Configuração de E1 R2 Signaling e Troubleshooting

Contents

Introduction

Este documento oferece as entradas do comando progressive que são necessárias para implantar a sinalização E1R2. Este documento também oferece informações de troubleshooting com comandos debug.

Observação: antes de usar este documento, é recomendável que você leia a [Teoria de Sinalização E1 R2 pela primeira vez](#).

Prerequisites

Requirements

Antes de tentar esta configuração, certifique-se de atender a estes pré-requisitos:

- A sinalização de R2 se aplica somente a E1.
- A sinalização R2 não é suportada no roteador Cisco MC3810.
- Para executar a sinalização R2 nos Cisco 2600/3600 Series Routers, este hardware é necessário:VWIC-1MFT-E1 ou VWIC-2MFT-E1 ou VWIC-2MFT-E1-DI junto com um destes

módulos de densidade de voz: [NM-HDV](#) (High Density Voice Network Module) ou NM-HD-2VE (módulo de rede de voz/fax de comunicações IP de 2 slots) .

- Defina o comando **ds0-group** (ou **cas-group**, com base na versão do Cisco IOS®) nos controladores E1 (AS5x00, roteadores Cisco 2600/3600).
- Use o comando **cas-custom** para personalizar as variantes E1 R2 para diferentes países ou regiões.

Componentes Utilizados

As informações neste documento são baseadas nesta versão de software e hardware:

- Cisco AS5300 com Cisco IOS Software Release 12.0.7T

Observação: a sinalização E1 R2 foi apresentada aos roteadores da série Cisco 2600/3600 nas versões 12.1.2XH e 12.1(3)T do software Cisco IOS.

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

Conventions

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

Configurar

Esta seção apresenta as informações que você pode usar para configurar E1 R2.

Observação: para encontrar informações adicionais sobre os comandos usados neste documento, consulte a [Command Lookup Tool](#) ([somente](#) clientes [registrados](#)) .

AS5300: Cisco IOS - Voice Feature Card (VFC) Software Compatibility

Antes de implementar a sinalização E1 R2 em um roteador Cisco AS5300, certifique-se de que sua versão do software Cisco IOS seja compatível com o Cisco VCware no módulo E1. Para verificar a compatibilidade do software Cisco IOS, consulte a [Matriz de Compatibilidade Cisco VCWare para o Cisco AS5300](#). Se as versões forem incompatíveis, os módulos do processador de sinal digital (DSP) na placa de voz não serão carregados e o processamento do sinal de voz não ocorrerá.

Normalmente, se a versão do Cisco VCWare for incompatível com o software Cisco IOS, você pode inserir o comando **show vfc** *slot_number* **interface** para ver isso como mostrado neste exemplo.

```
eefje#show vfc 1 interface
Rx: in ptr 18, outptr 0
Tx: in ptr 14  outptr  14
0 in hw queue, 0 queue head , 0 queue tail
Hardware is VFC out-of-band channel
Interface : state RESET DSP instance (0x61048284)
dsp_number 0, Channel ID 0
```

```
TX outstanding 0, max TX outstanding 0
Received 18 packets, 1087 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
121 bytes output, 14 frames output
0 bounce errors 0


DSP module 1 is not installed
DSP module 2 is not installed
DSP module 3 is not installed
DSP module 4 is not installed
DSP module 5 is not installed
```

No primeiro exemplo de saída do comando **show vfc _slot_number_ interface**, as instruções `do número do módulo DSP não estão instaladas` mostram que as versões são incompatíveis para esse número de módulo.

Este segundo conjunto de saída é um exemplo dos módulos DSP que têm a versão correta do Cisco VCWare carregada:

```
eefje#show vfc 1 interface
Rx: in ptr 24, outptr 0
TX: in ptr 15  outptr  15
0 in hw queue, 0 queue head , 0 queue tail
Hardware is VFC out-of-band channel
Interface : state RESET DSP instance (0x618C6088)
dsp_number 0, Channel ID 0
TX outstanding 0, max TX outstanding 0
Received 283288 packets, 15864278 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
1416459 bytes output,  141647 frames output
0 bounce errors 0


Slot 1, DSPM 1 (C542), DSP 1, Channel 1
State RESET, DSP instance (0x61914BDC)
TX outstanding 0, max TX outstanding 8
Received 0 packets, 0 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
0 bytes output,  0 frames output
0 bounce errors 0


Slot 1, DSPM 1 (C542), DSP 2, Channel 1
State RESET, DSP instance (0x6191510C)
TX outstanding 0, max TX outstanding 8
Received 0 packets, 0 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
0 bytes output,  0 frames output
0 bounce errors 0
```

Para verificar a versão instalada do Cisco VCWare, digite o comando **show vfc _slot_number_ version vcware**, como mostrado neste exemplo:

```
eefje#show vfc 1 version vcware
Voice Feature Card in Slot 1:

VCware Version : 4.10
ROM Monitor Version : 1.2
DSPware Version :
Technology :  C542
```

Observação: certifique-se de que a versão da tecnologia Cisco VCWare (c549 ou c542) corresponda à tecnologia VFC DSP instalada (DSPM-542: suporte de voz de densidade única ou

DSPM-549: suporte de voz de alta densidade).

Configurar E1 R2

Conclua estes passos para configurar E1 R2:

1. Configure o controlador E1 que se conecta ao PBX (private automatic branch exchange) ou switch.Verifique se o enquadramento e a codificação da E1 estão definidos corretamente.
2. Para o enquadramento E1, escolha **CRC** ou **não-CRC**.
3. Para a codificação de linha E1, escolha **HDB3** ou **AMI**.
4. Para a origem do relógio E1, escolha **interno** ou **linha**. Lembre-se de que PBXs diferentes possuem requisitos diferentes na fonte de tempo.
5. Configure a sinalização de linha.
6. Configure a sinalização entre registros.
7. Personalize a configuração com o comando **cas-custom**.

Configurar sinalização de linha

Use esta sequência de comandos para definir a sinalização de linha.

```
eefje(config)#controller E1 0
eefje(config-controller)#ds0-group 1 timeslots 1-15 type ?
...
r2-analog        R2 ITU Q411
r2-digital       R2 ITU Q421
r2-pulse         R2 ITU Supplement 7
...
```
Esta é a sequência de comandos para o Cisco IOS Software Release 11.3.

```
eefje(config)#controller E1 0
eefje(config-controller)#cas-group 1 timeslot 1-15 type ?
...
```
Observação: se você atualizar do Cisco IOS Software Release 11.3 para 12.0, o novo comando substituirá o antigo automaticamente.

Configurar a sinalização entre registros

Este exemplo de sequência de comandos ilustra como configurar os diferentes tipos de sinalização entre registros:

```
eefje(config)#controller E1 0
eefje(config-controller)#ds0-group 1 timeslots 1-15 type r2-digital ?
dtmf              DTMF tone signaling
r2-compelled      R2 Compelled Register Signaling
r2-non-compelled  R2 Non Compelled Register Signaling
r2-semi-compelled R2 Semi Compelled Register Signaling
```
A implementação da sinalização de R2 da Cisco tem suporte para DNIS (Serviço de Identificação de Número Discado) ativado por padrão. Se você habilitar a opção ANI (Automatic Number Identification, identificação automática de número), a coleta de informações de DNIS ainda será executada. A especificação da opção ANI não desativa a coleção DNIS. DNIS é o número

chamado. ANI é o número do chamador. Por exemplo, se você configurar um roteador chamado A para chamar um roteador chamado B, o número DNIS será atribuído ao roteador B e o número ANI será atribuído ao roteador A. O ANI é semelhante ao ID do chamador.

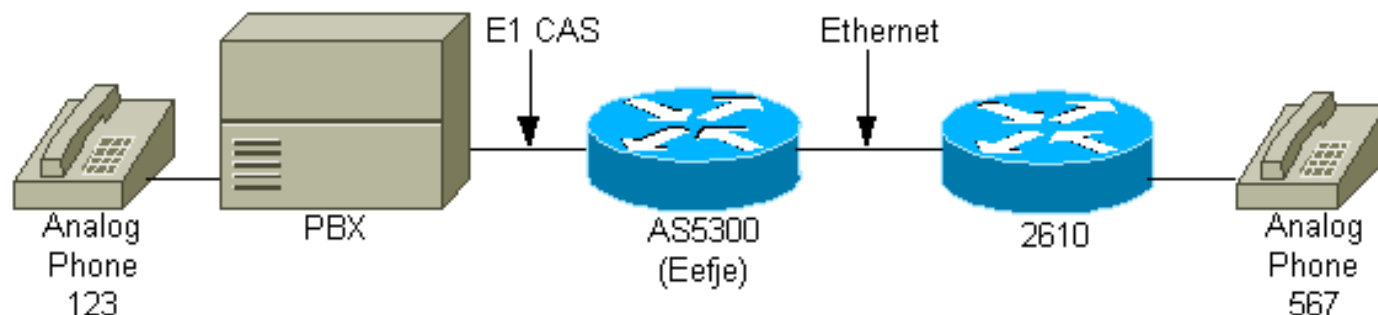## Customização de E1 R2 com o comando cas-custom

Os subcomandos sob o comando **cas-custom** são usados para acomodar as variantes de país. Eles também são usados para personalizar os parâmetros de sinalização associada ao canal (CAS). Esta sequência de comandos ilustra como visualizar todas as opções de comandos **cas-custom**.

```
eefje(config)#controller E1 0
eefje(config-controller)#cas-custom 1
eefje(config-ctrl-cas)#?
CAS custom commands:
  ani-digits          Expected number of ANI digits
  ani-timeout         Timeout for ANI digits
  answer-guard-time   Wait Between Group-B Answer Signal And Line Answer
  answer-signal       Answer signal to be used
  caller-digits       Digits to be collected before requesting CallerID
  category            Category signal
  country             Country Name
  debounce-time       Debounce Timer
  default             Set a command to its defaults
  dnis-complete       Send I-15 after DNIS digits for dial-out
  dnis-digits         Expected number of DNIS digits
  exit                Exit from cas custom mode
  groupa-callerid-end Send Group-A Caller ID End
  invert-abcd         invert the ABCD bits before TX and after rx
  ka                  kA Signal
  kd                  KD Signal
  metering            R2 network is sending metering signal
  nc-congestion       Non Compelled Congestion signal
  no                  Negate a command or set its defaults
  proceed-to-send     Suppress proceed-to-send signal for pulsed line signaling
  release-ack         Send Release Acknowledgment to Clear Forward
  release-guard-time  Release Guard Timer
  request-category    DNIS Digits to be collected before requesting category
  seizure-ack-time    Seizure to Acknowledge timer
  unused-abcd         Unused ABCD bit values
```

Para obter mais informações sobre os parâmetros do comando **cas-custom**, consulte Personalização de E1 R2 com o comando **cas-custom**.

Diagrama de Rede

Este documento utiliza a seguinte configuração de rede.

Configurações

Para o propósito deste documento, estas são as três diferentes configurações de R2 que são mostradas na interface E1:

- R2 Digital não compelido
- R2 Digital semiforçado
- ANI digital atraída do R2

As configurações foram modificadas para mostrar apenas as informações discutidas neste documento.

---

eefje configurado para R2 digital não condensado

```
hostname eefje
!
controller E1 0
 clock source line primary
 dso-group 1 timeslots 1-15 type r2-digital r2-non-
compelled
 cas-custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom.

!
voice-port 0:1
 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .

!
dial-peer voice 123 pots
 destination-pattern 123
 direct-inward-dial
 port 0:1
 prefix 123
!
dial-peer voice 567 voip
 destination-pattern 567
 session target ipv4:2.0.0.2
!
```

Eefje configurado para R2 Digital SemiCompelido

```
hostname eefje
!
controller E1 0
 clock source line primary
 ds0-group 1 timeslots 1-15 type r2-digital r2-semi-
compelled
 cas-custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom .

!
voice-port 0:1
 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .
```

```
dial-peer voice 123 pots
 destination-pattern 123
 direct-inward-dial
 port 0:1
 prefix 123
!
dial-peer voice 567 voip
 destination-pattern 567
 session target ipv4:2.0.0.2
!
```

eefje configurado para ANI digital repelida R2

```
hostname eefje
! controller E1 0 clock source line primary ds0-group
1 timeslots 1-15 type r2-digital r2-compelled ani cas-
custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom .

voice-port 0:1 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .

dial-peer voice 123 pots destination-pattern 123 direct-
inward-dial port
0:1 prefix 123
!
dial-peer voice 567 voip destination-pattern 567 session
target ipv4:2.0.0.2
!
```

Verificar

No momento, não há procedimento de verificação disponível para esta configuração.

Troubleshoot

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

Solucionar Problemas de Falhas de E1 R2

Essas são as informações de solução de problemas relevantes para essa configuração. Siga estas instruções para solucionar problemas de sua configuração.

1. Verifique se o controlador E1 0 está ativado.Se estiver inativo, verifique o enquadramento, a codificação de linha, a fonte de tempo, os alarmes, substitua o cabo, recoloque a placa e assim por diante. Use a Personalização de E1 R2 com o documento de Comando cas-custom como referência.
2. Se você usa um AS5300, verifique se os DSPs estão instalados corretamente com o comando show vfc *slot number* interface.
3. Configure a discagem interna direta (DID) no peer POTS (Plain Old Telephone Service), de modo que os dígitos recebidos sejam usados para escolher um peer de saída.

4. Especifique [cptone](cptone é específico para o seu país) nas portas de voz.Um comando *cptoneccountry* deve ser configurado para corresponder ao comando **cas-custom** *country*. O parâmetro `cptone` define os tons de progresso da chamada para um país específico e, mais importante, define a codificação como uma lei ou lei-u, que depende do país. A codificação padrão para os EUA é u-law.
5. Associe as provisões de sinalização de linha e registro à configuração do switch.
6. Ative algumas das **depurações** mostradas neste documento e estude as saídas.
7. Check for communication between the router and PBX or Switch:A linha está capturada?O roteador recebe/envia dígitos?Descubra qual lado limpa a chamada.Se possível, use as versões mais recentes do software Cisco IOS disponíveis no Cisco.com.

comandos debug e show

A [Output Interpreter Tool (somente clientes registrados) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.](#)

Observação: antes de emitir comandos **debug**, consulte [Informações importantes sobre comandos debug](#).

Observação: para o Cisco IOS Software Release 12.0, use estas **depurações**:

- **debug cas** - Para sinalização de linha.
- **debug csm voice** - Para sinalização entre registros.
- **debug vtsp all** - Para ter a saída de todas as mensagens (dígitos) trocadas entre o PBX e o roteador.

Para o Cisco IOS Software Release IOS 11.3, use estes comandos:

- **modem-mgmt csm debug-rbs** - Para sinalização de linha (você precisa especificar o **serviço interno** no modo de configuração primeiro.)
- **debug csm voice** - Para sinalização entre registros.
- **debug vtsp all** - Para ter a saída de todas as mensagens (dígitos) trocadas entre o PBX e o roteador.

Para as plataformas AS5400 e AS5350, use estas depurações:

- **debug sigsm r2** - Para sinalização entre registros
- **debug vtsp all** - Para ter a saída de todas as mensagens (dígitos) trocadas entre o PBX e o roteador.

Exemplo de saída de depuração

Como há três configurações diferentes mostradas anteriormente neste documento, aqui estão três **depurações** diferentes:

R2 Digital não obrigatório: Chamada recebida para 567

Para entender melhor essa saída **de depuração**, consulte [Teoria de Sinalização E1 R2](#).

```
eefje#show debug
```

```
CAS:
 Channel Associated Signaling debugging is on
CSM Voice:
Voice Call Switching Module debugging is on
Voice Telephony session debugging is on
Voice Telephony dsp debugging is on
Voice Telephony error debugging is on
eefje#
eefje#
eefje#
Jan 6 10:41:28.677: from NEAT(0): (0/0): Rx SEIZURE (ABCD=0001)
Jan 6 10:41:28.717: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:28.717: VDEV_ALLOCATE: 1/28 is allocated
Jan 6 10:41:28.721: csm_vtsp_init_tdm (voice_vdev=0x620BF874)
Jan 6 10:41:28.721: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 2,
dspm 1, dsp 5, dsp_channel 1
Jan 6 10:41:28.721: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 5,
channel 3, bank 1, bp_channel 4, BP_stream 255
Jan 6 10:41:28.721: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0018): EVENT_CALL_DIAL_IN
at slot 2 and port 16
Jan 6 10:41:28.721: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT at slot 2,
 port 16
Jan 6 10:41:28.721: csm_vtsp_start_digit_collect (voice_vdev=0x620BF874)
Jan 6 10:41:28.721:  Enter csm_connect_pri_vdev function
Jan 6 10:41:28.721: csm_connect_pri_vdev:tdm_allocate_BP_ts()call. BP TS allocated
 at BP_stream0, BP_Ch28,vdev_common 0x6 20BF8E4
Jan 6 10:41:28.721: to NEAT:(cid0018) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan0
Jan 6 10:41:28.721: vtsp_do_call_setup_ind
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: Call ID=65681, guid=61FAF610
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: type=0, under_spec=0, name=, id0=0,
id1=0, id2=0, calling=, called=
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: redirect DN = reason =
 0vtsp_open_voice_and_set_params
Jan 6 10:41:28.721: dsp_close_voice_channel: [0:1:0] packet_len=8 channel_id
 =8529 packet_id=75
Jan 6 10:41:28.721: dsp_open_voice_channel_20: [0:1:0] packet_Len=16 channel_id
 =8529 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0 time_slot=0
 serial_port=0
Jan 6 10:41:28.721: dsp_encap_config_20: [0:1:0] packet_Len=24 channel_id=8529
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:28.721: dsp_set_playout: [0:1:0] packet_Len=18 channel_id=8529
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 10:41:28.721: dsp_echo_canceller_control: [0:1:0] packet_Len=10
channel_id=8529 packet_id=66 flags=0x0
Jan 6 10:41:28.721: dsp_set_gains: [0:1:0] packet_Len=12 channel_id=8529
packet_id=91 in_gain=0 out_gain=0
Jan 6 10:41:28.721: dsp_vad_enable: [0:1:0] packet_Len=10 channel_id=8529
packet_id=78 thresh=-38
Jan 6 10:41:28.721: dsp_voice_mode: [0:1:0] packet_Len=24 channel_id=8529
packet_id=73 coding_type=1 voice_field_size=80 V AD_flag=0 echo_length=64
comfort_noise=1 inband_detect=1 digit_relay=2
AGC_flag=0vtsp_do_r2_start_digit(): dsp_dtmf_mode()
 dsp_dtmf_mode(VTSP_TONE_R2_MF_FORWARD_MODE)
Jan 6 10:41:28.725: dsp_dtmf_mode: [0:1:0] packet_Len=10 channel_id=8529
 packet_id=65 dtmf_or_mf=1vtsp_do_r2_start_digit():fsm_push(vtsp_r2_state_table)
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp (vdev_info=0x620BF874,
vtsp_cdb=0x621C5F3C)
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:vdev_common BP TS allocatedat
BP_stream0,BP_Ch28
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:dst_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 255, BP_ch 4
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28
Jan 6 10:41:28.725: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
```

```
 (DNIS=, ANI=) at slot 2, port 16
Jan 6 10:41:28.725: R2 Incoming Voice(2/16): DSX (E1 0:0): STATE: R2_IN_IDLE R2
 Got Event R2_START
Jan 6 10:41:28.821: CSM_RX_CAS_EVENT_FROM_NEAT:(0018):EVENT_START_RX_TONE at slot 2
 and port 16
Jan 6 10:41:28.821: from NEAT(0): (0/0): TX SEIZURE_ACK (ABCD=1101)
```
!--- Digit 5 is sent: Forward Signal Group I-5. `Jan 6 10:41:29.233: vtsp_process_dsp_message:`
MSG_TX_DTMF_DIGIT_BEGIN: digit=5,
```
 rtp_timestamp=0x0CA95D43 dc_digit_up
Jan 6 10:41:29.233: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 10:41:29.233: CSM voice (2/16): Rcvd Digit detected(5)
Jan 6 10:41:29.233: R2 Incoming Voice(2/16): DSX (E1 0:0):
```
STATE: R2_IN_COLLECT_DNIS R2
```
 Got Event 5
Jan 6 10:41:29.365: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=5,
 duration=8321dc_digit
Jan 6 10:41:29.365: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 10:41:29.365: CSM voice (2/16): Rcvd Digit detected(5)
Jan 6 10:41:29.365: R2 Incoming Voice(2/16): DSX (E1 0:0):
```
STATE:R2_IN_COLLECT_DNIS R2
Got Event R2_TONE_OFF
!--- Digit 6 is sent: Forward Signal Group I-6. `Jan 6 10:41:29.593: vtsp_process_dsp_message:`
MSG_TX_DTMF_DIGIT_BEGIN: digit=6,
```
 rtp_timestamp=0x0CA95D43 dc_digit_up
Jan 6 10:41:29.593: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 10:41:29.593: CSM voice (2/16): Rcvd Digit detected(6)
Jan 6 10:41:29.593: R2 Incoming Voice(2/16): DSX (E1 0:0):
```
STATE: R2_IN_COLLECT_DNIS R2
```
 Got Event 6
Jan 6 10:41:29.725: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=6,
 duration=8321dc_digit
Jan 6 10:41:29.725: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 10:41:29.725: CSM voice (2/16): Rcvd Digit detected(6)
Jan 6 10:41:29.725: R2 Incoming Voice(2/16): DSX (E1 0:0):
```
STATE: R2_IN_COLLECT_DNIS R2
Got Event R2_TONE_OFF
!--- Digit 7 is sent: Forward Signal Group I-7. `Jan 6 10:41:29.953: vtsp_process_dsp_message:`
MSG_TX_DTMF_DIGIT_BEGIN:
digit=7, rtp_timestamp=0x0CA95D43 dc_digit_up
```
Jan 6 10:41:29.953: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)
received digit (7)
Jan 6 10:41:29.953: CSM voice (2/16): Rcvd Digit detected(7)
Jan 6 10:41:29.953: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE:R2_IN_COLLECT_DNIS R2
```
Got Event 7
```
Jan 6 10:41:30.085: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:
digit=7, duration=8321dc_digit
Jan 6 10:41:30.085: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C)received digit (7)
Jan 6 10:41:30.085: CSM voice (2/16): Rcvd Digit detected(7)
Jan 6 10:41:30.085: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_COLLECT_DNIS R2
```
Got Event R2_TONE_OFF
!--- Timeout: 3 seconds (default timer - AS5300 assumes DNIS is finished). `Jan 6 10:41:32.953:`
`R2 Incoming Voice(2/16): DSX (E1 0:0): STATE: R2_IN_COLLECT_DNIS R2` **Got Event R2_TONE_TIMER**
!--- Send digit 6: Backward Signal Group B-6 (subscriber's line free-charge). `Jan 6`
`10:41:32.953: vtsp_r2_generate_digits: vdev_common=0x620BF8E4, string=567dc_dial()`
`vtsp_dial_nopush` **dsp_dtmf_dialing(): dial_string = 6#**

```
Jan 6 10:41:32.953: dsp_dtmf_dialing: [0:1:0] packet_Len=36 channel_id=8529
packet_id=90 string=6# digits=2, time_on=150, time_off=30
Jan 6 10:41:32.953:&   digit=e, components=2, freq_of_first=900,
freq_of_second=780, amp_of_first=8192, amp_of_second=8192
Jan 6 10:41:32.953:    digit=o, components=2, freq_of_first=0,
freq_of_second=0, amp_of_first=1, amp_of_second=1
```

```
Jan 6 10:41:33.313: vtsp_process_dsp_message:
MSG_TX_DIALING_DONE dc_dialing_done()
Jan 6 10:41:33.313: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE:R2_IN_ANSWER_PULSE R2
 Got Event R2_DIGITS_GENR2_ALERTING
Jan 6 10:41:34.313: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_ANSWER_PULSE R2
 Got Event R2_TONE_TIMER
Jan 6 10:41:34.313:  R2_IN_IDLE:2 r2_in_connect called
Jan 6 10:41:34.313: CSM_PROC_IC1_COLLECT_ADDR_INFO:
 CSM_EVENT_ADDR_INFO_COLLECTED (DNIS=567, ANI=) at slot 2, port 16
Jan 6 10:41:34.313: vtsp_tsp_call_accept_check (sdb=0x61B8F0E0, calling_number=
 called_number=567): peer_tag=0
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK at slot 2,
 port 16
Jan 6 10:41:34.313: vtsp_ic_switch : (voice_vdev= 0x620BF874)
Jan 6 10:41:34.313: vtsp_tsp_call_switch_ind (cdb=0x621C5F3C, tsp_info=0x620BF874,
 calling_number= called_number=567 redir ect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 6 10:41:34.313: vtsp_do_call_setup_ind
Jan 6 10:41:34.313: vtsp_do_call_setup_ind: Call ID=65683, guid=61FAF610
Jan 6 10:41:34.313: vtsp_do_call_setup_ind: type=0, under_spec=0,
 name=ab^Lx, id0=1, id1=0, id2=0, calling=123, called=567
Jan 6 10:41:34.317: dsp_cp_tone_off: [] packet_Len=8 channel_id=8529 packet_id=71
Jan 6 10:41:34.317: dsp_idle_mode: [] packet_Len=8 channel_id=8529 packet_id=68
Jan 6 10:41:34.317: dsp_close_voice_channel: [] packet_Len=8 channel_id=8529
packet_id=75
Jan 6 10:41:34.317: vtsp_timer_stop: 67475758
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp (vdev_info=0x620BF874,
 vtsp_cdb=0x621C5F3C)
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:vdev_common
BP TS allocatedat BP_stream0,
 BP_Ch28
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28vt sp_open_voice_and_set_params
Jan 6 10:41:34.317: dsp_close_voice_channel: [0:1 (54)] packet_Len=8 channel_id=8529
 packet_id=75
Jan 6 10:41:34.317: dsp_open_voice_channel_20: [0:1 (54)] packet_Len=16
channel_id=8529
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0 time_slot=0
serial_port=0
Jan 6 10:41:34.317: dsp_encap_config_20: [0:1 (54)] packet_Len=24 channel_id=8529
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:34.317: dsp_set_playout: [0:1 (54)] packet_Len=18 channel_id=8529
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 10:41:34.317: dsp_echo_canceller_control: [0:1 (54)] packet_Len=10
channel_id=8529
 packet_id=66 flags=0x0
Jan 6 10:41:34.317: dsp_set_gains: [0:1 (54)] packet_Len=12
channel_id=8529 packet_id=91
 in_gain=0 out_gain=0
Jan 6 10:41:34.317: dsp_vad_enable: [0:1 (54)] packet_Len=10
channel_id=8529 packet_id=78
 thresh=-38act_proceeding
Jan 6 10:41:34.321: csm_vtsp_call_proceeding:DST_tdm_chnl call.
BP TS allocatedstream 5,
```

```
      chan 3,BP_stream 0, BP_ch 28act_alert
Jan 6 10:41:34.345: vtsp_ring_noan_timer_start: 67475761
Jan 6 10:41:34.345: csm_vtsp_call_alert (vtsp_cdb=0x621C5F3C)act_bridge act_caps_ind
Jan 6 10:41:34.589: act_caps_ind:Encap 1, Vad 2, Codec 0x4, CodecBytes 20,
    FaxRate 2, FaxBytes 20 SignalType 0
    DtmfRelay 1, Modem 1act_caps_ack
Jan 6 10:41:34.589: dsp_idle_mode: [0:1 (54)] packet_Len=8
channel_id=8529 packet_id=68
Jan 6 10:41:34.589: act_caps_ack: codec = 15, ret = 1
Jan 6 10:41:34.589: dsp_cp_tone_off: [0:1 (54)] packet_Len=8 channel_id=8529
  packet_id=71
Jan 6 10:41:34.589: dsp_idle_mode: [0:1 (54)] packet_Len=8
channel_id=8529 packet_id=68
Jan 6 10:41:34.589: dsp_encap_config_20: [0:1 (54)] packet_Len=24 channel_id=8529
  packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:34.589: dsp_voice_mode: [0:1 (54)] packet_Len=24 channel_id=8529
 packet_id=73 coding_type=20 voice_field_size=20 VAD_flag=1 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 6 10:41:36.857: vtsp_ring_noan_timer_stop: 67476012
Jan 6 10:41:36.857: dsp_cp_tone_off: [0:1 (54)] packet_Len=8 channel_id=8529
  packet_id=71
Jan 6 10:41:36.857: csm_vtsp_call_connect (vtsp_cdb=0x621C5F3C,
voice_vdev=0x620BF874)
Jan 6 10:41:36.857: CSM_IC5_WAIT_FOR_SWITCH_OVER: CSM_EVENT_MODEM_OFFHOOK
  at slot 2, port 16
Jan 6 10:41:36.917: CSM_RX_CAS_EVENT_FROM_NEAT:(0018):  EVENT_CHANNEL_CONNECTED
  at slot 2 and port 16
Jan 6 10:41:36.917: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_DSX0_CONNECTED
  at slot 2, port 16
Jan 6 10:41:36.921: from NEAT(0): (0/0): TX ANSWERED(ABCD=0101)
eefje#
```

R2 Digital: Chamada recebida para 567

Para entender melhor essa **saída de depuração**, consulte [Teoria de Sinalização E1 R2](#).

```
eefje#show debug
CAS:
 Channel Associated Signaling debugging is on
CSM Voice:
Voice Call Switching Module debugging is on
Voice Telephony session debugging is on
Voice Telephony dsp debugging is on
Voice Telephony error debugging is on
eefje#
eefje#
eefje#
Jan  6 09:53:42.389: from NEAT(0): (0/2): Rx SEIZURE(ABCD=0001)
Jan 6 09:53:42.433: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:42.433: VDEV_ALLOCATE: 1/27 is allocated
Jan 6 09:53:42.433: csm_vtsp_init_tdm (voice_vdev=0x620BF320)
Jan 6 09:53:42.433: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 2, dspm 1,
 dsp 4, dsp_channel 4
Jan 6 09:53:42.433: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 7, channel 0,
 bank 4, BP_channel 3, BP_stream 255
Jan 6 09:53:42.433: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0017): EVENT_CALL_DIAL_IN
 at slot 2 and port 15
Jan 6 09:53:42.433: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT
 at slot 2, port 15
Jan 6 09:53:42.433: csm_vtsp_start_digit_collect (voice_vdev=0x620BF320)
Jan 6 09:53:42.433:  Enter csm_connect_pri_vdev function
Jan 6 09:53:42.433: csm_connect_pri_vdev:tdm_allocate_BP_Ts()call. BP TS allocated
```

```
 at BP_stream0, BP_Ch27,vdev_common 0x6 20BF390
Jan 6 09:53:42.433: to NEAT:(cid0017) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan2
Jan 6 09:53:42.433: vtsp_do_call_setup_ind
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: Call ID=65675, guid=61FAF610
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: type=0, under_spec=0, name=, id0=0,
 id1=0, id2=0, calling=, called=
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: redirect DN = reason =
 0vtsp_open_voice_and_set_params
Jan 6 09:53:42.433: dsp_close_voice_channel: [0:1:2] packet_Len=8 channel_id=8516
 packet_id=75
Jan 6 09:53:42.433: dsp_open_voice_channel_20: [0:1:2] packet_Len=16
channel_id=8516
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=1 serial_port=1
Jan 6 09:53:42.433: dsp_encap_config_20: [0:1:2] packet_Len=24 channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:42.433: dsp_set_playout: [0:1:2] packet_Len=18 channel_id=8516
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 09:53:42.433: dsp_echo_canceller_control: [0:1:2]
packet_Len=10 channel_id=8516
 packet_id=66 flags=0x0
Jan 6 09:53:42.437: dsp_set_gains:[0:1:2] packet_Len=12
channel_id=8516 packet_id=91
 in_gain=0 out_gain=0
Jan 6 09:53:42.437: dsp_vad_enable: [0:1:2] packet_Len=10 channel_id=8516
 packet_id=78 thresh=-38
Jan 6 09:53:42.437: dsp_voice_mode: [0:1:2] packet_Len=24 channel_id=8516
 packet_id=73 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0vtsp_do_r2_start_digit():
 dsp_dtmf_mode() dsp_dtmf_mode(VTSP_TONE_R2_MF_FORWARD_MODE)
Jan 6 09:53:42.437: dsp_dtmf_mode: [0:1:2] packet_Len=10 channel_id=8516
 packet_id=65 dtmf_or_mf=1vtsp_do_r2_start_digit(): fsm_push(vtsp_r2_state_table)
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp (vdev_info=0x620BF320,
vtsp_cdb=0x621C5F3C)
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:vdev_common BP
TS allocatedat BP_stream0,
 BP_Ch27
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 255, BP_ch 3
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27
Jan 6 09:53:42.437: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
 (DNIS=, ANI=) at slot 2, port 15
Jan 6 09:53:42.437: R2 Incoming Voice(2/15): DSX (E1 0:2): STATE:R2_IN_IDLE R2
 Got Event R2_START
Jan 6 09:53:42.533: CSM_RX_CAS_EVENT_FROM_NEAT:(0017):EVENT_START_RX_TONE
 at slot 2 and port 15
Jan 6 09:53:42.533: from NEAT(0): (0/2): TX SEIZURE_ACK (ABCD=1101)
```
!--- Digit 5 is sent: Forward Signal Group I-5. Jan 6 09:53:42.641: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN: digit=5, rtp_timestamp=0x9330B42B dc_digit_up Jan 6 09:53:42.641:
csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (5) Jan 6 09:53:42.641: CSM voice
(2/15): Rcvd Digit detected(5) Jan 6 09:53:42.641: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event 5
!--- Digit 1 sent (pulse): Backward Signal Group A-1 (Send next digit) !--- "#" this indicates
that it is a pulse). Jan 6 09:53:42.641: vtsp_r2_generate_digits: vdev_common=0x620BF390,
string=5dc_dial() vtsp_dial_nopush **dsp_dtmf_dialing(): dial_string = 1#**

```
Jan 6 09:53:42.641: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:42.641:    digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:42.641:    digit=o, components=2, freq_of_first=0, freq_of_second=0,
```

```
amp_of_first=1, amp_of_second=1
Jan 6 09:53:42.741: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=5,
 duration=8291dc_digit
Jan 6 09:53:42.741: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 09:53:42.741: CSM voice (2/15): Rcvd Digit detected(5)
Jan 6 09:53:42.741: R2 Incoming Voice(2/15): DSX (E1 0:2):
```
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 6 is sent: Forward Signal Group I. Jan 6 09:53:42.881: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN: digit=6, rtp_timestamp=0x9330B42B dc_digit_up Jan 6 09:53:42.881:
csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)received digit (6) Jan 6 09:53:42.881: CSM voice
(2/15): Rcvd Digit detected(6) Jan 6 09:53:42.881: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2 **Got Event 6**
!--- Digit 1 sent (pulse): Backward Signal Group A-1. (Send next digit.) Jan 6 09:53:42.881:
vtsp_r2_generate_digits: vdev_common=0x620BF390, string=56dc_dial() vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1#

```
Jan 6 09:53:42.881: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:42.881:    digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:42.881:    digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:42.981: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=6,
 duration=8291dc_digit
Jan 6 09:53:42.981: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 09:53:42.981: CSM voice (2/15): Rcvd Digit detected(6)
Jan 6 09:53:42.981: R2 Incoming Voice(2/15): DSX (E1 0:2):
```
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 7 is sent: Forward Signal Group I-7. Jan 6 09:53:43.121: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN:
 digit=7, rtp_timestamp=0x9330B42B dc_digit_up
```
Jan 6 09:53:43.121: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)received digit (7)
Jan 6 09:53:43.121: CSM voice (2/15): Rcvd Digit detected(7)
Jan 6 09:53:43.121: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
```
 Got Event 7
!--- Send digit 1 (pulse): Backward Signal Group A-1. Jan 6 09:53:43.121:
vtsp_r2_generate_digits: vdev_common=0x620BF390, string=567dc_dial() vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1#

```
Jan 6 09:53:43.121: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:43.121:    digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:43.121:    digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:43.221: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=7,
 duration=8291dc_digit
Jan 6 09:53:43.221: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (7)
Jan 6 09:53:43.221: CSM voice (2/15): Rcvd Digit detected(7)
Jan 6 09:53:43.221: R2 Incoming Voice(2/15): DSX (E1 0:2):
```
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
```
Jan 6 09:53:43.489: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
```
!--- Timeout is 3 seconds. Jan 6 09:53:46.121: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_TIMER
*!--- Digit 3 sent(pulse): Backward Signal Group A-3. !--- (Address-complete, changeover to
reception of Group-B signals).* Jan 6 09:53:46.121: vtsp_r2_generate_digits:
vdev_common=0x620BF390, string=567dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string =

3# Jan 6 09:53:46.121: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516 packet_id=90
string=3# digits=2, time_on=150, time_off=30 Jan 6 09:53:46.121: digit=b, components=2,
freq_of_first=1020, freq_of_second=900, amp_of_first=8192, amp_of_second=8192 Jan 6
09:53:46.121: digit=o, components=2, freq_of_first=0, freq_of_second=0, amp_of_first=1,
amp_of_second=1 *!--- Digit 1 is sent: Forward Signal Group II-1 !--- (subscriber without*
priority). Jan 6 09:53:46.361: vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN:**
digit=1, rtp_timestamp=0x9330B42B dc_digit_up
Jan 6 09:53:46.361: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)
received digit (1)
Jan 6 09:53:46.361: CSM voice (2/15): Rcvd Digit detected(1)
Jan 6 09:53:46.361: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_CATEGORY R2
 Got Event 1
Jan 6 09:53:46.361: r2_comp_category:R2_ALERTING
!--- Digit 6 sent (pulse): Backward Signal Group B-6 !--- (the subscriber line free of charge).
Jan 6 09:53:46.361: vtsp_r2_generate_digits: vdev_common=0x620BF390, string=567dc_dial()
vtsp_dial_nopush **dsp_dtmf_dialing(): dial_string = 6#**

Jan 6 09:53:46.361: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=6# digits=2, time_on=150, time_off=30
Jan 6 09:53:46.361:   digit=e, components=2, freq_of_first=900,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:46.361:   digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:46.461: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=1,
 duration=8291dc_digit
Jan 6 09:53:46.461: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C)received digit (1)
Jan 6 09:53:46.461: CSM voice (2/15): Rcvd Digit detected(1)
Jan 6 09:53:46.461: R2 Incoming Voice(2/15): DSX (E1 0:2): STATE:R2_IN_COMPLETE R2
 Got Event R2_TONE_OFF
Jan 6 09:53:46.729: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
Jan 6 09:53:47.461: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_WAIT_GUARD R2
 Got Event R2_TONE_TIMER
Jan 6 09:53:47.461: R2_IN_IDLE:2 r2_in_connect called
Jan 6 09:53:47.461: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_ADDR_INFO_COLLECTED
(DNIS=567, ANI=) at slot 2, port 15
Jan 6 09:53:47.461: vtsp_tsp_call_accept_check (sdb=0x61B8F0E0,calling_number=
 called_number=567): peer_tag=0
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK at slot 2,
 port 15
Jan 6 09:53:47.461: vtsp_IC_switch : (voice_vdev= 0x620BF320)
Jan 6 09:53:47.461: vtsp_tsp_call_switch_ind (cdb=0x621C5F3C,tsp_info=0x620BF320,
 calling_number= called_number=567 redirect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 6 09:53:47.461: vtsp_do_call_setup_ind
Jan 6 09:53:47.461: vtsp_do_call_setup_ind: Call ID=65677, guid=61FAF610
Jan 6 09:53:47.461: vtsp_do_call_setup_ind: type=0, under_spec=0, name=AB^Lo, id0=3,
 id1=0, id2=0, calling=123, called=567
Jan 6 09:53:47.465: dsp_cp_tone_off: [] packet_Len=8 channel_id=8516 packet_id=71
Jan 6 09:53:47.465: dsp_idle_mode: [] packet_Len=8 channel_id=8516 packet_id=68
Jan 6 09:53:47.465: dsp_close_voice_channel: [] packet_Len=8 channel_id=8516
packet_id=75
Jan 6 09:53:47.465: vtsp_timer_stop: 67189073
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp (vdev_info=0x620BF320,
 vtsp_cdb=0x621C5F3C)
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:vdev_common

```
BP TS allocatedat BP_stream0,
 BP_Ch27
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27vtsp_open_voice_and_set_params
Jan 6 09:53:47.465: dsp_close_voice_channel: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=75
Jan 6 09:53:47.465: dsp_open_voice_channel_20: [0:1 (52)]
packet_Len=16 channel_id=8516
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=1 serial_port=1
Jan 6 09:53:47.465: dsp_encap_config_20: [0:1 (52)] packet_Len=24
channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:47.465: dsp_set_playout: [0:1 (52)] packet_Len=18 channel_id=8516
 packet_id=76 mode=1 initial=60 min=4 max=200   fax_nom=300
Jan& 6 09:53:47.465: dsp_echo_canceller_control: [0:1 (52)] packet_Len=10
channel_id=8516
 packet_id=66 flags=0x0
Jan 6 09:53:47.465: dsp_set_gains: [0:1 (52)] packet_Len=12 channel_id=8516
 packet_id=91 in_gain=0 out_gain=0
Jan 6 09:53:47.465: dsp_vad_enable: [0:1 (52)] packet_Len=10 channel_id=8516
 packet_id=78 thresh=-38act_proceeding
Jan 6 09:53:47.469: csm_vtsp_call_proceeding:DST_tdm_chnl call. BP TS
allocatedstream 7,
 chan 0,BP_stream 0, BP_ch 27act_alert
Jan 6 09:53:47.493: vtsp_ring_noan_timer_start: 67189076
Jan 6 09:53:47.493: csm_vtsp_call_alert (vtsp_cdb=0x621C5F3C)
act_bridge act_caps_ind
Jan 6 09:53:47.737: act_caps_ind:Encap 1, Vad 2, Codec 0x4, CodecBytes 20,
 FaxRate 2, FaxBytes 20 SignalType 0
 DtmfRelay 1, Modem 1act_caps_ack
Jan 6 09:53:47.737: dsp_idle_mode: [0:1 (52)] packet_Len=8 channel_id=8516
packet_id=68
Jan 6 09:53:47.737: act_caps_ack: codec = 15, ret = 1
Jan 6 09:53:47.737: dsp_cp_tone_off: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=71
Jan 6 09:53:47.737: dsp_idle_mode: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=68
Jan 6 09:53:47.737: dsp_encap_config_20: [0:1 (52)] packet_Len=24 channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:47.737: dsp_voice_mode: [0:1 (52)] packet_Len=24 channel_id=8516
 packet_id=73 coding_type=20 voice_field_size= 20 VAD_flag=1 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 6 09:53:49.461: vtsp_ring_noan_timer_stop: 67189273
Jan 6 09:53:49.461: dsp_cp_tone_off: [0:1 (52)] packet_Len=8 channel_id=8516
  packet_id=71
Jan 6 09:53:49.461: csm_vtsp_call_connect (vtsp_cdb=0x621C5F3C,
voice_vdev=0x620BF320)
Jan 6 09:53:49.461: CSM_IC5_WAIT_FOR_SWITCH_OVER: CSM_EVENT_MODEM_OFFHOOK
  at slot 2, port 15
Jan 6 09:53:49.617: CSM_RX_CAS_EVENT_FROM_NEAT:(0017):  EVENT_CHANNEL_CONNECTED
  at slot 2 and port 15
Jan 6 09:53:49.617: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_DSX0_CONNECTED
  at slot 2, port 15
Jan 6 09:53:49.621: from NEAT(0): (0/2): TX ANSWERED(ABCD=0101)
eefje#
eefje#
```

ANI digital atraída do R2: Chamada recebida para 567

Para entender melhor essa saída **de depuração**, consulte Teoria de Sinalização E1 R2.

```
eefje#debug csm voice
Voice Call Switching Module debugging is on
eefje#debug cas
Channel Associated Signaling debugging is on
Jan 7 10:00:02.907: from NEAT(0): debug-cas is on
Jan 7 10:00:02.907: from NEAT(0): special debug-cas is offg vtsp all
Voice telephony call control all debugging is on
eefje#
eefje#
Jan 7 10:00:23.883: from NEAT(0): (0/8): Rx SEIZURE (ABCD=0001)
Jan 7 10:00:23.927: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:23.927: VDEV_ALLOCATE: 1/2 is allocated
Jan 7 10:00:23.927: csm_vtsp_init_tdm (voice_vdev=0x61F19688)
Jan 7 10:00:23.927: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 1,
dspm 3, dsp 4,
 dsp_channel 1
Jan 7 10:00:23.927: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 5,
channel 13,
 bank 0, BP_channel 15, BP_stream 255
Jan 7 10:00:23.927: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0007):
EVENT_CALL_DIAL_IN at slot 1
 and port 60
Jan 7 10:00:23.927: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT at slot 1, port 60
Jan 7 10:00:23.927: csm_vtsp_start_digit_collect (voice_vdev=0x61F19688)
Jan 7 10:00:23.927:  Enter csm_connect_pri_vdev function
Jan 7 10:00:23.927: csm_connect_pri_vdev:tdm_allocate_BP_Ts() call. BP
TS allocated at BP_stream0, BP_Ch8,vdev_common 0x6205E5F8
Jan 7 10:00:23.927: to NEAT:(cid0007) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan8
Jan 7 10:00:23.927: vtsp_do_call_setup_ind
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: Call ID=65579, guid=62031A88
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: type=0, under_spec=0,
name=, id0=0, id1=0,id2=0, calling=, called=
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: redirect DN =  reason =
 0vtsp_do_r2_start_digit(): fsm_push(vtsp_r2_state_table)

Jan 7 10:00:23.927: csm_vtsp_call_setup_resp (vdev_info=0x61F19688,
vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:vdev_common
BP TS allocatedat BP_stream0,
 BP_Ch8
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
BP TS allocatedat stream
 5, chan 13,BP_stream 255, BP_ch 15
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
BP TS allocatedat stream
 5, chan 13,BP_stream 0, BP_ch 8
Jan 7 10:00:23.927: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
(DNIS=, ANI=) at slot 1, port 60

Jan 7 10:00:23.931: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE: R2_IN_IDLE
R2 Got Event R2_START
Jan 7 10:00:24.027: CSM_RX_CAS_EVENT_FROM_NEAT:(0007):  EVENT_START_RX_TONE
at slot 1 and port 60
Jan 7 10:00:24.027: from NEAT(0): (0/8): TX SEIZURE_ACK
(ABCD=1101)dc_init_dsp
 vtsp_open_voice_and_set_params
Jan 7 10:00:24.151: dsp_close_voice_channel: [0:1:8] packet_Len=8 channel_id=4929
 packet_id=75
Jan 7 10:00:24.151: dsp_open_voice_channel_20: [0:1:8] packet_Len=16
channel_id=4929
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=0 serial_port=0
```

```
Jan 7 10:00:24.151: dsp_encap_config_20: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 7 10:00:24.151: dsp_set_playout: [0:1:8] packet_Len=18 channel_id=4929
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 7 10:00:24.151: dsp_echo_canceller_control: [0:1:8]
packet_Len=10 channel_id=4929
 packet_id=66 flags=0x0
Jan 7 10:00:24.151: dsp_set_gains: [0:1:8] packet_Len=12
channel_id=4929 packet_id=91
 in_gain=0 out_gain=0
Jan 7 10:00:24.151: dsp_vad_enable: [0:1:8] packet_Len=10
channel_id=4929 packet_id=78
 thresh=-38
Jan 7 10:00:24.151: dsp_voice_mode: [0:1:8] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
comfort_noise=1
inband_detect=1 digit_relay=2 AGC_flag=0dsp_dtmf_mode
(VTSP_TONE_R2_MF_FORWARD_MODE)

Jan 7 10:00:24.151: dsp_dtmf_mode: [0:1:8] packet_Len=10 channel_id=4929
packet_id=65dtmf_or_mf=1
```
!--- Digit 5 is sent: Forward Signal Group I-5 (First DNIS digit). Jan 7 10:00:24.203:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN: digit=5,**
```
 rtp_timestamp=0x04030000 dc_digit_up
Jan 7 10:00:24.203: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)received digit (5)
Jan 7 10:00:24.203: CSM voice (1/60): Rcvd Digit detected(5)
Jan 7 10:00:24.203: R2 Incoming Voice(1/60): DSX (E1 0:8):
```
STATE:R2_IN_PRE_CALLERID R2
 Got Event 5
!--- Send Backward Signal Group A-5 (caller category request). Jan 7 10:00:24.203:
```
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
```
dsp_dtmf_dialing(): dial_string = 5
```
Jan 7 10:00:24.203: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.203:    digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.303: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=5,
 duration=30dc_digit
Jan 7 10:00:24.303: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (5)
Jan 7 10:00:24.303: CSM voice (1/60): Rcvd Digit detected(5)
Jan 7 10:00:24.303: R2 Incoming Voice(1/60): DSX (E1 0:8):
```
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF

```
Jan 7 10:00:24.303: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.303: dsp_dtmf_dialing: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.303:    digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
```
!--- Caller Category Forward Signal Group II-1 is sent. Jan 7 10:00:24.403:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN: digit=1,**
```
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.403: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)received
digit (1)
Jan 7 10:00:24.403: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.403: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE:R2_IN_CALLERID R2
```
 Got Event 1
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.403:
```
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial() vtsp_dial_nopush
```

dsp_dtmf_dialing(): dial_string = 5
Jan 7 10:00:24.403: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.403:   digit=, components=2, freq_of_first=1020, freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.503: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:24.503: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.503: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.503: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF
Jan 7 10:00:24.503: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.503: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.503:   digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- First ANI digit is sent: Forward Signal Group I-1. Jan 7 10:00:24.603:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN:**
digit=1, rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.603: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.603: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.603: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event 1
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.603:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:24.603: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.603:   digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.703: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:24.703: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.703: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.703: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF
Jan 7 10:00:24.703: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.703: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.703:   digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Second ANI digit is sent: Forward Signal Group I-2. Jan 7 10:00:24.803:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN:digit=2,**
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.803: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (2)
Jan 7 10:00:24.803: CSM voice (1/60): Rcvd Digit detected(2)
Jan 7 10:00:24.803: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event 2
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.803:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush

dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:24.803: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.803:   digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.903: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=2,
 duration=30dc_digit
Jan 7 10:00:24.903: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (2)
Jan 7 10:00:24.903: CSM voice (1/60): Rcvd Digit detected(2)
Jan 7 10:00:24.903: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID
 R2 Got Event R2_TONE_OFF
Jan 7 10:00:24.903: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.903: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.903:   digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Third ANI digit is sent: Forward Signal Group I-3. Jan 7 10:00:25.003:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN: digit=3,**
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.003: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (3)
Jan 7 10:00:25.003: CSM voice (1/60): Rcvd Digit detected(3)
Jan 7 10:00:25.003: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event 3
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:25.003:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:25.003: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.003:   digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.103: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=3,
 duration=30dc_digit
Jan 7 10:00:25.103: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (3)
Jan 7 10:00:25.103: CSM voice (1/60): Rcvd Digit detected(3)
Jan 7 10:00:25.103: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.103: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.103: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.103:   digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Digit 15 is sent: Forward Signal Group I-15 (end of ANI digit). Jan 7 10:00:25.203:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=15, rtp_timestamp=0x001E0010
dc_digit_up Jan 7 10:00:25.203: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (*)
Jan 7 10:00:25.203: CSM voice (1/60): Rcvd Digit detected(*) Jan 7 10:00:25.203: R2 Incoming
Voice(1/60): DSX (E1 0:8): **STATE:R2_IN_CALLERID R2**
 Got Event 15
!--- Send Backward Signal Group A-1 (next DNIS digit). Jan 7 10:00:25.203:

```
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1
Jan 7 10:00:25.203: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.203:    digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.303: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_OFF: digit=15, duration=30dc_digit Jan 7 10:00:25.303: csm_vtsp_digit_ready
(vtsp_cdb=0x61B5BFF8) received digit (*) Jan 7 10:00:25.303: CSM voice (1/60): Rcvd Digit
detected(*) Jan 7 10:00:25.303: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE:R2_IN_COLLECT_DNIS
R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.303: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.303: dsp_dtmf_dialing: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.303:    digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Second DNIS digit is sent: Forward Signal Group I-6. Jan 7 10:00:25.391:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=6,
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.391: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (6)
Jan 7 10:00:25.391: CSM voice (1/60): Rcvd Digit detected(6)
Jan 7 10:00:25.391: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS
 R2 Got Event 6
!--- Send Backward Signal Group A-1. Jan 7 10:00:25.391: vtsp_r2_generate_digits:
vdev_common=0x6205E5F8, string=56dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 1

Jan 7 10:00:25.391: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.391:    digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.491: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=6,
 duration=30dc_digit
Jan 7 10:00:25.491: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (6)
Jan 7 10:00:25.491: CSM voice (1/60): Rcvd Digit detected(6)
Jan 7 10:00:25.491: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.491: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=56dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.491: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.491:    digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Third DNIS digit is sent: Forward Signal Group I-7. Jan 7 10:00:25.583:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=7,
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.583: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (7)
Jan 7 10:00:25.583: CSM voice (1/60): Rcvd Digit detected(7)
Jan 7 10:00:25.583: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event 7
!--- Send Backward Signal Group A-1. Jan 7 10:00:25.583: vtsp_r2_generate_digits:
vdev_common=0x6205E5F8, string=567dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 1
```

Jan 7 10:00:25.583: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.583:   digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.683: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=7,
 duration=30dc_digit
Jan 7 10:00:25.683: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8)
received digit (7)
Jan 7 10:00:25.683: CSM voice (1/60): Rcvd Digit detected(7)
Jan 7 10:00:25.683: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.683: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=567dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.683: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.683:   digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 7 10:00:25.835: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
!--- Timeout is 3 seconds. Jan 7 10:00:28.583: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_TIMER
!--- Send Backward Signal Group A-3: address-complete, changeover !--- to reception of group-B
signal. Jan 7 10:00:28.583: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 3# Jan 7 10:00:28.583:
dsp_dtmf_dialing: [0:1:8] packet_Len=36
channel_id=4929 packet_id=90
 string=3# digits=2, time_on=150, time_off=30
Jan 7 10:00:28.583:   digit=, components=2, freq_of_first=1020,
freq_of_second=900,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:28.583:   digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Forward Signal Group II-1 is sent: subscriber without priority. Jan 7 10:00:28.831:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=1, rtp_timestamp=0x001E0003 dc_digit_up
Jan 7 10:00:28.831: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (1) Jan 7
10:00:28.831: CSM voice (1/60): Rcvd Digit detected(1) Jan 7 10:00:28.831: R2 Incoming
Voice(1/60): DSX (E1 0:8): STATE:R2_IN_CATEGORY R2 **Got Event 1**
Jan 7 10:00:28.831: CSM_PROC_IC1_COLLECT_ADDR_INFO:
CSM_EVENT_ADDR_INFO_COLLECTED
(DNIS=567, ANI=123) at slot 1, port 60
Jan 7 10:00:28.831: vtsp_tsp_call_accept_check (sdb=0x61DADEE0,
calling_number=123
 called_number=567): peer_tag=0
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
 a non-idle modem
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
a non-idle modem
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
a non-idle modem
Jan 7 10:00:28.835: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK
at slot 1,
 port 60
Jan 7 10:00:28.835: vtsp_IC_switch : (voice_vdev= 0x61F19688)
Jan 7 10:00:28.835: vtsp_tsp_call_switch_ind (cdb=0x61B5BFF8,
tsp_info=0x61F19688,

```
 calling_number=123 called_number=567 redirect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 7 10:00:28.835: vtsp_do_call_setup_ind
Jan 7 10:00:28.835: vtsp_do_call_setup_ind: Call ID=65581,
guid=62031A88
Jan 7 10:00:28.835: vtsp_do_call_setup_ind: type=0, under_spec=0,
name=b`, id0=9,
 id1=0, id2=0, calling=123, called=567
Jan 7 10:00:28.835: dsp_cp_tone_off: [] packet_Len=8 channel_id=4929
packet_id=71
Jan 7 10:00:28.835: dsp_idle_mode: [] packet_Len=8 channel_id=4929
packet_id=68
Jan 7 10:00:28.835: dsp_close_voice_channel: [] packet_Len=8
channel_id=4929 packet_id=75
Jan 7 10:00:28.835: vtsp_timer_stop: 7063006
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp (vdev_info=0x61F19688,
vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:vdev_common BP TS
allocatedat BP_stream0,
 BP_Ch8
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
 BP TS allocatedat stream 5, chan 13,BP_stream 0, BP_ch 8
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
 BP TS allocatedat stream 5, chan 13,BP_stream 0, BP_ch
8vtsp_open_voice_and_set_params
Jan 7 10:00:28.839: dsp_close_voice_channel: [0:1 (17)]
packet_Len=8 channel_id=4929
 packet_id=75
Jan 7 10:00:28.839: dsp_open_voice_channel_20: [0:1 (17)] packet_Len=16
channel_id=4929
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=0 serial_port=0
Jan 7 10:00:28.839: dsp_encap_config_20: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0t_vpxcc=0x0
r_vpxcc=0x0
Jan 7 10:00:28.839: dsp_set_playout: [0:1 (17)] packet_Len=18
channel_id=4929 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 7 10:00:28.839: dsp_echo_canceller_control: [0:1 (17)]
packet_Len=10 channel_id=4929
 packet_id=66 flags=0x0
Jan 7 10:00:28.839: dsp_set_gains: [0:1 (17)] packet_Len=12
channel_id=4929 packet_id=91
 in_gain=0 out_gain=0
Jan 7 10:00:28.839: dsp_vad_enable: [0:1 (17)] packet_Len=10
channel_id=4929 packet_id=78
 thresh=-38act_proceeding
Jan 7 10:00:28.839: csm_vtsp_call_proceeding:DST_tdm_chnl call.
BP TS allocatedstream 5,
 chan 13,BP_stream 0, BP_ch 8act_alert
Jan 7 10:00:28.867: vtsp_ring_noan_timer_start: 7063009
Jan 7 10:00:28.867: csm_vtsp_call_alert (vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:28.867:  csm_vtsp_call_alert: CSM_EVENT_ALERTING_RECEIVED
Jan 7 10:00:28.867: CSM_IC5_WAIT_FOR_SWITCH_OVER:  at slot 1, port 60
Jan 7 10:00:28.867: CSM_EVENT_ALERTING_RECEIVED:
Jan 7 10:00:28.867:  calling alerting_start_event
```

!--- **Note**: For modems, Backward Signal !--- Group B-6 (subscriber's line free, charge) !--- is sent immediately. !--- For voice, it is delayed until alerting is received. !--- Notice that "R2_REJECT" is printed instead of R2_ALERTING. !--- This printing issue is solved in Cisco IOS Software Release 12.1T.

```
Jan 7 10:00:28.867: R2 Incoming Voice(1/60): DSX (E1 0:8):
```
STATE:R2_IN_IDLE R2
 Got Event R2_REJECT

```
Jan 7 10:00:28.867:  R2_ALERTING: r2_comp_idle
Jan 7 10:00:28.867: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567act_bridge
Jan 7 10:00:28.867: dsp_voice_mode: [0:1 (17)] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
comfort_noise=1
 inband_detect=1 digit_relay=2 AGC_flag=0dsp_dtmf_mode
(VTSP_TONE_R2_MF_FORWARD_MODE)
```
!--- Answer signal (B-6) is sent after alerting is received. !--- Send Backward Signal Group B6 signal (Subscriber's line free, charge). Jan 7 10:00:28.871: dsp_dtmf_mode: [0:1 (17)]
```
packet_Len=10 channel_id=4929 packet_id=65 dtmf_or_mf=1vtsp_r2_dial vtsp_r2_dial():
fsm_push(vtsp_r2_state_table)  dsp_dtmf_dialing(): dial_string = 6

Jan 7 10:00:28.871: dsp_dtmf_dialing: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=90 string=6 digits=1, time_on=65435, time_off=30
Jan 7 10:00:28.871:    digit=, components=2, freq_of_first=900,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:28.923: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=1,
 rtp_timestamp=0x001E0006 dc_digit_up
Jan 7 10:00:28.923: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (1)
Jan 7 10:00:28.923: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:28.923: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COMPLETE
 R2 Got Event 1
Jan 7 10:00:28.971: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:28.971: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8)
received digit (1)
Jan 7 10:00:28.971: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:28.971: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COMPLETE R2
 Got Event R2_TONE_OFF
Jan 7 10:00:28.971: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:28.971: dsp_dtmf_dialing: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:28.975:    digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1ds_dialing_defaultds_dialing_default
Jan 7 10:00:29.127: vtsp_process_dsp_message:
MSG_TX_DIALING_DONEdc_dialing_done()
Jan 7 10:00:29.971: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_WAIT_GUARD R2
 Got Event R2_TONE_TIMER
Jan 7 10:00:29.971:  R2_IN_IDLE:2 r2_in_connect called
Jan 7 10:00:29.971: R2_IN_CONNECT: call end dial
Jan 7 10:00:29.971:  pop the dial state machine
Jan 7 10:00:29.971: vtsp_r2_end_dial: vdev_common=0x6205E5F8,
string=567ds_end_dial():
 fsm_pop() act_caps_ind
Jan 7 10:00:29.971: act_caps_ind:Encap 1, Vad 2, Codec 0x4,
CodecBytes 20, FaxRate 2,
 FaxBytes 20 SignalType 0 DtmfRelay 1, Modem 1act_caps_ack
Jan 7 10:00:29.971: dsp_idle_mode: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=68
Jan 7 10:00:29.971: act_caps_ack: codec = 15, ret = 1
Jan 7 10:00:29.971: dsp_cp_tone_off: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=71
```

```
Jan 7 10:00:29.971: dsp_idle_mode: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=68
Jan 7 10:00:29.971: dsp_encap_config_20: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0
r_vpxcc=0x0
Jan 7 10:00:29.971: dsp_voice_mode: [0:1 (17)] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=19 voice_field_size=20 VAD_flag=1 echo_length=64
comfort_noise=1
 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 7 10:00:30.255: vtsp_ring_noan_timer_stop: 7063148
Jan 7 10:00:30.255: dsp_cp_tone_off: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=71
Jan 7 10:00:30.255: csm_vtsp_call_connect (vtsp_cdb=0x61B5BFF8,
voice_vdev=0x61F19688)
Jan 7 10:00:30.255: CSM_IC5_WAIT_FOR_SWITCH_OVER:
CSM_EVENT_MODEM_OFFHOOK at slot 1,
 port 60
Jan 7 10:00:30.607: CSM_RX_CAS_EVENT_FROM_NEAT:(0007):
EVENT_CHANNEL_CONNECTED at slot 1
 and port 60
Jan 7 10:00:30.607: CSM_PROC_IC6_WAIT_FOR_CONNECT:
CSM_EVENT_DSX0_CONNECTED at slot 1,
 port 60
Jan 7 10:00:30.607: from NEAT(0): (0/8): TX ANSWERED (ABCD=0101)
eefje#
```

Informações Relacionadas

- Sinalização E1 R2 para Voz sobre IP no servidor de acesso Cisco AS5300
- Sinalização de E1 R2 para os roteadores Cisco 3620 e 3640 Series
- Customização de E1 R2 com o comando cas-custom
- E1 R2 e configuração de sinalização associada ao canal
- Sinalização E1 R2 para os servidores de acesso Cisco AS5300 e Cisco AS5200
- Suporte à Tecnologia de Voz
- Suporte aos produtos de Voz e Comunicações Unificadas
- Troubleshooting da Telefonia IP Cisco
- Suporte Técnico e Documentação - Cisco Systems