Configuring and Troubleshooting E1 R2 Signaling for Data Calls

Contents

Introduction

Este documento fornece um exemplo de configuração e técnicas de Troubleshooting para sinalização E1 R2 para chamadas de dados.

Prerequisites

Requirements

Antes de tentar esta configuração, é recomendável que você leia o documento [Teoria de Sinalização E1 R2](#). Para obter informações sobre a sinalização E1 R2 para aplicativos de voz, consulte o documento [Configuração e Troubleshooting de Sinalização E1 R2](#).

Componentes Utilizados

Esta configuração foi desenvolvida e testada utilizando as versões de software e hardware abaixo. Esta configuração mostra uma configuração de laboratório back-to-back entre um roteador Cisco 3640 e um servidor de acesso Cisco AS5300.

- O AS5300 está simulando o cliente e executando o software Cisco IOS® versão 12.2(3).
- O 3640 está atuando como um servidor e executando o Cisco IOS Software versão 12.1(10).

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

Para obter mais informações sobre convenções de documento, consulte as [Convenções de dicas técnicas Cisco](#).

Informações de Apoio

A sinalização E1 R2 permite que um servidor de acesso universal da Cisco converse com troncos de centrais que também usam a sinalização E1 R2. A sinalização R2 é um padrão de sinalização internacional comum a redes E1 canalizadas. Não há um único padrão para a sinalização de R2. A recomendação ITU-T Q.400-Q.490 define R2, mas vários países implementam R2 de maneiras completamente diferentes.

A Cisco Systems lida com esse desafio ao suportar várias implementações localizadas de sinalização R2 em seu software Cisco IOS. A localização personalizada de R2 significa que a sinalização de R2 é suportada para uma ampla variedade de países e regiões geográficas. A Cisco está sempre apoiando as variantes de sinalização E1 R2 em novos países.

Observação: somente os módulos de agregação de canais ISDN (MICA) e modem digital Nextport suportam a funcionalidade R2. Não há suporte a R2 para modems Microcom ou aplicativos que não sejam de modem.

Configurar

Nesta seção, você encontrará informações para configurar os recursos descritos neste documento. Essa configuração é válida para os seguintes cenários:

- Conexões de discagem de modem sobre E1 R2
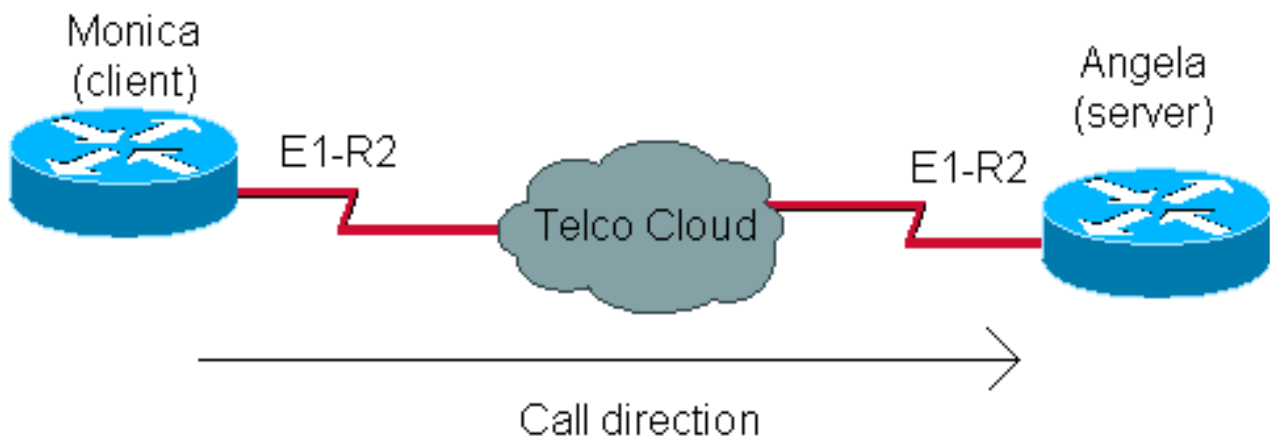- Conexões E1 R2 back-to-back
- Conexões E1 R2 entre o roteador Cisco

Observação: a configuração do controlador E1 é a mesma para chamadas de dados ou voz. A única diferença é:

- Para chamadas de dados, você precisa configurar os modems para aceitar as chamadas.
- Para chamadas de voz, você precisa configurar as portas de voz para aceitar as chamadas.

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

Diagrama de Rede

Este documento utiliza a instalação de rede mostrada no diagrama abaixo.

Configurações

A configuração de E1 R2 para chamadas de dados envolve duas etapas gerais:

- Configuração do E1 R2
- Configurando os modems e problemas relacionados

A configuração do E1 R2 é baseada nas informações obtidas da Telco. Consulte o documento E1 R2 Signaling Configuration and Troubleshooting para obter informações adicionais sobre a configuração específica de E1 R2.

A configuração do modem é semelhante à de qualquer servidor de acesso com, por exemplo, uma linha PRI.

Monica (as5300)
Monica#**show running-config** controller E1 1 *!--- E1 R2 configuration* framing NO-CRC4 clock source line secondary 1 ds0-group 1 timeslots 1-15,17-31 type r2-digital r2-compelled cas-custom 1 country easteurope use-defaults interface Async60 *!--- Interface configuration for outgoing call* no ip address encapsulation ppp dialer in-band dialer rotary-group 3 async mode dedicated ppp authentication chap line 60 *!--- Line configuration for outgoing call* modem InOut modem dialout controller e1 1 *!--- Specify that e1 1 is used for outgoing call* transport input all autoselect during-login autoselect ppp

angela (3640)
angela#**show running-config** interface Ethernet0/0 ip address 10.200.20.2 255.255.255.0 controller E1 2/0 *!--- E1 R2 configuration* framing NO-CRC4 ds0-group 1 timeslots 1-15,17-31 type r2-digital r2-compelled cas-custom 1 country easteurope use-defaults interface Group-Async1 ip unnumbered Ethernet0/0 encapsulation ppp async mode interactive peer default ip address pool DIAL_POOL ppp authentication chap group-range 97 114 !

```
ip local pool DIAL_POOL 105.41.30.101 105.41.30.132 line
97 114 !--- Line configuration for incoming calls modem
InOut autocommand ppp transport input all autoselect
during-login autoselect ppp
```

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.

Para obter mais informações sobre Troubleshooting de falhas de E1 R2, consulte Configuração e Troubleshooting de Sinalização de E1 R2.

Comandos para Troubleshooting

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.

- **show controllers e1** - exibe o estado do controlador específico ao hardware do controlador. Para obter detalhes, consulte Entendendo o Comando show controllers e1.
- **show diag** - no Cisco 3600, exibe informações de hardware do roteador, verifica se todo o hardware é reconhecido.
- **debug modem csm** - depura o CSM (Call Switching Module) usado para conectar chamadas no modem.
- **debug cas** - fornece rastreamentos em tempo real do status do bit de sinalização CAS.
- **debug modem** - exibe a atividade da linha do modem em um servidor de acesso.
- **show modem version** - exibe informações sobre a versão do firmware do modem, da controladora e do código DSP.

```
angela#show modem version
Slot 3:MICA-6DM Firmware, Source - flashow :/mica-modem-pw.2.7.3.0.bin
CP ver 2730 - 5/23/2001, CheckSum BCCEB316.
SP ver 2730 - 5/23/2001.
MICA 0: HW Version 2.1, Serial Number 21094004.

angela#show diag
Slot 2:
CE1 (Balanced) Port adapter, 1 port
Port adapter is analyzed
Port adapter insertion time unknown
EEPROM contents at hardware discovery:
Hardware revision 1.1 Board revision A0
Serial number 11359839 Part number 800-01234-04
Test history 0x0 RMA number 00-00-00
EEPROM format version 1
```

```
EEPROM contents (hex):
0x20: 01 2A 01 01 00 AD 56 5F 50 04 D2 04 00 00 00 00
0x30: 50 00 00 00 98 11 24 00 FF FF FF FF FF FF FF FF
```

```
angela#show controllers e1 2/0
E1 2/0 is up.
Applique type is Channelized E1 - balanced
Far End Block Errors Detected
No alarms detected.
Framing is NO-CRC4, Line Code is HDB3, Clock Source is Line.
Data in current interval (34 seconds elapsed):
0 Line Code Violations, 0 Path Code Violations
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail
Secs
Robbed bit signals state:
timeslots rxA rxB rxC rxD txA txB txC txD
  1         1   0   0   1   1   0   0   1
  2         1   0   0   1   1   0   0   1
  3         1   0   0   1   1   0   0   1
  4         1   0   0   1   1   0   0   1
  5         1   0   0   1   1   0   0   1
  6         1   0   0   1   1   0   0   1
  7         1   0   0   1   1   0   0   1
  8         1   0   0   1   1   0   0   1
  9         1   0   0   1   1   0   0   1
 10         1   0   0   1   1   0   0   1
 11         1   0   0   1   1   0   0   1
 12         1   0   0   1   1   0   0   1
 13         1   0   0   1   1   0   0   1
 14         1   0   0   1   1   0   0   1
 15         1   0   0   1   1   0   0   1
 17         1   0   0   1   1   0   0   1
 18         1   0   0   1   1   0   0   1
 19         1   0   0   1   1   0   0   1
 20         1   0   0   1   1   0   0   1
 21         1   0   0   1   1   0   0   1
 22         1   0   0   1   1   0   0   1
 23         1   0   0   1   1   0   0   1
 24         1   0   0   1   1   0   0   1
 25         1   0   0   1   1   0   0   1
 26         1   0   0   1   1   0   0   1
 27         1   0   0   1   1   0   0   1
 28         1   0   0   1   1   0   0   1
 29         1   0   0   1   1   0   0   1
 30         1   0   0   1   1   0   0   1
 31         1   0   0   1   1   0   0   1
```

O cliente está discando 789 interpretações necessárias nas depurações do servidor.

```
monica#2.2.2.1 2060
Trying 2.2.2.1, 2060 ... Open
at
OK
atdt789
```

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

```
angela#show debug
General OS:
```

```
    Modem control/process activation debugging is on

CAS:
    Channel Associated Signaling debugging is on
CSM Modem Management:
    Modem Management Call Switching Module debugging is on

angela#
Oct 29 15:59:46.591: Modem 255/255 CSM: received EVENT_CALL_DIAL_IN with call_id 0006
Oct 29 15:59:46.591: src 2/0/25 dest 255/0/255 cause 768
Oct 29 15:59:46.591: CSM: Next free modem = 3/6; statbits = 80010020
Oct 29 15:59:46.591: Modem 3/6 CSM: modem is allocated, modems free=17
Oct 29 15:59:46.591: Modem 3/6 CSM: (CSM_PROC_IDLE)<--DSX0_CALL
Oct 29 15:59:46.595: Modem 3/6 Mica: configured for Answer mode,
 with Lower R2 signaling, 0x0 tone detection.
Oct 29 15:59:46.707: Modem 3/6 CSM: received EVENT_START_RX_TONE with call_id 0006
Oct 29 15:59:46.707: src 2/0/25 dest 3/0/6 cause 0
Oct 29 15:59:46.707: Modem 3/6 CSM:(CSM_PROC_IC_CAS_CHANNEL_LOCKED)<--DSX0_START_RX_TONE
Oct 29 15:59:46.707: Modem 3/6 CSM:(CSM_PROC_IC_CAS_CHANNEL_LOCKED)<--CSM_EVENT_MODEM_SETUP
Oct 29 15:59:46.711: R2 Incoming Modem(3/6): DSX (E1 2/0:25):
STATE: R2_IN_IDLE R2 Got Event R2_START
Oct 29 15:59:46.715: Modem 3/6 Mica: in modem state CALL_SETUP
Oct 29 15:59:46.883: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_COLLECTED
```
!--- We can see number 7 `Oct 29 15:59:46.887: R2 Incoming Modem(3/6): DSX (E1 2/0:25):`
`STATE:R2_IN_COLLECT_DNIS R2 Got Event 7 Oct 29 15:59:46.887: Modem 3/6 Mica: dialing number '1'`
!--- MICA sends 1 (which means send next digit) `Oct 29 15:59:46.887: Modem 3/6 Mica: Detected`
`dial digit '7' Oct 29 15:59:46.959: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_GENERATED Oct 29 15:59:47.011: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_COLLECTED Oct 29 15:59:47.011: R2 Incoming Modem(3/6): DSX (E1 2/0:25): STATE:`
`R2_IN_COLLECT_DNIS R2 Got Event R2_TONE_OFF Oct 29 15:59:47.011: Modem 3/6 Mica: dialing number`
`'#' Oct 29 15:59:47.011: Modem 3/6 Mica: Detected dial digit '#' Oct 29 15:59:47.099: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_GENERATED Oct 29 15:59:47.163: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_COLLECTED` *!--- We can see number 8* `Oct 29`
`15:59:47.163: R2 Incoming Modem(3/6): DSX (E1 2/0:25): STATE: R2_IN_COLLECT_DNIS R2 Got Event 8`
`Oct 29 15:59:47.163: Modem 3/6 Mica: dialing number '1'` *!--- MICA sends 1 (which means send next*
digit) `Oct 29 15:59:47.163: Modem 3/6 Mica: Detected dial digit '8' Oct 29 15:59:47.235: Modem`
`3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_GENERATED Oct 29 15:59:47.299: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_COLLECTED Oct 29 15:59:47.299: R2 Incoming`
`Modem(3/6): DSX (E1 2/0:25): STATE: R2_IN_COLLECT_DNIS R2 Got Event R2_TONE_OFF Oct 29`
`15:59:47.299: Modem 3/6 Mica: dialing number '#' Oct 29 15:59:47.299: Modem 3/6 Mica: Detected`
`dial digit '#' Oct 29 15:59:47.375: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_GENERATED Oct 29 15:59:47.427: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_COLLECTED Oct 29 15:59:47.427: R2 Incoming Modem(3/6): DSX (E1 2/0:25):`
`STATE:R2_IN_COLLECT_DNIS R2 Got Event 9 Oct 29 15:59:47.427: Modem 3/6 Mica: dialing number '1'`
!--- MICA sends 1 (which means send next digit) `Oct 29 15:59:47.427: Modem 3/6 Mica: Detected`
`dial digit '9' Oct 29 15:59:47.499: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_GENERATED Oct 29 15:59:47.551: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`
`MODEM_DIGITS_COLLECTED Oct 29 15:59:47.551: R2 Incoming Modem(3/6): DSX (E1 2/0:25):`
`STATE:R2_IN_COLLECT_DNIS R2 Got Event R2_TONE_OFF Oct 29 15:59:47.551: Modem 3/6 Mica: dialing`
`number '#' Oct 29 15:59:47.551: Modem 3/6 Mica: Detected dial digit '#' Oct 29 15:59:47.639:`
`Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_GENERATED` *!--- NORMAL TIMEOUT--> 3*
seconds `Oct 29 16:00:02.426: R2 Incoming Modem(3/6): DSX (E1 2/0:25): STATE: R2_IN_COLLECT_DNIS`
`R2 Got Event R2_TONE_TIMER` *!--- MICA sends 3 (which means ADDRESS COMPLETE)* `Oct 29 16:00:02.426:`
`Modem 3/6 Mica: dialing number '3#' Oct 29 16:00:02.654: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_GENERATED Oct 29 16:00:02.678: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_COLLECTED` *!--- We can see number 1 after we*
send 3 `Oct 29 16:00:02.678: R2 Incoming Modem(3/6): DSX (E1 2/0:25): STATE:R2_IN_CATEGORY R2 Got`
`Event 1 Oct 29 16:00:02.682: r2_comp_category:R2_ALERTING` *!--- MICA sends 3 (which means ADDRESS*
COMPLETE) `Oct 29 16:00:02.682: Modem 3/6 Mica: dialing number '6' Oct 29 16:00:02.682: Modem 3/6`
`Mica: Detected dial digit '1' Oct 29 16:00:02.834: Modem 3/6`
`CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_COLLECTED Oct 29 16:00:02.834: R2 Incoming`
`Modem(3/6): DSX (E1 2/0:25): STATE: R2_IN_COMPLETE R2 Got Event R2_TONE_OFF Oct 29 16:00:02.834:`
`Modem 3/6 CSM: Pending digit generation for # Oct 29 16:00:02.834: Modem 3/6 Mica: Detected dial`
`digit '#' Oct 29 16:00:02.854: Modem 3/6 CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--`

```
MODEM_DIGITS_GENERATED Oct 29 16:00:02.854: Modem 3/6 Mica: dialing number '#' Oct 29
16:00:02.854: Modem 3/6 CSM: Generate 1 pending digit(s) # Oct 29 16:00:02.918: Modem 3/6
CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--MODEM_DIGITS_GENERATED Oct 29 16:00:03.834: R2 Incoming
Modem(3/6): DSX (E1 2/0:25): STATE:R2_IN_WAIT_GUARD R2 Got Event R2_TONE_TIMER Oct 29
16:00:03.834: R2_IN_IDLE:2 r2_in_connect called Oct 29 16:00:03.834: Modem 3/6
CSM:(CSM_PROC_IC_CAS_COLLECT_DIGITS)<--ADDR_INFO_COLLECTED Oct 29 16:00:03.842: Modem 3/6 CSM:
received EVENT_CHANNEL_CONNECTED with call_id 0006 Oct 29 16:00:03.842: src 2/0/25 dest 3/0/6
cause 0 Oct 29 16:00:03.842: Modem 3/6 CSM:(CSM_PROC_IC_CAS_ANSWER_CALL)<--DSX0_CONNECTED Oct 29
16:00:04.926: Modem 3/6 Mica: in modem state CONNECT Oct 29 16:00:12.290: Modem 3/6 Mica: in
modem state LINK Oct 29 16:00:21.278: Modem 3/6 Mica: in modem state TRAINUP Oct 29
16:00:23.002: Modem 3/6 Mica: in modem state EC_NEGOTIATING Oct 29 16:00:23.170: Modem 3/6
CSM:(CSM_PROC_CAS_WAIT_FOR_CARRIER)<--MODEM_CONNECTED Oct 29 16:00:23.170: Modem 3/6 Mica: in
modem state STEADY Oct 29 16:00:23.194: Modem 3/6 Mica: CONNECT at 33600/33600 (Tx/Rx), V34+,
LAPM, V42bis Oct 29 16:00:23.446: TTY103: DSR came up Oct 29 16:00:23.446: tty103: Modem: IDLE-
>(unknown) Oct 29 16:00:23.446: TTY103: Autoselect started Oct 29 16:00:23.446: TTY103: create
timer type 0, 120 seconds --------- monica#show debug
General OS:
   Modem control/process activation debugging is on
CAS:
   Channel Associated Signaling debugging is on
Modem Management:
   Modem Management Call Switching Module debugging is on

monica#
Oct 29 15:59:46.540: Mica Modem(1/59): Rcvd Dial String(T789)
Oct 29 15:59:46.540: Mica Modem(1/59): Dropped character T
Oct 29 15:59:46.540: Mica Modem(1/59): Dial String to be processed (789)
Oct 29 15:59:46.540: Mica Modem(1/59): End of Dial String
Oct 29 15:59:46.540: CSM_PROC_IDLE: CSM_EVENT_MODEM_OFFHOOK at slot 1, port 59
Oct 29 15:59:46.540: csm_get_signaling_channel csm_call_info->bchan_num 0xFFFFFFFF
Oct 29 15:59:46.540: csm_get_signaling_channel dchan_index=24952,next_index=0,
dchan_info=0x62269D0C
Oct 29 15:59:46.540: csm_get_signaling_channel csm_call_info->bchan_num 0xFFFFFFFF
Oct 29 15:59:46.540: csm_get_signaling_channel dchan_index=0,next_index=1,
dchan_info=0x61D37574
Oct 29 15:59:46.540: CSM_RX_CAS_EVENT_FROM_NEAT:(8007):
EVENT_CHANNEL_LOCK at slot 1 port 59 on ctrlr 1 chan 25
Oct 29 15:59:46.544: CSM_PROC_OC4_DIALING:
CSM_EVENT_DSX0_BCHAN_ASSIGNED at slot 1, port 59
Oct 29 15:59:46.544: csm_connect_pri_vdev:
TS allocated at bp_stream 1, bp_Ch 9, vdev_common 0x61B7BBAC 1/59
Oct 29 15:59:46.544: Mica Modem(1/59): Configure(0x1 = 0x1)
Oct 29 15:59:46.544: Mica Modem(1/59): Configure(0x23 = 0x4)
Oct 29 15:59:46.544: Mica Modem(1/59): Call Setup
Oct 29 15:59:46.544: from Trunk(0): (1/25): Tx SEIZURE (ABCD=0001)
Oct 29 15:59:46.616: Mica Modem(1/59): State Transition to Call Setup
Oct 29 15:59:46.712: from Trunk(0): (1/25): Rx SEIZURE_ACK (ABCD=1101)
Oct 29 15:59:46.752: CSM_RX_CAS_EVENT_FROM_NEAT:(8007):
EVENT_START_TX_TONE at slot 1 and port 59
Oct 29 15:59:46.752: CSM_PROC_OC4_DIALING:
CSM_EVENT_DSX0_START_TX_TONE at slot 1, port 59
Oct 29 15:59:46.752: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_IDLE R2 Got Event R2_START
Oct 29 15:59:46.752: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 15:59:46.752: Mica Modem(1/59): Will Generate digits:called_party_num=7 len=1
Oct 29 15:59:46.824: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:46.824: Mica Modem(1/59): Generate digits
Oct 29 15:59:46.900: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:46.944: Mica Modem(1/59): Rcvd Digit detected(1)
Oct 29 15:59:46.944: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event 1
Oct 29 15:59:46.944: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 15:59:47.020: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:47.108: Mica Modem(1/59): Rcvd Digit detected(#)
```

```
Oct 29 15:59:47.108: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event R2_TONE_OFF
Oct 29 15:59:47.108: Mica Modem(1/59): Generate digits:called_party_num=8 len=1
Oct 29 15:59:47.184: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:47.228: Mica Modem(1/59): Rcvd Digit detected(1)
Oct 29 15:59:47.228: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event 1
Oct 29 15:59:47.228: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 15:59:47.304: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:47.380: Mica Modem(1/59): Rcvd Digit detected(#)
ct 29 15:59:47.380: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event R2_TONE_OFF
Oct 29 15:59:47.380: Mica Modem(1/59): Generate digits:called_party_num=9 len=1
Oct 29 15:59:47.440: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:47.484: Mica Modem(1/59): Rcvd Digit detected(1)
Oct 29 15:59:47.484: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event 1
Oct 29 15:59:47.484: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 15:59:47.560: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 15:59:47.636: Mica Modem(1/59): Rcvd Digit detected(#)
Oct 29 15:59:47.636: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event R2_TONE_OFF
Oct 29 16:00:02.521: Mica Modem(1/59): Rcvd Digit detected(3)
Oct 29 16:00:02.521: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_A R2 Got Event 3
Oct 29 16:00:02.521: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 16:00:02.593: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 16:00:02.641: Mica Modem(1/59): Rcvd Digit detected(#)
Oct 29 16:00:02.641: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_B R2 Got Event R2_TONE_OFF
Oct 29 16:00:02.641: Mica Modem(1/59): Generate digits:called_party_num=1 len=1
Oct 29 16:00:02.713: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 16:00:02.745: Mica Modem(1/59): Rcvd Digit detected(6)
Oct 29 16:00:02.745: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_PROCESS_B R2 Got Event 6
Oct 29 16:00:02.745: Mica Modem(1/59): Generate digits:called_party_num=# len=1
Oct 29 16:00:02.745: CSM_PROC_OC4_DIALING:
CSM_EVENT_ADDR_INFO_COLLECTED at slot 1, port 59
Oct 29 16:00:02.821: Mica Modem(1/59): Rcvd Digits Generated
Oct 29 16:00:02.925: Mica Modem(1/59): Rcvd Digit detected(#)
Oct 29 16:00:02.925: R2 Outgoing Modem(1/59): DSX (E1 1:25):
STATE: R2_OUT_IDLE R2 Got Event R2_TONE_OFF
Oct 29 16:00:03.845: from Trunk(0): (1/25): Rx ANSWERED (ABCD=0101)
Oct 29 16:00:03.885: CSM_RX_CAS_EVENT_FROM_NEAT:(8007):
EVENT_CHANNEL_CONNECTED at slot 1 and port 59
Oct 29 16:00:03.885: CSM_PROC_OC5_WAIT_FOR_CARRIER:
CSM_EVENT_DSX0_CONNECTED at slot 1, port 59
Oct 29 16:00:03.885: Mica Modem(1/59): Link Initiate
Oct 29 16:00:03.917: Mica Modem(1/59): State Transition to Connect
Oct 29 16:00:06.709: Mica Modem(1/59): State Transition to unknown
Oct 29 16:00:12.497: Mica Modem(1/59): State Transition to Link
Oct 29 16:00:15.197: Mica Modem(1/59): State Transition to unknown
Oct 29 16:00:17.241: Mica Modem(1/59): State Transition to unknown
Oct 29 16:00:21.385: Mica Modem(1/59): State Transition to Trainup
Oct 29 16:00:23.061: Mica Modem(1/59): State Transition to EC Negotiating
Oct 29 16:00:23.245: Mica Modem(1/59): State Transition to Steady State
```

Informações Relacionadas

- Teoria de sinalização de E1 R2
- Configuração de E1 R2 Signaling e Troubleshooting

- [Customização de E1 R2 com o comando cas-custom](#)
- [Sinalização E1 R2 para os servidores de acesso Cisco AS5300 e Cisco AS5200](#)
- [Sinalização de E1 R2 para os roteadores Cisco 3620 e 3640 Series](#)
- [Sinalização E1 R2 para o Cisco AS5800](#)
- [Página de suporte à tecnologia de discagem e acesso](#)
- [Suporte Técnico - Cisco Systems](#)