

# MSR 系列路由器模拟 E&M 无信令模式典型配置举例

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# 1 简介

本文档介绍模拟 E&M 无信令模式典型配置举例。

## 2 配置前提

本文档不严格与具体软、硬件版本对应，如果使用过程中与产品实际情况有差异，请参考相关产品手册，或以设备实际情况为准。

本文档中的配置均是在实验室环境下进行的配置和验证，配置前设备的所有参数均采用出厂时的缺省配置。如果您已经对设备进行了配置，为了保证配置效果，请确认现有配置和以下举例中的配置不冲突。

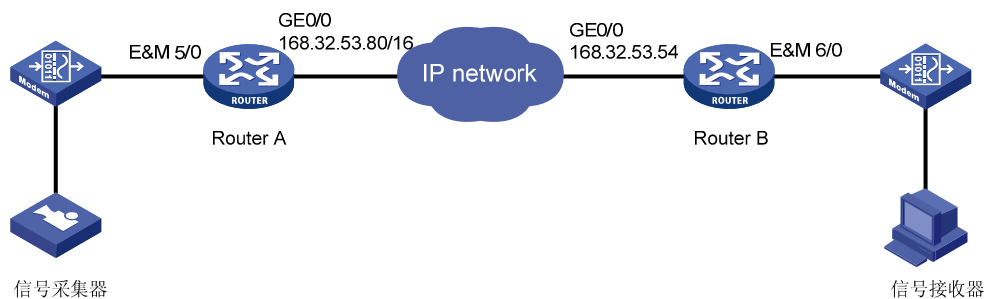
本文档假设您已了解 E&M 特性。

## 3 配置举例

### 3.1 组网需求

如 [图 1](#)，Modem 和路由器的模拟 E&M 卡相连，路由器配置 E&M 无信令模式。保持两侧 Modem 链路一直畅通，将信号采集器采集的数据实时发送到信号接收器上。

图1 模拟 E&M 无信令模式典型配置举例组网图



### 3.2 配置思路

- 为使双发可以建立呼叫，配置相关号码和实体；
- 配置 E&M 线路参数；
- 启动无信令模式，使设备发起呼叫。

### 3.3 使用版本

本举例是在 Release 2104P02 版本上进行配置和验证的。

## 3.4 配置步骤

### 3.4.1 RouterA的配置

```
<RouterA>system-view
[RouterA]interface GigabitEthernet 0/0
[RouterA-GigabitEthernet0/0]ip address 168.32.53.80 16
[RouterA-GigabitEthernet0/0]quit
[RouterA]voice-setup
[RouterA-voice]dial-program
# 配置 IP 呼叫所用的 VoIP 实体，匹配号码为“88..”。
[RouterA-voice-dial] entity 20 voip
[RouterA-voice-dial-entity20] match-template 88..
[RouterA-voice-dial-entity20] address sip ip 168.32.53.54
[RouterA-voice-dial-entity20] quit
# 配置 E&M 线路参数，假设和 E&M 连接的 Modem 中继线缆类型 4 线，中继信号类型为 5 类。
[RouterA] subscriber-line 5/0
[RouterA-subscriber-line5/0] em-phy-parm 4-wire
[RouterA-subscriber-line5/0] type 5
# 作为主叫网关，使能专线号码和 E&M 无信令模式，并启动监控时间为 90 秒
[RouterA-subscriber-line5/0]private-line 88
[RouterA-subscriber-line5/0]open-trunk caller monitor 90
```

### 3.4.2 RouterB的配置

```
<RouterB>system-view
[RouterB]interface GigabitEthernet 0/0
[RouterB-GigabitEthernet0/0]ip address 168.32.53.54 16
[RouterB-GigabitEthernet0/0]quit
[RouterB]voice-setup
[RouterB-voice]dial-program
# 配置 E&M 接口上的 POTS 语音实体。
[RouterB-voice-dial] entity 2000 pots
[RouterB-voice-dial-entity2000] match-template 8800
[RouterB-voice-dial-entity2000] line 6/0
[RouterB-voice-dial-entity2000] send-number all
# 配置 E&M 线路参数，假设和 E&M 连接的 Modem 中继线缆类型 4 线，中继信号类型为 5 类。
[RouterB] subscriber-line 6/0
[RouterB-subscriber-line6/0] em-phy-parm 4-wire
[RouterB-subscriber-line6/0] type 5
# 作为被叫网关，使能 E&M 无信令模式。
[RouterB-Subscriber-Line6/0]open-trunk called
```

## 3.5 验证配置

- (1) 打开 debug voice em all 信息。使能 open-trunk caller monitor 90 命令后，可以看到主叫 E&M 设备立刻发起呼叫，与对方设备 E&M 建立连接，且链路建立成功后设备一直保持畅通状态。

```
*Sep 30 15:50:31:300 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: enable the open-trunk monitor, interval is configured 90s!,TimerId is 206

*Sep 30 15:50:31:300 2013 MSR5060 EM/7/VOICE:
EM_EVENT : Called number is 8800!

*Sep 30 15:50:31:300 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Succeed in creating EMCCB.

*Sep 30 15:50:31:300 2013 MSR5060 EM/7/VOICE:
EM_TIMER [5/0]: Created message_wait TimerId [343] which will last 1000ms waiting for
VIM_INSTALL_ACK.

*Sep 30 15:50:31:300 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Succeed in sending install to driver.

*Sep 30 15:50:31:301 2013 MSR5060 EM/7/VOICE:
EM_FSM [5/0]: State changed from EM_IDLE to EMCALLED_WAIT_RECEIVE_NUMBER.

*Sep 30 15:50:31:321 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Received VIM_INSTALL_ACK from VIM on state EMCALLED_WAIT_RECEIVE_NUMBER.

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_TIMER [5/0]: Deleted TimerId [343].

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Private line number is: 8800.

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Begin to treat with Plar .

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: callernum=[],callednum=[8800]

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_EVENT [5/0]: Succeed in sending AccpSetup to CMC.

*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:
EM_TIMER [5/0]: Created message_wait TimerId [969] which will last 3000ms waiting for
```

AccpSetupAck.

\*Sep 30 15:50:31:322 2013 MSR5060 EM/7/VOICE:

EM\_FSM [5/0]: State changed from EMCALLED\_WAIT\_RECEIVE\_NUMBER to EMCALLED\_WAIT\_SETUP\_ACK.

\*Sep 30 15:50:31:324 2013 MSR5060 EM/7/VOICE:

EM\_EVENT [5/0]: Received ACCP\_SETUP\_ACK from CMC on state EMCALLED\_WAIT\_SETUP\_ACK.

\*Sep 30 15:50:31:325 2013 MSR5060 EM/7/VOICE:

EM\_EVENT [5/0]: Succeed in sending DTMFDetect off to Driver.

\*Sep 30 15:50:31:325 2013 MSR5060 EM/7/VOICE:

EM\_TIMER [5/0]: Deleted TimerId [969].

\*Sep 30 15:50:31:325 2013 MSR5060 EM/7/VOICE:

EM\_TIMER [5/0]: Created message\_wait TimerId [606] which will last 40000ms waiting for AccpAlerting.

\*Sep 30 15:50:31:325 2013 MSR5060 EM/7/VOICE:

EM\_FSM [5/0]: State changed from EMCALLED\_WAIT\_SETUP\_ACK to EMCALLED\_RINGING.

\*Sep 30 15:50:31:326 2013 MSR5060 EM/7/VOICE:

EM\_EVENT [5/0]: Received ACCP\_SETUP\_ACK from CMC on state EMCALLED\_RINGING.

\*Sep 30 15:50:31:326 2013 MSR5060 EM/7/VOICE:

EM\_TIMER [5/0]: Deleted TimerId [606].

\*Sep 30 15:50:31:326 2013 MSR5060 EM/7/VOICE:

EM\_TIMER [5/0]: Created message\_wait TimerId [169] which will last 40000ms waiting for AccpAlerting.

\*Sep 30 15:50:31:326 2013 MSR5060 EM/7/VOICE:

EM\_FSM [5/0]: State changed from EMCALLED\_RINGING to EMCALLED\_RINGING.

\*Sep 30 15:50:31:366 2013 MSR5060 EM/7/VOICE:

EM\_EVENT [5/0]: Received ACCP\_ALERTING from CMC on state EMCALLED\_RINGING.

\*Sep 30 15:50:31:367 2013 MSR5060 EM/7/VOICE:

EM\_TIMER [5/0]: Deleted TimerId [169].

\*Sep 30 15:50:31:367 2013 MSR5060 EM/7/VOICE:

EM\_EVENT [5/0]: Succeed in sending AccpChannelReady to CMC.

\*Sep 30 15:50:31:367 2013 MSR5060 EM/7/VOICE:  
EM\_TIMER [5/0]: Created message\_wait TimerId [541] which will last 60000ms waiting for AccpConnect.

\*Sep 30 15:50:31:367 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: E&M OpenTrunk do nothing

\*Sep 30 15:50:31:368 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT : Received AccpChannelReadyAck Msg from CMC.

\*Sep 30 15:50:37:577 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: Received ACCP\_CONNECT from CMC on state EMCALLED\_RINGING.

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_TIMER [5/0]: Deleted TimerId [541].

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_FSM [5/0]: State changed from EMCALLED\_RINGING to EMCALLED\_TALKING.

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: Received ACCP\_INFORMATION from CMC on state EMCALLED\_TALKING.

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: Send to DRV [VICCTL\_COM\_DTMF\_DETECT\_OFF].

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: Received ACCP\_INFORMATION from CMC on state EMCALLED\_TALKING.

\*Sep 30 15:50:37:578 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT [5/0]: Send to DRV [IOCTL\_VOICE\_NTE\_ON],LocalPT=101,RemotePT=101.

(2) 呼叫建立后, 设备每隔 90s 检测一次链路状态, 如果发现链路没有处于畅通状态, 那么会立刻发起呼叫再次建链。

\*Sep 30 15:52:01:297 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT :Receive Em Timer Open Trunk monitor timer message,timerID = 206!

\*Sep 30 15:52:01:297 2013 MSR50640 EM/7/VOICE:  
EM\_EVENT: The current ViIndex has been Occupied.

\*Sep 30 15:53:31:297 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT :Receive Em Timer Open Trunk monitor timer message,timerID = 206!

\*Sep 30 15:53:31:297 2013 MSR5060 EM/7/VOICE:  
EM\_EVENT: The current ViIndex has been Occupied.

## 3.6 配置文件

- Router A:

```
#
version 5.20, Release 2104P02, Standard
#
 sysname RouterA
#
interface GigabitEthernet0/0
 port link-mode route
 ip address 168.32.53.80 255.255.0.0
#
voice-setup
#
 sip
#
 sip-server
#
 call-rule-set
#
 call-route
#
 dial-program
#
entity 20 voip
 address sip ip 168.32.53.54
 match-template 88..
#
 aaa-client
#
 gk-client
#
 subscriber-line5/0
 private-line 88
 open-trunk caller monitor 90
#
```

- Router B :

```
#
 sysname RouterB
#
interface GigabitEthernet0/0
 port link-mode route
 ip address 168.32.53.54 255.255.0.0
```



```
#
voice-setup
#
sip
#
sip-server
#
call-rule-set
#
call-route
#
dial-program
#
entity 2000 pots
    line 6/0
        send-number all
        match-template 8800
#
subscriber-line6/0
    open-trunk called
#
```

## 4 相关资料

- H3C MSR 系列路由器 命令参考(V5)-R2311
- H3C MSR 系列路由器 配置指导(V5)-R2311