

数据呼叫 E1 R2 信令的配置与故障排除

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简介

本文档提供数据呼叫的E1 R2信令的配置示例和故障排除技术。

先决条件

要求

在尝试此配置之前，建议您阅读[E1 R2信令理论](#)文档。有关语音应用的E1 R2信令的信息，请参阅文档[E1 R2信令配置和故障排除](#)。

使用的组件

此配置使用下面软件和硬件版本开发并且被测试。此配置显示Cisco 3640路由器和Cisco AS5300接入服务器之间的背对背实验设置。

- AS5300正在模拟客户端并运行Cisco IOS®软件版本12.2(3)。
- 3640充当服务器，运行Cisco IOS软件版本12.1(10)。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

背景信息

E1 R2信令允许思科通用接入服务器与同样使用E1 R2信令的中央局中继通信。R2信令是信道化E1网络通用的国际信令标准。R2信令没有单一标准。ITU-T Q.400-Q.490建议定义了R2，但许多国家/地区以完全不同的方式实施R2。

Cisco Systems通过在其Cisco IOS软件中支持许多R2信令的本地化实施来解决这一挑战。R2自定义本地化意味着R2信令支持范围广泛的国家/地区和地理区域。思科在新的国家/地区持续支持E1 R2信令变体。

注意：仅调制解调器ISDN信道聚合(MICA)和Nextport数字调制解调器模块支持R2功能。Microcom调制解调器或非调制解调器应用不支持R2。

配置

本部分提供有关如何配置本文档所述功能的信息。此配置对以下场景有效：

- E1 R2上的调制解调器拨入连接
- E1 R2背靠背连接
- Cisco路由器之间的E1 R2连接

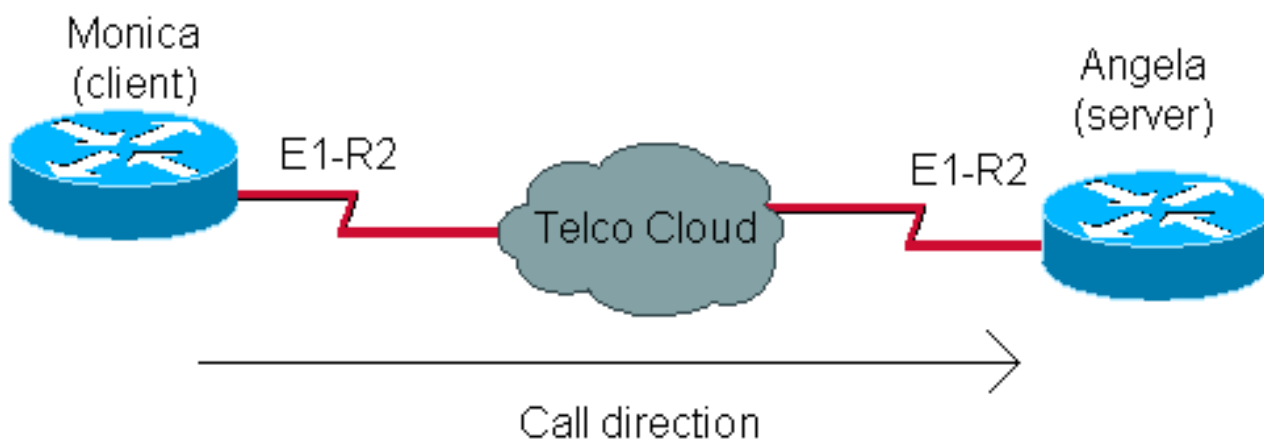
注意：E1控制器的配置对于数据或语音呼叫是相同的。唯一的区别是：

- 对于数据呼叫，您需要配置调制解调器以接受呼叫。
- 对于语音呼叫，您需要配置语音端口以接受呼叫。

注：要查找有关本文档中使用的命令的其他信息，请使用命令[查找工具](#)([仅注册客户](#))。

网络图

本文档使用下图所示的网络设置。



配置

为数据呼叫配置E1 R2涉及两个一般步骤：

- 配置 E1 R2
- 配置调制解调器及相关问题

E1 R2配置基于从Telco获取的信息。有关E1 R2特[定配置的其他信息](#)，请参阅文档E1 R2信令配置和故障排除。

调制解调器配置类似于任何具有PRI线路的接入服务器的配置。

莫妮卡(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 easteuropa
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
```

安琪拉(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 easteuropa 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
```

验证

当前没有可用于此配置的验证过程。

故障排除

本部分提供的信息可用于对配置进行故障排除。

有关E1 R2故障故障排除的详细信息，请参[阅E1 R2信令配置和故障排除](#)。

故障排除命令

[命令输出解释程序工具 \(仅限注册用户 \) 支持某些 show 命令](#)，使用此工具可以查看对 show 命令输出的分析。

注意：在发出debug命令之前，请参阅[有关Debug命令的重要信息](#)。

- **show controllers e1** — 显示特定于控制器硬件的控制器状态。有关详细信息，请参阅[了解show controllers e1命令](#)。
- **show diag** — 在Cisco 3600上，显示路由器的硬件信息，验证是否识别所有硬件。
- **debug modem csm** — 调试用于连接调制解调器上呼叫的呼叫交换模块(CSM)。
- **debug cas** — 提供CAS信令位状态的实时跟踪。
- **debug modem** — 显示接入服务器上的调制解调器线路活动。
- **show modem version** — 显示有关调制解调器固件、控制器和DSP代码的版本信息。

```
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

```

客户端正在服务器调试中拨打789个必要的解释。

```
monica#2.2.2.1 2060
```

```
Trying 2.2.2.1, 2060 ... Open
```

```
at
```

```
OK
```

```
atdt789
```

要更好地了解此调试输出，请参阅[E1 R2信令理论文档](#)。

```
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(#)
Oct 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

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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
```

相关信息

- [E1 R2 信令理论](#)
- [E1 R2 信令配置与故障排除](#)
- [用 cas-custom 命令定制 E1 R2](#)
- [Cisco AS5300和Cisco AS5200接入服务器的E1 R2信令](#)
- [Cisco 3620及3640系列路由器的E1 R2信令](#)
- [Cisco AS5800的E1 R2信令](#)
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