PSTN para 800-555-555

```
*Aug 17 17:21:15.777: ISDN Se1/0/0:23 Q931: RX <- SETUP pd = 8  callref = 0x0088

        Bearer Capability i = 0x8090A2

                Standard = CCITT

                Transfer Capability = Speech

                Transfer Mode = Circuit

                Transfer Rate = 64 kbit/s

        Channel ID i = 0xA98381

                Exclusive, Channel 1

        Progress Ind i = 0x8583 - Origination address is non-ISDN

        Calling Party Number i = 0x0080, '9999'

                Plan:Unknown, Type:Unknown

        Called Party Number i = 0xA1, '8005555555'

                Plan:ISDN, Type:National

*Aug 17 17:21:15.781: //-1/182F2991800A/CCAPI/cc_api_display_ie_subfields:

   cc_api_call_setup_ind_common:

   cisco-username=

   ----- ccCallInfo IE subfields -----

   cisco-ani=9999

   cisco-anitype=0

   cisco-aniplan=0

   cisco-anipi=0

   cisco-anisi=0

   dest=8005555555

   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
```

O gateway de entrada corresponde ao correspondente de discagem de entrada 2

```
*Aug 17 17:21:15.781: //-1/182F2991800A/CCAPI/cc_api_call_setup_ind_common:

   Interface=0x46964DF8, Call Info(

   Calling Number=9999,(Calling Name=)(TON=Unknown, NPI=Unknown, Screening=Not Screened,
Presentation=Allowed),

   Called Number=8005555555(TON=National, NPI=ISDN),

   Calling Translated=FALSE, Subscriber Type Str=RegularLine, FinalDestinationFlag=TRUE,

   Incoming Dial-peer=2, Progress Indication=ORIGINATING SIDE IS NON ISDN(3),
Calling IE Present=TRUE,

   Source Trkgrp Route Label=, Target Trkgrp Route Label=, CLID Transparent=FALSE),
Call Id=-1
```

O gateway de entrada corresponde ao correspondente de discagem de saída 1

```
*Aug 17 17:21:15.793: //228/182F2991800A/CCAPI/ccIFCallSetupRequestPrivate:

   Interface=0x46A5D878, Interface Type=1, Destination=, Mode=0x0,

   Call Params(Calling Number=9999,(Calling Name=)(TON=Unknown, NPI=Unknown,
Screening=Not Screened, Presentation=Allowed),

   Called Number=8005555555(TON=National, NPI=ISDN), Calling Translated=FALSE,

   Subscriber Type Str=RegularLine, FinalDestinationFlag=TRUE, Outgoing Dial-peer=1,
Call Count On=FALSE,

   Source Trkgrp Route Label=, Target Trkgrp Route Label=, tg_label_flag=0,
Application Call Id=)
```

GW de entrada prepara o prefixo técnico "#2" e envia uma solicitação de admissão (ARQ) ao gatekeeper

```
*Aug 17 17:21:15.797: H225 NONSTD OUTGOING PDU ::=
```

```
value ARQnonStandardInfo ::=

    {

      sourceAlias

      {

      }

      sourceExtAlias

      {

      }

      callingOctet3a 128

      interfaceSpecificBillingId "ISDN 1/0/0:23"

      gtd '49414D2C0D0A50524E2C6973646E2A2C2C4E492A...'H

      ingressNetwork scn : NULL

    }
```

```
*Aug 17 17:21:15.797: H225 NONSTD OUTGOING ENCODE BUFFER::= 80000010A901800E18495
3444E20312F302F303A323380AC00A949414D2C0D0A50524E2C6973646E2A2C2C4E492A2A2A2C0D0A
5553492C726174652C632C732C632C310D0A5553492C6C6179312C756C61770D0A544D522C30300D0
A43504E2C30342C2C312C383030353535353535350D0A43474E2C30302C2C752C792C312C39393939
0D0A4350432C30390D0A4643492C2C2C2C2C2C2C792C0D0A4743492C313832663239393134633164 3
131646338303061303031376530616261383338 0D0A0D0A0100

*Aug 17 17:21:15.801:

*Aug 17 17:21:15.801: RAS OUTGOING PDU ::=
```

```
value RasMessage ::= admissionRequest :

    {

      requestSeqNum 15287

      callType pointToPoint : NULL

      callModel direct : NULL

      endpointIdentifier {"84B3CC1C00000004"}

      destinationInfo

      {

        dialedDigits : "2#8005555555"
```

```
      }
      srcInfo
      {
        dialedDigits : "9999",
        h323-ID : {"PSTN-GW"}
      }
      bandWidth 1280
      callReferenceValue 67
      nonStandardData
      {
        nonStandardIdentifier h221NonStandard :
        {
          t35CountryCode 181
          t35Extension 0
          manufacturerCode 18
        }
        data '80000010A901800E184953444E20312F302F303A...'H
      }
      conferenceID '182F29914C1D11DC800A0017E0ABA838'H
      activeMC FALSE
      answerCall FALSE
      canMapAlias TRUE
      callIdentifier
      {
        guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
      }
      willSupplyUUIEs FALSE
    }
```

O GW de entrada envia o procedimento de chamada ISDN no segmento POTS

```
*Aug 17 17:21:15.805: ISDN Se1/0/0:23 Q931: TX -> CALL_PROC pd = 8  callref = 0x8088
        Channel ID i = 0xA98381
```

```
         Exclusive, Channel 1
```

O GW de entrada recebe a confirmação de admissão do GK. O endereço IP destino é o endereço IP do CVP (172.18.110.75)

```
*Aug 17 17:21:15.861: RAS INCOMING PDU ::=

value RasMessage ::= admissionConfirm :
    {
      requestSeqNum 15287
      bandWidth 1280
      callModel direct : NULL
      destCallSignalAddress ipAddress :
      {
        ip 'AC126E4B'H
        port 1720
      }
      irrFrequency 240
      nonStandardData
      {
        nonStandardIdentifier h221NonStandard :
        {
          t35CountryCode 181
          t35Extension 0
          manufacturerCode 18
        }
        data '00020180CCCC400B004100720075006E002D0050...'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
      }
    }
  }
}
```

O GW envia a mensagem H225 FastStart Setup para o CVP

```
*Aug 17 17:21:15.865: H245 FS OLC OUTGOING PDU ::=

value OpenLogicalChannel ::=
    {
      forwardLogicalChannelNumber 1
      forwardLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaControlChannel unicastAddress : iPAddress :
          {
            network '0E32C90B'H
            tsapIdentifier 18491
          }
          silenceSuppression FALSE
        }
      }
    }
```

```
*Aug 17 17:21:15.869: H245 FS OLC OUTGOING ENCODE BUFFER::=
0000000C6013800B050001000E32C90B483B00

*Aug 17 17:21:15.869:

*Aug 17 17:21:15.869: H245 FS OLC OUTGOING PDU ::=

value OpenLogicalChannel ::=
    {
      forwardLogicalChannelNumber 1
```

```
      forwardLogicalChannelParameters
      {
        dataType nullData : NULL
        multiplexParameters none : NULL
      }
      reverseLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaChannel unicastAddress : iPAddress :
          {
            network '0E32C90B'H
            tsapIdentifier 18490
          }
          mediaControlChannel unicastAddress : iPAddress :
          {
            network '0E32C90B'H
            tsapIdentifier 18491
          }
          silenceSuppression FALSE
        }
      }
    }
```

```
*Aug 17 17:21:15.869: H245 FS OLC OUTGOING ENCODE BUFFER::=
400000060401004C60138012150001000E32C90B483A000E32C90B483B00

*Aug 17 17:21:15.869:

*Aug 17 17:21:15.869: //229/182F2991800A/H323/generic_send_setup:
```

```
generic_send_setup: is_overlap = 0, info_complete = 0

*Aug 17 17:21:15.869: //229/182F2991800A/H323/generic_send_setup: sending calling IE

*Aug 17 17:21:15.869: //229/182F2991800A/H323/generic_send_setup: ====== PI = 3

*Aug 17 17:21:15.869: //229/182F2991800A/H323/generic_send_setup: Send infoXCap=128,
infoXRate=16, rateMult=0, xMode=128, info_layer1_prot=163

*Aug 17 17:21:15.869: //229/182F2991800A/H323/generic_send_setup:
src address = 14.50.201.11; dest address = 172.18.110.75

*Aug 17 17:21:15.869: H225 NONSTD OUTGOING PDU ::=



value H323_UU_NonStdInfo ::=

    {

      version 2

      protoParam qsigNonStdInfo :

      {

        iei 4

        rawMesg '04038090A21803A983811E0285836C0600803939...'H

      }

      progIndParam progIndIEinfo :

      {

        progIndIE '00000003'H

      }

    }




*Aug 17 17:21:15.873: H225 NONSTD OUTGOING ENCODE BUFFER::= E00102000104230403809 0A21803
A983811E0285836C06008039393939700BA1383030353535353535350A8006000400000003

*Aug 17 17:21:15.873:

*Aug 17 17:21:15.873: H225.0 OUTGOING PDU ::=



value H323_UserInformation ::=

    {

      h323-uu-pdu

      {
```

```
h323-message-body setup :
{
  protocolIdentifier { 0 0 8 2250 0 4 }
  sourceAddress
  {
    h323-ID : {"PSTN-GW"}
  }
  sourceInfo
  {
    vendor
    {
      vendor
      {
        t35CountryCode 181
        t35Extension 0
        manufacturerCode 18
      }
    }
    gateway
    {
      protocol
      {
        voice :
        {
          supportedPrefixes
          {

            {
              prefix dialedDigits : "1#"
            }
          }
        },                h323 :
```

```
      {
        supportedPrefixes
        {
        }
      }
    }
  }
  mc FALSE
  undefinedNode FALSE
}
activeMC FALSE
conferenceID '182F29914C1D11DC800A0017E0ABA838'H
conferenceGoal create : NULL
callType pointToPoint : NULL
sourceCallSignalAddress ipAddress :
{
  ip '0E32C90B'H
  port 22143
}
callIdentifier
{
  guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
}
fastStart
{
  '0000000C6013800B050001000E32C90B483B00'H,
  '400000060401004C60138012150001000E32C90B...'H
}
mediaWaitForConnect FALSE
canOverlapSend FALSE
multipleCalls TRUE
maintainConnection TRUE
```

```
          symmetricOperationRequired NULL
        }
        h245Tunneling TRUE
        nonStandardControl
        {

          {
            nonStandardIdentifier h221NonStandard :
            {
              t35CountryCode 181
              t35Extension 0
              manufacturerCode 18
            }
            data 'E001020001042304038090A21803A983811E0285...'H
          }
        }
      }
    }
```

O GW recebe a mensagem de conexão H225 do CVP

```
*Aug 17 17:21:15.913: H225.0 INCOMING PDU ::=

value H323_UserInformation ::=
    {
      h323-uu-pdu
      {
        h323-message-body connect :
        {
          protocolIdentifier { 0 0 8 2250 0 5 }
          h245Address ipAddress :
          {
            ip 'AC126E4B'H
```

```
  port 19698
}
destinationInfo
{
  gateway
  {
    protocol
    {
      voice :
      {
        supportedPrefixes
        {

          {
            prefix dialedDigits : "2#"
          }
        }
      }
    }
  }
  mc FALSE
  undefinedNode FALSE
}
conferenceID '182F29914C1D11DC800A0017E0ABA838'H
callIdentifier
{
  guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
}
fastStart
{
  '400080060401004C6013801215000100AC126E4B...'H,
  '0000000C6013801215000100AC126E4B406000AC...'H
```

```
          }
          multipleCalls FALSE
          maintainConnection TRUE
          presentationIndicator presentationAllowed : NULL
          screeningIndicator 2
          featureSet
          {
            replacementFeatureSet FALSE
            neededFeatures
            {
            }
            desiredFeatures
            {
            }
            supportedFeatures
            {
            }
          }
        }
        h245Tunneling FALSE
      }
    }
```

```
*Aug 17 17:21:15.917: //-1/xxxxxxxxxxxx/H323/cch323_h225_receiver:
Received msg of type SETUPCFM_CHOSEN

*Aug 17 17:21:15.917: //229/182F2991800A/H323/setup_cfm_ind: ====== PI = 0

*Aug 17 17:21:15.917: //229/182F2991800A/H323/setup_cfm_ind:
Set new event H225_EV_FS_SETUP_CFM_IND

*Aug 17 17:21:15.917: //229/182F2991800A/H323/setup_cfm_ind:
Rcvd CONNECT Display Info IE = rtpmscvp

*Aug 17 17:21:15.917: //229/182F2991800A/H323/cch323_h225_receiver:
SETUPCFM_CHOSEN: src address = 14.50.201.11; dest address = 172.18.110.75
```

```
*Aug 17 17:21:15.917: //229/182F2991800A/H323/run_h225_sm:
Received event H225_EV_FS_SETUP_CFM_IND while at state H225_REQ_FS_SETUP

*Aug 17 17:21:15.917: //229/182F2991800A/H323/cch323_h225_set_new_state:
Changing from H225_REQ_FS_SETUP state to H225_FS_ACTIVE state

*Aug 17 17:21:15.917: H245 FS OLC INCOMING ENCODE BUFFER::=
400080060401004C6013801215000100AC126E4B406000AC126E4B406100

*Aug 17 17:21:15.917:

*Aug 17 17:21:15.917: H245 FS OLC INCOMING PDU ::=



value OpenLogicalChannel ::=

    {

      forwardLogicalChannelNumber 129

      forwardLogicalChannelParameters

      {

        dataType nullData : NULL

        multiplexParameters none : NULL

      }

      reverseLogicalChannelParameters

      {

        dataType audioData : g711Ulaw64k : 20

        multiplexParameters h2250LogicalChannelParameters :

        {

          sessionID 1

          mediaChannel unicastAddress : iPAddress :

          {

            network 'AC126E4B'H

            tsapIdentifier 16480

          }

          mediaControlChannel unicastAddress : iPAddress :

          {

            network 'AC126E4B'H

            tsapIdentifier 16481

          }
```

```
          silenceSuppression FALSE
        }
      }
    }
```

```
*Aug 17 17:21:15.921: H245 FS OLC INCOMING ENCODE BUFFER::=
0000000C6013801215000100AC126E4B406000AC126E4B406100
*Aug 17 17:21:15.921:
*Aug 17 17:21:15.921: H245 FS OLC INCOMING PDU ::=

value OpenLogicalChannel ::=
    {
      forwardLogicalChannelNumber 1
      forwardLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaChannel unicastAddress : iPAddress :
          {
            network 'AC126E4B'H
            tsapIdentifier 16480
          }
          mediaControlChannel unicastAddress : iPAddress :
          {
            network 'AC126E4B'H
            tsapIdentifier 16481
          }
          silenceSuppression FALSE
        }
```

```
      }
    }
```

GW envia resposta de solicitação de informações (IRR) ao gatekeeper

```
*Aug 17 17:21:15.925: H225 NONSTD OUTGOING PDU ::=

value IRRperCallnonStandardInfo ::=
    {
      startTime 1187371275
    }




*Aug 17 17:21:15.925: H225 NONSTD OUTGOING ENCODE BUFFER::= 7046C5D90B
*Aug 17 17:21:15.925:
*Aug 17 17:21:15.925: RAS OUTGOING PDU ::=

value RasMessage ::= infoRequestResponse :
    {
      requestSeqNum 15288
      endpointType
      {
        vendor
        {
          vendor
          {
            t35CountryCode 181
            t35Extension 0
            manufacturerCode 18
          }
        }
        gateway
```

```
  {
    protocol
    {
      voice :
      {
        supportedPrefixes
        {

          {
            prefix dialedDigits : "1#"
          }
        }
      },            h323 :
      {
        supportedPrefixes
        {
        }
      }
    }
  }
  mc FALSE
  undefinedNode FALSE
}
endpointIdentifier {"84B3CC1C00000004"}
rasAddress ipAddress :
{
  ip '0E32C90B'H
  port 50363
}
callSignalAddress
{
  ipAddress :
```

```
  {
    ip '0E32C90B'H
    port 1720
  }
}
endpointAlias
{
  h323-ID : {"PSTN-GW"}
}
perCallInfo
{

  {
    nonStandardData
    {
      nonStandardIdentifier h221NonStandard :
      {
        t35CountryCode 181
        t35Extension 0
        manufacturerCode 18
      }
      data '7046C5D90B'H
    }
    callReferenceValue 67
    conferenceID '182F29914C1D11DC800A0017E0ABA838'H
    originator TRUE
    h245
    {
    }
    callSignaling
    {
    }
```

```
          callType pointToPoint : NULL
          bandWidth 1280
          callModel direct : NULL
          callIdentifier
          {
            guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
          }
          substituteConfIDs
          {
          }
          usageInformation
          {
            nonStandardUsageFields
            {
            }
            connectTime 1187371275
          }
        }
      }
      needResponse FALSE
      unsolicited TRUE
    }
```

O GW estabelece a conexão TCP H245 para o CVP e envia a mensagem Terminal Capability Set (TCS) e Master Slave Calculation para o CVP

```
*Aug 17 17:21:15.953: 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
}
logicalChannelSwitchingCapability FALSE
```

```
  t120DynamicPortCapability FALSE
}
capabilityTable
{

  {
    capabilityTableEntryNumber 34
    capability receiveRTPAudioTelephonyEventCapability :
    {
      dynamicRTPPayloadType 101
      audioTelephoneEvent "0-16"
    }
  },
  {
    capabilityTableEntryNumber 25
    capability receiveAndTransmitDataApplicationCapability :
    {
      application nonStandard :
      {
        nonStandardIdentifier h221NonStandard :
        {
          t35CountryCode 181
          t35Extension 0
          manufacturerCode 18
        }
        data '52747044746D6652656C6179'H
      }
      maxBitRate 0
    }
  },
  {
    capabilityTableEntryNumber 31
```

```
    capability receiveUserInputCapability : hookflash : NULL
  },
  {
    capabilityTableEntryNumber 30
    capability receiveUserInputCapability : dtmf : NULL
  },
  {
    capabilityTableEntryNumber 27
    capability receiveUserInputCapability : basicString : NULL
  },
  {
    capabilityTableEntryNumber 3
    capability receiveAudioCapability : g711Ulaw64k : 20
  }
}
capabilityDescriptors
{

  {
    capabilityDescriptorNumber 1
    simultaneousCapabilities
    {

      {
        3
      },

      {
        34,
        30,
        27,
        25
```

```
            },


            {

              31

            }

          }

        }

      }
```

```
*Aug 17 17:21:15.961: H245 MSC OUTGOING ENCODE BUFFER::=
0270010600088175000780138000140001000001000001000000CC0010
00100058000218A061404302D31368000184810B50000120C52747044
746D6652656C6179000080001E83015080001D83014080001A8301108
0000220C013008001020000020300210001D001A001800001E

*Aug 17 17:21:15.961:

*Aug 17 17:21:15.961: //229/182F2991800A/H323/h245_cap_out_set_new_state:
changing from IDLE state to AWAITING_RESPONSE state

*Aug 17 17:21:15.961: //229/182F2991800A/H323/cch323_run_h245_ms_sm:
Received event H245_EVENT_MSD while at state H245_MS_NONE

*Aug 17 17:21:15.961: H245 MSC OUTGOING PDU ::=



value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :

    {

      terminalType 60

      statusDeterminationNumber 9348

    }
```

O GW recebe mensagens do Estudo de caso e do MSD do CVP

```
*Aug 17 17:21:15.965: H245 MSC INCOMING PDU ::=



value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :

    {

      sequenceNumber 1
```

```
protocolIdentifier { 0 0 8 245 0 11 }
capabilityTable
{

  {
    capabilityTableEntryNumber 1
    capability receiveAndTransmitAudioCapability : g711Ulaw64k : 20
  },
  {
    capabilityTableEntryNumber 2
    capability receiveAndTransmitUserInputCapability : basicString : NULL
  },
  {
    capabilityTableEntryNumber 3
    capability receiveAndTransmitUserInputCapability : dtmf : NULL
  },
  {
    capabilityTableEntryNumber 4
    capability receiveAndTransmitUserInputCapability : hookflash : NULL
  },
  {
    capabilityTableEntryNumber 5
    capability receiveAndTransmitUserInputCapability : iA5String : NULL
  },
  {
    capabilityTableEntryNumber 729
    capability receiveAndTransmitAudioCapability : g729 : 2
  }
}
capabilityDescriptors
{
```

```
        {
          capabilityDescriptorNumber 1
          simultaneousCapabilities
          {

            {
              1,
              2,
              3,
              4,
              5,
              729
            },

            {
              1,
              729
            },

            {
              1
            }
          }
        }
      }
    }

*Aug 17 17:21:15.969: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :
    {
      terminalType 50
```

```
      statusDeterminationNumber 767617

    }
```

O GW de entrada envia a Ack do Estudo de caso e a Ack do MSD para o CVP

```
*Aug 17 17:21:15.969: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :

    {

      sequenceNumber 1

    }

*Aug 17 17:21:15.969: //229/182F2991800A/H323/MSDetermination:
Am MASTER, ccb->h245.h245_mdStatus = 0x1

*Aug 17 17:21:15.969: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : masterSlaveDeterminationAck :

    {

      decision slave : NULL

    }
```

GW de entrada recebe TCS e MSD ACK do CVP

```
*Aug 17 17:21:15.973: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :

    {

      sequenceNumber 1

    }

*Aug 17 17:21:15.973: h245_decode_one_pdu: H245ASNDecodePdu rc = 0, bytesLeftToDecode = 0

*Aug 17 17:21:15.973: h245_decode_one_pdu: Read Pkt body: more_pdus:0 rc:0 asn_rc:0

*Aug 17 17:21:15.973: //229/182F2991800A/H323/cch323_run_h245_cap_out_sm:
Received H245_EVENT_CAP_CFM while at state AWAITING_RESPONSE
```

```
*Aug 17 17:21:15.973: //229/182F2991800A/H323/h245_cap_out_set_new_state:
changing from AWAITING_RESPONSE state to IDLE state

*Aug 17 17:21:15.973: //229/182F2991800A/H323/run_h245_iwf_sm:
received IWF_EV_CAP_CFM while at state IWF_AWAIT_CAP_MSD_RESP

*Aug 17 17:21:15.977: //229/182F2991800A/H323/h245_iwf_set_new_state:
changing from IWF_AWAIT_CAP_MSD_RESP state to IWF_AWAIT_MSD_RESP state

*Aug 17 17:21:15.977: h323chan_chn_process_read_socket

*Aug 17 17:21:15.977: h323chan_chn_process_read_socket: fd=4 of type CONNECTED has data

*Aug 17 17:21:15.977:  h323chan_chn_process_read_socket: h323chan accepted/connected fd=4



*Aug 17 17:21:15.977: h245_decode_one_pdu: more_pdus = 0, bytesLeftToDecode = 2

*Aug 17 17:21:15.977: H245 MSC INCOMING ENCODE BUFFER::= 2080

*Aug 17 17:21:15.977:

*Aug 17 17:21:15.977: H245 MSC INCOMING PDU ::=



value MultimediaSystemControlMessage ::= response : masterSlaveDeterminationAck :

    {

      decision master : NULL

    }
```

Agora, o CVP redireciona a conexão de mídia para o Gateway VXML. GW de entrada recebe TCS vazio do CVP

```
*Aug 17 17:21:15.985: H245 MSC INCOMING PDU ::=



value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :

    {

      sequenceNumber 2

      protocolIdentifier { 0 0 8 245 0 11 }

    }
```

O GW de ingresso fecha seu canal lógico enviando CloseLogicalChannel (CLC) ao CVP

```
*Aug 17 17:21:15.985: H245 MSC OUTGOING PDU ::=



value MultimediaSystemControlMessage ::= request : closeLogicalChannel :
```

```
    {

      forwardLogicalChannelNumber 1

      source user : NULL

    }
```

GW de entrada envia ACK do Estudo de caso para CVP

```
*Aug 17 17:21:15.985: H245 MSC OUTGOING ENCODE BUFFER::= 0400000000

*Aug 17 17:21:15.985:

*Aug 17 17:21:15.985: //229/182F2991800A/H323/h245_olc_out_set_new_state:
Changing from H245_OLC_OUT_STATE_ESTABLISHED state to H245_OLC_OUT_STATE_IDLE state

*Aug 17 17:21:15.985: //229/182F2991800A/H323/h245_iwf_set_new_state:
changing from IWF_OLC_DONE state to IWF_OLC_IN_DONE state

*Aug 17 17:21:15.985: //229/182F2991800A/H323/cch323_run_h245_cap_in_sm:
Received H245_EVENT_CAP_RESP while at state AWAITING_RESPONSE

*Aug 17 17:21:15.985: H245 MSC OUTGOING PDU ::=



value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :

    {

      sequenceNumber 2

    }
```

O GW de entrada envia a solicitação de largura de banda ao gatekeeper para atualizar a largura de banda atual (zero) usada para a chamada

```
*Aug 17 17:21:15.985: H245 MSC OUTGOING ENCODE BUFFER::= 218002

*Aug 17 17:21:15.985:

*Aug 17 17:21:15.985: //229/182F2991800A/H323/h245_cap_in_set_new_state:
changing from AWAITING_RESPONSE state to IDLE state

*Aug 17 17:21:15.989: RAS OUTGOING PDU ::=



value RasMessage ::= bandwidthRequest :

    {

      requestSeqNum 15289

      endpointIdentifier {"84B3CC1C00000004"}

      conferenceID '182F29914C1D11DC800A0017E0ABA838'H

      callReferenceValue 67
```

```
      bandWidth 0
      callIdentifier
      {
        guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
      }
      answeredCall FALSE
    }
```

O CVP fecha seu canal lógico enviando CLC para o GW de entrada

```
*Aug 17 17:21:15.989: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : closeLogicalChannel :
    {
      forwardLogicalChannelNumber 129
      source user : NULL
      reason unknown : NULL
    }




*Aug 17 17:21:15.989: h245_decode_one_pdu: H245ASNDecodePdu rc = 0, bytesLeftToDecode = 0
*Aug 17 17:21:15.989: h245_decode_one_pdu: Read Pkt body: more_pdus:0 rc:0 asn_rc:0
*Aug 17 17:21:15.989: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : closeLogicalChannelAck :
    {
      forwardLogicalChannelNumber 129
    }
```

O GW de entrada recebe TCS e MSD do CVP. Este Estudo de caso dividido em temas fornece informações sobre os recursos de terminal do VXML Gateway

```
*Aug 17 17:21:16.129: H245 MSC INCOMING PDU ::=
```

```
value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
    {
      sequenceNumber 3
      protocolIdentifier { 0 0 8 245 0 11 }
      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
  }
  logicalChannelSwitchingCapability FALSE
  t120DynamicPortCapability FALSE
}
capabilityTable
{

  {
    capabilityTableEntryNumber 34
    capability receiveRTPAudioTelephonyEventCapability :
    {
      dynamicRTPPayloadType 101
      audioTelephoneEvent "0-16"
    }
  },
  {
    capabilityTableEntryNumber 31
    capability receiveUserInputCapability : hookflash : NULL
  },
  {
    capabilityTableEntryNumber 30
    capability receiveUserInputCapability : dtmf : NULL
  },
  {
    capabilityTableEntryNumber 27
    capability receiveUserInputCapability : basicString : NULL
  },
  {
    capabilityTableEntryNumber 3
```

```
          capability receiveAudioCapability : g711Ulaw64k : 20
        }
      }
      capabilityDescriptors
      {

        {
          capabilityDescriptorNumber 1
          simultaneousCapabilities
          {

            {
              3
            },

            {
              34,
              30,
              27
            },

            {
              31
            }
          }
        }
      }
    }
```

O GW de entrada envia seu Estudo de caso e o MSD para o CVP

```
*Aug 17 17:21:16.141: H245 MSC OUTGOING PDU ::=
```

```
value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
    {
      sequenceNumber 2
      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
  }
  logicalChannelSwitchingCapability FALSE
  t120DynamicPortCapability FALSE
}
capabilityTable
{

  {
    capabilityTableEntryNumber 34
    capability receiveRTPAudioTelephonyEventCapability :
    {
      dynamicRTPPayloadType 101
      audioTelephoneEvent "0-16"
    }
  },
  {
    capabilityTableEntryNumber 25
    capability receiveAndTransmitDataApplicationCapability :
    {
      application nonStandard :
      {
        nonStandardIdentifier h221NonStandard :
        {
          t35CountryCode 181
          t35Extension 0
          manufacturerCode 18
        }
        data '52747044746D6652656C6179'H
      }
```

```
      maxBitRate 0
    }
  },
  {
    capabilityTableEntryNumber 31
    capability receiveUserInputCapability : hookflash : NULL
  },
  {
    capabilityTableEntryNumber 30
    capability receiveUserInputCapability : dtmf : NULL
  },
  {
    capabilityTableEntryNumber 27
    capability receiveUserInputCapability : basicString : NULL
  },
  {
    capabilityTableEntryNumber 3
    capability receiveAudioCapability : g711Ulaw64k : 20
  }
}
capabilityDescriptors
{

  {
    capabilityDescriptorNumber 1
    simultaneousCapabilities
    {

      {
        3
      },
```

```
            {
              34,
              30,
              27,
              25
            },


            {
              31
            }
          }
        }
      }
    }
```

```
*Aug 17 17:21:16.149: H245 MSC OUTGOING ENCODE BUFFER::=
0270020600088175000780138000140001000001000001000000CC0010
00100058000218A061404302D31368000184810B50000120C52747044
746D6652656C6179000080001E83015080001D83014080001A8301108
0000220C013008001020000020300210001D001A001800001E

*Aug 17 17:21:16.149:

*Aug 17 17:21:16.149: //229/182F2991800A/H323/h245_cap_out_set_new_state:
changing from IDLE state to AWAITING_RESPONSE state

*Aug 17 17:21:16.149: //229/182F2991800A/H323/cch323_run_h245_ms_sm:
Received event H245_EVENT_MSD while at state H245_MS_NONE

*Aug 17 17:21:16.149: H245 MSC OUTGOING PDU ::=


value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :

    {
      terminalType 60
      statusDeterminationNumber 3855
    }
```

O GW de entrada envia o MSD Ack e o TCS Ack para o CVP

```
*Aug 17 17:21:16.153: H245 MSC OUTGOING PDU ::=


value MultimediaSystemControlMessage ::= response : masterSlaveDeterminationAck :

    {

      decision slave : NULL

    }







*Aug 17 17:21:16.153: H245 MSC OUTGOING ENCODE BUFFER::= 20A0

*Aug 17 17:21:16.153:

*Aug 17 17:21:16.153: //229/182F2991800A/H323/cch323_run_h245_ms_sm:
MS_Determine_indication to Appl: Sent MSD ACK!

*Aug 17 17:21:16.153: //229/182F2991800A/H323/h245_ms_set_new_state:
Changing from H245_MS_OUTGOING_WAIT state to H245_MS_INCOMING_WAIT state

*Aug 17 17:21:16.153: //229/182F2991800A/H323/run_h245_iwf_sm:
received IWF_EV_MSD_ACK_SENT while at state IWF_AWAIT_MSD_RESP

*Aug 17 17:21:16.153: //229/182F2991800A/H323/h245_iwf_common_msdacksent:
Negotiated codecs and dtmf are initialised in ccb

*Aug 17 17:21:16.153: h323chan_chn_process_read_socket

*Aug 17 17:21:16.153: h323chan_chn_process_read_socket: fd=4 of type CONNECTED has data

*Aug 17 17:21:16.153:  h323chan_chn_process_read_socket: h323chan accepted/connected fd=4



*Aug 17 17:21:16.153: h245_decode_one_pdu: more_pdus = 0, bytesLeftToDecode = 3

*Aug 17 17:21:16.153: H245 MSC INCOMING ENCODE BUFFER::= 218002

*Aug 17 17:21:16.153:

*Aug 17 17:21:16.153: H245 MSC INCOMING PDU ::=


value MultimediaSystemControlMessage ::= response : terminalCapabilitySetAck :

    {

      sequenceNumber 2

    }
```

O GW de entrada envia BRQ ao Gatekeeper para atualizar a largura de banda atual usada para a chamada (2*64=128 kbps)

```
*Aug 17 17:21:16.157: RAS OUTGOING PDU ::=

 value RasMessage ::= bandwidthRequest :

    {

      requestSeqNum 15290

      endpointIdentifier {"84B3CC1C00000004"}

      conferenceID '182F29914C1D11DC800A0017E0ABA838'H

      callReferenceValue 67

      bandWidth 1280

      callIdentifier

      {

        guid '182FC5B94C1D11DC8298DF9092AE2C6A'H

      }

      answeredCall FALSE

    }


*Aug 17 17:21:16.173: RAS INCOMING PDU ::=


value RasMessage ::= bandwidthConfirm :

    {

      requestSeqNum 15290

      bandWidth 1280

    }
```

O GW de entrada envia a solicitação OLC ao CVP

```
*Aug 17 17:21:16.173: H245 MSC OUTGOING PDU ::=


value MultimediaSystemControlMessage ::= request : openLogicalChannel :

    {

      forwardLogicalChannelNumber 2

      forwardLogicalChannelParameters

      {

        dataType audioData : g711Ulaw64k : 20
```

```
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaControlChannel unicastAddress : iPAddress :
          {
            network '0E32C90B'H
            tsapIdentifier 18491
          }
          silenceSuppression FALSE
        }
      }
    }
```

O GW de entrada recebe OLC do CVP. O CVP fornece o endereço IP do VXML Gateway para a conexão RTCP

```
*Aug 17 17:21:16.177: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : openLogicalChannel :
    {
      forwardLogicalChannelNumber 258
      forwardLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaControlChannel unicastAddress : iPAddress :
          {
            network '0E32C90F'H
            tsapIdentifier 21135
          }
        }
```

```
      }
    }
```

GW envia resposta OLC Ack para CVP

```
*Aug 17 17:21:16.181: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
    {
      forwardLogicalChannelNumber 258
      forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
      {
        mediaChannel unicastAddress : iPAddress :
        {
          network '0E32C90B'H
          tsapIdentifier 18490
        }
        mediaControlChannel unicastAddress : iPAddress :
        {
          network '0E32C90B'H
          tsapIdentifier 18491
        }
        flowControlToZero FALSE
      }
    }
```

GW recebe OLC Ack do CVP. O CVP fornece o endereço IP do VXML Gateway para a conexão RTP. A conexão RTP entre GW de entrada e GW VXML é estabelecida

```
*Aug 17 17:21:16.185: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
    {
      forwardLogicalChannelNumber 2
      forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
```

```
      {
        sessionID 1
        mediaChannel unicastAddress : iPAddress :
        {
          network '0E32C90F'H
          tsapIdentifier 21134
        }
        mediaControlChannel unicastAddress : iPAddress :
        {
          network '0E32C90F'H
          tsapIdentifier 21135
        }
      }
    }
```

O gateway detecta o dígito DTMF "1" e o envia via eventos DTMF Relay RTP NTE (RFC 2833) para o GW VXML

```
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2543 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:03 00 00  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2544 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:03 00 00  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2545 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:03 00 00  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2546 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:03 01 90  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2547 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:03 03 20  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2548 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:83 03 38  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x2549 timestamp 0x16EE0
Pt:101    Evt:1       Pkt:83 03 38  <Snd>>>
s=DSP d=VoIP payload 0x65 ssrc 0x1D5E sequence 0x254A timestamp 0x16EE0
Pt:101    Evt:1       Pkt:83 03 38  <Snd>>>
```

Agora, o CVP redireciona a chamada para o telefone IP do agente que atendeu a chamada. GW recebe Estudo de caso vazio

```
*Aug 17 17:22:05.349: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
    {
      sequenceNumber 4
      protocolIdentifier { 0 0 8 245 0 11 }
    }
```

O GW de entrada recebe TCS e MSD do CVP. Este Estudo de caso dividido em temas fornece informações sobre os recursos do terminal do telefone IP

```
*Aug 17 17:22:09.569: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : terminalCapabilitySet :
    {
      sequenceNumber 5
      protocolIdentifier { 0 0 8 245 0 11 }
      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
  }
  logicalChannelSwitchingCapability FALSE
  t120DynamicPortCapability FALSE
}
capabilityTable
{

  {
    capabilityTableEntryNumber 1
    capability receiveAudioCapability : g711Ulaw64k : 40
  },
  {
    capabilityTableEntryNumber 2
    capability receiveAndTransmitUserInputCapability : dtmf : NULL
  },
```

```
  {
    capabilityTableEntryNumber 3
    capability receiveAndTransmitUserInputCapability : basicString : NULL
  },
  {
    capabilityTableEntryNumber 44
    capability receiveAndTransmitUserInputCapability : hookflash : NULL
  }
}
capabilityDescriptors
{

  {
    capabilityDescriptorNumber 0
    simultaneousCapabilities
    {

      {
        1
      },

      {
        2,
        3
      },

      {
        44
      }
    }
  }
}
```

```
    }


*Aug 17 17:22:09.589: H245 MSC INCOMING PDU ::=


value MultimediaSystemControlMessage ::= request : masterSlaveDetermination :
    {
      terminalType 50
      statusDeterminationNumber 767617
    }
```

O GW de entrada recebe OLC do CVP. O CVP fornece o endereço IP do CallManager para a conexão RTCP

```
*Aug 17 17:22:09.597: H245 MSC INCOMING PDU ::=


value MultimediaSystemControlMessage ::= request : openLogicalChannel :
    {
      forwardLogicalChannelNumber 259
      forwardLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
          sessionID 1
          mediaControlChannel unicastAddress : iPAddress :
          {
            network 'AC126E54'H
            tsapIdentifier 4001
          }
        }
      }
    }
```

GW envia resposta OLC Ack para CVP

```
*Aug 17 17:22:09.613: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
    {
      forwardLogicalChannelNumber 259
      forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
      {
        mediaChannel unicastAddress : iPAddress :
        {
          network '0E32C90B'H
          tsapIdentifier 18490
        }
        mediaControlChannel unicastAddress : iPAddress :
        {
          network '0E32C90B'H
          tsapIdentifier 18491
        }
        flowControlToZero FALSE
      }
    }
```

GW recebe OLC Ack do CVP. O CVP fornece o endereço IP do telefone IP do agente para a conexão RTP. A conexão RTP entre o GW de entrada e o telefone IP é estabelecida

```
*Aug 17 17:22:09.609: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request : openLogicalChannel :
    {
      forwardLogicalChannelNumber 3
      forwardLogicalChannelParameters
      {
        dataType audioData : g711Ulaw64k : 20
        multiplexParameters h2250LogicalChannelParameters :
        {
```

```
          sessionID 1
          mediaControlChannel unicastAddress : iPAddress :
          {
            network '0E32C90B'H
            tsapIdentifier 18491
          }
          silenceSuppression FALSE
        }
      }
    }


*Aug 17 17:22:09.633: H245 MSC INCOMING PDU ::=


value MultimediaSystemControlMessage ::= response : openLogicalChannelAck :
    {
      forwardLogicalChannelNumber 3
      forwardMultiplexAckParameters h2250LogicalChannelAckParameters :
      {
        sessionID 1
        mediaChannel unicastAddress : iPAddress :
        {
          network '0E32CA1A'H
          tsapIdentifier 17156
        }
        mediaControlChannel unicastAddress : iPAddress :
        {
          network '0E32CA1A'H
          tsapIdentifier 17157
        }
      }
    }
```

Após terminar a conversação com o agente, o chamador PSTN desliga a chamada. O GW de

entrada recebe a desconexão ISDN do PSTN

```
*Aug 17 17:22:56.329: ISDN Se1/0/0:23 Q931: RX <- DISCONNECT pd = 8  callref = 0x0088

        Cause i = 0x8290 - Normal call clearing

*Aug 17 17:22:56.329: %ISDN-6-DISCONNECT: Interface Serial1/0/0:0  disconnected from 9999 ,
call lasted 100 seconds

*Aug 17 17:22:56.333: ISDN Se1/0/0:23 Q931: TX -> RELEASE pd = 8  callref = 0x8088

*Aug 17 17:22:56.333: //228/182F2991800A/CCAPI/cc_api_call_disconnected:

   Cause Value=16, Interface=0x46964DF8, Call Id=228

*Aug 17 17:22:56.333: //228/182F2991800A/CCAPI/cc_api_call_disconnected:

   Call Entry(Responsed=TRUE, Cause Value=16, Retry Count=0)
```

O GW de entrada encerra a chamada H323 no segmento IP enviando a mensagem H225 Release Complete ao CVP

```
*Aug 17 17:22:56.337: H225.0 OUTGOING PDU ::=


value H323_UserInformation ::=

    {

      h323-uu-pdu

      {

        h323-message-body releaseComplete :

        {

          protocolIdentifier { 0 0 8 2250 0 4 }

          callIdentifier

          {

            guid '182FC5B94C1D11DC8298DF9092AE2C6A'H

          }

        }

        h245Tunneling FALSE

        nonStandardControl

        {


          {
```

```
            nonStandardIdentifier h221NonStandard :
            {
              t35CountryCode 181
              t35Extension 0
              manufacturerCode 18
            }
            data '6001020001082C080282901C269E810003677464...'H
          }
        }
        tunnelledSignallingMessage
        {
          tunnelledProtocolID
          {
            id tunnelledProtocolAlternateID :
            {
              protocolType "gtd"
            }
          }
          messageContent
          {
            '52454C2C0D0A50524E2C6973646E2A2C2C4E492A...'H
          }
          tunnellingRequired NULL
        }
      }
    }
```

O GW envia DishireRequest (DRQ) ao Gatekeeper

```
*Aug 17 17:22:56.341: RAS OUTGOING PDU ::=

value RasMessage ::= disengageRequest :
    {
```

```
requestSeqNum 15295
endpointIdentifier {"84B3CC1C00000004"}
conferenceID '182F29914C1D11DC800A0017E0ABA838'H
callReferenceValue 67
disengageReason normalDrop : NULL
nonStandardData
{
  nonStandardIdentifier h221NonStandard :
  {
    t35CountryCode 181
    t35Extension 0
    manufacturerCode 18
  }
  data '40001A52454C2C0D0A50524E2C6973646E2A2C2C...'H
}
callIdentifier
{
  guid '182FC5B94C1D11DC8298DF9092AE2C6A'H
}
answeredCall FALSE
usageInformation
{
  nonStandardUsageFields
  {

    {
      nonStandardIdentifier h221NonStandard :
      {
        t35CountryCode 181
        t35Extension 0
        manufacturerCode 18
      }
```

```
            data '4800'H
          }
        }
        connectTime 1187371275
        endTime 1187371375
      }
      terminationCause releaseCompleteCauseIE : '08028090'H
    }
```

A conexão H245 entre o GW e o CVP é fechada após a troca dos comandos CLC e EndSession

```
*Aug 17 17:22:56.357: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= request : closeLogicalChannel :
    {
      forwardLogicalChannelNumber 259
      source user : NULL
      reason unknown : NULL
    }




*Aug 17 17:22:56.357: h245_decode_one_pdu: H245ASNDecodePdu rc = 0, bytesLeftToDecode = 0
*Aug 17 17:22:56.357: h245_decode_one_pdu: Read Pkt body: more_pdus:0 rc:0 asn_rc:0
*Aug 17 17:22:56.357: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response : closeLogicalChannelAck :
    {
      forwardLogicalChannelNumber 259
    }

*Aug 17 17:22:56.357: H245 MSC INCOMING PDU ::=
```

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

```
*Aug 17 17:22:56.357: h245_decode_one_pdu: H245ASNDecodePdu rc = 0, bytesLeftToDecode = 0

*Aug 17 17:22:56.357: h245_decode_one_pdu: Read Pkt body: more_pdus:0 rc:0 asn_rc:0

*Aug 17 17:22:56.357: H245 MSC OUTGOING PDU ::=

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

Informações Relacionadas

- Suporte à Tecnologia de Voz
- Suporte aos produtos de Voz e Comunicações Unificadas
- Troubleshooting da Telefonia IP Cisco
- Suporte Técnico e Documentação - Cisco Systems