為傳出數據機和ISDN呼叫配置AS5350或AS5400

目錄

簡介

此配置有一個Cisco AS5400，具有一個主速率介面(PRI)，支援23個數據機呼叫或ISDN呼叫，具體取決於主機撥出或撥入。它配置了四個PRI以允許非同步和ISDN出站連線。我們已經在撥號端為每個ISDN或非同步連線配置了靜態撥號程式對映。我們在連線的兩端使用靜態IP路由，以避免動態路由協定不必要的開銷。新增遠端位置需要在撥號端為新目標新增撥號器對映、使用者名稱和靜態路由。所有遠端節點都有固定的IP地址。

注意：本文檔不涉及AS5350或AS5400系列路由器上的傳入數據機和ISDN呼叫。有關此問題的詳細資訊，請參閱為傳入非同步和ISDN呼叫配置AS5350/AS5400。

必要條件

需求

嘗試此設定之前，請確保符合以下要求：

- 請確保ISDN PRI電路由Telco調配用於撥出同步和非同步。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 執行Cisco IOS®軟體版本12.2(6)的AS5400

- 一個活動T1 PRI
- 運行portware 0.6.108.0的Nextport數據機

由於此配置僅適用於基本模擬和ISDN撥入，因此AS5350和AS5400上支援的任何Cisco IOS軟體版本就足夠了。要運行其他功能，請參閱Software Advisor工具以選擇適合您的需求的IOS版本和功能集。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

相關產品

此配置也可應用於AS5350或AS5400接入伺服器。

可以修改此配置以與E1 PRI埠一起使用。為E1控制器配置Telco提供的線路編碼、成幀和其他物理特性。D通道配置（E1的介面Serial x:15）類似於此處所示的配置。

此配置非常類似於用於撥出訪問的AS5200或AS5300配置。請參閱使用ISDN/Async（出站DDR）撥出文檔AS5300。 兩者之間的唯一主要更改是**dial-tdm-clock priority** *number t1_slot/port* 命令，該命令用於分配AS5350或AS5400中的T1時鐘優先順序。

也可以修改此配置以支援呼入和撥出呼叫。如需詳細資訊，請參閱在同一T1/E1 PRI電路上設定撥入和撥出的檔案
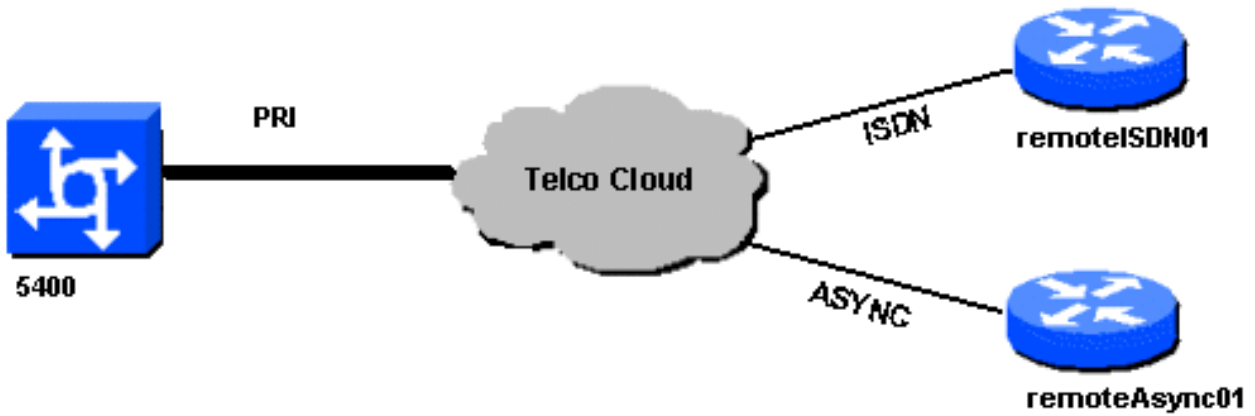
慣例

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

設定

本節提供用於設定本文件中所述功能的資訊。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用命令查詢工具(僅限註冊客戶)。

網路圖表

本檔案會使用以下網路設定：

組態

本檔案會使用以下設定：

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. ! !--- Unsed 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
```

remoteISDN01

```
!
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
```

驗證

本節提供的資訊可用於確認您的組態是否正常運作。

輸出直譯器工具(僅供註冊客戶使用)支援某些show命令,此工具可讓您檢視show命令輸出的分析。

- **show isdn status** — 狀態應為:
  ```
  layer 1 = active
  layer 2 = MULTIPLE_FRAMES_ESTABLISHED
  ```

  如果第1層處於非活動狀態,則佈線介面卡或埠可能損壞或未插入。如果第2層處於「TEI_ASSIGNED」狀態,則路由器不會與交換機通訊。有關詳細資訊,請參閱T1 PRI故障排除文檔。
- **show isdn service** — 檢查B通道的狀態。每個呼叫都應有一個忙碌通道。
- **show caller** — 顯示特定使用者的引數,如分配的IP地址、點對點協定(PPP)和PPP捆綁引數等。如果您的Cisco IOS軟體版本不支援此命令,請使用**show user**命令。

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

疑難排解指令

輸出直譯器工具(僅供註冊客戶使用)支援某些show命令,此工具可讓您檢視show命令輸出的分析。

注意:發出**debug**命令之前,**請參閱**有關Debug命令的重要資訊。

按如下方式配置全域性配置中的時間戳:

```
service timestamps debug datetime msec
service timestamps log datetime msec
```
使用以下命令進行故障排除：

- debug dialer — 在介面上啟用按需撥號路由(DDR)時，此命令顯示有關任何呼叫原因（稱為撥號原因）的資訊。
- debug isdn q931 — 在發起出站呼叫時檢查ISDN連線。
- debug ppp negotiation — 檢視客戶端是否正在傳遞PPP協商。大量併發PPP協商可能會使路由器CPU不堪重負。
- debug ppp authentication — 檢視客戶端是否通過身份驗證。
- debug ppp error — 顯示與PPP連線協商和操作相關的協定錯誤和錯誤統計資訊。

對於數據機故障排除，使用以下命令：

- debug modem — 檢視路由器是否從數據機接收正確的訊號。
- debug modem csm — 啟用數據機管理呼叫交換模組(CSM)調試模式。

有關Nextport命令的更多資訊，請參閱在Cisco AS5400通用網關上管理埠服務。

調試輸出示例

以下是成功呼叫的一些調試輸出。注意產出中的粗體部分和評論。將您獲得的輸出與下面顯示的結果進行比較。

傳出資料機呼叫

```
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)

出站ISDN呼叫

下面是成功的ISDN出站呼叫的一些調試輸出。注意產出中的粗體部分和評論。將您獲得的輸出與下
面顯示的結果進行比較。

```
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: did'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`

相關資訊

- 撥號和存取技術支援頁面
- 技術支援 - Cisco Systems