

AS5350 of AS5400 configureren voor uitgaande modem en ISDN-oproepen

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Deze configuratie heeft een Cisco AS5400 met één Primaire Rate Interface (PRI) en ondersteuning voor 23 modemoproepen of ISDN-oproepen, afhankelijk van de host-uitbellen of inbellen. Het is geconfigureerd met vier PRI's om uitgaande verbindingen van asynchrone en ISDN toe te staan. We hebben statische dialerkaarten op de dialerkant voor elke ISDN of asynchrone verbinding ingesteld. We gebruiken statische IP-routes aan beide uiteinden van de verbinding om de onnodige overhead van een dynamisch routingprotocol te voorkomen. Voor het toevoegen van een externe locatie moet u een dialerkaart, gebruikersnaam en een statische route voor de nieuwe bestemming aan de kant van het kiezen toevoegen. Alle externe knooppunten hebben vaste IP-adressen.

Opmerking: Dit document is niet van toepassing op inkomende modem en ISDN-oproepen op AS5350 of AS5400 Series routers. Raadpleeg voor meer informatie hierover [het configureren van een AS5350/AS5400 voor inkomende asynchrone en ISDN-oproepen](#).

[Voorwaarden](#)

[Vereisten](#)

Zorg er voordat u deze configuratie probeert voor dat u aan deze vereisten voldoet:

- Zorg ervoor dat de ISDN PRI-circuits door het Telco zijn uitgerust voor dialout-sync en asynchrone.

Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- AS5400 SERIES CATALYST MET BEHULP VAN Cisco IOS®-SOFTWARERELEASE 12.2(6)
- Eén actieve T1 PRI
- Next-Port-modems met portware 0.6.108.0

Aangezien deze configuratie alleen beschikbaar is voor het analoge en ISDN-dialoogvenster, is een Cisco IOS-softwareversie die wordt ondersteund op de AS5350 en AS5400 voldoende. Als u extra functies wilt uitvoeren, raadpleegt u het gereedschap Software Adviseur om de IOS-versie te selecteren en de functies in te stellen die geschikt zijn voor uw behoeften.

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

Verwante producten

Deze configuratie kan ook worden toegepast op de AS5350- of AS5400-toegangsserver.

Deze configuratie kan worden aangepast voor gebruik met E1 PRI-poorten. Configureer de E1-controller met de linecodering, vormgeving en andere fysieke eigenschappen die door de Telco zijn geleverd. De D-kanaalconfiguratie (interface-seriële x:15 voor E1s) is gelijk aan de configuratie die hier wordt getoond.

Deze configuratie lijkt erg op een AS5200 of AS5300 configuratie voor een dialect-toegang. Raadpleeg het document [AS5300 Uitbellen met ISDN/Async \(uitgaande DDR\)](#). De enige belangrijke verandering tussen de twee is het commando **wijzerplaat-tdm-klokprioriteit nummer t1_sleuf/poort dat** wordt gebruikt om de T1 klokprioriteit in AS5350 of AS5400 toe te wijzen.

Deze configuratie kan ook worden aangepast om zowel inkomende als uitgaande oproepen te ondersteunen. Raadpleeg het document [Dialoogvenster en Uitbel configureren op dezelfde T1/E1 PRI-circuits](#) voor meer informatie

Conventies

Raadpleeg [Cisco Technical Tips Conventions](#) (Conventies voor technische tips van Cisco) voor meer informatie over documentconventies.

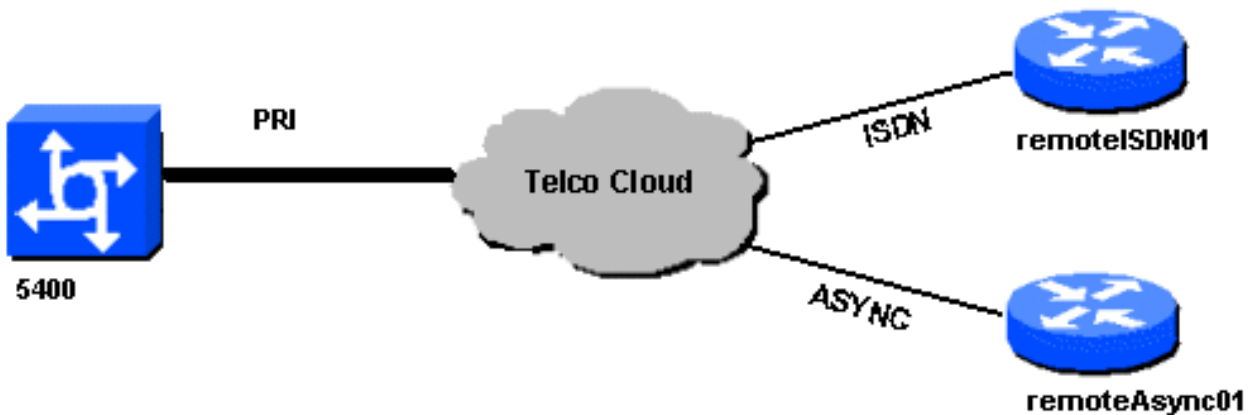
Configureren

Deze sectie bevat informatie over het configureren van de functies die in dit document worden beschreven.

N.B.: Als u aanvullende informatie wilt vinden over de opdrachten in dit document, gebruikt u het [Opdrachtplanningprogramma](#) (alleen [geregistreerd](#) klanten).

Netwerkdigram

Het netwerk in dit document is als volgt opgebouwd:



Configuraties

Dit document gebruikt deze configuraties:

5400

```
!  
version 12.2  
service timestamps debug datetime msec  
service timestamps log datetime msec  
no service password-encryption  
!  
hostname 5400  
!  
no boot startup-test  
!  
username remoteISDN01 password open4u  
username remoteAsync01 password open4u  
!--- Usernames for remote routers and shared secret !---  
(used for CHAP authentication). !--- These usernames are  
for local authentication of the call. !--- The client  
presents the username/password and the NAS !---  
authenticates the peer. ! ! resource-pool disable ! ip  
subnet-zero ip cef no ip domain-lookup ! isdn switch-  
type primary-5ess ! fax interface-type fax-mail mta  
receive maximum-recipients 0 ! controller T1 7/0 !--- T1  
Physical interface controller configuration. !---  
Interfaces are addressed as controller slot/port.  
framing esf !--- Framing for this T1 is Extended Super  
Frame (ESF). !--- Obtain this information from the  
Telco. linecode b8zs !--- Linecoding for this T1. Obtain  
this information from the Telco. pri-group timeslots 1-  
24 !--- PRI T1 with 24 DSOs provided by the Telco. !---  
The PRI signaling is configured in global configuration  
or the !--- the serial 7/X:23 interface (d-channel). The  
signaling defined !--- under the d-channel takes  
precedence over the PRI signaling !--- defined in global  
configuration. ! !--- Unused T1 configuration omitted!
```

```
interface FastEthernet0/0 ip address 172.68.186.54
255.255.255.240 duplex auto speed auto ! interface
FastEthernet0/1 no ip address shutdown duplex auto speed
auto ! interface Serial0/0 no ip address shutdown
clockrate 2000000 ! interface Serial0/1 no ip address
shutdown clockrate 2000000 ! interface Serial7/0:23 no
ip address encapsulation ppp dialer rotary-group 2 !---
The D-channel is added to rotary-group 2. Interface
Dialer 2 !--- provides the logical configuration for
this interface. dialer-group 1 isdn switch-type primary-
5ess isdn incoming-voice modem !--- This allows the PRI
circuits to accept and place async modem calls. !
interface Group-Async1 !--- This group-async interface
is the configuration template for all modems. !---
Individual async interface do not have to be configured
since they !--- can be cloned from one managed copy. no
ip address dialer in-band dialer rotary-group 1 !---
This command links this interface to logical interface
Dialer interface 1. !--- The Dialer 1 interface serves
as template for this interface. group-range 1/00 6/107
!--- Modems 1/00 through 6/107 belong to this group-
async interface. !--- Make sure you configure line 1/00
through 6/107 as well. !--- This command links all the
modem ranges listed to this interface. ! interface
Dialer1 !--- This interface is used for the modem DDR
dialout. !--- This dialer controls rotary-group 1
(configured under Group-Async 1). ! -- Remember that
this is a rotary and not a Dialer Profile ip address
10.1.1.1 255.255.255.192 encapsulation ppp dialer in-
band !--- Makes this interface DDR capable. !--- If you
do not configure a dialer idle-timeout, the default will
be 120 !--- seconds. dialer idle-timeout 600 !--- Sets
Idle timer to 600 seconds (10 minutes). dialer map ip
10.1.1.2 name remoteAsync01 broadcast 4724125 !---
Dialer map for the peer. !--- Note the ip address
matches the one configure on the peer. !--- The name
must also exactly match the one used to authenticate the
peer. dialer-group 1 !--- Apply interesting traffic
definition from dialer-list 1. !--- Note: The specified
dialer-group number must be the same as !--- the dialer-
list number; in this example, defined as "1". !---
Interesting traffic specifies the packets that should
reset the idle timer. ppp authentication chap !
interface Dialer2 !--- This interface will be used for
the ISDN DDR outbound calls. !--- This dialer controls
rotary-group 2 (configured under Serial 7/0:23). ! --
Remember that this is a rotary and not a Dialer Profile
ip address 10.1.1.65 255.255.255.192 encapsulation ppp
dialer in-band !--- If you do not configure a dialer
idle-timeout, the default will be 120 !--- seconds.
dialer idle-timeout 600 !--- Sets Idle timer to 600
seconds (10 minutes). dialer map ip 10.1.1.66 name
remoteISDN01 broadcast 6665800 dialer-group 1 !--- Apply
interesting traffic definition from dialer-list 1. !---
Note: The specified dialer-group number must be the same
as !--- the dialer-list number; in this example, defined
to be "1". !--- Interesting traffic specifies the
packets that should reset the idle timer. ppp
authentication chap ! 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. !--- Note the next hop IP address
is the peer router. !--- This also matches the ip
address in the dialer map !--- statement under int
Dialer 1. ip route 10.1.201.0 255.255.255.0 10.1.1.66 !-
```

```

-- Static route for the 10.1.201.0/24 network. !--- Note
the next hop IP address is the peer router. !--- This
also matches the ip address in the dialer map !---
statement under interface Dialer 2 no ip http server. !
dialer-list 1 protocol ip permit !--- Specifies all IP
traffic as interesting. Interesting traffic !---
specifies the packets that should reset the idle timer.
!--- This is applied to interface Group-Async 1 using
dialer-group 1. !--- Note: The specified dialer-list
number must be the same as the !--- dialer-group number;
in this example, defined to be "1". !! call rsvp-sync !
voice-port 7/0:D ! voice-port 7/1:D ! voice-port 7/2:D !
voice-port 7/3:D ! ! mgcp profile default ! ! line con 0
line aux 0 line vty 0 4 login line 1/00 1/107 !--- These
lines are linked to the modems. Note that this range
includes !--- the group-range configured under group-
async 1. modem InOut !--- Permit incoming and outgoing
calls on the modem. transport input all line 6/00 6/107
!--- These lines are linked to the modems. Note that
this line range is !--- included in the group-range
configured under group-async 1. modem InOut transport
input all ! scheduler allocate 10000 400 end

```

RemoteAsync01

```

remoteAsync01
!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname remoteAsync01
!
enable password <deleted>
!
username 5400 password open4u
!--- Username and password for the 5400. !--- The
shared secret password must be identical on both sides.
ip subnet-zero no ip domain-lookup ! 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 !--- Async interface for the incoming modem call.
ip address 10.1.1.2 255.255.255.192 !--- IP address for
this interface. !--- Note: this ip address is the same
as the one configured in the !--- dialer map on the 5400
Dialer 1. no ip directed-broadcast encapsulation ppp ppp
authentication chap ! no ip http server ip classless ip
route 0.0.0.0 0.0.0.0 10.1.1.1 !--- Default router with
next hop being the 5400's dialer 1 ip address. ! line
con 0 transport input none line 1 8 !--- Line number
range includes line 1(corresponding to interface
async1). modem InOut transport input all speed 38400
flowcontrol hardware line aux 0 line vty 0 4 ! end

```

Remote ISDN01

```

!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!

```

```

hostname remoteISDN01
!
enable secret <deleted>
!
username 5400 password open4u
  !--- Username and password for the 5400 router. !---
  The shared secret password must be identical on both
  sides. ip subnet-zero no ip domain-lookup ! isdn switch-
type basic-5ess ! 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 !--- BRI
interface for incoming call. ip address 10.1.1.66
255.255.255.192 !--- IP address is the same as that
configured on the 5400 Dialer 2 !--- dialer map
statement. !--- A dialer map is not needed on this
router. A dynamic map will be created !--- for incoming
calls. If this router is to be used for outgoing calls
!--- then a dialer map is needed. no ip directed-
broadcast encapsulation ppp dialer-group 1 !---
Interesting traffic definition from dialer-list 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 route points to ip address of
5400 dialer 2 interface. ! dialer-list 1 protocol ip
permit ! line con 0 transport input none line aux 0 line
vty 0 4 ! end

```

Verifiëren

Deze sectie verschaft informatie die u kunt gebruiken om te bevestigen dat uw configuratie correct werkt.

Bepaalde opdrachten met **show** worden ondersteund door de tool [Output Interpreter \(alleen voor geregistreerde klanten\)](#). [Hiermee kunt u een analyse van de output van opdrachten met show genereren.](#)

- **toon isdn status**—de status dient te zijn:

```

layer 1 = active
layer 2 = MULTIPLE_FRAMES_ESTABLISHED

```

Als Layer 1 niet actief is, kan de kabeladapter of poort slecht of niet aangesloten zijn. Als Layer 2 in een toestand van "TEI_ASSIGNED" staat, spreekt de router niet met de switch. Raadpleeg het [T1 PRI](#)-document [voor probleemoplossing](#) voor meer informatie.

- **toon ISDN service** - om de status van de B kanalen te controleren. Er moet een druk kanaal zijn voor elke oproep.
- **tonen de aanroep**-toont parameters voor de bijzondere gebruiker zoals het IP-adres toegewezen, Point to Point Protocol (PPP) en PPP bundelparameters, enz. Als uw versie van Cisco IOS-software deze opdracht niet ondersteunt, gebruikt u de opdracht **showgebruiker**.

Problemen oplossen

Deze sectie bevat informatie waarmee u problemen met de configuratie kunt oplossen.

Opdrachten voor troubleshooting

Bepaalde opdrachten met **show** worden ondersteund door de tool [Output Interpreter \(alleen voor geregistreerde klanten\)](#). [Hiermee kunt u een analyse van de output van opdrachten met show genereren.](#)

Opmerking: Voordat u **debug**-opdrachten afgeeft, raadpleegt u [Belangrijke informatie over Debug Commands](#).

Tijdstempels in de mondiale configuratie als volgt configureren:

```
service timestamps debug datetime msec
service timestamps log datetime msec
```

Gebruik de volgende opdrachten voor het oplossen van problemen:

- **debug dialer**—Wanneer Dial-on-Demand Routing (DDR) op de interface is ingeschakeld, geeft deze opdracht informatie weer over de oorzaak van een oproepen (de Dial-on-Demand genoemd).
- **debug ISDN Q931**: om ISDN-verbindingen te controleren wanneer uitgaande oproepen worden gestart.
- **debug PPP onderhandeling**-om te zien of een client PPP onderhandeling passeert. Een hoog aantal gelijktijdige PPP-onderhandelingen kunnen de router CPU's overweldigen.
- **debug van PPP-verificatie** - Om te zien of een client authenticatie passeert.
- **bug van PPP**: om protocolfouten en foutstatistieken weer te geven die bij de verbindingsonderhandeling en -handeling in PPP zijn gekoppeld.

Gebruik de volgende opdrachten voor probleemoplossing:

- **bug van modem**: om te zien of de router de juiste signalen van de modem ontvangt.
- **debug van modemcsm-modembeheer**: Call Switching Module (CSM) debug-modus.

Raadpleeg voor meer informatie over nevenpoortopdrachten [het](#) beheer [van poortservices op de universele gateway van Cisco AS5400](#).

Voorbeeld van output van foutopsporing

Hieronder staan enkele debug-uitgangen voor succesvolle oproepen. Let op de fouten en de opmerkingen in de resultaten. Vergelijk de uitvoer die u behaalt met het onderstaande resultaat.

Bel voor uitgaande modem

```
Router#show debug
General OS:
  Modem control/process activation debugging is on
Dial on demand:
  Dial on demand events debugging is on
CSM Modem:
  Modem Management Call Switching Module debugging is on
PPP:
  PPP authentication debugging is on
  PPP protocol errors debugging is on
  PPP protocol negotiation debugging is on
```

ISDN:

ISDN events debugging is on

ISDN Q931 packets debugging is on

ISDN events debug DSLs. (On/Off/No DSL:1/0/-)

DSL 0 --> 31

1 - - - - -

ISDN Q931 packets debug DSLs. (On/Off/No DSL:1/0/-)

DSL 0 --> 31

1 - - - - -

Router#ping 10.1.1.2

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 10.1.1.2, timeout is 2 seconds:

*Jan 2 01:07:19.085: As1/107 DDR: rotor dialout [priority]

*Jan 2 01:07:19.085: As1/107 DDR: Dialing cause ip (s=10.1.1.1, d=10.1.1.2)

*Jan 2 01:07:19.085: As1/107 DDR: Attempting to dial 4724125

!--- The DDR process has detected interesting traffic destined for a device off !--- dialer 1's interface and is inticating a call. *Jan 2 01:07:19.085: CHAT1/107: Attempting async line dialer script *Jan 2 01:07:19.085: CHAT1/107: no matching chat script found for 4724125 *Jan 2

01:07:19.085: CHAT1/107: Dialing using Modem script: d0efault-d0ials0cript & System script: none

*Jan 2 01:07:19.085: CHAT1/107: process started *Jan . 2 01:07:19.085: CHAT1/107: Asserting DTR

*Jan 2 01:07:19.085: CHAT1/107: Chat script d0efault-d0ials0cript started *Jan 2 01:07:20.533:

CSM DSPLIB(1/107): Rcvd Dial String (4724125) *Jan 2 01:07:20.533: CSM_PROC_IDLE:

CSM_EVENT_MODEM_OFFHOOK at slot 1, port 107 *Jan 2 01:07:20.537: csm_get_signaling_channel

csm_call_info->bchan_num 0xFFFFFFFF *Jan 2 01:07:20.537: csm_get_signaling_channel

dchan_index=16504,next_index=0, dchan_info=0x628C2BF0 *Jan 2 01:07:20.537:

CSM_PROC_OC3_COLLECT_ALL_DIGIT: CSM_EVENT_GET_ALL_DIGITS at **slot 1, port 107**

*Jan 2 01:07:20.537: CSM_PROC_OC3_COLLECT_ALL_DIGIT: called party num: (4724125)

at **slot 1, port 107**

!--- The Call Switch Module (CSM) is informed of the call. !--- The CSM allocates modem 1/107 for the outbound call. *Jan 2 01:07:20.537: csm_get_signaling_channel csm_call_info->bchan_num

0xFFFFFFFF *Jan 2 01:07:20.537: csm_get_signaling_channel dchan_index=24935,next_index=0,

dchan_info=0x628C2BF0 *Jan 2 01:07:20.537: ISDN Se7/0:23: Outgoing call id = 0x800F, dsl 0 *Jan

2 01:07:20.537: CSM_PROC_OC3_COLLECT_ALL_DIGIT: csm_call_info->bchan_num 0xFFFFFFFF *Jan 2

01:07:20.537: ISDN Se7/0:23: VOICE_I.SDNCALL Event: call id 0x800F, bchan 65535, ces 0 *Jan 2

01:07:20.537: ISDN Se7/0:23: process_pri_call(): call id 0x800F, number 4724125, speed 64, call

type VOICE, redialed? f, csm call? t, pdata? f *Jan 2 01:07:20.537: trying to get callinf from

isdn_info *Jan 2 01:07:20.537: Don't know what calling number for later redial. *Jan 2

01:07:20.537: ISDN: Created entry call_id 0x800F, speed 64, remote 4724125, calling *Jan 2

01:07:20.537: called type/plan overridden by call_decode *Jan 2 01:07:20.537: did't copy oct3a

reason: not CALLER_NUMBER_IE *Jan 2 01:07:20.537: building outgoing channel id for call nfas_int

is 0 len is 0 *Jan 2 01:07:20.537: ISDN Se7/0:23: **TX -> SETUP** pd = 8 callref = 0x000C

*Jan 2 01:07:20.537: Bearer Capability i = 0x8090A2

*Jan 2 01:07:20.537: Channel ID i = 0xA98397

*Jan 2 01:07:20.537: Called Party Number i = 0xA1, '4724125', Plan:ISDN,

Type:National

!--- Outgoing Q.931 SETUP message. Indicates an outgoing call. !--- For more information on Q.931 refer to the document: !--- [Troubleshooting ISDN Layer 3 using the debug isdn q931 Command](#). *Jan 2 01:07:20.617: ISDN Se7/0:23: **RX <- CALL_PROC** pd = 8 callref = 0x800C

*Jan 2 01:07:20.617: Channel. ID i = 0xA98397

!--- The Call Proceeding Message is sent through the D-channel. *Jan 2 01:07:20.617: ISDN

Se7/0:23: LIF_EVENT: ces/callid 1/0x800F CALL_PROCEEDING *Jan 2 01:07:20.617: ISDN Se7/0:23:

CALL_PROCEEDING id 0x800F *Jan 2 01:07:20.617: ISDN Se7/0:23: PRI Event: 6, bchan = 22, call

type = VOICE *Jan 2 01:07:20.617: EVENT_FROM_ISDN: dchan_idb=0x62C31CC0, call_id=0x800F, ces=0x1

bchan=0x16, event=0x3, cause=0x0 *Jan 2 01:07:20.617: EVENT_FROM_ISDN:(800F): DEV_CALL_PROC at

slot 1 and port 107, bchan 22 on Serial7/0:23 *Jan 2 01:07:20.617: CSM_PROC_OC4_DIALING:

CSM_EVENT_ISDN_BCHAN_ASSIGNED at slot 1, port 107 *Jan 2 01:07:20.617: csm_connect_pri_vdev: TS

allocated at bp_stream 0, bp_Ch 9, vdev_common 0x624BAD88 1/107 *Jan 2 01:07:20.617: CSM

DSPLIB(1/107): np_dsplib_prepare_modem *Jan 2 01:07:20.625: CSM DSPLIB(1/107):DSPLIB_MODEM_INIT:

Modem session transition to IDLE *Jan 2 01:07:20.717: ISDN Se7/0:23: RX <- ALERTING pd = 8

callref = 0x800C *Jan 2 01:07:20.717: ISDN Se7/0:23: LIF_EVENT: ces/callid 1/0x800F

CALL_PROGRESS *Jan 2 01:07:20.717: ISDN Se7/0:23: event CA.LL_PROGRESS dsl 0 *Jan 2

01:07:20.797: ISDN Se7/0:23: **RX <- CONNECT** pd = 8 callref = 0x800C

!--- Received the Q.931 CONNECT. *Jan 2 01:07:20.797: ISDN Se7/0:23: LIF_EVENT: ces/callid

1/0x800F CALL_CONNECT *Jan 2 01:07:20.797: ISDN Se7/0:23: Event CALL_CONNECT dsl 0 *Jan 2 01:07:20.797: EVENT_FROM_ISDN: dchan_idb=0x62C31CC0, call_id=0x800F, ces=0x1 bchan=0x16, event=0x4, cause=0x0 *Jan 2 01:07:20.797: EVENT_FROM_ISDN:(800F): DEV_CONNECTED at slot 1 and port 107 *Jan 2 01:07:20.797: CSM_PROC_OC5_WAIT_FOR_CARRIER: CSM_EVENT_ISDN_CONNECTED at slot 1, port 107 *Jan 2 01:07:20.797: CSM_DSPLIB(1/107): np_dsplib_call_accept *Jan 2 01:07:20.797: ISDN Se7/0:23: LIF_EVENT: ces/callid 1/0x800F CALL_PROGRESS *Jan 2 01:07:20.797: ISDN Se7/0:23: event CALL_PROGRESS dsl 0 *Jan 2 01:07:20.797: ISDN Se7/0:23: **TX -> CONNECT_ACK** pd = 8 callref = 0x000C

!--- D-channel transmits a CONNECT_ACK. *Jan 2 01:07:20.801: CSM DSPLIB(1/107):DSPLIB_MODEM_WAIT_ACTIVE: Modem session transition to ACTIVE *Jan 2 01:07:20.801: CSM DSPLIB(1/107): Modem state changed to (CONNECT_STATE) *Jan 2 01:07:26.797: %ISDN-6-CONNECT: Interface Serial7/0:22 is now connected to 4724125 *Jan 2 01:07:26.893: CSM DSPLIB(1/107): Modem state changed to (LINK_STATE) *Jan 2 01:07:29.837: CSM DSPLIB(1/107): Modem state changed to (TRAINUP_STATE) *Jan 2 01:07:37.997: CSM DSPLIB(1/107): Modem state changed to (EC_NEGOTIATING_STATE) *Jan 2 01:07:38.333: CSM DSPLIB(1/107): Modem state changed to (STEADY_STATE) *!--- Modems have trained up and are in a steady state.* *Jan 2 01:07:38.333: CHAT1/107: Chat script d0efault-d0ials0cript finished, status = Success *Jan 2 01:07:38.333: TTY1/107: no timer type 1 to destroy *Jan 2 01:07:38.333: TTY1/107: no timer type 0 to destroy *Jan 2 01:07:38.333: Di1 IPCP: Install route to 10.1.1.2 *Jan 2 01:07:40.333: %LINK-3-UPDOWN: Interface Async1/107, changed state to up *Jan 2 01:07:40.333: As1/107 DDR: Dialer statechange to up *Jan 2 01:07:40.333: As1/107 DDR: Dialer call has been placed *Jan 2 01:07:40.333: As1/107 PPP: Treating connection as a callout *Jan 2 01:07:40.333: As1/107 PPP: **Phase is ESTABLISHING, Active Open**

[0 sess, 1 load]

!--- LCP negotiation begins. *Jan 2 01:07:42.469: As1/107 LCP: I CONFREQ [REQsent] id 1 len 25 *Jan 2 01:07:42.469: As1/107 LCP: ACCM 0x000A0000 (0x0206000A0000) *Jan 2 01:07:42.469: As1/107 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 01:07:42.469: As1/107 LCP: MagicNumber 0x2862C096 (0x05062862C096) *Jan 2 01:07:42.469: As1/107 LCP: PFC (0x0702) *Jan 2 01:07:42.469: As1/107 LCP: ACFC (0x0802) *!--- Incoming LCP CONFREQ. !--- For more information on interpreting PPP debugs refer to the document: !--- Dialup Technology: Troubleshooting Techniques* *Jan 2 01:07:42.469: As1/107 LCP: O CONFACK [REQsent] id 1 len 25 *Jan 2 01:07:42.469: As1/107 LCP: ACCM 0x000A0000 (0x0206000A0000) *Jan 2 01:07:42.469: As1/107 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 01:07:42.469: As1/107 LCP: MagicNumber 0x2862C096 (0x05062862C096) *Jan 2 01:07:42.469: As1/107 LCP: PFC (0x0702) *Jan 2 01:07:42.469: As1/107 LCP: ACFC (0x0802) *Jan 2 01:07:44.333: As1/107 LCP: O CONFREQ [ACKsent] id 29 len 25 *Jan 2 01:07:44.333: As1/107 LCP: ACCM 0x000A0000 (0x0206000A0000) *Jan 2 01:07:44.333: As1/107 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 01:07:44.333: As1/107 LCP: MagicNumber 0x081D8CEC (0x0506081D8CEC) *Jan 2 01:07:44.333: As1/107 LCP: PFC (0x0702) *Jan 2 01:07:44.333: As1/107 LCP: ACFC (0x0802) *Jan 2 01:07:44.461: As1/107 LCP: I CONFACK [ACKsent] id 29 len 25 *Jan 2 01:07:44.461: As1/107 LCP: ACCM 0x000A0000 (0x0206000A0000) *Jan 2 01:07:44.461: As1/107 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 01:07:44.461: As1/107 LCP: MagicNumber 0x081D8CEC (0x0506081D8CEC) *Jan 2 01:07:44.461: As1/107 LCP: PFC (0x0702) *Jan 2 01:07:44.461: As1/107 LCP: ACFC (0x0802) *Jan 2 01:07:44.461: As1/107 LCP: **State is Open**

! --- LCP negotiation is complete. *Jan 2 01:07:44.461: As1/107 PPP: Phase is AUTHENTICATING, by both [0 sess, 1 load] *Jan 2 01:07:44.461: As1/107 CHAP: O CHALLENGE id 16 len 27 from "Router" *Jan 2 01:07:44.477: As1/107 CHAP: I CHALLENGE id 1 len 34 from "remoteAsync01" *Jan 2 01:07:44.477: As1/107 CHAP: O RESPONSE id 1 len 27 from "Router" *Jan 2 01:07:44.581: As1/107 CHAP: I RESPONSE id 16 len 34 from "remoteAsync01" *Jan 2 01:07:44.581: As1/107 CHAP: **O SUCCESS** id 16 len 4

*Jan 2 01:07:44.601: As1/107 CHAP: **I SUCCESS** id 1 len 4

!--- CHAP authentication is successful. !--- If this fails, verify that the username and password are correct. !--- Refer to Dialup Technology: Troubleshooting Techniques. *Jan 2 01:07:44.601: As1/107 PPP: Phase is UP [0 sess, 1 load] *Jan 2 01:07:44.601: As1/107 IPCP: O CONFREQ [Closed] id 6 len 10 *Jan 2 01:07:44.601: As1/107 IPCP: Address 10.1.1.1 (0x03060A010101) *Jan 2 01:07:44.601: As1/107 CDPCP: O CONFREQ [Closed] id 5 len 4 *Jan 2 01:07:44.701: As1/107 IPCP: I CONFREQ [REQsent] id 1 len 10 *Jan 2 01:07:44.701: As1/107 IPCP: Address 10.1.1.2 (0x03060A010102) *Jan 2 01:07:44.701: As1/107 IPCP: O CONFACK [REQsent] id 1 len 10 *Jan 2 01:07:44.701: As1/107 IPCP: Address 10.1.1.2 (0x03060A010102) *Jan 2 01:07:44.705: As1/107 CDPCP: I CONFREQ [REQsent] id 1 len 4 *Jan 2 01:07:44.705: As1/107 CDPCP: O CONFACK [REQsent] id 1 len 4 *Jan 2 01:07:44.733: As1/107 IPCP: I CONFACK [ACKsent] id 6 len 10 *Jan 2 01:07:44.733: As1/107 IPCP: Address 10.1.1.1 (0x03060A010101) *Jan 2 01:07:44.733: As1/107 **IPCP: State is Open**

*Jan 2 01:07:44.733: As1/107 DDR: dialer protocol up

!--- The route has been successfully negotiated and installed in the routing table. *Jan 2

```
01:07:44.737: As1/107 CDPCP: I CONFACK [ACKsent] id 5 len 4 *Jan 2 01:07:44.737: As1/107 CDPCP:
State is Open *Jan 2 01:07:45.601: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1/107,
changed state to up *Jan 2 01:07:48.321: TTY0: timer type 1 expired *Jan 2 01:07:48.321: TTY0:
Exec timer (continued)
```

Uitgaande ISDN-gespreks

Hieronder staan enkele debug-uitgangen voor een succesvol ISDN-uitgaande oproep. Let op de bouten en de opmerkingen in de resultaten. Vergelijk de uitvoer die u behaalt met het onderstaande resultaat.

```
Router#show debug
```

```
Dial on demand:
```

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

```
PPP:
```

```
PPP authentication debugging is on
```

```
PPP protocol errors debugging is on
```

```
PPP protocol negotiation debugging is on
```

```
ISDN:
```

```
ISDN events debugging is on
```

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

```
ISDN events debug DSLs. (On/Off/No DSL:1/0/-)
```

```
DSL 0 --> 31
```

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

```
ISDN Q931 packets de ISDN Q931 packets debug DSLs. (On/Off/No DSL:1/0/-)
```

```
DSL 0 --> 31
```

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

```
Router#ping 10.1.1.66
```

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

```
Sending 5, 100-byte ICMP Echos to 10.1.1.66, timeout is 2 seconds:
```

```
*Jan 2 02:00:59.937: Se7/0:23 DDR: rotor dialout [priority]
```

```
*Jan 2 02:00:59.937: Se7/0:23 DDR: Dialing cause ip (s=10.1.1.65, d=10.1.1.66)
```

```
*Jan 2 02:00:59.937: Se7/0:23 DDR: Attempting to dial 6665800
```

```
!--- The DDR process has detected interesting traffic destined for a device off !--- dialer 1's
interface and is inticating a call. *Jan 2 02:00:59.937: ISDN Se7/0:23: Outgoing call id =
```

```
0x8016, dsl 0 *Jan 2 02:00:59.937: ISDN Se7/0:23: Event: Call to 4724125 at 64 Kb/s *Jan 2
```

```
02:00:59.937: ISDN Se7/0:23: process_pri_call(): call id 0x8016, number 6665800, speed 64, call
```

```
type DATA, redialed? f, csm call? f, pdata? f *Jan 2 02:00:59.937: called type/plan overridden
```

```
by call_decode *Jan 2 02:00:59.937: didn't copy oct3a reason: not CALLER_NUMBER_IE *Jan 2
```

```
02:00:59.941: building outgoing channel id for call nfas_int is 0 len is 0 *Jan 2 02:00:59.941:
```

```
ISDN Se7/0:23: TX -> SETUP pd = 8 callref = 0x0013
```

```
*Jan 2 02:00:59.941: Bearer Capability i = 0x8890
```

```
*Jan 2 02:00:59.941: Channel ID i = 0xA98397
```

```
*Jan 2 02:00:59.941: Called Pa.rty Number i = 0xA1, '6665800',
```

```
Plan:ISDN, Type:National
```

```
!--- Outgoing Q.931 SETUP message. Indicates an outgoing call. !--- For more information on
Q.931 refer to the document. !--- Troubleshooting ISDN Layer 3 using the debug isdn q931
Command. *Jan 2 02:01:00.017: ISDN Se7/0:23: RX <- CALL_PROC pd = 8 callref = 0x8013 *Jan 2
```

```
02:01:00.017: Channel ID i = 0xA98397 !--- The Call Proceeding Message is sent through the D-
```

```
channel. *Jan 2 02:01:00.017: ISDN Se7/0:23: LIF_EVENT: ces/callid 1/0x8016 CALL_PROCEEDING *Jan
```

```
2 02:01:00.017: ISDN Se7/0:23: CALL_PROCEEDING id 0x8016 *Jan 2 02:01:00.021: ISDN Se7/0:23: PRI
```

```
Event: 6, bchan = 22, call type = DATA *Jan 2 02:01:00.093: ISDN Se7/0:23: RX <- CONNECT pd = 8
```

```
callref = 0x8013
```

```
!--- Received the Q.931 CONNECT. *Jan 2 02:01:00.097: ISDN Se7/0:23: LIF_EVENT: ces/callid
```

```
1/0x8016 CALL_CONNECT *Jan 2 02:01:00.097: ISDN Se7/0:23: Event CALL_CONNECT dsl 0 *Jan 2
```

```
02:01:00.097: %LINK-3-UPDOWN: Interface Serial7/0:22, changed state to up *Jan 2 02:01:00.097:
```

```
Se7/0:22 PPP: Treating connection as a callout *Jan 2 02:01:00.097: Se7/0:22 PPP: Phase is
```

```
ESTABLISHING, Active Open [0 sess, 1 load]
```

```
!--- LCP negotiation begins. *Jan 2 02:01:00.097: Se7/0:22 LCP: O CONFREQ [Closed] id 7 len 15
```

```
*Jan 2 02:01:00.097: Se7/0:22 LCP: AuthProto CHAP (0x0305C22305)
```

```
*Jan 2 02:01:00.097: Se7/0:22 LCP: MagicNumber 0x084E600A (0x0506084E600A)
```

!--- Outgoing LCP CONFREQ. !--- For more information on interpreting PPP debugs refer to the document !--- Dialup Technology: Troubleshooting Techniques. *Jan 2 02:01:00.097: ISDN Se7/0:23: LIF_EVENT: ces/callid 1/0x8016 CALL_PROGRESS *Jan 2 02:01:00.097: ISDN Se7/0:23: event CALL_PROGRESS dsl 0 *Jan 2 02:01:00.097: ISDN Se7/0:23: **TX -> CONNECT_ACK** pd = 8 callref = 0x0013

!--- D-channel transmits a CONNECT_ACK. *Jan 2 02:01:00.105: Se7/0:22 LCP: I CONFREQ [REQsent] id 30 len 15 *Jan 2 02:01:00.105: Se7/0:22 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 02:01:00.105: Se7/0:22 LCP: MagicNumber 0x28938B8C (0x050628938B8C) *Jan 2 02:01:00.105: Se7/0:22 LCP: O CONFACK [REQsent] id 30 len 15 *Jan 2 02:01:00.105: Se7/0:22 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 02:01:00.109: Se7/0:22 LCP: MagicNumber 0x28938B8C (0x050628938B8C) *Jan 2 02:01:00.109: Se7/0:22 LCP: I CONFACK [ACKsent] id 7 len 15 *Jan 2 02:01:00.109: Se7/0:22 LCP: AuthProto CHAP (0x0305C22305) *Jan 2 02:01:00.109: Se7/0:22 LCP: MagicNumber 0x084E600A (0x0506084E600A) *Jan 2 02:01:00.109: Se7/0:22 **LCP: State is Open**

! --- LCP negotiation is complete. *Jan 2 02:01:00.109: Se7/0:22 PPP: Phase is AUTHENTICATING, by both [0 sess, 1 load] *Jan 2 02:01:00.109: Se7/0:22 CHAP: O CHALLENGE id 7 len 27 from "Router" *Jan 2 02:01:00.121: Se7/0:22 CHAP: I CHALLENGE id 25 len 33 from "remoteISDN01" *Jan 2 02:01:00.121: Se7/0:22 CHAP: O RESPONSE id 25 len 27 from "Router" *Jan 2 02:01:00.129: Se7/0:22 CHAP: I SUCCESS id 25 len 4 *Jan 2 02:01:00.137: Se7/0:22 CHAP: I RESPONSE id 7 len 33 from "remoteISDN01" *Jan 2 02:01:00.137: Se7/0:22 CHAP: O SUCCESS id 7 len 4 *!--- CHAP authentication is successful. !--- If this fails verify that the username and password are correct. !--- Refer to Dialup Technology: Troubleshooting Techniques.* *Jan 2 02:01:00.137: Se7/0:22 PPP: Phase is UP [0 sess, 1 load] *Jan 2 02:01:00.137: Se7/0:22 IPCP: O CONFREQ [Closed] id 2 len 10 *Jan 2 02:01:00.137: Se7/0:22 IPCP: Address 10.1.1.65 (0x03060A010141) *Jan 2 02:01:00.145: Se7/0:22 IPCP: I CONFREQ [REQsent] id 3 len 10 *Jan 2 02:01:00.145: Se7/0:22 IPCP: Address 10.1.1.66 (0x03060A010142) *Jan 2 02:01:00.145: Se7/0:22 IPCP: O CONFACK [REQsent] id 3 len 10 *Jan 2 02:01:00.145: Se7/0:22 IPCP: Address 10.1.1.66 (0x03060A010142) *Jan 2 02:01:00.145: Se7/0:22 IPCP: I CONFACK [ACKsent] id 2 len 10 *Jan 2 02:01:00.145: Se7/0:22 IPCP: Address 10.1.1.65 (0x03060A010141) *Jan 2 02:01:00.145: Se7/0:22 IPCP: State is Open *Jan 2 02:01:00.145: Se7/0:22 DDR: dialer protocol up *Jan 2 02:01:00.145: Di2 IPCP: **Install route to 10.1.1.66**

!--- The Route has been successfully negotiated and installed in the routing table. *Jan 2 02:01:01.137: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial7/0:22, changed state to up *Jan 2 02:01:06.097: %ISDN-6-CONNECT: Interface Serial7/0:22 is now connected to 6665800 remoteISDN01

[Gerelateerde informatie](#)

- [Ondersteuningspagina's voor bellen en toegang](#)
- [Technische ondersteuning - Cisco-systemen](#)