

# Executando uma discagem de AS5300 com ISDN/Async (DDR externo)

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## [Introduction](#)

Essa configuração tem um AS5300 com quatro PRIs (Primary Rate Interfaces Interfaces de Taxa Primária) e suporte para 96 chamadas de modem ou um grande número de chamadas ISDN. Ele é configurado com quatro PRIs para permitir conexões de saída assíncronas e ISDN. Os mapas de discador estático são configurados no lado de discagem para cada conexão ISDN/assíncrona. As rotas IP estáticas são usadas em ambas as extremidades da conexão para evitar a sobrecarga desnecessária de um protocolo de roteamento dinâmico. Adicionar um local remoto exigiria a adição de um mapa de discador, nome de usuário e uma rota estática para o novo destino no lado de discagem. Todos os nós remotos têm endereços IP fixos.

## [Antes de Começar](#)

### [Conventions](#)

Para obter mais informações sobre convenções de documento, consulte as [Convenções de dicas técnicas Cisco](#).

### [Prerequisites](#)

**Etapa 1** - Configurar e verificar se os clientes de Discagem estão configurados corretamente.

### **Configurações de discagem - Dispositivo para o qual este AS5300 disca:**

- PRI: Configurando um Servidor de Acesso com PRIs para chamadas de saída assíncronas e ISDN - Use a configuração do roteador da série AS5300 do site central (hostname AS5300) fornecida no documento.
- BRI para receber chamada do AS5300: Configurando o Roteamento de Discagem sob Demanda (DDR - Dial-on-Demand Routing) ISDN com Perfis de Discador - Use a configuração do roteador Cisco 2503 do site cliente (hostname remotelSDN01) fornecida no documento.
- Assíncrono para receber chamada do AS5300: Configurando o grupo de interface assíncrono com perfis de discador - Use a configuração do roteador Cisco 2511 do site do cliente (hostname remoteAsync01) fornecida no documento

**Etapa 2 – Verifique se os circuitos Telco estão funcionando adequadamente.** Você pode usar o comando **show isdn status** para verificar se o circuito BRI ou PRI está funcionando corretamente. Consulte o documento [Utilizando o Comando show isdn status para o Troubleshooting de BRI](#) para obter mais informações. Você também deve ativar o circuito T1/E1 PRI para chamadas realizadas. Entre em contato com a Telco para verificar essas informações.

## **Componentes Utilizados**

As informações neste documento são baseadas nas versões de software e hardware abaixo.

- Cisco AS5300, Cisco 2511 e Cisco 2503
- Cisco IOS® Software, Versão 12.2(10b)
- Um modem assíncrono externo

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. All of the devices used in this document started with a cleared (default) configuration. Se você estiver trabalhando em uma rede ativa, certifique-se de que entende o impacto potencial de qualquer comando antes de utilizá-lo.

## **Material de Suporte**

Em algumas situações, pode ser necessário usar o circuito T1/E1 PRI para conexões de discagem. Isso ajuda a garantir que o cliente ou a filial à qual o circuito T1/E1 PRI disca seja uma identificação segura, em vez de um usuário desconhecido discar com o nome de usuário e a senha duplicados para a rede.

## **Produtos Relacionados**

Essa configuração pode ser utilizada com qualquer roteador que possua placas T1 ou PRI. Por essa razão, qualquer roteador do AS5xxx Series com uma placa T1 ou PRI pode usar essa configuração. Os roteadores das séries Cisco 2600 e 3600 também podem ser configurados para fazer chamadas ISDN com uma Placa de Interface WAN (WIC - WAN Interface Card) T1/PRI ou Módulo de Rede.

Essa configuração pode também ser modificada para ser usada com portas E1 ou PRI. Configure o controlador E1 com a codificação de linha, enquadramento e outras características físicas suportadas pela Telco. A configuração de canal D (interface serial x:15 para E1s) é similar àquela

mostrada aqui.

## Configurar

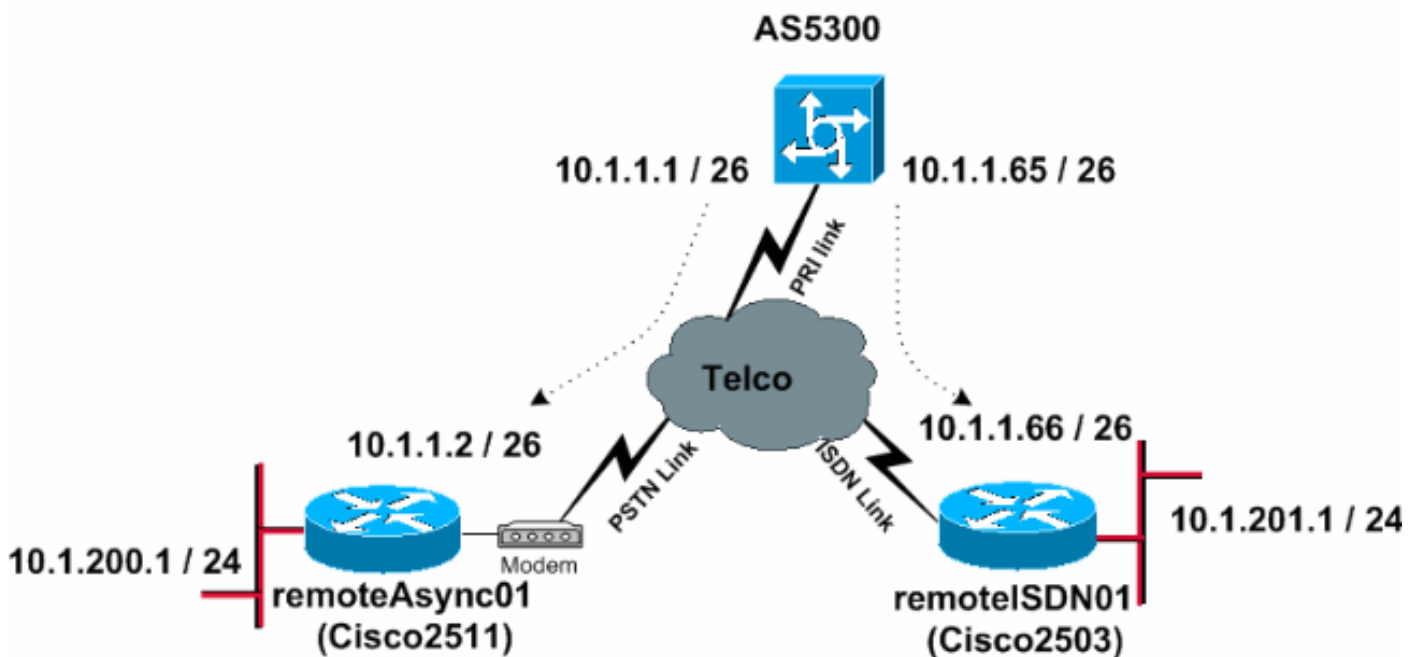
Nesta seção, você encontrará informações para configurar os recursos descritos neste documento. Para esta rede, você precisa do seguinte:

- O tipo de switch PRI, enquadramento e codificação de linha.
- Os nomes de usuário e as senhas de todos os nós remotos nos quais você está discando. Mesmo que você vá adicionar TACACS+ ou RADIUS posteriormente, adicione alguns nomes ao roteador para testar as linhas.
- O esquema de endereçamento IP.

**Observação:** para encontrar informações adicionais sobre os comandos usados neste documento, use a [ferramenta Command Lookup Tool](#) (somente clientes [registrados](#)).

## Diagrama de Rede

Este documento utiliza a instalação de rede mostrada no diagrama abaixo.



## Configurações

Este documento utiliza as configurações mostradas abaixo.

- [AS5300](#)
- [remoteAsync01](#)
- [ISDN01 remoto](#)

### AS5300

```
!  
version 12.2  
service timestamps debug datetime msec
```

```
service timestamps log datetime msec
!
hostname AS5300
!
!
username remoteISDN01 password 0 xxxx
username remoteAsync01 password 0 xxxx
!--- Usernames for local authentication of the call. !--
- The client presents the username/password !--- and the
AS5300 authenticates the peer. !--- This local database
of usernames and passwords are !--- compared when chap
PPP authentication is negotiated !--- between the AS5300
and remoteISDN01, remoteAsync01 routers. ! isdn switch-
type primary-5ess !--- Switch-type for this AS5300.
Obtain this information from the Telco. chat-script
kelly "" "atdt\t" TIMEOUT 60 CONNECT \c !--- A chat
script is a string of text that defines the handshaking
!--- that occurs between the router and the modem to
sucessfully !--- handshake with the destination. !--- In
this chat-script, "kelly" is the chat-script name. !---
The expect string "" is the null from the destination.
!--- And the send string "ATDT\t" is to instruct the
modem !--- to dial the telephone number in the dialer
string command, !--- which is 9996200 in the Interface
dialer 1 !--- TIMEOUT 60 CONNECT \C - waits up to 60
seconds for the input string "CONNECT", !--- and \C is
an escape sequence to end the chat-script. !--- Refer to
the Modem-Router Connection Guide and Chat-script for
more information. ! controller T1 0 !--- T1 PRI physical
controller configuration. framing esf !--- Framing for
this T1 is Extended Super Frame (ESF). !--- Obtain this
information from the Telco. clock source line primary !-
-- T1 0 is the primary clock source for this AS5300. !--
- Clock source must be specified for the timing !--- and
synchronization of the T1 carrier. linecode b8zs !---
Linecoding 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 will now automatically create
the !--- corresponding D-channel: interface Serial 0:23.
! controller T1 1 framing esf clock source line
secondary 1 linecode b8zs pri-group timeslots 1-24 !
controller T1 2 framing esf clock source line secondary
linecode b8zs pri-group timeslots 1-24 ! controller T1 3
framing esf clock source line secondary linecode b8zs
pri-group timeslots 1-24 ! interface Ethernet0 ip
address 171.68.186.54 255.255.255.240 no ip directed-
broadcast ! interface Serial0:23 !--- D-channel
configuration for T1 0. no ip address no ip directed-
broadcast encapsulation ppp dialer rotary-group 2 !---
T1 0 is a member of rotary group 2. !--- The rotary
group configuration is in interface Dialer2. !--- This
rotary group command enables the Dialin and Dialout for
ISDN calls. isdn switch-type primary-5ess isdn incoming-
voice modem !--- All incoming ISDN analog modem calls
that come in !--- on an ISDN PRI receive signaling
information !--- from the ISDN D channel. The D channel
is used for !--- circuit-switched data calls and analog
modem calls. !--- This enables all incoming ISDN voice
calls to access the call !--- switch module and
integrated modems. !--- Calls are passed to the modem
and the call negotiates the !--- appropriate connection
with the far-end modem. no cdp enable ! interface
```

```

Serial1:23 no ip address no ip directed-broadcast
encapsulation ppp dialer rotary-group 2 isdn switch-type
primary-5ess isdn incoming-voice modem no cdp enable !
interface Serial2:23 no ip address no ip directed-
broadcast encapsulation ppp dialer rotary-group 2 isdn
switch-type primary-5ess isdn incoming-voice modem no
cdp enable ! interface Serial3:23 no ip address no ip
directed-broadcast encapsulation ppp dialer rotary-group
2 isdn switch-type primary-5ess isdn incoming-voice
modem no cdp enable ! interface FastEthernet0 no ip
address no ip directed-broadcast shutdown ! interface
Group-Async1 !--- This interface is configured for Async
Dialin and Dialout in the T1 PRI. !--- Without this
interface, Async calls cannot be made. no ip address no
ip directed-broadcast async mode interactive dialer in-
band dialer rotary-group 1 !--- Group-Async 1 is a
member of the rotary group. !--- The rotary group
configuration is in interface Dialer 1. no cdp enable
group-range 1 96 !--- Group-range indicates the
asynchronous interfaces !--- which come under the Group-
Async interface. ! interface Dialer1 ip address 10.1.1.1
255.255.255.192 no ip directed-broadcast encapsulation
ppp dialer in-band dialer idle-timeout 600 !--- Set an
idle-timeout to hold the ISDN line. !--- Idle timeout
for outgoing calls is 600 seconds (10 minutes). !--- If
the ISDN link is idle for more than 600 seconds, it will
be dropped. dialer map ip 10.1.1.2 name remoteAsync01
modem-script kelly broadcast 9996200
!--- Dialer map statements for the remote router
remoteAsync01. !--- The name must match the one used by
the remote router to identify itself. !--- Use the modem
chat script "kelly" for this connection.

dialer-group 1
!--- Apply interesting traffic definition from the
dialer-list 1. ppp authentication chap ! interface
Dialer2 !--- The dialer rotary-group 2 command in Int
s0:23 activates the interface !--- Dialer2 for inbound
and outbound ISDN calls.

ip address 10.1.1.65 255.255.255.192
no ip directed-broadcast
encapsulation ppp
dialer in-band
dialer idle-timeout 600
dialer map ip 10.1.1.66 name remoteISDN01 broadcast
9996100
dialer-group 1
ppp authentication chap
!
no ip http server
ip classless

ip route 10.1.200.0 255.255.255.0 10.1.1.2
!--- Static route for the 10.1.200.0/24 network. !---
Interesting Traffic for that network !--- will be sent
to interface Dialer1 and the router !--- will initiate
the outbound call for Asynchronous connectivity.

ip route 10.1.201.0 255.255.255.0 10.1.1.66
!--- Static route for the 10.1.201.0/24 network. !---
Interesting traffic for that network !--- will be sent
to interface Dialer2 and the router !--- will initiate
the outbound call for ISDN BRI connectivity.

```

```
!  
dialer-list 1 protocol ip permit  
!--- Interesting traffic is defined by the Protocol IP.  
!--- This is applied to interface Dialer1 and Dialer2  
using the dialer-group 1 command. !--- The specified  
dialer-list number must be the same !--- as the dialer-  
group number; in this example, defined to be "1."  
  
!  
line con 0  
  transport input none  
line 1 96  
  
script dialer kelly  
!--- Enables the chat script kelly configured globally.  
  
  modem InOut  
  transport preferred none  
  transport output none  
line aux 0  
line vty 0 4  
  login  
!  
end
```

## remoteAsync01

```
!  
version 12.2  
service timestamps debug datetime msec  
service timestamps log datetime msec  
!  
hostname remoteAsync01  
!  
!  
username AS5300 password 0 xxxx  
!  
modemcap entry default  
!--- A modemcap named "default" will be applied !--- to  
lines one through eight of Async interfaces. ! interface  
Ethernet0 ip address 10.1.200.1 255.255.255.0 no ip  
directed-broadcast ! interface Serial0 no ip address no  
ip directed-broadcast shutdown ! interface Serial1 no ip  
address no ip directed-broadcast shutdown ! interface  
Async1 ip address 10.1.1.2 255.255.255.192 no ip  
directed-broadcast encapsulation ppp dialer idle-timeout  
600 async mode interactive !--- Enables the slip and ppp  
EXEC commands.  
  
  ppp authentication chap  
!  
no ip http server  
ip classless  
  
ip route 0.0.0.0 0.0.0.0 10.1.1.1  
!--- Default static route for the outgoing packets. !  
line con 0 transport input none line 1 8 login local  
modem InOut modem autoconfigure type default !--- Apply  
the modemcap "default" (configured globally) to  
initialize the modem. !--- Refer to the Modem-Router
```

```
Connection Guide for more information. transport input
all autoselect during-login autoselect ppp speed 38400
flowcontrol hardware line aux 0 line vty 0 4 ! end
```

## ISDN01 remoto

```
!
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname remoteISDN01
!
!
username AS5300 password 0 xxxx
!--- Usernames for local authentication of the call. !--
- The client presents the username/password !--- and the
AS5300 authenticates the peer. !--- This local database
of usernames and passwords are !--- compared when chap
PPP authentication is negotiated !--- between the AS5300
and remoteISDN01 routers. ! isdn switch-type basic-5ess
!--- Switch-type for this 2503. Obtain this information
from the Telco. . ! interface Ethernet0 ip address
10.1.201.1 255.255.255.0 no ip directed-broadcast !
interface Serial0 no ip address no ip directed-broadcast
shutdown ! interface Serial1 no ip address no ip
directed-broadcast shutdown ! interface BRI0 ip address
10.1.1.66 255.255.255.192 no ip directed-broadcast
encapsulation ppp dialer idle-timeout 600 dialer-group 1
isdn switch-type basic-5ess ppp authentication chap ! no
ip http server ip classless ip route 0.0.0.0 0.0.0.0
10.1.1.65 !--- Default static route for the outgoing
packets. ! dialer-list 1 protocol ip permit ! line con 0
transport input none line aux 0 line vty 0 4 ! end
```

## Verificar

Esta seção fornece informações que você pode usar para confirmar se sua configuração está funcionando adequadamente.

A [Output Interpreter Tool \(somente clientes registrados\) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.](#)

- **show isdn status** - Garante que o roteador está se comunicando corretamente com o switch ISDN. Na saída, verifique se o status da camada 1 está ATIVO e se o estado de status da camada 2 = MULTIPLE\_FRAME\_ESTABLISHED é exibido. Esse comando exibe também o número de chamadas ativas.
- **show ppp multilink** – Exibe informações em conjuntos multilink que estão ativos. Este comando deve ser utilizado para verificar a conexão multilink.
- **show dialer [interface type number]** - Exibe informações de diagnóstico geral para interfaces configuradas para DDR. Se o discador surgir adequadamente, o estado do discador é uma mensagem de camada de link de dados que deve ser exibida. Se uma camada física aparecer, então o protocolo de linha será exibido, mas o Protocolo de controle de rede (NCP), não. Os endereços de origem e destino do pacote que iniciou a discagem são mostrados na linha de razão de discagem. Este comando show mostra a configuração do cronômetro e o

tempo antes que a conexão expire.

- **show caller user username detail** - Mostra parâmetros para o usuário particular, como endereço IP designado, PPP, parâmetros de pacote PPP, etc. Se sua versão do Cisco IOS Software não suporta este comando, utilize o comando show user.
- **show dialer map** – Exibe os mapas configurados de discador dinâmicos e estáticos. Este comando pode ser utilizado para ver se um mapa de discador dinâmico foi criado. Sem um mapa de discadores, você não pode encaminhar pacotes.
- **show isdn service** - Para verificar o status dos canais B. (Este comando é apenas para servidores de acesso que suportam controladores PRI/T1.)
- **show user** - Para exibir usuários assíncronos/sincronizados conectados no momento.

Abaixo há algumas saídas de comandos show para chamadas bem-sucedidas. Preste atenção às seções em negrito e comentários fornecidos nas saídas. Compare a saída que você obtém com o resultado mostrado abaixo.

A saída a seguir é obtida antes de estabelecer a conexão com roteadores remotos ISDN01 e remoteAsync01.

```
AS5300#show ip route
```

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
        i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
        * - candidate default, U - per-user static route, o - ODR
        P - periodic downloaded static route
```

```
Gateway of last resort is not set
```

```
171.68.0.0/28 is subnetted, 1 subnets
C      171.68.186.48 is directly connected, Ethernet0
10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
C      10.1.1.0/26 is directly connected, Dialer1
C      10.1.1.64/26 is directly connected, Dialer2
S      10.1.201.0/24 [1/0] via 10.1.1.66
S      10.1.200.0/24 [1/0] via 10.1.1.2
```

A saída a seguir é obtida após o estabelecimento da conexão com roteadores remotos ISDN01 e remoteAsync01.

```
AS5300#show ip route
```

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
        i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
        * - candidate default, U - per-user static route, o - ODR
        P - periodic downloaded static route
```

```
Gateway of last resort is not set
```

```
171.68.0.0/28 is subnetted, 1 subnets
C      171.68.186.48 is directly connected, Ethernet0
10.0.0.0/8 is variably subnetted, 6 subnets, 3 masks
C      10.1.1.2/32 is directly connected, Dialer1
C      10.1.1.0/26 is directly connected, Dialer1
C      10.1.1.66/32 is directly connected, Dialer2
C      10.1.1.64/26 is directly connected, Dialer2
```



S 10.1.201.0/24 [1/0] via 10.1.1.66  
S 10.1.200.0/24 [1/0] via 10.1.1.2

AS5300#show ip route connected

171.68.0.0/28 is subnetted, 1 subnets  
C 171.68.186.48 is directly connected, Ethernet0  
10.0.0.0/8 is variably subnetted, 6 subnets, 3 masks  
C 10.1.1.2/32 is directly connected, Dialer1  
C 10.1.1.0/26 is directly connected, Dialer1  
C 10.1.1.66/32 is directly connected, Dialer2  
C 10.1.1.64/26 is directly connected, Dialer2

AS5300#show controllers t1 0

T1 0 is up.

Applique type is Channelized T1  
Cablelength is long gain36 0db  
**No alarms detected.**  
alarm-trigger is not set  
Version info of slot 0: HW: 4, PLD Rev: 0

Manufacture Cookie Info:

EEPROM Type 0x0001, EEPROM Version 0x01, Board ID 0x42,  
Board Hardware Version 1.32, Item Number 800-2540-02,  
Board Revision A0, Serial Number 11493161,  
PLD/ISP Version 0.0, Manufacture Date 12-Dec-1998.

**Framing is ESF, Line Code is B8ZS, Clock Source is Line Primary.**

Data in current interval (197 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

!--- Output suppressed. AS5300#show int s0:23

**Serial0:23 is up, line protocol is up** (spoofing)

Hardware is DSX1  
MTU 1500 bytes, BW 64 Kbit, DLY 20000 usec,  
reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation PPP, loopback not set  
DTR is pulsed for 1 seconds on reset  
Last input 00:00:06, output 00:00:06, output hang never  
Last clearing of "show interface" counters 11:43:21  
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)  
Available Bandwidth 48 kilobits/sec  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
5075 packets input, 25767 bytes, 0 no buffer  
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles  
2 input errors, 0 CRC, 1 frame, 0 overrun, 0 ignored, 1 abort  
5073 packets output, 25904 bytes, 0 underruns  
0 output errors, 0 collisions, 13 interface resets  
0 output buffer failures, 0 output buffers swapped out  
2 carrier transitions  
Timeslot(s) Used:24, Transmitter delay is 0 flags

AS5300#show users

Line	User	Host(s)	Idle	Location
* 0 con 0		idle	00:00:00	
11 tty 11	remoteAsyn	Async interface	00:05:40	PPP: 10.1.1.2

```

Interface      User      Mode      Idle      Peer Address
Se0:21        remoteISDN Sync PPP      00:06:12  PPP: 10.1.1.66

```

```
remoteAsync01#show users
```

```

Line      User      Host(s)      Idle      Location
* 0 con 0      idle      00:00:00
  1 tty 1      AS5300      Async interface 00:07:27  PPP: 10.1.1.1
  2 tty 2      Modem Autoconfigure 00:00:00
  3 tty 3      Modem Autoconfigure 00:00:00
  4 tty 4      Modem Autoconfigure 00:00:01
  5 tty 5      Modem Autoconfigure 00:00:00
  6 tty 6      Modem Autoconfigure 00:00:00
  7 tty 7      Modem Autoconfigure 00:00:00
Interface      User      Mode      Idle      Peer Address

```

```
remoteISDN01#show users
```

```

Line      User      Host(s)      Idle      Location
* 0 con 0      idle      00:00:00
Interface      User      Mode      Idle      Peer Address
BR0:1          AS5300      Sync PPP      00:09:09  PPP: 10.1.1.65

```

```
AS5300#show isdn history
```

```
-----
ISDN CALL HISTORY
-----
```

Call History contains all active calls, and a maximum of 100 inactive calls.  
Inactive call data will be retained for a maximum of 15 minutes.

```
-----
Call      Calling      Called      Remote      Seconds      Seconds      Seconds      Charges
Type      Number      Number      Name      Used      Left      Idle      Units/Currency
-----
Out      ---N/A---      9996200      +oteAsync01      187
Out      ---N/A---      9996200      +oteAsync01      56
Out      ---N/A---      9996200      +oteAsync01      469      305      294      0
Out      ---N/A---      9996100      +moteISDN01      105      509      90      0
-----
```

```
AS5300#show isdn active
```

```
-----
ISDN ACTIVE CALLS
-----
```

```
-----
Call      Calling      Called      Remote      Seconds      Seconds      Seconds      Charges
Type      Number      Number      Name      Used      Left      Idle      Units/Currency
-----
Out      ---N/A---      9996100      +moteISDN01      152      449      150      0
Out      ---N/A---      9996200      +oteAsync01      133      491      108      0
-----
```

```
AS5300#show isdn status
```

```
Global ISDN Switchtype = primary-5ess
```

```
ISDN Serial0:23 interface
```

```
  dsl 0, interface ISDN Switchtype = primary-5ess
```

```
Layer 1 Status:
```

```
  ACTIVE
```

```
Layer 2 Status:
```

```
  TEI = 0, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED
```

```
Layer 3 Status:
```

```
  2 Active Layer 3 Call(s)
```

```
  CCB:callid=809E, sapi=0, ces=0, B-chan=23, calltype=VOICE
```

```

CCB:callid=809F, sapi=0, ces=0, B-chan=22, calltype=DATA
Active dsl 0 CCBs = 2
The Free Channel Mask: 0x801FFFFF
Number of L2 Discards = 1, L2 Session ID = 10
!--- Output suppressed. AS5300#Ping 10.1.201.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.201.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/33/36 ms

AS5300#Ping 10.1.200.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.200.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/141/148 ms

AS5300#show isdn service
PRI Channel Statistics:
ISDN Se0:23, Channel [1-24]
Configured Isdn Interface (dsl) 0
Channel State (0=Idle 1=Proposed 2=Busy 3=Reserved 4=Restart 5=Maint_Pend)
Channel : 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
State   : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 3
Service State (0=Inservice 1=Maint 2=Outofservice)
Channel : 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
State   : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2

```

```
!--- Output suppressed. AS5300#show modem
```

Codes:

- \* - Modem has an active call
- C - Call in setup
- T - Back-to-Back test in progress
- R - Modem is being Reset
- p - Download request is pending and modem cannot be used for taking calls
- D - Download in progress
- B - Modem is marked bad and cannot be used for taking calls
- b - Modem is either busied out or shut-down
- d - DSP software download is required for achieving K56flex connections
- ! - Upgrade request is pending

Mdm	Avg Hold Time	Inc calls Succ	Inc calls Fail	Out calls Succ	Out calls Fail	Busied Out	Failed Dial	No Answer	Succ Pct.
1/0	00:00:00	0	0	0	0	0	0	0	0%
1/1	00:00:00	0	0	0	0	0	0	0	0%
1/2	00:00:00	0	0	0	0	0	0	0	0%
1/3	00:00:00	0	0	0	0	0	0	0	0%
1/4	00:00:00	0	0	0	0	0	0	0	0%
1/5	00:00:00	0	0	0	0	0	0	0	0%
1/6	00:00:00	0	0	0	0	0	0	0	0%
1/7	00:00:00	0	0	0	0	0	0	0	0%
1/8	00:00:00	0	0	0	0	0	0	0	0%
1/9	00:00:00	0	0	0	0	0	0	0	0%
* 1/10	00:02:21	0	0	5	5	0	0	0	50%
1/11	00:03:11	0	0	23	6	0	0	0	79%
1/12	00:00:00	0	0	0	0	0	0	0	0%
1/13	00:00:00	0	0	0	0	0	0	0	0%
1/14	00:00:00	0	0	0	0	0	0	0	0%

```
!--- Output suppressed.
```

## Troubleshoot

Esta seção fornece informações que podem ser usadas para o troubleshooting da sua configuração.

## Troubleshooting de Recursos

- [Troubleshooting de Chamada ISDN Recebida](#) - Use para Troubleshooting de Falha de Chamada ISDN.
- [PRI ISDN Callin](#) - Contém informações adicionais sobre Troubleshooting de falhas de chamada ISDN.
- [Fluxograma de Troubleshooting de T1 - Use este fluxograma se suspeitar que o circuito T1 não está funcionando de forma adequada.](#)
- [T1 PRI Troubleshooting](#) - Procedimento de Troubleshooting de Circuitos ISDN PRI
- [Testes de loopback para linhas T1/56K](#) - Use para verificar se a porta T1 no roteador está funcionando corretamente.
- [Uso do comando show isdn status para Troubleshooting de BRI – Use este documento para Troubleshooting de BRI.](#)
- [Troubleshooting de ISDN BRI Layer 3 usando o Comando debug isdn q931](#) - Use este documento para Troubleshooting de ISDN Layer 3.

## Comandos para Troubleshooting

A [Output Interpreter Tool \(somente clientes registrados\) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.](#)

**Observação:** antes de emitir comandos **debug**, consulte [Informações importantes sobre comandos debug](#).

- **debug dialer** - Quando o DDR é ativado na interface, esse comando exibe informações sobre a causa de qualquer chamada (chamada de causa de discagem).
- **debug isdn q931** - Para verificar as conexões ISDN quando as chamadas de saída são iniciadas.
- **debug ppp negotiation** - Para ver se um cliente está passando a negociação PPP. Um alto número de negociações de PPP simultâneas pode sobrecarregar a CPU do roteador.
- **debug ppp authentication** - **Para ver se um cliente foi aprovado na autenticação.** Se você estiver usando uma versão anterior ao Cisco IOS versão 11.2, use o comando debug ppp chap.
- **debug ppp error** – **Para exibir erros do protocolo e estatísticas de erros associados à negociação e operação da conexão PPP**

## Comandos de solução de problemas de modem

- **debug chat** - Para ver a execução do script de bate-papo quando uma chamada é iniciada.
- **debug modem** – **Para ver se um roteador está recebendo os sinais corretos do modem.**
- **debug modem csm** - Para ativar o modo de depuração do CSM (Call Switching Module) de gerenciamento de modem.

## Troubleshooting de Saídas

Abaixo há saídas de depuração para uma chamada de saída bem-sucedida. Preste atenção às seções em negrito e comentários fornecidos nas saídas. Compare a saída que você obtém com o resultado mostrado abaixo.

## Depurando a conexão de discagem do AS5300 T1 PRI para o roteador remoto Async01

```
AS5300#debug isdn q931
```

```
ISDN Q931 packets debugging is on
```

```
AS5300#debug chat
```

```
Chat scripts activity debugging is on
```

```
AS5300#debug dialer events
```

```
Dial on demand events debugging is on
```

```
AS5300#show debug
```

```
Dial on demand:
```

```
    Dial on demand events debugging is on
```

```
PPP:
```

```
    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 --> 7
```

```
    1 1 1 1 - - - -
```

```
Chat Scripts:
```

```
Chat scripts activity debugging is on
```

```
AS5300#ping 10.1.200.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.200.1, timeout is 2 seconds:
```

```
Dec 30 17:59:16.675: As12 DDR: rotor dialout [priority]
```

```
Dec 30 17:59:16.675: As12 DDR: Dialing cause ip (s=10.1.1.1, d=10.1.200.1)
```

```
!--- The dialing cause is a ping for 10.1.200.1. !--- ICMP is tagged as interesting. Dec 30
```

```
17:59:16.675: As12 DDR: Attempting to dial 9996200 Dec 30 17:59:16.675: CHAT12: Attempting async
```

```
line dialer script Dec 30 17:59:16.675: CHAT12: Dialing using Modem script: kelly
```

```
& System script: none
```

```
!--- Uses the Chat script kelly to Dialout.
```

```
Dec 30 17:59:16.675: CHAT12: process started
```

```
Dec 30 17:59:16.675: CHAT12: Asserting DTR
```

```
Dec 30 17:59:16.675: CHAT12: Chat script kelly started
```

```
Dec 30 17:59:16.675: CHAT12: Sending string: atdt\T<9996200>
```

```
!--- The Chat script kelly uses the Telephone no in Interface Dialer 1 to Dialout. Dec 30
```

```
17:59:16.675: CHAT12: Expecting string: CONNECT Dec 30 17:59:16.755: ISDN Se0:23: TX -> SETUP pd
```

```
= 8 callref = 0x00B1
```

```
!--- Outgoing ISDN Q.931 SETUP message. Dec 30 17:59:16.755: Bearer Capability i = 0x8090A2 Dec
```

```
30 17:59:16.755: Channel ID i = 0xA98397 Dec 30 17:59:16.759: Called Party Number i = 0xA1,
```

```
'9996200', Plan:ISDN, Type:National Dec 30 17:59:16.823: ISDN Se0:23: RX <- CALL_PROC pd = 8
```

```
callref = 0x80B1 Dec 30 17:59:16.823: Channel ID i = 0xA98397 Dec 30 17:59:17.023: ISDN Se0:23:
```

```
RX <- ALERTING pd = 8 callref = 0x80B1..... Success rate is 0 percent (0/5) AS5300# Dec 30
```

```
17:59:26.115: ISDN Se0:23: RX <- CONNECT pd = 8 callref = 0x80B1
```

```
!--- Received Q.931 CONNECT message. Dec 30 17:59:26.119: ISDN Se0:23: TX -> CONNECT_ACK pd = 8
```

```
callref = 0x00B1 Dec 30 17:59:32.119: %ISDN-6-CONNECT: Interface Serial0:22 is now connected to
```

```
9996200 Dec 30 17:59:49.347: CHAT12: Completed match for expect: CONNECT Dec 30 17:59:49.347:
```

```
CHAT12: Sending string: \c Dec 30 17:59:49.347: CHAT12: Chat script kelly finished, status =
```

```
Success Dec 30 17:59:49.351: Di1 IPCP: Install route to 10.1.1.2
```

```
!--- A route to the peer is installed. Dec 30 17:59:51.351: %LINK-3-UPDOWN: Interface Async12,
```

```
changed state to up
```

```
Dec 30 17:59:51.351: As12 DDR: Dialer statechange to up
```

```
Dec 30 17:59:51.351: As12 DDR: Dialer call has been placed
```

```
Dec 30 17:59:51.351: As12 PPP: Treating connection as a callout
```

```
Dec 30 17:59:51.351: As12 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load]
```

```
Dec 30 17:59:51.351: As12 LCP: O CONFREQ [Closed] id 149 len 25
```

```
Dec 30 17:59:51.351: As12 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:59:51.351: As12 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:59:51.351: As12 LCP: MagicNumber 0x4A997A3A (0x05064A997A3A)
Dec 30 17:59:51.351: As12 LCP: PFC (0x0702)
Dec 30 17:59:51.351: As12 LCP: ACFC (0x0802)
Dec 30 17:59:53.351: As12 LCP: TIMEOUT: State REQsent
Dec 30 17:59:53.351: As12 LCP: O CONFREQ [REQsent] id 150 len 25
Dec 30 17:59:53.351: As12 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:59:53.351: As12 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:59:53.351: As12 LCP: MagicNumber 0x4A997A3A (0x05064A997A3A)
Dec 30 17:59:53.351: As12 LCP: PFC (0x0702)
Dec 30 17:59:53.351: As12 LCP: ACFC (0x0802)
Dec 30 17:59:53.511: As12 LCP: I CONFREQ [REQsent] id 53 len 25
Dec 30 17:59:53.511: As12 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:59:53.511: As12 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:59:53.511: As12 LCP: MagicNumber 0x67B12AE8 (0x050667B12AE8)
Dec 30 17:59:53.511: As12 LCP: PFC (0x0702)
Dec 30 17:59:53.511: As12 LCP: ACFC (0x0802)
Dec 30 17:59:53.511: As12 LCP: O CONFACK [REQsent] id 53 len 25
Dec 30 17:59:53.511: As12 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:59:53.511: As12 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:59:53.511: As12 LCP: MagicNumber 0x67B12AE8 (0x050667B12AE8)
Dec 30 17:59:53.511: As12 LCP: PFC (0x0702)
Dec 30 17:59:53.511: As12 LCP: ACFC (0x0802)
Dec 30 17:59:53.543: As12 LCP: I CONFACK [ACKsent] id 150 len 25
Dec 30 17:59:53.543: As12 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:59:53.543: As12 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:59:53.543: As12 LCP: MagicNumber 0x4A997A3A (0x05064A997A3A)
Dec 30 17:59:53.543: As12 LCP: PFC (0x0702)
Dec 30 17:59:53.543: As12 LCP: ACFC (0x0802)
Dec 30 17:59:53.543: As12 LCP: State is Open
!--- LCP negotiation is complete. Dec 30 17:59:53.543: As12 PPP: Phase is AUTHENTICATING, by both
[0 sess, 1 load] Dec 30 17:59:53.543: As12 CHAP: O CHALLENGE id 25 len 27 from "AS5300" Dec 30
17:59:53.655: As12 CHAP: I CHALLENGE id 27 len 34 from "remoteAsync01" Dec 30 17:59:53.655: As12
CHAP: O RESPONSE id 27 len 27 from "AS5300" Dec 30 17:59:53.671: As12 CHAP: I RESPONSE id 25 len
34 from "remoteAsync01" Dec 30 17:59:53.671: As12 CHAP: O SUCCESS id 25 len 4 Dec 30
17:59:53.783: As12 CHAP: I SUCCESS id 27 len 4 !--- Two-way CHAP authentication is successful.
Dec 30 17:59:53.783: As12 PPP: Phase is UP [0 sess, 1 load] Dec 30 17:59:53.783: As12 IPCP: O
CONFREQ [Closed] id 25 len 10 Dec 30 17:59:53.783: As12 IPCP: Address 10.1.1.1 (0x03060A010101)
Dec 30 17:59:53.783: As12 CDPCP: O CONFREQ [Closed] id 25 len 4 Dec 30 17:59:53.783: As12 IPCP:
I CONFREQ [REQsent] id 27 len 10 Dec 30 17:59:53.783: As12 IPCP: Address 10.1.1.2
(0x03060A010102) Dec 30 17:59:53.783: As12 IPCP: O CONFACK [REQsent] id 27 len 10 Dec 30
17:59:53.783: As12 IPCP: Address 10.1.1.2 (0x03060A010102) Dec 30 17:59:53.911: As12 IPCP: I
CONFACK [ACKsent] id 25 len 10 Dec 30 17:59:53.911: As12 IPCP: Address 10.1.1.1 (0x03060A010101)
Dec 30 17:59:53.911: As12 IPCP: State is Open Dec 30 17:59:53.911: As12 DDR: dialer protocol up
Dec 30 17:59:53.927: As12 LCP: I PROTREJ [Open] id 54 len 10 protocol CDPCP (0x820701190004) Dec
30 17:59:53.927: As12 CDPCP: State is Closed Dec 30 17:59:54.783: %LINEPROTO-5-UPDOWN: Line
protocol on Interface Async12, changed state to up Dec 30 17:59:54.783: As12 PPP: Outbound cdp
packet dropped, CDPCP is Closed [starting negotiations] Dec 30 17:59:54.783: As12 CDPCP: State
is Closed Dec 30 17:59:54.783: As12 PPP: Outbound cdp packet dropped, CDPCP is Closed [starting
negotiations] Dec 30 17:59:54.783: As12 CDPCP: State is Closed Dec 30 17:59:54.783: As12 PPP:
Outbound cdp packet dropped, CDPCP is Closed [starting negotiations] Dec 30 17:59:54.783: As12
CDPCP: State is Closed Dec 30 17:59:54.787: As12 CDPCP: TIMEOUT: State Closed Dec 30
17:59:54.787: As12 CDPCP: State is Listen remoteAsync01#debug ppp negotiation
PPP protocol negotiation debugging is on
remoteAsync01#
Dec 30 17:58:54: As1 LCP: I CONFREQ [Closed] id 150 len 25
Dec 30 17:58:54: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:58:54: As1 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:58:54: As1 LCP: MagicNumber 0x4A997A3A (0x05064A997A3A)
Dec 30 17:58:54: As1 LCP: PFC (0x0702)
Dec 30 17:58:54: As1 LCP: ACFC (0x0802)
Dec 30 17:58:54: As1 LCP: Lower layer not up, Fast Starting
Dec 30 17:58:54: As1 PPP: Treating connection as a dedicated line
```

```

Dec 30 17:58:54: As1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 0 load]
Dec 30 17:58:54: As1 LCP: O CONFREQ [Closed] id 53 len 25
Dec 30 17:58:54: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:58:54: As1 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:58:54: As1 LCP: MagicNumber 0x67B12AE8 (0x050667B12AE8)
Dec 30 17:58:54: As1 LCP: PFC (0x0702)
Dec 30 17:58:54: As1 LCP: ACFC (0x0802)
Dec 30 17:58:54: As1 LCP: O CONFACK [REQsent] id 150 len 25
Dec 30 17:58:54: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:58:54: As1 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:58:54: As1 LCP: MagicNumber 0x4A997A3A (0x05064A997A3A)
Dec 30 17:58:54: As1 LCP: PFC (0x0702)
Dec 30 17:58:54: As1 LCP: ACFC (0x0802)
Dec 30 17:58:54: %LINK-3-UPDOWN: Interface Async1, changed state to up
Dec 30 17:58:55: As1 LCP: I CONFACK [ACKsent] id 53 len 25
Dec 30 17:58:55: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
Dec 30 17:58:55: As1 LCP: AuthProto CHAP (0x0305C22305)
Dec 30 17:58:55: As1 LCP: MagicNumber 0x67B12AE8 (0x050667B12AE8)
Dec 30 17:58:55: As1 LCP: PFC (0x0702)
Dec 30 17:58:55: As1 LCP: ACFC (0x0802)
Dec 30 17:58:55: As1 LCP: State is Open

!--- LCP negotiation is complete. Dec 30 17:58:55: As1 PPP: Phase is AUTHENTICATING, by both [0
sess, 0 load] Dec 30 17:58:55: As1 CHAP: O CHALLENGE id 27 len 34 from "remoteAsync01" Dec 30
17:58:55: As1 CHAP: I CHALLENGE id 25 len 27 from "AS5300" Dec 30 17:58:55: As1 CHAP: O RESPONSE
id 25 len 34 from "remoteAsync01" Dec 30 17:58:55: As1 CHAP: I RESPONSE id 27 len 27 from
"AS5300" Dec 30 17:58:55: As1 CHAP: I SUCCESS id 25 len 4 Dec 30 17:58:55: As1 CHAP: O SUCCESS
id 27 len 4 !--- Two-way CHAP authentication is successful. Dec 30 17:58:55: As1 PPP: Phase is
UP [0 sess, 1 load] Dec 30 17:58:55: As1 IPCP: O CONFREQ [Closed] id 27 len 10 Dec 30 17:58:55:
As1 IPCP: Address 10.1.1.2 (0x03060A010102) Dec 30 17:58:55: As1 IPCP: I CONFREQ [REQsent] id 25
len 10 Dec 30 17:58:55: As1 IPCP: Address 10.1.1.1 (0x03060A010101) Dec 30 17:58:55: As1 IPCP: O
CONFACK [REQsent] id 25 len 10 Dec 30 17:58:55: As1 IPCP: Address 10.1.1.1 (0x03060A010101) Dec
30 17:58:55: As1 CDP: I CONFREQ [Not negotiated] id 25 len 4 Dec 30 17:58:55: As1 LCP: O
PROTREJ [Open] id 54 len 10 protocol CDP (0x820701190004) Dec 30 17:58:55: As1 IPCP: I CONFACK
[ACKsent] id 27 len 10 Dec 30 17:58:55: As1 IPCP: Address 10.1.1.2 (0x03060A010102) Dec 30
17:58:55: As1 IPCP: State is Open Dec 30 17:58:55: As1 IPCP: Install route to 10.1.1.1

!--- A route to the peer is installed. Dec 30 17:58:56: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Async1,
changedstate to up

```

## [Depuração de discagem do AS5300 para o roteador ISDN01 remoto](#)

```

AS5300#show debug
Dial on demand:
  Dial on demand events debugging is on
PPP:
  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 --> 7
  1 1 1 1 - - - -
Chat Scripts:
  Chat scripts activity debugging is on
AS5300#ping 10.1.201.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.201.1, timeout is 2 seconds:

Dec 30 18:12:42.811: Se0:23 DDR: rotor dialout [priority]

```

Dec 30 18:12:42.815: **Se0:23 DDR: Dialing cause ip (s=10.1.1.65, d=10.1.201.1)**  
*!--- The dialing cause is a ping for 10.1.201.1. !--- ICMP is tagged as interesting.* Dec 30  
18:12:42.815: Se0:23 DDR: Attempting to dial 9996100 Dec 30 18:12:42.815: **ISDN Se0:23: TX -**  
**>SETUP pd = 8 callref = 0x00B2**  
*!--- Outgoing ISDN Q.931 SETUP message.* Dec 30 18:12:42.815: Bearer Capability i = 0x8890 Dec 30  
18:12:42.815: Channel ID i = 0xA98396 Dec 30 18:12:42.819: Called Party Number i = 0xA1,  
'9996100', Plan:ISDN, Type:National Dec 30 18:12:42.867: ISDN Se0:23: RX <- CALL\_PROC pd = 8  
callref = 0x80B2 Dec 30 18:12:42.867: Channel ID i = 0xA98396 Dec 30 18:12:43.127: ISDN Se0:23:  
RX <- CONNECT pd = 8 callref = 0x80B2 *!--- Received Q.931 CONNECT message.* Dec 30 18:12:43.135:  
%LINK-3-UPDOWN: Interface Serial0:21, changed state to up Dec 30 18:12:43.135: Se0:21 PPP:  
Treating connection as a callout Dec 30 18:12:43.135: Se0:21 PPP: Phase is ESTABLISHING, Active  
Open [0 sess, 1 load] Dec 30 18:12:43.135: Se0:21 LCP: O CONFREQ [Closed] id 25 len 15 Dec 30  
18:12:43.139: Se0:21 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:12:43.139: Se0:21 LCP:  
MagicNumber 0x4AA54104 (0x05064AA54104) Dec 30 18:12:43.139: ISDN Se0:23: TX -> CONNECT\_ACK pd =  
8 callref = 0x00B2 Dec 30 18:12:43.167: Se0:21 LCP: I CONFREQ [REQsent] id 55 len 15 Dec 30  
18:12:43.167: Se0:21 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:12:43.167: Se0:21 LCP:  
MagicNumber 0x575DC27D (0x0506575DC27D) Dec 30 18:12:43.167: Se0:21 LCP: O CONFACK [REQsent] id  
55 len 15 Dec 30 18:12:43.167: Se0:21 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:12:43.167:  
Se0:21 LCP: MagicNumber 0x575DC27D (0x0506575DC27D) Dec 30 18:12:43.175: Se0:21 LCP: I CONFACK  
[ACKsent] id 25 len 15 Dec 30 18:12:43.175: Se0:21 LCP: AuthProto CHAP (0x0305C22305) Dec 30  
18:12:43.175: Se0:21 LCP: MagicNumber 0x4AA54104 (0x05064AA54104) Dec 30 18:12:43.179: Se0:21  
**LCP: State is Open**  
*!--- LCP negotiation is complete.* Dec 30 18:12:43.179: Se0:21 PPP: Phase is AUTHENTICATING, by  
both [0 sess, 1.!!!! Success rate is 80 percent (4/5), round-trip min/avg/max = 32/33/36  
msAS5300# load] Dec 30 18:12:43.179: Se0:21 CHAP: O CHALLENGE id 13 len 27 from "AS5300" Dec 30  
18:12:43.227: Se0:21 CHAP: I CHALLENGE id 36 len 33 from "remoteISDN01" Dec 30 18:12:43.227:  
Se0:21 CHAP: O RESPONSE id 36 len 27 from "AS5300" Dec 30 18:12:43.251: Se0:21 CHAP: I SUCCESS  
id 36 len 4 Dec 30 18:12:43.263: Se0:21 CHAP: I RESPONSE id 13 len 33 from "remoteISDN01" Dec 30  
18:12:43.263: Se0:21 **CHAP: O SUCCESS id 13 len 4**  
*!--- Two-way CHAP authentication is successful.* Dec 30 18:12:43.263: Se0:21 PPP: Phase is UP [0  
sess, 1 load] Dec 30 18:12:43.263: Se0:21 IPCP: O CONFREQ [Closed] id 13 len 10 Dec 30  
18:12:43.267: Se0:21 IPCP: Address 10.1.1.65 (0x03060A010141) Dec 30 18:12:43.287: Se0:21 IPCP:  
I CONFREQ [REQsent] id 36 len 10 Dec 30 18:12:43.287: Se0:21 IPCP: Address 10.1.1.66  
(0x03060A010142) Dec 30 18:12:43.287: Se0:21 IPCP: O CONFACK [REQsent] id 36 len 10 Dec 30  
18:12:43.287: Se0:21 IPCP: Address 10.1.1.66 (0x03060A010142) Dec 30 18:12:43.287: Se0:21 CDPCP:  
I CONFREQ [Not negotiated] id 36 len 4 Dec 30 18:12:43.291: Se0:21 LCP: O PROTREJ [Open] id 26  
len 10 protocol CDPCP (0x820701240004) Dec 30 18:12:43.307: Se0:21 IPCP: I CONFACK [ACKsent] id  
13 len 10 Dec 30 18:12:43.307: Se0:21 IPCP: Address 10.1.1.65 (0x03060A010141) Dec 30  
18:12:43.307: Se0:21 IPCP: State is Open Dec 30 18:12:43.307: Se0:21 DDR: dialer protocol up Dec  
30 18:12:43.307: Di2 **IPCP: Install route to 10.1.1.66**  
*!--- A route to the peer is installed.* Dec 30 18:12:44.263: %LINEPROTO-5-UPDOWN: **Line protocol**  
**on Interface Serial0:21,**  
**changed state to up**  
Dec 30 18:12:49.135: %ISDN-6-CONNECT: **Interface Serial0:21 is now connected to**  
**9996100 remoteISDN01**

remoteISDN01#**debug ppp negotiation**

PPP protocol negotiation debugging is on

remoteISDN01#**debug isdn q931**

ISDN Q931 packets debugging is on

remoteISDN01#**show debug**

PPP:

PPP protocol negotiation debugging is on

ISDN:

ISDN Q931 packets debugging is on

remoteISDN01#

Dec 30 18:13:04: ISDN BR0: RX <- SETUP pd = 8 callref = 0x1B

Dec 30 18:13:04: Bearer Capability i = 0x8890

Dec 30 18:13:04: Channel ID i = 0x89

Dec 30 18:13:04: Signal i = 0x40 - Alerting on - pattern 0

Dec 30 18:13:04: Called Party Number i = 0xA1, '2019996100', Plan:ISDN,  
Type:National

Dec 30 18:13:04: ISDN BR0: Event: Received a DATA call from <unknown> on B1 at  
64 Kb/s



```

Dec 30 18:13:04: ISDN BR0: Event: Accepting the call id 0x2D
Dec 30 18:13:04: %LINK-3-UPDOWN: Interface BRI0:1, changed state to up
Dec 30 18:13:04: BR0:1 PPP: Treating connection as a callin
Dec 30 18:13:04: BR0:1 PPP: Phase is ESTABLISHING, Passive Open [0 sess, 1 load]
Dec 30 18:13:04: BR0:1 LCP: State is Listen
Dec 30 18:13:04: ISDN BR0: TX -> CALL_PROC pd = 8 callref = 0x9B
!--- Outgoing ISDN Q.931 SETUP message. Dec 30 18:13:04: Channel ID i = 0x89 Dec 30 18:13:04:
ISDN BR0: TX -> CONNECT pd = 8 callref = 0x9B Dec 30 18:13:05: BR0:1 LCP: I CONFREQ [Listen] id
25 len 15 Dec 30 18:13:05: BR0:1 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:13:05: BR0:1 LCP:
MagicNumber 0x4AA54104 (0x05064AA54104) Dec 30 18:13:05: BR0:1 LCP: O CONFREQ [Listen] id 55 len
15 Dec 30 18:13:05: BR0:1 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:13:05: BR0:1 LCP:
MagicNumber 0x575DC27D (0x0506575DC27D) Dec 30 18:13:05: BR0:1 LCP: O CONFACK [Listen] id 25 len
15 Dec 30 18:13:05: BR0:1 LCP: AuthProto CHAP (0x0305C22305) Dec 30 18:13:05: BR0:1 LCP:
MagicNumber 0x4AA54104 (0x05064AA54104) Dec 30 18:13:05: ISDN BR0: RX <- CONNECT_ACK pd = 8
callref = 0x1B !--- Received Q.931 CONNECT message. Dec 30 18:13:05: Signal i = 0x4F - Alerting
off Dec 30 18:13:05: BR0:1 LCP: I CONFACK [ACKsent] id 55 len 15 Dec 30 18:13:05: BR0:1 LCP:
AuthProto CHAP (0x0305C22305) Dec 30 18:13:05: BR0:1 LCP: MagicNumber 0x575DC27D
(0x0506575DC27D) Dec 30 18:13:05: BR0:1 LCP: State is Open Dec 30 18:13:05: BR0:1 PPP: Phase is
AUTHENTICATING, by both [0 sess, 1 load] Dec 30 18:13:05: BR0:1 CHAP: O CHALLENGE id 36 len 33
from "remoteISDN01" Dec 30 18:13:05: BR0:1 CHAP: I CHALLENGE id 13 len 27 from "AS5300" Dec 30
18:13:05: BR0:1 CHAP: Waiting for peer to authenticate first Dec 30 18:13:05: BR0:1 CHAP: I
RESPONSE id 36 len 27 from "AS5300" Dec 30 18:13:05: BR0:1 CHAP: O SUCCESS id 36 len 4 Dec 30
18:13:05: BR0:1 CHAP: Processing saved Challenge, id 13 Dec 30 18:13:05: BR0:1 CHAP: O RESPONSE
id 13 len 33 from "remoteISDN01" Dec 30 18:13:05: BR0:1 CHAP: I SUCCESS id 13 len 4 !--- Two-way
CHAP authentication is successful. Dec 30 18:13:05: BR0:1 PPP: Phase is UP [0 sess, 0 load] Dec
30 18:13:05: BR0:1 IPCP: O CONFREQ [Closed] id 36 len 10 Dec 30 18:13:05: BR0:1 IPCP: Address
10.1.1.66 (0x03060A010142) Dec 30 18:13:05: BR0:1 CDPCP: O CONFREQ [Closed] id 36 len 4 Dec 30
18:13:05: BR0:1 IPCP: I CONFREQ [REQsent] id 13 len 10 Dec 30 18:13:05: BR0:1 IPCP: Address
10.1.1.65 (0x03060A010141) Dec 30 18:13:05: BR0:1 IPCP: O CONFACK [REQsent] id 13 len 10 Dec 30
18:13:05: BR0:1 IPCP: Address 10.1.1.65 (0x03060A010141) Dec 30 18:13:05: BR0:1 IPCP: I CONFACK
[ACKsent] id 36 len 10 Dec 30 18:13:05: BR0:1 IPCP: Address 10.1.1.66 (0x03060A010142) Dec 30
18:13:05: BR0:1 IPCP: State is Open Dec 30 18:13:05: BR0:1 LCP: I PROTREJ [Open] id 26 len 10
protocol CDPCP (0x8207 01240004) Dec 30 18:13:05: BR0:1 CDPCP: State is Closed Dec 30 18:13:05:
BR0 IPCP: Install route to 10.1.1.65
!--- A route to the peer is installed. Dec 30 18:13:06: %LINEPROTO-5-UPDOWN: Line protocol on
Interface BRI0:1,
changed state to up
Dec 30 18:13:06: BR0:1 PPP: Outbound cdp packet dropped, CDPCP is Closed
[starting negotiations]
Dec 30 18:13:06: BR0:1 CDPCP: State is Closed
Dec 30 18:13:06: BR0:1 PPP: Outbound cdp packet dropped, CDPCP is Closed
[starting negotiations]
Dec 30 18:13:06: BR0:1 CDPCP: State is Closed
Dec 30 18:13:06: BR0:1 PPP: Outbound cdp packet dropped, CDPCP is Closed
[starting negotiations]
Dec 30 18:13:06: BR0:1 CDPCP: State is Closed
Dec 30 18:13:06: BR0:1 CDPCP: TIMEout: State Closed
Dec 30 18:13:06: BR0:1 CDPCP: State is Listen
Dec 30 18:13:10: %ISDN-6-CONNECT: Interface BRI0:1 is now connected to AS5300

```

## Informações Relacionadas

- [Configurando um servidor de acesso com PRIs para chamadas Asyn e ISDN recebidas](#)
- [Configurando Dialin e Dialout nos mesmos circuitos T1/E1 PRI](#)
- [Configuração do NAS para Acesso de Discagem Básico](#)
- [Guia de configuração de soluções de discagem](#)
- [Entendendo códigos de causa de desconexão debug isdn q931](#)
- [Tecnologia dialup: Técnicas para Troubleshooting](#)
- [Troubleshooting de T1 PRI](#)

- [Troubleshooting de Modems](#)
- [Comandos de depuração de modem](#)
- [Suporte técnico para discagem e acesso](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)