

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[相关产品](#)

[规则](#)

[背景信息](#)

[配置](#)

[配置](#)

[定义关注数据流和空闲超时](#)

[验证](#)

[故障排除](#)

[故障排除命令](#)

[调试输出示例](#)

[故障排除资源](#)

[相关信息](#)

简介

在许多环境中，必需配置一个接入服务器从异步用户和ISDN用户上接收来电。这些用户可以无缝地连接到网络，就好象实际连接到网络一样。因此，此设置是常用的提供网络连通性为传播并且远程办公的用户，并且为小型办公室-家庭办公室(SOHO)站点。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 有两个拨号特性卡的(DFCs) Cisco AS5400，提供216个NextPort调制解调器和8 T1卡德。
- Cisco IOS软件版本12.3主线。
- 一激活T1PRI。
- 本地认证、授权和核算(AAA)。如果有AAA RADIUS或TACACS+服务器，您能使用该服务器为呼入呼叫提供AAA。

此配置仅是为基本的模拟和ISDN拨入。所以，支持所有Cisco IOS软件版本AS5350和AS5400是满足的。要运行其它功能，参考[软件建议工具\(仅限注册用户\)](#)选择Cisco IOS版本和特性组适当为您的需要。

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。

相关产品

该配置还可应用于 AS5350 或 AS5400 接入服务器。

注意：可能也修改此配置与E1PRI端口一起使用。

注意：配置有Telco和其他物理特性的E1控制器供应的线性编码、帧。D信道配置(E1的接口串行x:15)和这里显示的类似。

此配置非常类似于拨号接入的一AS5200或AS5300配置。关于如何配置AS5200或AS5300的更多信息，请参阅[配置有PRI的一接入服务器关于流入的异步呼叫和ISDN呼叫](#)。两个之间的唯一的主要区别是dial-tdm-clock priority number t1_slot/port命令使用的分配在AS5350或AS5400的T1时钟优先级。

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

本文包括如何配置AS5350或AS5400系列接入服务器，以接受ISDN T1 PRI电路上的流入异步呼叫和ISDN呼叫。该配置只包括网络接入服务器接受呼叫所需的最小值(NAS)。您能添加功能到您的需要的此配置。

配置

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找本文档所用命令的其他信息，请使用[命令查找工具](#)（[仅限注册用户](#)）。

配置

本文档使用以下配置：

- 5400-NAS (5400)

5400-NAS (5400)

```
5400-NAS#show running-configBuilding
configuration...Current configuration : 3209
bytes!version 12.3no parser cacheno service single-slot-
reload-enableno service padservice timestamps debug
datetime msecservice timestamps log datetime msecservice
password-encryption!hostname 5400-NAS!no boot startup-
testlogging rate-limit console 10 except errorsaaa new-
modelaaa authentication login default localaaa
authentication ppp default localaaa authorization
network default local!--- PPP authentication and network
authorization are local. !--- Replace local with radius
or tacacs if you use a AAA server.enable secret 5
```

```

<deleted>!username admin password 7 <deleted>username
dude password 7 <deleted>username cisco password 7
<deleted>!--- Usernames for local authentication of the
call. The client presents !--- the username or password,
and the NAS authenticates the peer.!resource-pool
disabledial-tdm-clock priority 1 7/1!--- T1 port 7/1 is
the primary clock source. !--- This is indicated by
priority 1 in the dial-tdm-clock command. !--- Note: On
the AS5200/AS5300 you can set the primary clock source
with !--- the clock source line primary
command.calltracker enablecalltracker history max-size
30calltracker call-record verbose!--- Calltracker is
used for enhanced active call monitoring. !--- For more
information, see Call Tracker plus ISDN and AAA
Enhancements.spe call-record modem!--- Enable modem call
records for NextPort Universal Ports. !--- This is
equivalent to modem call-record terse used on MICA modem
platforms.!voice-fastpath enableds0 busyout-threshold
12ip subnet-zero ip source-routeno ip fingerip domain-
name cisco.com!--- his instructs the NAS how to qualify
DNS lookups. !--- In this example, cisco.com is appended
to the end of each name looked up.ip name-server
172.22.70.10!--- Specifies the primary name server.ip
name-server 172.22.10.70!--- Specifies the secondary
name server.!isdn switch-type primary-ni!--- Switch-type
for this NAS. Obtain this information from the
Telco.!mta receive maximum-recipients 0!controller T1
7/0!--- This T1 is unused. shutdown!controller T1 7/1!--
- T1 PRI physical controller configuration. framing
esf!--- Framing for this T1 is Extended Super Frame
(ESF). !--- Obtain this information from the telco.
linecode b8zs!--- Line coding for this T1. Obtain this
information from the telco. pri-group timeslots 1-24!---
For T1 PRI scenarios, all 24 T1 timeslots are assigned
as ISDN PRI channels. !--- The router now automatically
creates the corresponding D-channel: !--- interface
Serial 1:23 !!--- The configuration for unused T1
controllers is omitted to save space. !--- Unused T1s
can be shutdown as with controller t1 7/0.!interface
Loopback0!--- The IP pool for dialin async and ISDN
users is in this subnet. !--- This way, the routes for
all clients are summarized and !--- propagated to the
backbone instead of 254 routes. ip address 10.1.1.1
255.255.255.0 no ip mroute-cache!interface
FastEthernet0/0 ip address 172.22.186.55 255.255.255.240
no ip mroute-cache duplex auto speed 10!interface
FastEthernet0/1 ip address 192.168.1.1 255.255.255.0 no
ip mroute-cache duplex auto speed auto!--- Unused
interface configuration is omitted.!interface
Serial7/1:23!--- D-channel configuration for T1 7/1. no
ip address encapsulation ppp!--- PPP encapsulation on
this interface. dialer rotary-group 1!--- T1 0 is a
member of rotary group 1. !--- The rotary group
configuration is in interface Dialer 1. isdn switch-type
primary-ni isdn incoming-voice modem!--- All incoming
voice calls on this T1 are sent to the modems. !--- This
command is required if this T1 is to accept async calls.
no fair-queue no cdp enable!interface Group-Async0!---
This group-async interface is the configuration template
for all modems. !--- Individual async interfaces do not
have to be configured since they can !--- be cloned from
one managed copy. ip unnumbered Loopback0!--- A Loopback
interface is always up/up. For stability, you can

```

```
unnumber to it. encapsulation ppp no ip mroute-cache
async mode interactive!--- Users can dial in and get to
a shell(Exec) or PPP session on that line. !--- This
command can be used in conjunction with autoselect ppp
!--- under the line configuration to auto detect the
connection type. !--- Use this command only if the async
interface is to answer different !--- connection
types(exec,PPP,slip etc). !--- If all users connect with
PPP use the async mode dedicated command instead. peer
default ip address pool pool_dialup!--- Clients are
assigned addresses from the IP address pool named
pool_dialup. ppp authentication chap pap callin group-
range 1/00 2/107!--- Modems 1/00 through 2/107 are
members of this group async interface.!interface
Dialer1!--- Configuration for rotary group 1. !--- The
Dialer interface number (1) must exactly match the
rotary group number !--- configured on the physical
interfaces (interface Serial 7/1:23). ip unnumbered
Loopback0!--- A Loopback interface is always up/up. For
stability, unnumber to it. encapsulation ppp no ip
mroute-cache dialer in-band!--- Enable this dialer
interface to be a DDR interface. !--- This is required
if you want to enforce the idle-timeout. dialer idle-
timeout 300!--- Idle timeout for incoming calls is 300
seconds (5 minutes). !--- Users who are idle for more
than 300 seconds are dropped. !--- If dialer in-band is
used and a dialer idle-timeout is not defined, !--- the
default idle-timeout of 120 seconds (2 minutes) is
applied. dialer-group 1!--- Apply interesting traffic
definition from dialer-list 1. !--- Note: The specified
dialer-group number must be the same as the !--- dialer-
list number; in this example, defined as "1". !--- See
the Define Interesting Traffic and Idle Timeout for
details. peer default ip address pool pool_dialup!---
Clients are assigned addresses from the IP address pool
named pool_dialup. no fair-queue no cdp enable ppp
authentication chap pap callin ppp multilink!ip local
pool pool_dialup 10.1.1.2 10.1.1.254!--- IP address
pools for dialin clients.ip classlessip route 0.0.0.0
0.0.0.0 172.22.186.49no ip http server!dialer-list 1
protocol ip permit!--- Interesting traffic is defined by
dialer-list 1. !--- This is applied to interface Dialer
1 through dialer-group 1. !--- Note: The specified
dialer-list number must be the same as !--- the dialer-
group number. In this example, it is defined as "1". !--
- Interesting traffic is used to define what packets
will reset the idle timer.!voice-port 7/1:D!line con 0
exec-timeout 0 0 transport input noneline aux 0line vty
0 4 password 7 <deleted>line 1/00 2/107!--- Line
configuration for modems 1/00 through 2/107. !--- This
is the same modem range configured with the group-range
command !--- in interface Group-Async0. no flush-at-
activation!--- Prevents the router from flushing the
first few packets on a connection. !--- This command is
used to prevent PPP timeout issues, and can be used to
!--- avoid PPP startup issues. !--- This is not required
unless you encounter modem PPP call failures. autoselect
during-login!--- Displays the username:password prompt
after modems connect (during exec login). !--- This
command is not necessary if you use async mode
dedicated under the !--- group-async interface.
autoselect ppp!--- Automatically launches PPP if the
router detects incoming PPP packets. !--- Without this
```

```
command, the dialin client will need to manually !---
launch PPP (from Exec mode). This command is not
neccessary if you use !--- async mode dedicated under
the group-async interface. modem InOut!--- Support
incoming and outgoing modem calls. transport input
all!scheduler allocate 10000 400end
```

定义关注数据流和空闲超时

NAS只处理呼入呼叫和不做呼出，但是我们仍然定义了关注数据流。触发数据流定义有异步用户和ISDN用户的不同的目的。

对于ISDN用户(与Interface dialer 1)相应：

无论您是否要强制执行空闲超时，拨号程序接口中都需要 **dialer-group** 和 **dialer-list** 命令。必须在拨号程序接口中使用 **dialer-group** 和 **dialer-list** 命令以避免封装故障。此需求仅是为ISDN用户和不为异步用户和组异步接口。

要强制执行空闲超时，请添加**频带内拨号**和**拨号程序空闲Timeout**命令。如果**频带内拨号**配置，但是**拨号空闲超时**不是，空闲超时默认为ISDN用户的两分钟。

如果您希望ISDN用户在选择断开之前一直保持连接状态，那么请使用**dialer idle-timeout 0**。“零”**拨号空闲超时**的选项在Cisco IOS软件版本12.1(3)T介绍。它设置无限超时。

对于异步用户(与Interface Group-Async 0相应)：

要为异步用户强制执行空闲超时，请在异步组接口中配置下列命令：**dialer in-band**，**dialer idle-timeout**，和**拨号组**。还需要对应的拨号程序列表。**dialer-group** 和 **dialer-list** 命令指定异步组接口中的相关流量。

对于异步用户，相关流量仅用于重置空闲超时。如果关注数据流没有定义，用户将被断开，在**拨号空闲超时**(默认120秒)后到期，不管他们是否通过在链路的流量。使用触发数据流定义，NAS认可那些数据包并且重置空闲超时。只有当真有一个空闲链接时，这样，NAS断开用户。

您可以修改触发数据流，例如，只有HTTP (Web)数据流是触发数据流。在这种情况下，如果用户不浏览Web 300秒(或指定的拨号程序空闲超时)用户被断开。配置根据您的用户流量模式的关注数据流。

如果希望您的异步用户能坚持已连接，直到他们选择断开连接，请从group-async-interface删除这些命令：**dialer in-band**，**dialer idle-timeout**，和**拨号组**如配置所显示。您能也设置空闲超时为无限在**dialer idle-timeout 0**帮助下。“零”**拨号空闲超时**的选项在Cisco IOS软件版本12.1(3)T介绍，并且设置无限超时。

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

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 isdn status** ? 保证路由器用ISDN交换机正确通信。在输出中，验证第1层状态是否为活跃

状态，是否第2层状态=MULTIPLE_FRAME_ESTABLISHED出现。此指令也显示活动的呼叫的数量。

- **show ppp multilink** ? 显示关于活跃的多链路捆绑的信息。使用此指令验证多链路连接。
- **show dialer [interface type number]** ? 显示为DDR配置的接口的一般诊断信息。如果拨号程序适当地过来，Dialer state is data link layer up消息必须出现。如果physical layer up出现，意味着线路通信协议出来，但是网络控制协议(NCP)没有。启动拨号的数据包的源地址和目标地址显示在 dial reason line 中。此**show**命令在连接时间前也显示计时器的配置和持续时间。
- **show caller user username detail** ? 表示一个特定用户的参数例如分配的IP地址，PPP和PPP捆绑参数，等等。如果您的Cisco IOS版本软件不支持此指令，请使用**show users**命令。
- **show dialer map** ? 显示配置动态和静态拨号图。此指令可以被用于发现动态拨号映射是否被创建了。没有dialer map，您不能路由数据包。

这是成功的呼叫的一些**show**命令输出。支付对部分的注意在粗体字体和在输出示例提供的注释。比较您得到与显示的结果此处的输出。

```
5400-NAS#show caller
User          Service      Time      Time con 0      -      Active      Idle Line
00:55:45 00:00:00 tty 232      cisco          Async      00:00:33 00:00:03 As1/16
cisco      PPP      00:00:29 00:00:03!--- User cisco (the dialin client) uses
interface Async 1/16.5400-NAS#show caller ip Line      User      IP Address      Local
Number      Remote Number <-> As1/16      cisco      10.1.1.3      4085556170      -
in5400-NAS#show caller user cisco User: cisco, line tty 232, service Async!--- Shows hardware
level settings for user cisco. Active time 00:01:14, Idle time 00:00:43 Timeouts: Absolute Idle
Idle Session Exec Limits: - - 00:10:00 Disconnect in: - - - TTY: Line 1/16, running PPP on
As1/16!--- The call is terminated on interface Async 1/16. !--- This interface is included in
the group-async configuration. Location: PPP: 10.1.1.3!--- IP address for the peer. !--- This
address was obtained from the IP pool pool_dialup. DS0: (slot/unit/channel)=7/1/0!--- T1
channel on which the call arrived. The call arrived on channel 0 in T1 1. Line: Baud rate
(TX/RX) is 115200/115200, no parity, 1 stopbits, 8 databits Status: Ready, Active, No Exit
Banner, Async Interface Active Capabilities: No Flush-at-Activation, Hardware Flowcontrol In
Hardware Flowcontrol Out, Modem Callout, Modem RI is CD Line usable as async interface,
Integrated Modem Modem State: Ready User: cisco, line As1/16, service PPP!--- PPP setting for
user cisco. Note that the call was terminated on int As1/16. Active time 00:01:10, Idle time
00:00:44 Timeouts: Absolute Idle Limits: - - Disconnect in: - - PPP: LCP Open, CHAP (<- AAA),
IPCP!--- LCP and IPCP states are OPEN. If LCP and IPCP states are not OPEN, !--- use the debug
ppp negotiation command to isolate LCP issues. IP: Local 10.1.1.1, remote 10.1.1.3!--- NAS IP
address as well as the IP address assigned to the peer. Counts: 12 packets input, 654 bytes, 0
no buffer      0 input errors, 0 CRC, 0 frame, 0 overrun      14 packets output, 694
bytes, 0 underruns      0 output errors, 0 collisions, 0 interface resets!--- Packets are
passing through the connection.5400-NAS#show ip route connected      172.22.0.0/28 is subnetted,
1 subnetsC      172.22.186.48 is directly connected, FastEthernet0/0      10.0.0.0/8 is variably
subnetted, 2 subnets, 2 masksC      10.1.1.3/32 is directly connected, Async1/16!--- Directly
connected route to the client. !--- Note that the next hop is int Async 1/16, which is the async
interface !--- assigned to the clientC 10.1.1.0/24 is directly connected, Loopback0
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

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](#)。

- **debug dialer** ? 显示关于在拨号接口接收的数据包的DDR调试信息。此信息有助于保证具有可

以使用拨号程序接口的触发数据流。

- **调试 isdn q931?shows** 呼叫建立并且切断 ISDN 网络连接(层3)。
- **debug modem ?** 显示在接入服务器的调制解调器线路活动。输出指示，当调制解调器线路更改状态。
- **debug csm modem ?** 使您排除故障在路由器的呼叫交换模块(CSM)问题用内部数字调制解调器。使用该指令，您能跟踪呼入和呼出的呼叫交换排序的完成情况。**注意：**这与在 AS5200/AS5300 的 **debug modem csm** 是等同的。此调试在 Cisco IOS 软件版本 12.0(4)XL 介绍。
- **debug ppp 协商 ?** 显示关于 PPP 流量的信息并且在链路控制协议(LCP)、验证和网络控制协议时交换(NCP)的协商。成功的 PPP 协商将首先开放 LCP 状态，然后进行验证，最后进行 NCP 协商。在 LCP 协商期间建立多链路参数，如最大接收重建单元 (MRRU)。
- **debug ppp authentication ?** 显示 PPP 认证协议消息，包括质询握手验证协议(CHAP)信息包交换和密码认证协议交换。
- **debug ppp error ?** 显示协议错误和错误统计信息关联与 PPP 连接协商和操作。

调试输出示例

下面是成功呼叫的一些调试输出。支付对部分的注意在粗体和在输出示例提供的注释。比较您得到与显示的结果此处的输出。

模拟呼叫：

```
5400-NAS#debug isdn q931 ISDN Q931 packets debugging is on 5400-NAS#debug modem Modem
control/process activation debugging is on 5400-NAS#debug csm modem Modem Management Call
Switching Module debugging is on 5400-NAS#debug ppp negotiation PPP protocol negotiation debugging
is on 5400-NAS#debug ppp authentication PPP authentication debugging is on 5400-NAS#debug ip peer IP
peer address activity debugging is on 5400-NAS#debug aaa authentication AAA Authentication
debugging is on 5400-NAS#debug aaa authorization AAA Authorization debugging is on 5400-NAS#5400-
NAS#show debug General OS: Modem control/process activation debugging is on AAA Authentication
debugging is on AAA Authorization debugging is on CSM Modem: Modem Management Call Switching
Module debugging is on Generic IP: IP peer address activity debugging is on PPP: PPP
authentication debugging is on PPP protocol negotiation debugging is on ISDN: ISDN Q931 packets
debugging is on ISDN Q931 packets debug DSLs. (On/Off/No DSL:1/0/-) DSL 0 --> 31 - 1 - - - -
- - - - -5400-NAS#5400-NAS#*Jan 1 00:58:26.179:
ISDN Se7/1:23: RX <- SETUP pd = 8 callref = 0x0006!--- Incoming Q.931 SETUP message. Indicates
an incoming call. !--- For more information on Q.931 refer to the document !--- Troubleshooting
ISDN Layer 3 using debug isdn q931. *Jan 1 00:58:26.179: Bearer Capability i = 0x8090A2 *Jan 1
00:58:26.179: Channel ID i = 0xA98381 *Jan 1 00:58:26.179: Calling Party Number i = 0x80,
Plan:Unknown, Type:Unknown *Jan 1 00:58:26.179: Called Party Number i = 0xA1, '4085556170',
Plan:ISDN, Type:National *Jan 1 00:58:26.183: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7,
ds0=117444608 *Jan 1 00:58:26.183: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7,
ds0=117444608 *Jan 1 00:58:26.183: VDEV_ALLOCATE: 1/16 is allocated!--- The Call Switch Module
(CSM) is informed of the call. !--- The CSM allocates modem 1/16 to the incoming call. *Jan 1
00:58:26.183: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608 *Jan 1 00:58:26.183:
EVENT_FROM_ISDN::dchan_idb=0x63B915AC, call_id=0x6, ces=0x1 bchan=0x0, event=0x1, cause=0x0 *Jan
1 00:58:26.183: dev in call to isdn : set dnis_collected & fap_notify *Jan 1 00:58:26.183:
EVENT_FROM_ISDN:(0006): DEV_INCALL at slot 1 and port 16 *Jan 1 00:58:26.183: EVENT_FROM_ISDN:
decode:calling Oct3 0x80, called Oct3 0xA1, Oct3a 0x0, mask 0x25 *Jan 1 00:58:26.183:
EVENT_FROM_ISDN: csm_call_info:calling Oct3 0x80, called Oct3 0xA1, Oct3a 0x0, mask 0x25 *Jan 1
00:58:26.183: CSM_PROC_IDLE: CSM_EVENT_ISDN_CALL at slot 1, port 16 *Jan 1 00:58:26.183: CSM
DSPLIB(1/16): np_dsplib_prepare_modem *Jan 1 00:58:26.183: csm_connect_pri_vdev: TS allocated at
bp_stream 0, bp_Ch 3, vdev_common 0x627DDCC8 *Jan 1 00:58:26.183: ISDN Se7/1:23: TX -> CALL_PROC
pd = 8 callref = 0x8006 *Jan 1 00:58:26.183: Channel ID i = 0xA98381!--- Transmits CALL
PROCEEDING. This means that the NAS is processing the call. *Jan 1 00:58:26.183: ISDN Se7/1:23:
TX -> ALERTING pd = 8 callref = 0x8006!--- Transmits ALERTING. The modem now goes offhook and
accepts the call. *Jan 1 00:58:26.191: CSM DSPLIB(1/16):DSPLIB_MODEM_INIT: Modem session
transition to IDLE *Jan 1 00:58:26.191: CSM DSPLIB(1/16): Modem went offhook!--- Modem informs
```

the CSM that it went offhook.*Jan 1 00:58:26.191: CSM_PROC_IC2_RING: CSM_EVENT_MODEM_OFFHOOK at slot 1, port 16*Jan 1 00:58:26.191: ISDN Se7/1:23: **TX -> CONNECT** pd = 8 callref = 0x8006!---
*D-channel transmits a CONNECT.**Jan 1 00:58:26.203: ISDN Se7/1:23: **RX <- CONNECT_ACK** pd = 8 callref = 0x0006!--- *Received the Q.931 CONNECT_ACK.**Jan 1 00:58:26.203: ISDN Se7/1:23: CALL_PROGRESS: CALL_CONNECTED call id 0x6, bchan 0, ds1 1*Jan 1 00:58:26.203: EVENT_FROM_ISDN::dchan_idb=0x63B915AC, call_id=0x6, ces=0x1 bchan=0x0, event=0x4, cause=0x0*Jan 1 00:58:26.203: EVENT_FROM_ISDN:(0006): DEV_CONNECTED at slot 1 and port 16*Jan 1 00:58:26.203: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_ISDN_CONNECTED at slot 1, port 16*Jan 1 00:58:26.203: CSM_DSPLIB(1/16): np_dsplib_call_accept*Jan 1 00:58:26.203: %ISDN-6-CONNECT: **Interface Serial7/1:0 is now connected to N/A N/A!--- Call is connected at the ISDN layer.***Jan 1 00:58:26.207: CSM_DSPLIB(1/16):DSPLIB_MODEM_WAIT_ACTIVE: Modem session transition to ACTIVE*Jan 1 00:58:26.207: CSM_DSPLIB(1/16): Modem state changed to (CONNECT_STATE)*Jan 1 00:58:32.379: CSM_DSPLIB(1/16): Modem state changed to (LINK_STATE)*Jan 1 00:58:35.655: CSM_DSPLIB(1/16): Modem state changed to (TRAINUP_STATE)*Jan 1 00:58:43.775: CSM_DSPLIB(1/16): Modem state changed to (EC_NEGOTIATING_STATE)*Jan 1 00:58:44.107: CSM_DSPLIB(1/16): **Modem state changed to (STEADY_STATE)!--- Modem transitions to Steady State.***Jan 1 00:58:44.975: **TTY1/16: DSR came up!--- Indicates that the modem trainup is complete.***Jan 1 00:58:44.975: tty1/16: Modem: IDLE->(unknown)*Jan 1 00:58:44.975: TTY1/16: EXEC creation*Jan 1 00:58:44.975: AAA: parse name=tty1/16 idb type=10 tty=232*Jan 1 00:58:44.975: AAA: name=tty1/16 flags=0x11 type=4 shelf=0 slot=0 adapter=0 port=232 channel=0*Jan 1 00:58:44.975: AAA: parse name=Serial7/1:0 idb type=12 tty=-1*Jan 1 00:58:44.975: AAA: name=Serial7/1:0 flags=0x55 type=1 shelf=0 slot=7 adapter=0 port=1 channel=0*Jan 1 00:58:44.975: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:44.975: AAA/MEMORY: create_user (0x63CBD608) user='NULL' ruser='NULL' port='tty1/16' rem_addr='async/4085556170' authen_type=ASCII service=LOGIN priv=1*Jan 1 00:58:44.975: AAA/AUTHEN/START (1231800673): port='tty1/16' list='' action=LOGIN service=LOGIN*Jan 1 00:58:44.975: AAA/AUTHEN/START (1231800673): using "default" list*Jan 1 00:58:44.975: AAA/AUTHEN/START (1231800673): Method=LOCAL*Jan 1 00:58:44.975: AAA/AUTHEN (1231800673): status = GETUSER*Jan 1 00:58:44.975: TTY1/16: set timer type 10, 30 seconds*Jan 1 00:58:46.215: TTY1/16: **Autoselect(2) sample 7E!--- Beginning of a PPP Frame.** *Jan 1 00:58:46.215: TTY1/16: Autoselect(2) sample 7EFF*Jan 1 00:58:46.215: TTY1/16: Autoselect(2) sample 7EFF7D*Jan 1 00:58:46.215: TTY1/16: Autoselect(2) sample 7EFF7D23*Jan 1 00:58:46.215: TTY1/16 Autoselect cmd: ppp negotiate!--- *The NAS detects PPP frames (indicated by 7EFF7D23) and !--- automatically launches PPP. The command autoselect ppp under the !--- line configuration and async mode interactive under the group-async !--- allowed the NAS to detect PPP frames and switch to PPP mode. !--- If the NAS does not detect PPP frames then the call will remain in exec mode.**Jan 1 00:58:46.215: AAA/AUTHEN/ABORT: (1231800673) because Autoselected.*Jan 1 00:58:46.215: AAA/AUTHEN/ABORT: (1231800673) because Autoselected.*Jan 1 00:58:46.215: AAA/MEMORY: free_user (0x63CBD608) user='NULL' ruser='NULL' port='tty1/16' rem_addr='async/4085556170' authen_type=ASCII service=LOGIN priv=1*Jan 1 00:58:46.215: TTY1/16: EXEC creation*Jan 1 00:58:46.215: TTY1/16: create timer type 1, 600 seconds*Jan 1 00:58:46.215: As1/16: ip_get_pool using pool pool_dialup*Jan 1 00:58:46.215: As1/16: Pools to search : pool_dialup*Jan 1 00:58:46.215: As1/16: Pool pool_dialup returned address = 10.1.1.3*Jan 1 00:58:46.215: TTY1/16: destroy timer type 1*Jan 1 00:58:46.215: TTY1/16: no timer type 0 to destroy*Jan 1 00:58:46.215: As1/16 **LCP: I CONFREQ [Closed] id 3 len 20!--- Incoming LCP CONFREQ. !--- For more information on interpreting PPP debugs refer to the document !--- Dialup Technology: Troubleshooting Techniques.***Jan 1 00:58:46.215: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:46.215: As1/16 LCP: MagicNumber 0x552722A5 (0x0506552722A5)*Jan 1 00:58:46.215: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:46.215: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:46.215: As1/16 LCP: Lower layer not up, Fast Starting*Jan 1 00:58:46.215: As1/16 PPP: Treating connection as a dedicated line*Jan 1 00:58:46.215: As1/16 PPP: Phase is ESTABLISHING, Active Open [0 sess, 0 load]*Jan 1 00:58:46.219: As1/16 AAA/AUTHOR/FSM: (0): LCP succeeds trivially*Jan 1 00:58:46.219: As1/16 LCP: O CONFREQ [Closed] id 1 len 25*Jan 1 00:58:46.219: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:46.219: As1/16 LCP: AuthProto CHAP (0x0305C22305)*Jan 1 00:58:46.219: As1/16 LCP: MagicNumber 0x30CCCD68 (0x050630CCCD68)*Jan 1 00:58:46.219: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:46.219: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:46.219: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:46.219: As1/16 LCP: O CONFACK [REQsent] id 3 len 20*Jan 1 00:58:46.219: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:46.219: As1/16 LCP: MagicNumber 0x552722A5 (0x0506552722A5)*Jan 1 00:58:46.219: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:46.219: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:46.219: %LINK-3-UPDOWN: Interface Async1/16, changed state to up*Jan 1 00:58:48.215: As1/16 LCP: I CONFREQ [ACKsent] id 4 len 20*Jan 1 00:58:48.215: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:48.215: As1/16 LCP: MagicNumber 0x552722A5 (0x0506552722A5)*Jan 1 00:58:48.215: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:48.215: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:48.215: As1/16 LCP: O CONFACK [ACKsent] id 4

len 20*Jan 1 00:58:48.215: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:48.215: As1/16 LCP: MagicNumber 0x552722A5 (0x0506552722A5)*Jan 1 00:58:48.215: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:48.215: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:48.219: As1/16 LCP: TIMEout: State ACKsent*Jan 1 00:58:48.219: As1/16 LCP: O CONFREQ [ACKsent] id 2 len 25*Jan 1 00:58:48.219: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:48.219: As1/16 LCP: AuthProto CHAP (0x0305C22305)*Jan 1 00:58:48.219: As1/16 LCP: MagicNumber 0x30CCCD68 (0x050630CCCD68)*Jan 1 00:58:48.219: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:48.219: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:48.367: As1/16 LCP: I CONFACK [ACKsent] id 2 len 25*Jan 1 00:58:48.367: As1/16 LCP: ACCM 0x000A0000 (0x0206000A0000)*Jan 1 00:58:48.367: As1/16 LCP: AuthProto CHAP (0x0305C22305)*Jan 1 00:58:48.367: As1/16 LCP: MagicNumber 0x30CCCD68 (0x050630CCCD68)*Jan 1 00:58:48.367: As1/16 LCP: PFC (0x0702)*Jan 1 00:58:48.367: As1/16 LCP: ACFC (0x0802)*Jan 1 00:58:48.367: **As1/16 LCP: State is Open!---** *LCP negotiation is complete.**Jan 1 00:58:48.367: As1/16 PPP: Phase is AUTHENTICATING, by this end [0 sess, 0 load]*Jan 1 00:58:48.367: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:48.367: As1/16 CHAP: O CHALLENGE id 1 len 29 from "5400-NAS"*Jan 1 00:58:48.495: As1/16 **CHAP: I RESPONSE id 1 len 26 from "cisco"!**--- *Incoming CHAP response.**Jan 1 00:58:48.495: AAA: parse name=Async1/16 idb type=10 tty=232*Jan 1 00:58:48.495: AAA: name=Async1/16 flags=0x11 type=4 shelf=0 slot=0 adapter=0 port=232 channel=0*Jan 1 00:58:48.495: AAA: parse name=Serial7/1:0 idb type=12 tty=-1*Jan 1 00:58:48.495: AAA: name=Serial7/1:0 flags=0x55 type=1 shelf=0 slot=7 adapter=0 port=1 channel=0*Jan 1 00:58:48.495: AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:48.495: AAA/MEMORY: create_user (0x63CBD608) user='cisco' ruser='NULL' port='Async1/16' rem_addr='async/4085556170' authen_type=CHAP service=PPP priv=1*Jan 1 00:58:48.495: AAA/AUTHEN/START (2776021080): port='Async1/16' list='' action=LOGIN service=PPP*Jan 1 00:58:48.495: AAA/AUTHEN/START (2776021080): using "default" list*Jan 1 00:58:48.495: AAA/AUTHEN/START (2776021080): Method=LOCAL*Jan 1 00:58:48.495: AAA/AUTHEN (2776021080): status = PASS*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP: Authorize LCP*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP (3070946770): Port='Async1/16' list='' service=NET*Jan 1 00:58:48.495: AAA/AUTHOR/LCP: As1/16 (3070946770) user='cisco'*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP (3070946770): send AV service=ppp*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP (3070946770): send AV protocol=lcp*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP (3070946770): found list "default"*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP (3070946770): Method=LOCAL*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR (3070946770): Post authorization status = PASS_REPL*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP: Processing AV service=ppp*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/LCP: Processing AV protocol=lcp*Jan 1 00:58:48.495: **As1/16 CHAP: O SUCCESS id 1 len 4!**--- *Authentication is successful.**Jan 1 00:58:48.495: As1/16 PPP: Phase is UP [0 sess, 0 load]*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM: (0): Can we start IPCP?*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM (3087015830): Port='Async1/16' list='' service=NET*Jan 1 00:58:48.495: AAA/AUTHOR/FSM: As1/16 (3087015830) user='cisco'*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM (3087015830): send AV service=ppp*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM (3087015830): send AV protocol=ip*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM (3087015830): found list "default"*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM (3087015830): Method=LOCAL*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR (3087015830): Post authorization status = PASS_REPL*Jan 1 00:58:48.495: As1/16 AAA/AUTHOR/FSM: We can start IPCP*Jan 1 00:58:48.495: **As1/16 IPCP: O CONFREQ [Closed] id 1 len 10!**--- *IPCP negotiation begins.**Jan 1 00:58:48.495: As1/16 IPCP: Address 10.1.1.1 (0x03060A010101)*Jan 1 00:58:48.619: As1/16 IPCP: I CONFREQ [REQsent] id 3 len 10*Jan 1 00:58:48.619: As1/16 IPCP: Address 0.0.0.0 (0x030600000000)*Jan 1 00:58:48.619: **As1/16 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 10.1.1.3!**--- *Address obtained from the Address Pool named pool_dialup.**Jan 1 00:58:48.619: As1/16 AAA/AUTHOR/IPCP: Processing AV service=ppp*Jan 1 00:58:48.619: As1/16 AAA/AUTHOR/IPCP: Processing AV protocol=ip*Jan 1 00:58:48.619: As1/16 AAA/AUTHOR/IPCP: Authorization succeeded*Jan 1 00:58:48.619: As1/16 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 10.1.1.3*Jan 1 00:58:48.619: As1/16 IPCP: O CONFNAK [REQsent] id 3 len 10*Jan 1 00:58:48.619: As1/16 IPCP: Address 10.1.1.3 (0x03060A010103)*Jan 1 00:58:48.623: As1/16 IPCP: I CONFACK [REQsent] id 1 len 10*Jan 1 00:58:48.623: As1/16 IPCP: Address 10.1.1.1 (0x03060A010101)*Jan 1 00:58:48.731: As1/16 IPCP: I CONFREQ [ACKrcvd] id 4 len 10*Jan 1 00:58:48.731: As1/16 IPCP: Address 10.1.1.3 (0x03060A010103)*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP: Start. Her address 10.1.1.3, we want 10.1.1.3*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): Port='Async1/16' list='' service=NET*Jan 1 00:58:48.731: AAA/AUTHOR/IPCP: As1/16 (3141581943) user='cisco'*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): send AV service=ppp*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): send AV protocol=ip*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): send AV addr*10.1.1.3*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): found list "default"*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP (3141581943): Method=LOCAL*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR (3141581943): Post authorization status = PASS_REPL*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP: Reject 10.1.1.3, using 10.1.1.3*Jan 1

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00:58:48.731: As1/16 AAA/AUTHOR/IPCP: Processing AV service=ppp*Jan 1 00:58:48.731: As1/16
AAA/AUTHOR/IPCP: Processing AV protocol=ip*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP:
Processing AV addr*10.1.1.3*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP: Authorization
succeeded*Jan 1 00:58:48.731: As1/16 AAA/AUTHOR/IPCP: Done. Her address 10.1.1.3, we want
10.1.1.3*Jan 1 00:58:48.731: As1/16 IPCP: O CONFACK [ACKrcvd] id 4 len 10*Jan 1 00:58:48.731:
As1/16 IPCP: Address 10.1.1.3 (0x03060A010103)*Jan 1 00:58:48.731: As1/16 IPCP: State is
Open!--- IPCP negotiation is complete. The user is now connected.*Jan 1 00:58:48.731:
AAA/ACCT/DS0: channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:48.731: AAA/ACCT/DS0:
channel=0, ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:48.731: AAA/ACCT/DS0: channel=0,
ds1=1, t3=0, slot=7, ds0=117444608*Jan 1 00:58:48.731: As1/16 IPCP: Install route to 10.1.1.3!--
- A route to the client is installed in the routing table. !--- You can verify this with the
show ip route command.*Jan 1 00:58:49.495: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Async1/16, changed state to up!--- Interface Async 1/16 is up.
```

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根据需要，可使用以下故障排除资源：

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- [进入的ISDN呼叫故障排除](#)？ISDN呼叫故障故障排除
- [PRI ISDN呼入](#)？关于故障排除ISDN呼叫故障的其他信息
- [T1故障排除流程图](#)？请使用此流程图，如果怀疑T1电路有故障。
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