

Marcación AS5300 con ISDN/Asíncrona (DDR saliente)

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[Introducción](#)

Esta configuración tiene un AS5300 con cuatro interfaces de velocidad primaria (PRI) y admite 96 llamadas de módem o un gran número de llamadas ISDN. Se configura con cuatro PRI para permitir conexiones salientes asíncronas e ISDN. Los mapas estáticos del marcador se configuran en el lado de marcado para cada conexión ISDN/Asíncrona. Las rutas IP estáticas se utilizan en ambos extremos de la conexión para evitar la sobrecarga innecesaria de un protocolo de ruteo dinámico. La adición de una ubicación remota requeriría la adición de un mapa del marcador, un nombre de usuario y una ruta estática para el nuevo destino en el lado de la marcación. Todos los nodos remotos tienen direcciones IP fijas.

[Antes de comenzar](#)

[Convenciones](#)

Para obtener más información sobre las convenciones del documento, consulte [Convenciones de Consejos Técnicos de Cisco](#).

[Prerequisites](#)

Paso 1: Configure y verifique que los clientes de marcado se hayan configurado correctamente.

Configuraciones de marcado de salida - Dispositivo que este AS5300 marca a:

- PRI: Configuración de un Servidor de Acceso con PRIs para llamadas ISDN y asíncronas salientes - Use la configuración del router de la serie AS5300 del sitio central (nombre de host AS5300) proporcionada en el documento.
- BRI para recibir una llamada entrante del AS5300: Configuración del enrutamiento de marcado a petición (DDR) de ISDN con perfiles de marcador: utilice la configuración del router Cisco 2503 del sitio cliente (nombre de host remotoISDN01) proporcionada en el documento.
- Asíncrono para recibir una llamada entrante del AS5300: Configuración de Interface Group-Async con Perfiles de Marcador - Use la configuración del sitio cliente Cisco 2511 Router (hostname remoteAsync01) proporcionada en el documento

Paso 2: verifique que los circuitos Telco funcionen correctamente. Puede utilizar el comando **show isdn status** para verificar que el circuito BRI o PRI esté funcionando correctamente. Para obtener más información, consulte el documento [Utilizar el comando show isdn status para la resolución de problemas de BRI](#). También debe habilitar el circuito PRI T1/E1 para llamadas salientes. Comuníquese con su compañía telefónica para corroborar esta información.

Componentes Utilizados

La información que contiene este documento se basa en las versiones de software y hardware indicadas a continuación.

- Cisco AS5300, Cisco 2511 y Cisco 2503
- Versión 12.2(10b) del software del IOS® de Cisco
- Un módem asíncrono externo

La información que se presenta en este documento se originó a partir de dispositivos dentro de un ambiente de laboratorio específico. All of the devices used in this document started with a cleared (default) configuration. Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener un comando antes de ejecutarlo.

Teoría Precedente

En algunas situaciones, puede ser necesario utilizar el circuito T1/E1 PRI para las conexiones de marcado de salida. Esto ayuda a garantizar que el cliente o la sucursal al que el circuito T1/E1 PRI marca es una identificación segura, en lugar de un usuario desconocido que marca con el nombre de usuario y la contraseña duplicados a la red.

Productos Relacionados

Esta configuración puede utilizarse con cualquier router que tenga las tarjetas T1 o PRI. Por lo tanto, todo router serie AS5xxx con tarjeta T1 o PRI puede utilizar esta configuración. Los routers de las series 2600 y 3600 de Cisco también se pueden configurar para marcar llamadas ISDN con una tarjeta de interfaz WAN (WIC) T1/PRI o un módulo de red.

Esta configuración también puede ser modificada para ser utilizada con los puertos E1 o PRI. Configure el controlador E1 con la codificación de línea, la alineación de trama y otras características físicas provistas por la compañía de telecomunicaciones. La configuración del

canal D (interfaz serial x:15 para E1) es similar a la que se muestra aquí.

Configurar

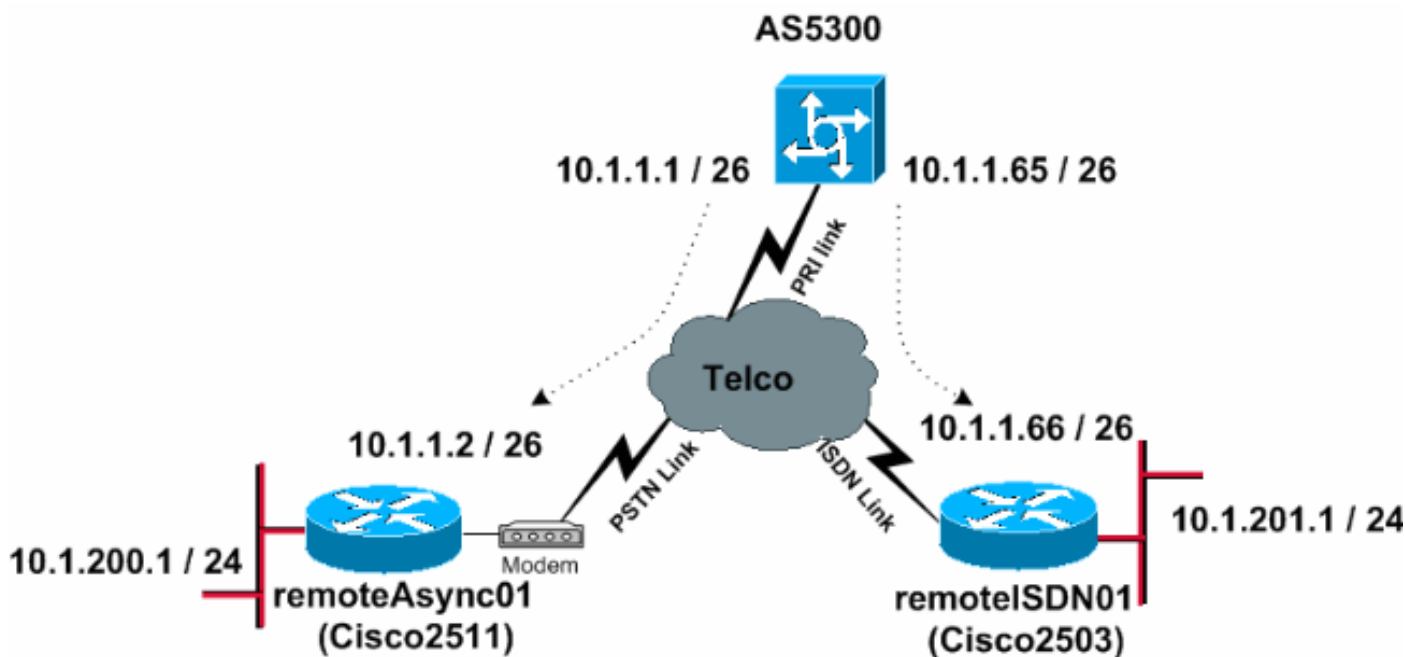
En esta sección encontrará la información para configurar las funciones descritas en este documento. Para esta red, necesita lo siguiente:

- El tipo de switch PRI, entramado y codificación de línea.
- Nombres de usuario y contraseñas de todos los nodos remotos a los que se marcará. Incluso si va a agregar TACACS+ o RADIUS más adelante, agregue algunos nombres al router para probar las líneas.
- El esquema de direccionamiento IP.

Nota: Para encontrar información adicional sobre los comandos usados en este documento, utilice la [Command Lookup Tool](#) (sólo clientes registrados) .

Diagrama de la red

Este documento utiliza la instalación de red que se muestra en el siguiente diagrama.



Configuraciones

Este documento usa las configuraciones detalladas a continuación.

- [AS5300](#)
- [remoteAsync01](#)
- [remoteISDN01](#)

AS5300
<pre>! version 12.2 service timestamps debug datetime msec</pre>

```

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
```

remoteISDN01

```
!
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
```

Verificación

En esta sección encontrará información que puede utilizar para confirmar que su configuración esté funcionando correctamente.

La herramienta [Output Interpreter](#) (sólo para clientes registrados) permite utilizar algunos comandos “show” y ver un análisis del resultado de estos comandos.

- **show isdn status** - Asegura que el router se comunique adecuadamente con el switch ISDN. Verifique en el resultado que el estado de la capa 1 sea ACTIVE (Activo) y que aparezca MULTIPLE_FRAME_ESTABLISHED en la capa 2. Este comando muestra también el número de llamadas activas.
- **show ppp multilink** – Muestra información en agrupamientos de enlaces múltiples que se encuentran activos. Este comando debería utilizarse para verificar la conexión de links múltiples.
- **show dialer [número de tipo de la interfaz]** – Muestra información general de diagnóstico para interfaces configuradas para DDR. Si el marcador apareció correctamente debe aparecer un mensaje que diga: Estado del marcador: capa del link de datos en funcionamiento. Si la capa física que está funcionando aparece, el protocolo de línea ha sido añadido, pero no así el Protocolo de control de red (NCP) Las direcciones de origen y destino del paquete que inició

el marcado se ven en la línea de motivo del marcado. Este comando show también muestra la configuración del temporizador y el tiempo antes de que se termine el tiempo de espera de la conexión

- **show caller user username detail** – Muestra parámetros específicos para un usuario en particular, como la dirección de IP asignada, los parámetros PPP y de agrupamiento PPP, etc. Si su versión del software del IOS de Cisco no es compatible con este comando, utilice el comando show user.
- **show dialer map** – Muestra mapas de marcado configurados, dinámicos y estáticos. Puede usar este comando para ver si el mapa del marcador dinámico ha sido creado. Sin un asignador de marcado no puede rutear paquetes.
- **show isdn service** - Para verificar el estado de los canales B. (Este comando es sólo para servidores de acceso que admiten controladores PRI/T1.)
- **show user** - Para mostrar usuarios asíncronos/sincronizados conectados actualmente.

A continuación, se ofrecen algunas salidas del comando show en llamadas exitosas. Preste atención a las secciones en negrita y a los comentarios proporcionados en los resultados. Compare el resultado obtenido con el resultado a continuación.

La siguiente salida se obtiene antes de establecer la conexión con los routers ISDN01 y Async01 remotos.

```
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
```

El siguiente resultado se obtiene después de establecer la conexión con los routers ISDN01 y Async01 remotos.

```
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 Odb
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 Type	Calling Number	Called Number	Remote Name	Seconds Used	Seconds Left	Seconds Idle	Charges Units/Currency
Out	---N/A---	9996200	+oteAsync01	187			0
Out	---N/A---	9996200	+oteAsync01	56			0
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 Type	Calling Number	Called Number	Remote Name	Seconds Used	Seconds Left	Seconds Idle	Charges 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 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 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

En esta sección encontrará información que puede utilizar para solucionar problemas de configuración.

[Recursos de resolución de problemas](#)

- [Troubleshooting de Llamada ISDN Entrante](#) - Uso para Troubleshooting de Fallas de Llamadas ISDN.
- [Llamada ISDN PRI](#) - Contiene información adicional sobre la resolución de problemas de fallas de llamadas ISDN.
- [Diagrama Troubleshooting en T1 - Utilice este diagrama de flujo si sospecha que el circuito T1 no funciona correctamente.](#)
- [Resolución de problemas de T1 PRI](#): procedimiento de resolución de problemas para circuitos ISDN PRI
- [Pruebas de loopback para líneas T1/56K](#) - Utilícelo para verificar que el puerto T1 en el router funciona correctamente.
- [Uso del comando show isdn status para solucionar problemas de BRI](#) - Use este documento para solucionar los problemas de BRI.
- [Resolución de problemas de la Capa 3 de ISDN BRI con el comando debug isdn q931](#) - Utilice este documento para la resolución de problemas de la Capa 3 de ISDN.

[Comandos para resolución de problemas](#)

La herramienta [Output Interpreter](#) (sólo para clientes registrados) permite utilizar algunos comandos "show" y ver un análisis del resultado de estos comandos.

Nota: Antes de ejecutar **comandos debug**, consulte [Información Importante sobre Comandos Debug](#).

- **debug dialer** - Cuando DDR está habilitado en la interfaz, este comando muestra información relativa a la causa de cualquier llamada (llamada causa de marcado).
- **debug isdn q931** - Para verificar las conexiones ISDN a medida que se inician las llamadas salientes.
- **debug ppp negotiation** - Para ver si un cliente está pasando la negociación PPP. Un gran número de negociaciones PPP simultáneas puede saturar la CPU del router.
- **debug ppp authentication** – **Para ver si un cliente se autentica correctamente.** Si está utilizando una versión anterior a la versión 11.2 del IOS de Cisco, utilice el comando debug ppp chap en su lugar.
- **debug ppp error** - Para mostrar los errores de protocolo y las estadísticas de error asociadas con la negociación y operación de conexión PPP.

[Comandos de resolución de problemas del módem](#)

- **debug chat** - Para ver la ejecución del script de chat cuando se inicia una llamada.
- **debug modem** - Para ver si el router está recibiendo las señales correctas del módem.
- **debug modem csm**: para habilitar el modo de depuración del módulo de conmutación de llamadas (CSM) de administración del módem.

[Solución de problemas de salida](#)

A continuación se encuentran las salidas de depuración para una llamada saliente satisfactoria. Preste atención a las secciones en negrita y a los comentarios proporcionados en los resultados. Compare el resultado obtenido con el resultado a continuación.

Depuración de la Conexión de Marcación de Salida del AS5300 T1 PRI al Router Asíncrono01 remoto

```
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
PROTREQ [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

```

Depuración del marcado de salida del AS5300 al router 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

```

[Información Relacionada](#)

- [Configuración del servidor de acceso con PRI para las llamadas ISDN y asíncronas entrantes](#)
- [Configuración de la marcación de entrada y de salida en los mismos circuitos T1/E1 PRI](#)

- [Configuración de NAS para el Acceso de Mercado Básico](#)
- [Guía de configuración de soluciones de marcado](#)
- [Introducción de los códigos de desconexión del comando debug isdn q931](#)
- [Tecnología de marcación manual: Técnicas de resolución de problemas](#)
- [Diagnóstico de T1 PRI](#)
- [Resolución de problemas de módems](#)
- [Comandos Debug del Módem](#)
- [Soporte técnico de marcado y acceso](#)
- [Soporte Técnico y Documentación - Cisco Systems](#)