

為資料呼叫配置並排除E1 R2信令故障

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簡介

本文檔提供資料呼叫的E1 R2信令的配置示例和故障排除技術。

必要條件

需求

在嘗試此配置之前，建議您閱讀[E1 R2信令理論](#)文檔。有關語音應用E1 R2信令的資訊，請參閱[E1 R2信令配置和故障排除](#)文檔。

採用元件

此配置是使用下面的軟體和硬體版本開發和測試的。此配置顯示Cisco 3640路由器和Cisco AS5300接入伺服器之間的背對背實驗設定。

- AS5300模擬客戶端，運行Cisco IOS®軟體版本12.2(3)。
- 3640充當伺服器，且執行Cisco IOS軟體版本12.1(10)。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

背景資訊

E1 R2信令允許Cisco通用接入伺服器與同樣使用E1 R2信令的中央局中繼通訊。R2信令是通道化E1網路常見的國際信令標準。R2信令沒有單一標準。ITU-T Q.400-Q.490建議定義了R2，但許多國家/地區以完全不同的方式實施R2。

Cisco Systems通過在其Cisco IOS軟體中支援R2信令的許多本地化實施來解決這一難題。R2自定義本地化意味著廣泛的國家和地區支援R2信令。思科不斷支援新國家/地區的E1 R2信令變體。

註：僅數據機ISDN通道彙總(MICA)和Nextport數字數據機模組支援R2功能。未為Microcom數據機或非數據機應用程式提供R2支援。

設定

本節提供用於設定本文中所述功能的資訊。此配置對以下情況有效：

- E1 R2上的數據機撥入連線
- E1 R2背對背連線
- Cisco路由器之間的E1 R2連線

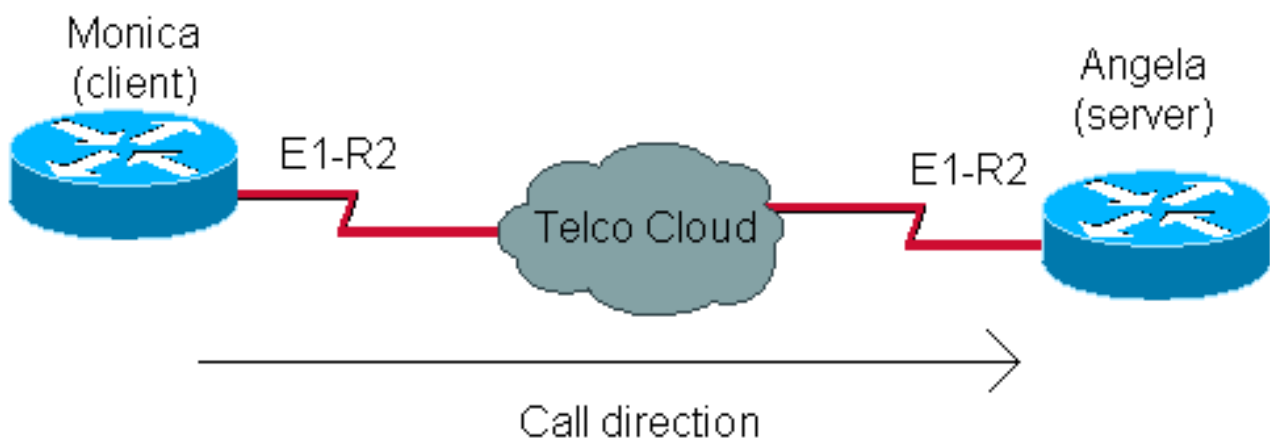
注意：對於資料呼叫或語音呼叫，E1控制器的配置是相同的。唯一的區別是：

- 對於資料呼叫，您需要配置數據機以接受呼叫。
- 對於語音呼叫，您需要配置語音埠以接受呼叫。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)([僅限註冊客戶](#))。

網路圖表

本文檔使用下圖所示的網路設定。



組態

配置E1 R2進行資料呼叫涉及兩個一般步驟：

- 配置E1 R2

- 設定資料機及相關問題

E1 R2配置基於從Telco獲取的資訊。請參閱[E1 R2信令配置和故障排除](#)文檔，瞭解有關E1 R2特定配置的其他資訊。

數據機配置與任何接入伺服器的配置類似，例如具有PRI線路。

Monica(as5300)
<pre>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</pre>
安吉拉(3640)
<pre>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</pre>

驗證

目前沒有適用於此組態的驗證程序。

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

有關故障排除E1 R2的詳細資訊，請參閱[E1 R2信令配置和故障排除](#)。

疑難排解指令

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

注意：發出debug指令之前，請先參閱[有關Debug指令的重要資訊](#)。

- **show controllers e1** — 顯示特定於控制器硬體的控制器狀態。如需詳細資訊，請參閱[瞭解show controllers e1命令](#)。
- **show diag** — 在Cisco 3600上，顯示路由器的硬體資訊，並驗證是否識別所有硬體。
- **debug modem csm** — 調試用於連線數據機上的呼叫的呼叫交換模組(CSM)。
- **debug cas** — 提供CAS信令位狀態的即時跟蹤。
- **debug modem** — 顯示接入伺服器上的數據機線路活動。
- **show modem version** — 顯示有關數據機韌體、控制器和DSP代碼的版本資訊。

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

客戶端在伺服器的調試過程中撥打789個必要的解釋。

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

要更好地理解此debug輸出，請參閱[E1 R2信令理論](#)文檔。

```
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
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
```

相關資訊

- [E1 R2信令理論](#)
- [E1 R2信令配置和故障排除](#)
- [使用cas-custom命令定製E1 R2](#)
- [適用於思科AS5300和思科AS5200接入伺服器的E1 R2信令](#)
- [適用於Cisco 3620和3640系列路由器的E1 R2訊號傳送](#)
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