在Cisco1600，1700年，2600个和3600个平台上异步调制解调器拨入的Sync-Async端口

目录

简介

本文档提供了在Cisco 1600、1700、2600和3600路由器上使用同步和异步端口进行调制解调器拨入的示例配置。通过以下配置，您可以将路由器的同步和异步接口连接到外部客户端调制解调器，这些调制解调器通过DB-60和RS-232电缆连接到路由器。

注：如果您有USR sportster调制解调器，则应只关闭dip开关3和8。

开始使用前

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

先决条件

本文档没有任何特定的前提条件。

使用的组件

本文档中的信息基于以下软件版本。

- Cisco IOS®软件版本12.1

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

配置

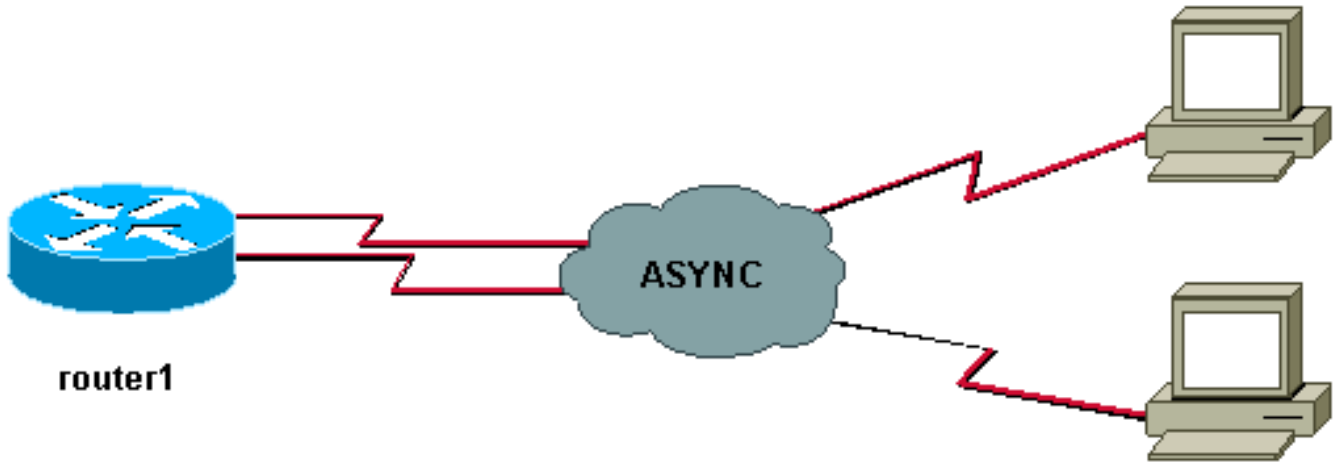
本部分提供有关如何配置本文档所述功能的信息。

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)。

有关安装网络模块和端口编号的详细信息，请参阅连接串行网络模块。

网络图

本文档使用下图所示的网络设置。



配置

本文使用如下所示的配置。

路由器 1

```
show running-config

!
version 12.1
service timestamps debug datetime msec
no service password-encryption
!
hostname router1
!
boot system slot1:c3640-i-mz.121-20
!
username test password 0 test!--- Local database entries
for authentication. ! memory-size iomem 10 ip subnet-
zero ! ! interface Loopback0 ip address 1.1.1.1
255.255.255.0 ! interface Ethernet0/0 ip address
10.10.10.1 255.255.255.0 ! interface Serial3/0 no ip
address ! interface Serial3/1 no ip address shutdown !
interface Serial3/2 no ip address shutdown ! interface
```

```
Serial3/3 no ip address shutdown ! interface Serial3/4
no ip address shutdown ! interface Serial3/5 no ip
address shutdown ! interface Serial3/6 no ip address
shutdown ! interface Serial3/7 !--- Interface attached
to modem. physical-layer async !--- Put the interface
into async mode. !--- A line appears at the bottom of
the configuration. !--- All the other serial ports on
this module are in sync mode. ip unnumbered Loopback0 !-
-- IP address for the interface. encapsulation ppp async
mode interactive !--- Allow both EXEC and PPP sessions.
peer default ip address pool default !--- Assign IP
address to client. ppp authentication chap !---
Authenticate using Challenge Handshake !---
Authentication Protocol (CHAP). ! ip local pool default
1.1.1.2 !--- Local IP pool of one IP address for client
connect !--- on the external modem connected to
serial3/7. ip classless ip route 0.0.0.0 0.0.0.0
10.10.10.100 ip default-gateway ip http server ! line
con 0 line 104 !--- Line 104 associated with serial 3/7.
modem InOut !--- Modem attached to line. modem
autoconfigure discovery !--- We are hoping that the
modem is a standard hayes !--- compatible modem. The
configuration worked fine. transport input all
autoselect during-login autoselect ppp transport input
all speed 115200 line aux 0 password <removed> login
line vty 0 4 password <removed> login ! end router1#
```

请注意，在接口上配置物理层异步后，需要配置的配置（本例中为104）中会显示新的线路号。 如果您不知道哪个行号与哪个接口关联，请发出**show line** EXEC命令来查看映射。配置完所有这些并安装所有硬件后，您必须反向Telnet至调制解调器，以锁定两台设备之间的数据终端设备(DTE)速度。为此，请Telnet至机箱上处于up/up状态（环回接口对此非常有用）的任何IP地址，端口号为2000+x，其中x是调制解调器连接到的线路号。在本例中，调制解调器在线104，因此Telnet至环回地址(1.1.1.1)端口2104。然后，您可以在空行**发**出AT命令，调制解调器应回显“OK”。 要断开连接，**请按Ctrl-Shift-6**，然后按**x**返回路由器提示符，然后键入**disconnect**以关闭连接。

注意：确保关闭连接或连接无法工作。

例如：

```
router1#telnet 1.1.1.1 2104
Trying 1.1.1.1, 2104 ... Open
at
OK
router1#disconnect
Closing connection to 1.1.1.1 [confirm]
router1#
```

有时，在DTE速度完全锁**定之前，您需**要向调制解调器发出命令at&b0&w0。在反向Telnet完成后，使用超级终端（或其他ASCII程序）拨入路由器，并查看是否能收到路由器提示。设置应为8N1。如果这样可行，则PPP连接也应该有效。

验证

本节提供可用于确认任何布线问题的信息。以下是同步/异步卡的布线图。另外，请确保线路(104)下的调制解调器硬件状态与下面介绍的类似。

```
Sync/async port(DB60 female)<------( CAB-232MT=, Part# 72-0793-01)-------->External Modem
```

注意：CAB-232MT电缆是DTE电缆，它使路由器充当DTE设备。您需要它连接到调制解调器（DCE设备）。 如果将同步/异步端口连接到终端设备(DTE)，则需要使用DCE电缆(CAB-232FC=)，使路由器充当DCE设备。

[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。**

- **show diag** — 显示有关网络设备的控制器、接口处理器和端口适配器的诊断信息。
- **show interfaces serial** — 显示有关串行接口的信息。
- **show line** — 显示终端线路的参数。

```
router1#show diag
Slot 0:
....
....
<snipped>
....
Slot 3:
        Sync/Async Port adapter, 8 ports
        Port adapter is analyzed
        Port adapter insertion time unknown
        EEPROM contents at hardware discovery:
        Hardware revision 1.0           Board revision H0
        Serial number     10532987      Part number    800-01225-02
        Test history      0x0           RMA number     00-00-00
        EEPROM format version 1
        EEPROM contents (hex):
          0x20: 01 25 01 00 00 A0 B8 7B 50 04 C9 02 00 00 00 00
          0x30: 88 00 00 00 98 10 23 17 FF FF FF FF FF FF FF FF

router1#show interfaces serial 3/7
Serial3/7 is down, line protocol is down
  Hardware is CD2430 in async mode
  MTU 1500 bytes, BW 9 Kbit, DLY 100000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
....

router1#show interfaces serial 3/0
Serial3/0 is down, line protocol is down
  Hardware is CD2430 in sync mode
  MTU 1500 bytes, BW 128 Kbit, DLY 20000 usec,
     reliability 255/255, txload 1/255, rxload 1/255

router1#show line
   Tty  Typ    Tx/Rx      A  Modem  Roty AccO AccI   Uses  Noise  Overruns   Int
*    0  CTY      -  -      -     -      -     0     0      0/0         -
I   104 TTY 115200/115200 - inout    -      -     -      0    0      0/0      Se3/7
    129 AUX  9600/9600    -     -     -      -     -      0    0      0/0        -
    130 VTY               -     -     -      -     -      0    0      0/0        -
    131 VTY               -     -     -      -     -      0    0      0/0        -
    132 VTY               -     -     -      -     -      0    0      0/0        -
    133 VTY               -     -     -      -     -      0    0      0/0        -
    134 VTY               -     -     -      -     -      0    0      0/0        -

Line(s) not in async mode -or- with no hardware support:
1-96, 98-128

router1#show line 104
```

```
   Tty Typ   Tx/Rx      A Modem  Roty AccO AccI   Uses   Noise  Overruns   Int
I 104  TTY 115200/115200- inout   -    -    -      0       0      0/0      Se3/7

Line 104, Location: "", Type: ""
Length: 24 lines, Width: 80 columns
Baud rate (TX/RX) is 115200/115200, no parity, 2 stopbits, 8 databits
Status: No Exit Banner
Capabilities: Modem Callout, Modem RI is CD,
  Line usable as async interface
Modem state: Idle
Modem hardware state: noCTS noDSR  DTR RTS         !--- External connected modem is off. Special
Chars: Escape Hold Stop Start Disconnect Activation ^^x    none   -     -       none
Timeouts:      Idle EXEC    Idle Session   Modem Answer  Session   Dispatch
               00:10:00        never                      none     not set
                            Idle Session Disconnect Warning
                              never
                            Login-sequence User Response
                             00:00:30
                            Autoselect Initial Wait
                              not set
Modem type is unknown.
Session limit is not set.
Time since activation: never
Editing is enabled.
History is enabled, history size is 10.
DNS resolution in show commands is enabled
Full user help is disabled
Allowed input transports are pad v120 lapb-ta telnet rlogin udptn.
Allowed output transports are pad v120 lapb-ta telnet rlogin.
Preferred transport is telnet.
No output characters are padded
No special data dispatching characters
router1#

router1#show line 104
   Tty Typ Tx/Rx         A Modem  Roty AccO AccI   Uses   Noise  Overruns   Int
   104 TTY 115200/115200 -  inout  -    -    -      0       0       0/0     Se3/7

Line 104, Location: "", Type: ""
Length: 24 lines, Width: 80 columns
Baud rate (TX/RX) is 115200/115200, no parity, 2 stopbits, 8 databits
Status: No Exit Banner, CTS Raised
Capabilities: Modem Callout, Modem RI is CD
Modem state: Idle
Modem hardware state: CTS noDSR  DTR RTS           !--- External connected modem is ON, without
any call on it. Special Chars: Escape Hold Stop Start Disconnect Activation ^^x none - - none
Timeouts: Idle EXEC Idle Session Modem Answer Session Dispatch 00:10:00 never none not set Idle
Session Disconnect Warning never Login-sequence User Response 00:00:30 Autoselect Initial Wait
not set Modem type is unknown. Session limit is not set. Time since activation: never Editing is
enabled. History is enabled, history size is 10. DNS resolution in show commands is enabled Full
user help is disabled Allowed input transports are pad v120 lapb-ta telnet rlogin udptn. Allowed
output transports are pad v120 lapb-ta telnet rlogin. Preferred transport is telnet. No output
characters are padded No special data dispatching characters route1#

router1#show line 104
   Tty Typ  Tx/Rx       A Modem  Roty AccO AccI   Uses   Noise  Overruns   Int
* 104 TTY 115200/115200 - inout   -    -    -      0       1       0/0     Se3/7

Line 104, Location: "", Type: ""
Length: 24 lines, Width: 80 columns
Baud rate (TX/RX) is 115200/115200, no parity, 2 stopbits, 8 databits
Status: PSI Enabled, Ready, Active, No Exit Banner, CTS Raised
  Automore On
```

```
Capabilities: Modem Callout, Modem RI is CD
Modem state: Ready
Modem hardware state: CTS DSR  DTR RTS              !--- External connected modem is ON, with
an active EXEC call on it. Special Chars: Escape Hold Stop Start Disconnect Activation ^^x none
- - none Timeouts: Idle EXEC Idle Session Modem Answer Session Dispatch 00:10:00 never none not
set Idle Session Disconnect Warning never Login-sequence User Response 00:00:30 Autoselect
Initial Wait not set Modem type is unknown. Session limit is not set. Time since activation:
00:01:17 Editing is enabled. History is enabled, history size is 10. DNS resolution in show
commands is enabled Full user help is disabled Allowed input transports are pad v120 lapb-ta
telnet rlogin udptn. Allowed output transports are pad v120 lapb-ta telnet rlogin. Preferred
transport is telnet. No output characters are padded No special data dispatching characters

router1#show interfaces serial 3/7
Serial3/7 is down, line protocol is down                                    !--- External
connected modem is ON, with an active call in EXEC mode. Hardware is CD2430 in async mode
Interface is unnumbered. Using address of Loopback0 (10.10.10.10) MTU 1500 bytes, BW 115 Kbit,
DLY 100000 usec, reliability 255/255, txload 1/255, rxload 1/255 Encapsulation PPP, loopback not
set Keepalive not set DTR is pulsed for 5 seconds on reset LCP Closed Closed: IPCP Last input
00:50:32, output 00:51:29, output hang never Last clearing of "show interface" counters 00:00:38
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0 Queueing strategy:
weighted fair Output queue: 0/1000/64/0 (size/max total/threshold/drops) Conversations 0/1/16
(active/max active/max total) Reserved Conversations 0/0 (allocated/max allocated) 5 minute
input rate 0 bits/sec, 0 packets/sec 5 minute output rate 0 bits/sec, 0 packets/sec 0 packets
input, 0 bytes, 0 no buffer Received 0 broadcasts, 0 runts, 0 giants, 0 throttles 0 input
errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort 0 packets output, 0 bytes, 0 underruns 0
output errors, 0 collisions, 0 interface resets 0 output buffer failures, 0 output buffers
swapped out 0 carrier transitions router1#
```

故障排除

上述验证部分提供有关电缆连接和异步通信控制信号(CTS DSR DTR RTS)的大部分信息。使用上述路由器1的配置，用户应该能够拨号。

- **EXEC模式** — 在EXEC模式下，用户可以使用串行终端实用程序（如hyperterm/procomm）从调制解调器拨号到连接到同步/异步端口的外部调制解调器。在调制解调器之间成功进行培训后，用户应收到router1提示。在EXEC连接到路由器时，会收集验证部分中上述所有show命令。
- **PPP模式** — 在PPP模式下，用户可以使用Windows拨号网络从调制解调器拨号到同步/异步端口上连接的外部调制解调器。如果在EXEC模式下拨号正常工作，则PPP也应正常工作，不会出现任何问题。请确保配置与上述完全相同。要排除PPP模式故障，请使用以下debug命令进行拨号，这些命令需要在毫秒时间戳内打开。按照粗体显示的调试行查看调试的进度。如果需要详细信息，请使用以下PPP故障排除流程图。

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。

- **service timestamps debug datetime msec** — 用于为调试启用毫秒时间戳。
- **debug modem** — 用于观察接入服务器上的调制解调器线路活动。
- **debug ppp negotiation** — 用于查看客户端是否正在传递PPP协商。
- **debug ppp authentication** — 用于查看客户端是否正在传递身份验证。
- **debug chat** — 用于显示聊天脚本活动。
- **debug confmodem** — 用于显示与路由器所连接调制解调器的发现和配置相关的信息。

- **show debugging** — 用于显示有关为路由器启用的调试类型的信息。
- **show users** — 用于显示有关路由器上活动线路的信息。

有关故障排除命令示例，请参阅以下命令输出。

```
router1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
router1(config)#service timestamps debug datetime msec       !--- Turned on millisecond time
stamping for debugs. router1(config)#end
router1#
router1#debug modem
router1#debug ppp negotiation
router1#debug ppp authentication
router1#debug chat
router1#debug confmodem

router1#show debugging
General OS:
  Modem control/process activation debugging is on
PPP:
  PPP authentication debugging is on
  PPP protocol negotiation debugging is on
Chat Scripts:
  Chat scripts activity debugging is on
router1#

!--- The following is the above mentioned !--- debugs log collected from rotuer, !--- when a PPP
user tried to dialin with a username = test, password = test. router1# router1#clear line 104
[confirm] [OK] router1# *Mar 1 00:06:34.563: TTY104: Line reset by "Exec" *Mar 1 00:06:34.567:
TTY104: Modem: IDLE->HANGUP *Mar 1 00:06:34.567: TTY104: destroy timer type 0 *Mar 1
00:06:34.567: TTY104: destroy timer type 1 *Mar 1 00:06:34.567: TTY104: destroy timer type 3
*Mar 1 00:06:34.567: TTY104: destroy timer type 4 *Mar 1 00:06:34.567: TTY104: destroy timer
type 2 *Mar 1 00:06:35.139: TTY104: dropping DTR, hanging up *Mar 1 00:06:35.139: tty104: Modem:
HANGUP->IDLE *Mar 1 00:06:40.139: TTY104: restoring DTR *Mar 1 00:06:41.139: TTY104:
autoconfigure probe started *Mar 1 00:06:41.139: TTY104: Modem command:  --AT&F&C1&D2S0=1H0--
*Mar  1 00:06:43.675: TTY104: Modem configuration succeeded
*Mar  1 00:06:43.675: TTY104: Detected modem speed 115200
*Mar  1 00:06:43.675: TTY104: Done with modem configuration
router1#
router1#                              !--- Below are debugs when the PPP user tried to dialin.
*Mar 1 00:08:43.163: TTY104: DSR came up
*Mar  1 00:08:43.163: tty104: Modem: IDLE->(unknown)
*Mar  1 00:08:43.163: TTY104: Autoselect started
*Mar  1 00:08:43.163: TTY104: create timer type 0, 120 seconds
*Mar  1 00:08:44.699: TTY104: Autoselect sample 7E
*Mar  1 00:08:44.699: TTY104: Autoselect sample 7EFF
*Mar  1 00:08:44.699: TTY104: Autoselect sample 7EFF7D
*Mar  1 00:08:44.699: TTY104: Autoselect sample 7EFF7D23
*Mar  1 00:08:44.699: TTY104 Autoselect cmd:  ppp negotiate
*Mar  1 00:08:44.699: TTY104: destroy timer type 0 (OK)
*Mar  1 00:08:44.703: TTY104: EXEC creation
*Mar  1 00:08:44.703: TTY104: create timer type 1, 600 seconds
*Mar  1 00:08:44.707: TTY104: destroy timer type 1 (OK)
*Mar  1 00:08:44.707: TTY104: destroy timer type 0
00:08:46: %LINK-3-UPDOWN: Interface Serial3/7, changed state to up
*Mar  1 00:08:46.707: Se3/7 PPP: Treating connection as a dedicated line
*Mar  1 00:08:46.707: Se3/7 PPP: Phase is ESTABLISHING, Active Open
*Mar  1 00:08:46.707: Se3/7 LCP: O CONFREQ [Closed] id 3 len 25
*Mar  1 00:08:46.707: Se3/7 LCP:    ACCM 0x000A0000 (0x0206000A0000)
*Mar  1 00:08:46.707: Se3/7 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 00:08:46.707: Se3/7 LCP:    MagicNumber 0x0014A697 (0x05060014A697)
*Mar  1 00:08:46.707: Se3/7 LCP:    PFC (0x0702)
```

```
*Mar  1 00:08:46.707: Se3/7 LCP:    ACFC (0x0802)
*Mar  1 00:08:46.863: Se3/7 LCP: I CONFACK [REQsent] id 3 len 25
*Mar  1 00:08:46.863: Se3/7 LCP:    ACCM 0x000A0000 (0x0206000A0000)
*Mar  1 00:08:46.863: Se3/7 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 00:08:46.863: Se3/7 LCP:    MagicNumber 0x0014A697 (0x05060014A697)
*Mar  1 00:08:46.863: Se3/7 LCP:    PFC (0x0702)
*Mar  1 00:08:46.863: Se3/7 LCP:    ACFC (0x0802)
*Mar  1 00:08:47.703: Se3/7 LCP: I CONFREQ [ACKrcvd] id 2 len 50
*Mar  1 00:08:47.703: Se3/7 LCP:    ACCM 0x00000000 (0x020600000000)
*Mar  1 00:08:47.703: Se3/7 LCP:    MagicNumber 0x44B3482A (0x050644B3482A)
*Mar  1 00:08:47.703: Se3/7 LCP:    PFC (0x0702)
*Mar  1 00:08:47.703: Se3/7 LCP:    ACFC (0x0802)
*Mar  1 00:08:47.703: Se3/7 LCP:    Callback 6  (0x0D0306)
*Mar  1 00:08:47.703: Se3/7 LCP:    MRRU 1614 (0x1104064E)
*Mar  1 00:08:47.703: Se3/7 LCP:    EndpointDisc 1 Local
*Mar  1 00:08:47.703: Se3/7 LCP:     (0x131701362F5B168BFB407785EE942EB8)
*Mar  1 00:08:47.703: Se3/7 LCP:     (0xEF5D0700000000)
*Mar  1 00:08:47.703: Se3/7 LCP: O CONFREJ [ACKrcvd] id 2 len 11
*Mar  1 00:08:47.703: Se3/7 LCP:    Callback 6  (0x0D0306)
*Mar  1 00:08:47.707: Se3/7 LCP:    MRRU 1614 (0x1104064E)
*Mar  1 00:08:47.855: Se3/7 LCP: I CONFREQ [ACKrcvd] id 3 len 43
*Mar  1 00:08:47.855: Se3/7 LCP:    ACCM 0x00000000 (0x020600000000)
*Mar  1 00:08:47.855: Se3/7 LCP:    MagicNumber 0x44B3482A (0x050644B3482A)
*Mar  1 00:08:47.855: Se3/7 LCP:    PFC (0x0702)
*Mar  1 00:08:47.855: Se3/7 LCP:    ACFC (0x0802)
*Mar  1 00:08:47.855: Se3/7 LCP:    EndpointDisc 1 Local
*Mar  1 00:08:47.855: Se3/7 LCP:     (0x131701362F5B168BFB407785EE942EB8)
*Mar  1 00:08:47.855: Se3/7 LCP:     (0xEF5D0700000000)
*Mar  1 00:08:47.855: Se3/7 LCP: O CONFACK [ACKrcvd] id 3 len 43
*Mar  1 00:08:47.855: Se3/7 LCP:    ACCM 0x00000000 (0x020600000000)
*Mar  1 00:08:47.855: Se3/7 LCP:    MagicNumber 0x44B3482A (0x050644B3482A)
*Mar  1 00:08:47.855: Se3/7 LCP:    PFC (0x0702)
*Mar  1 00:08:47.859: Se3/7 LCP:    ACFC (0x0802)
*Mar  1 00:08:47.859: Se3/7 LCP:    EndpointDisc 1 Local
*Mar  1 00:08:47.859: Se3/7 LCP:     (0x131701362F5B168BFB407785EE942EB8)
*Mar  1 00:08:47.859: Se3/7 LCP:     (0xEF5D0700000000)
*Mar  1 00:08:47.859: Se3/7 LCP: State is Open
*Mar  1 00:08:47.859: Se3/7 PPP: Phase is AUTHENTICATING, by this end
*Mar  1 00:08:47.859: Se3/7 CHAP: O CHALLENGE id 2 len 28 from "router1"
*Mar  1 00:08:48.015: Se3/7 LCP: I IDENTIFY [Open] id 4 len 18 magic 0x44B3482A MSRASV5.00
*Mar  1 00:08:48.031: Se3/7 LCP: I IDENTIFY [Open] id 5 len 27 magic 0x44B3482A MSRAS-1-IRAH-W2K
*Mar  1 00:08:48.043: Se3/7 CHAP: I RESPONSE id 2 len 25 from "test"
*Mar  1 00:08:48.043: Se3/7 CHAP: O SUCCESS id 2 len 4
*Mar  1 00:08:48.047: Se3/7 PPP: Phase is UP
*Mar  1 00:08:48.047: Se3/7 IPCP: O CONFREQ [Closed] id 2 len 10
*Mar  1 00:08:48.047: Se3/7 IPCP:    Address 10.10.10.10 (0x03060A0A0A0A)
*Mar  1 00:08:48.175: Se3/7 CCP: I CONFREQ [Not negotiated] id 6 len 10
*Mar  1 00:08:48.175: Se3/7 CCP:    MS-PPC supported bits 0x00000001 (0x120600000001)
*Mar  1 00:08:48.175: Se3/7 LCP: O PROTREJ [Open] id 4 len 16 protocol CCP
(0x80FD0106000A120600000001)
*Mar  1 00:08:48.191: Se3/7 IPCP: I CONFREQ [REQsent] id 7 len 40
*Mar  1 00:08:48.191: Se3/7 IPCP:    CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
*Mar  1 00:08:48.191: Se3/7 IPCP:    Address 0.0.0.0 (0x030600000000)
*Mar  1 00:08:48.191: Se3/7 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP: O CONFREJ [REQsent] id 7 len 34
*Mar  1 00:08:48.195: Se3/7 IPCP:    CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
*Mar  1 00:08:48.195: Se3/7 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Mar  1 00:08:48.195: Se3/7 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Mar  1 00:08:48.199: Se3/7 IPCP: I CONFACK [REQsent] id 2 len 10
```

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*Mar  1 00:08:48.199: Se3/7 IPCP:    Address 10.10.10.10 (0x03060A0A0A0A)
*Mar  1 00:08:48.343: Se3/7 IPCP: I CONFREQ [ACKrcvd] id 8 len 10
*Mar  1 00:08:48.343: Se3/7 IPCP:    Address 0.0.0.0 (0x030600000000)
*Mar  1 00:08:48.343: Se3/7 IPCP: O CONFNAK [ACKrcvd] id 8 len 10
*Mar  1 00:08:48.343: Se3/7 IPCP:    Address 1.1.1.2 (0x030601010102)
*Mar  1 00:08:48.483: Se3/7 IPCP: I CONFREQ [ACKrcvd] id 9 len 10
*Mar  1 00:08:48.483: Se3/7 IPCP:    Address 1.1.1.2 (0x030601010102)
*Mar  1 00:08:48.483: Se3/7 IPCP: O CONFACK [ACKrcvd] id 9 len 10
*Mar  1 00:08:48.483: Se3/7 IPCP:    Address 1.1.1.2 (0x030601010102)
*Mar  1 00:08:48.487: Se3/7 IPCP: State is Open
*Mar  1 00:08:48.487: Se3/7 IPCP: Install route to 1.1.1.2
00:08:49: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/7,
changed state to up
router1#


router1#show interfaces serial 3/7
Serial3/7 is up, line protocol is up
  Hardware is CD2430 in async mode
  Interface is unnumbered. Using address of Loopback0 (10.10.10.10)
  MTU 1500 bytes, BW 115 Kbit, DLY 100000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation PPP, loopback not set
  Keepalive not set
  DTR is pulsed for 5 seconds on reset
  LCP Open
  Open: IPCP
  Last input 00:00:00, output 00:00:09, output hang never
  Last clearing of "show interface" counters 00:08:42
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
     Conversations  0/1/16 (active/max active/max total)
     Reserved Conversations 0/0 (allocated/max allocated)
  5 minute input rate 0 bits/sec, 1 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     157 packets input, 10790 bytes, 0 no buffer
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     2 input errors, 2 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     26 packets output, 975 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions

router1#show users
      Line      User       Host(s)         Idle     Location
*  0 con 0                  idle           00:00:00
 104 tty 104   test       Async interface  00:00:01  PPP: 1.1.1.2

  Interface      User        Mode           Idle     Peer Address

router1#ping  1.1.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.1.1.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 156/163/172 ms
router1#
```

相关信息

- 接入产品支持页

- 拨号技术支持页
- 技术支持 - Cisco Systems