Troubleshooting Second B–channel Call Failures on ISDN BRI Links

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Contents

Introduction

Multilink Point–to–Point Protocol (MPPP) enables you to bring up both B–channels together in an ISDN BRI connection. MPPP provides 128k (2 x 64kbps) of bandwidth between the ISDN end devices. However, in many instances, the routers can only connect with one B–channel, while the other B–channel stays idle. This document discusses how to troubleshoot issues in such situations.

Note: This procedure is primarily for connection with one BRI link (that is, two B–channels). If you use MPPP to bundle two or more BRIs (that is, at least three B–channels), refer to Configuring Multilink PPP with Multiple BRI Interfaces.

Prerequisites

Requirements

Verify whether the routers can connect to each other with one B–channel. This document covers only connection failures that relate to the additional multilink channel. If you are unable to connect with one channel refer to ISDN BRI Troubleshooting Flowchart.

Do not proceed with the procedure in this document unless the first channel connects successfully.

Cisco recommends that you have knowledge of these topics:

- General ISDN and dial–on–demand routing (DDR) configuration concepts. Refer to the training presentation for basic ISDN and DDR configuration available on the Cisco Learning Connection for more information.
- How to debug ISDN and PPP. You must be able to determine whether the router dials, connects at the ISDN layer and negotiates PPP.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco IOS® Software Releases 12.1(2) and 12.2(2)T

  Cisco introduced the **dialer redial** command in Cisco IOS® Software Release 12.1(2). Later, Cisco modified the command to include additional options in Cisco IOS Software Release 12.2(2)T. For more information on this feature, refer to Redial Enhancements.
- Two routers connected to live BRI circuits.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Problem Description

A router brings up both B−channels on the BRI in an attempt to connect to the ISDN peer. The connection to the peer succeeds. However, only one B−Channel successfully connects. Multilink PPP attempts to bring up the additional B−channel but the call continuously fails.

This diagram illustrates the call flow for a successful call:
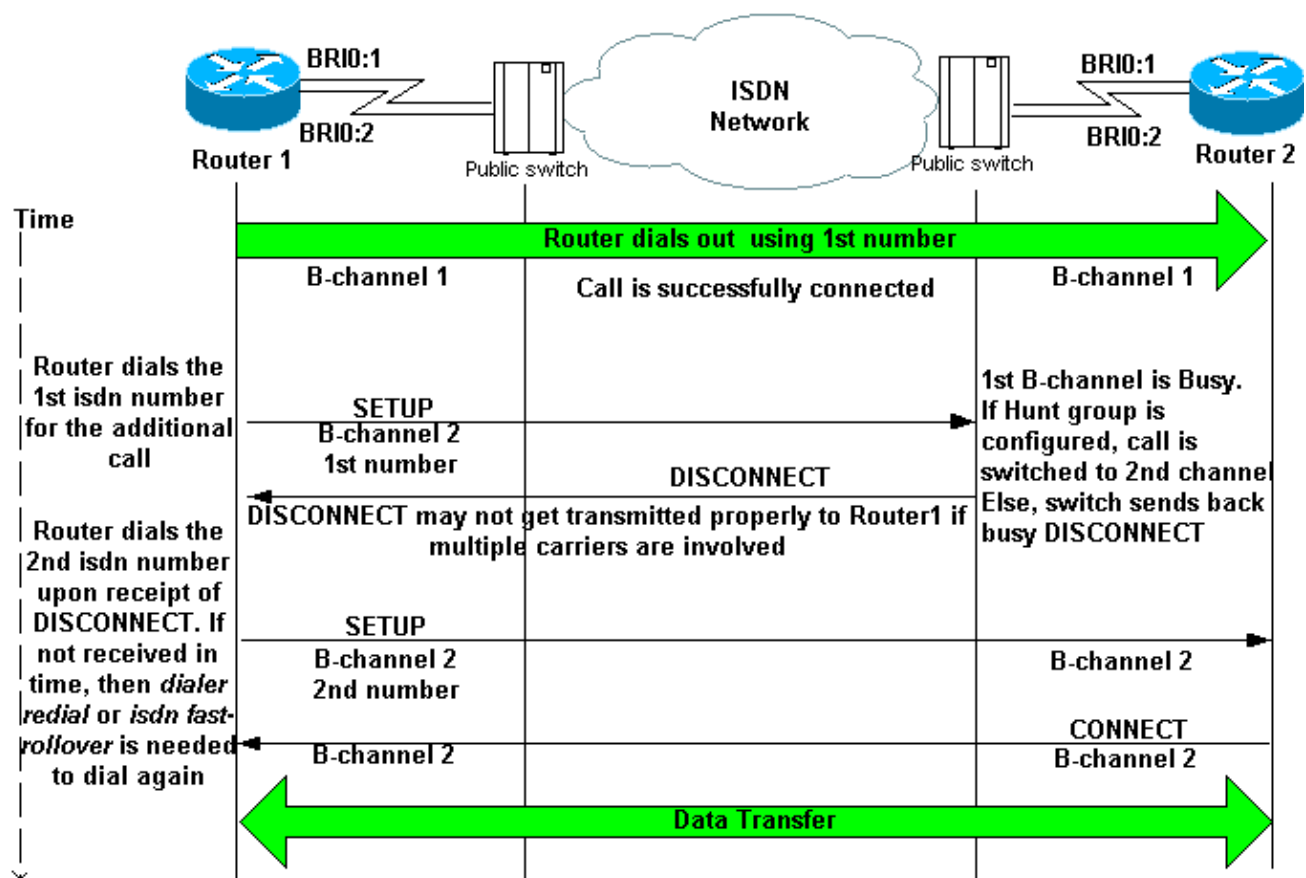
Questions You Must Ask the Telco

When you configure and troubleshoot multilink, ask the CALLED router's telco these questions:

1. **Question:** Do we need to dial one number or two numbers to connect to both remote B−channels?

   Answer:

   One number: Configure a single **dialer string** or **dialer map** on the physical or dialer interface of the local router, as appropriate. Refer to Step 4 for more information. Proceed to Question 2.

   Two numbers: On the local router, configure a **dialer map** or **dialer string** for each remote B−channel ISDN number. Refer to Step 4 for more information.
2. **Question:** Are both B−channel numbers configured in a Hunt−Group?

   Answer:

   Yes: This is the expected setting for circuits that only need one number to connect to both B−channels. The Hunt−group binds both B−channel numbers (thus the CALLING side needs only one number to call). After the first B−channel connects, the CALLING router again dials the same number. The switch at the remote end, closest to the CALLED router recognizes that the first B−channel is busy, and transfers the call onto the second B−channel, and thereby makes bundling possible.

   No: Ask the Telco to configure both B−channels numbers in a Hunt−group and automatically roll over a call to the second number when the first is busy. If the telco does not configure the hunt−group, configure the **dialer redial** or **isdn fast−rollver delay** command as explained in Step 5 of the Troubleshoot section.

Troubleshoot

Note: Before you use this procedure, verify whether the routers are connected to each other with one one B−channel. If you are unable to connect with one channel, refer to ISDN BRI Troubleshooting Flowchart.

1. Turn on these debug commands: **debug dialer**, **debug isdn q931**, and **debug ppp negotiation**.
2. Initiate traffic destined for the remote device. Ensure that there is enough traffic to initiate the additional call.

   Tip: You can use the extended ping utility to vary the datagram/packet size and the number of pings. Refer to Using the Extended ping and Extended traceroute Commands for more information on how to use extended pings.
3. Check whether the router attempts the second call. Debugs appear like this:

   ```
   *Mar  1 01:30:55.295: BRI3/0 DDR: rotor dialout [priority]

   !--- Use BRI 3/0 to dial out.

   *Mar  1 01:30:55.295: BRI3/0 DDR: Dialing cause ip
   (s=10.1.1.1, d=172.22.53.201)

   !--- DDR dialing cause is a ping to the remote router.

   *Mar  1 01:30:55.295: BRI3/0 DDR: Attempting to dial 5558888

   !--- Dial the remote number.

   *Mar  1 01:30:55.295: ISDN BR3/0: TX ->  SETUP pd = 8  callref = 0x07
   *Mar  1 01:30:55.299:         Bearer Capability i = 0x8890218F
   *Mar  1 01:30:55.299:         Channel ID i = 0x83
   *Mar  1 01:30:55.299:         Keypad Facility i = '5558888'
   ```
4. Does the router attempt the second call?

- ♦ **Yes:** Proceed to Step 5.
- ♦ **No:** The implication is that the router is not properly configured for Multilink PPP. Configure these commands:

Command	Description
ppp multilink	Configure the **ppp multilink** command (on both routers) under the physical interface and the dialer interface (if you use dialer profiles). **Note:** If you add this command, you must disconnect any existing connections and then reconnect for the new multilink parameters you want to apply. Multilink negotiation occurs during the call setup. Therefore, any changes to multilink are not implemented on connections that have completed the LCP negotiation.
dialer load−threshold 5 outbound	Interface load (from 1 to 255) beyond which the dialer initiates another call to the destination. The bandwidth is a ratio of 255, where 255 is 100 percent of the available bandwidth. In this example, the additional channel comes up when the outbound load on the link is 5/255 or 2 percent. Vary this value based on your needs. **Tip:** Users sometimes configure the **dialer load−threshold 1** command to use all B−channels immediately for every call. The theory behind this configuration is that if all the B− channels go up at once, and each call uses the entire ISDN pipe, the call must be shorter in duration because user data needs less time to transfer. While this theory is sound, in practice Cisco recommends that you never set your dialer load−threshold value to anything less than 3. If you set this value to less than 3, multiple ISDN channels go up at once, and lead to contention between both channels and a failure to connect with any of them.
| **dialer map ip address name** *name number* or **dialer string** *number* | Configure a dialer map (or dialer string) for each remote B−channel ISDN number. The IP address and the name for both statements must be the same, only the ISDN number must be different. Example:<br><br>```
dialer map ip 192.168.1.1 name asc001 13305551111
dialer map ip 192.168.1.1 name asc001 13305551112
```<br><br>or<br><br>```
dialer string 13305551111
dialer string 13305551112
```<br><br>**Note:** If the Telco informs you that you only need to dial one number, you require only one dialer map or dialer string statement. |

For more information on the configuration options for Multilink PPP, refer to Multilink PPP for DDR – Basic Configuration and Verification.

5. Configure one of these commands under the physical or dialer interface:

- ♦ **dialer redial interval 5 attempts 3** The interval between dial attempts is five seconds, for a maximum of three attempts.

  This interval allows for the old call to be torn down completely before the redial attempt.
- ♦ **isdn fast–rollover–delay 5** Set the rollover delay at 5 seconds.

  Provide this delay to allow the old call to be torn down completely before the new call attempt. This command is necessary on some ISDN switches because the new call attempt can occur before the old call is completely torn down. This causes the second call to fail.

Sample Output

This section provides a sample configuration and debug output for a successful and an unsuccessful call. Use this section as reference to check if the debugs you observe match the ones shown here:


```
interface BRI1/0
 ip address 192.168.1.111 255.255.255.0
 encapsulation ppp
 dialer map ip 192.168.1.1 name asc001 13305551111
 dialer map ip 192.168.1.1 name asc001 13305551112

!--- Notice that the dialer map statements are identical except for
 !--- the phone numbers to dial.
 !--- The numbers correspond to the ISDN numbers of the remote BRI.
 !--- This router will use the first dialer map, then the second dialer map.

 dialer load-threshold 1 either

!--- Set the load-threshold to the required value and direction dialer-group 1.

 isdn switch-type basic-ni
 isdn spid1 25255588880101 5558888
 isdn spid2 25255588890101 5558889
 isdn fast-rollover-delay 5


!--- Rollover delay is set to 5 seconds.

 ppp authentication chap pap callin
 ppp multilink

!--- Enable multilink on the interface.
```

Activate **debug isdn q931** and **debug ppp negotiation** and initiate a ping to the remote end IP address.

```
asc011#ping 192.168.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
Aug 24 16:30:35.651 est: ISDN BR1/0: TX -> SETUP pd = 8 callref = 0x3B
Aug 24 16:30:35.655 EST: Bearer Capability i = 0x8890218F
Aug 24 16:30:35.655 EST: Channel ID i = 0x83
Aug 24 16:30:35.659 EST: Keypad Facility i = '13305551111'

!--- Calling out with the number specified in the first dialer map.

Aug 24 16:30:35.896 EST: ISDN BR1/0: RX <- CALL_PROC pd = 8 callref = 0xBB
Aug 24 16:30:35.896 EST: Channel ID i = 0x89
Aug 24 16:30:35.900 EST: Locking Shift to Codeset 5
Aug 24 16:30:35.900 EST: Codeset 5 IE 0x2A i = 0x80880B,'13305551111',
  0x800109800114800114800114..
Aug 24 16:30:38.877 EST: ISDN BR1/0: RX <- ALERTING pd = 8 callref = 0xBB
Aug 24 16:30:38.881 EST: Signal i = 0x01 - Ring back tone on
Aug 24 16:30:38.929 EST: ISDN BR1/0: RX <- CONNECT pd = 8 callref =0xBB
Aug 24 16:30:38.929 EST: Signal i = 0x3F - Tones off
Aug 24 16:30:38.937 EST: %LINK-3-UPDOWN: Interface BRI1/0:1, changed state to up
Aug 24 16:30:38.941 EST: BR1/0:1 PPP: Treating connection as a callout
Aug 24 16:30:38.945 EST: BR1/0:1 PPP: Phase is ESTABLISHING, Active Open
  [0 sess , 0 load]
Aug 24 16:30:38.945 EST: BR1/0:1 PPP: No remote authentication for call-out
Aug 24 16:30:38.945 EST: BR1/0:1 LCP: O CONFREQ [Closed] id 5 len 23
Aug 24 16:30:38.945 EST: BR1/0:1 LCP: MagicNumber 0x55EE5FC7 (0x050655EE5FC7)
Aug 24 16:30:38.945 EST: BR1/0:1 LCP: MRRU 1524 (0x110405F4)
Aug 24 16:30:38.949 EST: BR1/0:1 LCP: EndpointDisc 1 Local
  (0x130901617363303131)
Aug 24 16:30:38.949 EST: ISDN BR1/0: TX -> CONNECT_ACK pd = 8 callref = 0x3B
...

!--- Output omitted.

...
Aug 24 16:30:39.009 EST: BR1/0:1 LCP: I CONFACK [ACKsent] id 5 Len 23
Aug 24 16:30:39.009 EST: BR1/0:1 LCP: MagicNumber 0x55EE5FC7(0x050655EE5FC7)
Aug 24 16:30:39.009 EST: BR1/0:1 LCP: MRRU 1524 (0x110405F4)
Aug 24 16:30:39.009 EST: BR1/0:1 LCP: EndpointDisc 1 Local
  (0x130901617363303131)
Aug 24 16:30:39.013 EST: BR1/0:1 LCP: State is Open
Aug 24 16:30:39.013 EST: BR1/0:1 PPP:Phase is AUTHENTICATING, by the peer
  [0 sess, 0 load]
Aug 24 16:30:39.057 EST: BR1/0:1 CHAP: I CHALLENGE id 151 Len 27 from "asc001"
Aug 24 16:30:39.061 EST: BR1/0:1 CHAP: O RESPONSE id 151 Len 27 from "asc011"
Aug 24 16:30:39.109 EST: BR1/0:1 CHAP: I SUCCESS id 151 Len 4

!--- Authentication is successful.

Aug 24 16:30:39.109 EST: BR1/0:1 PPP: Phase is VIRTUALIZED [0 sess, 0 load]
Aug 24 16:30:39.113 EST: Vi1 PPP: Phase is DOWN, Setup [0 sess, 0 load]
Aug 24 16:30:39.121 EST: %LINK-3-UPDOWN: Interface Virtual-Access1,
changed state to up
Aug 24 16:30:39.121 EST: Vi1 PPP: Treating connection as a callout
Aug 24 16:30:39.121 EST: Vi1 PPP: Phase is ESTABLISHING, Active Open [0sess, 0load]
Aug 24 16:30:39.125 EST: Vi1 PPP: No remote authentication for call-out
Aug 24 16:30:39.125 EST: Vi1 LCP: O CONFREQ [Closed] id 1 Len 23
Aug 24 16:30:39.125 EST: Vi1 LCP: MagicNumber 0x55EE6079(0x050655EE6079)
Aug 24 16:30:39.125 EST: Vi1 LCP: MRRU 1524 (0x110405F4)
Aug 24 16:30:39.125 EST: Vi1 LCP: EndpointDisc 1 Local (0x130901617363303131)
Aug 24 16:30:39.129 EST: Vi1 PPP: Phase is UP [0 sess, 0 load]
Aug 24 16:30:39.129 EST: Vi1 IPCP: O CONFREQ [Closed] id 1 Len 10
Aug 24 16:30:39.129 EST: Vi1 IPCP: Address 192.168.1.111(0x0306C0A8016F)
Aug 24 16:30:39.137 EST: Vi1 IPCP: I CONFREQ [REQsent] id 1 Len 10
Aug 24 16:30:39.137 EST: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Aug 24 16:30:39.137 EST: Vi1 IPCP: O CONFACK [REQsent] id 1 Len 10
```

```
Aug 24 16:30:39.137 EST: Vi1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
Aug 24 16:30:39.177 EST: Vi1 IPCP: I CONFACK [ACKsent] id 1 Len 10
Aug 24 16:30:39.177 EST: Vi1 IPCP: Address 192.168.1.111 (0x0306C0A8016F)
Aug 24 16:30:39.181 EST: Vi1 IPCP: State is Open
Aug 24 16:30:39.185 EST: BR1/0 IPCP: Install route to 192.168.1.1
```

!--- First call is successful. We will now initiate the additional call.

```
Aug 24 16:30:39.754 EST: ISDN BR1/0: TX -> SETUP pd = 8 callref = 0x3C
Aug 24 16:30:39.754 EST: Bearer Capability i = 0x8890218F
Aug 24 16:30:39.758 EST: Channel ID i = 0x83
Aug 24 16:30:39.762 EST: Keypad Facility i = '13305551111'
```

!--- We once again dial out with the first dialer map (the expected behavior).
!--- This call fails and router rolls over to use the second dialer map.

```
Aug 24 16:30:39.995 EST: ISDN BR1/0: RX <- CALL_PROC pd = 8 callref = 0xBC
Aug 24 16:30:39.995 EST: Channel ID i = 0x8A
Aug 24 16:30:39.999 EST: Locking Shift to Codeset 5
Aug 24 16:30:39.999 EST: Codeset 5 IE 0x2A i =
  0x80880B,'13305551111',0x80010980011480011480114
Aug 24 16:30:40.111 EST: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI1/0:1,
  changed state to up
Aug 24 16:30:40.131 EST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
  Virtual-Access1, changed state to up
Aug 24 16:30:41.209 EST: BR1/0:1 LCP: I ECHOREQ [Open] id 1 Len 12 magic 0x8EFDDF16
Aug 24 16:30:41.209 EST: BR1/0:1 LCP: O ECHOREP [Open] id 1 Len 12 magic 0x55EE5FC7
Aug 24 16:30:42.779 EST: ISDN BR1/0: RX <- DISCONNECT pd = 8 callref = 0xBC
Aug 24 16:30:42.783 EST: Cause i = 0x8291 - User busy
Aug 24 16:30:42.783 EST: Signal i = 0x04 - Busy tone on
```

!--- The call fails. The remote switch sends a message that the B-channel is busy.
!--- Upon receipt of this disconnect, the router dials the second dialer map.
!--- If you do not receive this Disconnect within a certain timeframe, the router
*!--- does not attempt another call. The **dialer redial** or **isdn fast-rollover***
!--- commands can fix this issue.

```
Aug 24 16:30:42.795 EST: %ISDN-6-CONNECT: Interface BRI1/0:1 is now connected to
  13305551111 asc001
Aug 24 16:30:42.807 EST: ISDN BR1/0: TX -> RELEASE pd = 8 callref = 0x3C
Aug 24 16:30:42.831 EST: ISDN BR1/0: TX -> SETUP pd = 8 callref = 0x3D
Aug 24 16:30:42.835 EST: Bearer Capability i = 0x8890218F
Aug 24 16:30:42.835 EST: Channel ID i = 0x83
Aug 24 16:30:42.839 EST: Keypad Facility i = '13305551112'
```

!--- Dial with the second dialer map.

```
Aug 24 16:30:42.927 EST: ISDN BR1/0: RX <- RELEASE_COMP pd = 8 callref = 0xBC
Aug 24 16:30:42.931 EST: Signal i = 0x3F - Tones off
Aug 24 16:30:43.096 EST: ISDN BR1/0: RX <- CALL_PROC pd = 8 callref = 0xBD
Aug 24 16:30:43.096 EST: Channel ID i = 0x8A
Aug 24 16:30:43.100 EST: Locking Shift to Codeset 5 asc011#
Aug 24 16:30:43.100 EST: Codeset 5 IE 0x2A i = 0x80880B, '13305551112'
  ,0x80010980011480011480114
Aug 24 16:30:46.329 EST: ISDN BR1/0: RX <- ALERTING pd = 8 callref = 0xBD
Aug 24 16:30:46.329 EST: Signal i = 0x01 - Ring back tone on
Aug 24 16:30:46.361 EST: ISDN BR1/0: RX <- CONNECT pd = 8 callref = 0xBD
Aug 24 16:30:46.361 EST: Signal i = 0x3F - Tones off
Aug 24 16:30:46.373 EST: %LINK-3-UPDOWN: Interface BRI1/0:2, changed state to up
Aug 24 16:30:46.373 EST: BR1/0:2 PPP: Treating connection as a callout
...
```

!--- Output omitted.

```
...
Aug 24 16:30:46.445 EST: BR1/0:2 LCP: State is Open
```

```
Aug 24 16:30:46.445 EST: BR1/0:2 PPP: Phase is AUTHENTICATING, by the peer
  [0 sess, 1 load]
Aug 24 16:30:46.489 EST: BR1/0:2 CHAP: I CHALLENGE id 31 Len 27 from "asc001"
Aug 24 16:30:46.493 EST: BR1/0:2 CHAP: O RESPONSE id 31 Len 27 from "asc011"
Aug 24 16:30:46.542 EST: BR1/0:2 CHAP: I SUCCESS id 31 Len 4
Aug 24 16:30:46.542 EST: BR1/0:2 PPP: Phase is VIRTUALIZED [0 sess, 1 load]
Aug 24 16:30:46.546 EST: BR1/0:2 MLP: asc001, multilink up
Aug 24 16:30:47.343 EST: BR1/0:1 LCP: I ECHOREP [Open] id 1 Len 12 magic
  0x8EFDDF16
Aug 24 16:30:47.343 EST: BR1/0:1 LCP: Received id 1, sent id 1, line up
Aug 24 16:30:47.343 EST: BR1/0:2 LCP: I ECHOREP [Open] id 1 Len 12 magic
  0x8EFDFC22
Aug 24 16:30:47.347 EST: BR1/0:2 LCP: Received id 1, sent id 1, line up
Aug 24 16:30:47.543 EST: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI1/0:2,
  changed state to up

!--- The 2 B-channel Call connects.

asc011#
```

Use the **show isdn active** command to check the connection. Note the Called Number for each outbound call.

```
--------------------------------------------------------------------------
ISDN ACTIVE CALLS
--------------------------------------------------------------------------
Call    Calling   Called  Remote  Seconds  Seconds  Seconds  Charges
Type    Number    Number  Name    Used     Left     Idle     Units/Currency
--------------------------------------------------------------------------
Out               +3305551111 asc001          55 Unavail  0        0
Out               +3305551112 asc001          48 Unavail  0        0
--------------------------------------------------------------------------
```

This example shows a FAILED call. Some irrelevant output is omitted.

```
asc008#ping 192.168.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
Aug 21 09:33:17.627 EST: BR1/0 DDR: Dialing cause ip (s=192.168.1.108,d=192.168.1.1)
Aug 21 09:33:17.627 EST: BR1/0 DDR: Attempting to dial 13305551111
Aug 21 09:33:17.635 EST: ISDN BR1/0: TX -> SETUP pd = 8 callref = 0x0C
Aug 21 09:33:17.639 EST: Bearer Capability i = 0x8890
Aug 21 09:33:17.639 EST: Channel ID i = 0x83
Aug 21 09:33:17.639 EST: Keypad Facility i = '13305551111'

!--- Calling out with the number specified in the first dialer map.

Aug 21 09:33:18.184 EST: ISDN BR1/0: RX <- CALL_PROC pd = 8 callref = 0x8C
Aug 21 09:33:18.184 EST: Channel ID i = 0x89.
Aug 21 09:33:20.532 EST: ISDN BR1/0: RX <- ALERTING pd = 8 callref =0x8C
Aug 21 09:33:20.536 EST: Signal i = 0x01 - Ring back tone on
Aug 21 09:33:20.564 EST: ISDN BR1/0: RX <- CONNECT pd = 8 callref =0x8C
Aug 21 09:33:20.568 EST: Signal i = 0x3F - Tones off
Aug 21 09:33:20.572 EST: %LINK-3-UPDOWN: Interface BRI1/0:1, changed state to up
Aug 21 09:33:20.576 EST: BR1/0:1 PPP: Treating connection as a callout
Aug 21 09:33:20.580 EST: BR1/0:1 PPP: Phase is ESTABLISHING, Active Open
  [0 sess, 1 load]
...

! --Output omitted.

...
Aug 21 09:33:20.660 EST: BR1/0:1 LCP: State is Open
Aug 21 09:33:20.660 EST: BR1/0:1 PPP: Phase is AUTHENTICATING, by the peer
  [0 sess, 1 load]
```

```
Aug 21 09:33:20.720 EST: BR1/0:1 CHAP: I CHALLENGE id 127 Len 27 from "asc001"
Aug 21 09:33:20.720 EST: BR1/0:1 CHAP: O RESPONSE id 127 Len 27 from "asc008"
Aug 21 09:33:20.784 EST: BR1/0:1 CHAP: I SUCCESS id 127 Len 4

!--- Authentication is successful.

Aug 21 09:33:20.784 EST: BR1/0:1 PPP: Phase is VIRTUALIZED [0 sess, 1 load]
Aug 21 09:33:20.784 EST: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load]
Aug 21 09:33:20.792 EST: %LINK-3-UPDOWN: Interface Virtual-Access1,
  changed state to up
...

!--- Output omitted.

...
Aug 21 09:33:20.864 EST: Vi1 IPCP: Address 192.168.1.108(0x0306C0A8016C)
Aug 21 09:33:20.864 EST: Vi1 IPCP: State is Open
Aug 21 09:33:20.868 EST: Vi1 DDR: dialer protocol up
Aug 21 09:33:20.868 EST: BR1/0 IPCP: Install route to 192.168.1.1
Aug 21 09:33:21.089 EST: BR1/0 DDR: Attempting to dial 13305551111
Aug 21 09:33:21.093 EST: ISDN BR1/0: TX -> SETUP pd = 8 callref = 0x0D
Aug 21 09:33:21.097 EST: Bearer Capability i = 0x8890
Aug 21 09:33:21.097 EST: Channel ID i = 0x83
Aug 21 09:33:21.101 EST: Keypad Facility i = '13305551111'

!--- The second call is dialed out with the first dialer map.
!--- The first B-channel on the remote BRI is in use. You must receive a
!--- Disconnect(cause code:busy).

Aug 21 09:33:21.581 EST: ISDN BR1/0: RX <- CALL_PROC pd = 8 callref =0x8D
Aug 21 09:33:21.581 EST: Channel ID i = 0x8A
Aug 21 09:33:21.786 EST: %LINEPROTO-5-UPDOWN: Line protocol on
  InterfaceBRI1/0:1, changed state to up
Aug 21 09:33:21.802 EST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
  Virtual -Access1, changed state to up
Aug 21 09:33:23.577 EST: ISDN BR1/0: RX <- PROGRESS pd = 8 callref = 0x8D
Aug 21 09:33:23.577 EST: Cause i = 0x8491 - User busy
Aug 21 09:33:23.581 EST: Progress Ind i = 0x8488 - In-band info or appropriate
  now available

!--- In this case, the "Rx <- PROGRESS" is returned, the CALLED
!--- router does not even try to call out on the second number because the router
!--- assumes the call is in progress. You must receive a DISCONNECT for the router
!--- to dial the second number.

Aug 21 09:33:26.578 EST: %ISDN-6-CONNECT: Interface BRI1/0:1 is now
  connected to 13305551111 asc001
Aug 21 09:33:51.091 EST: BRI1/0: wait for isdn carrier timeout, call  nbid=0x8010
Aug 21 09:33:51.091 EST: BR1/0 DDR: Attempting to dial 13305551112
Aug 21 09:33:51.099 EST: ISDN BR1/0: TX -> DISCONNECT pd = 8 callref = 0x0D
Aug 21 09:33:51.103 EST: Cause i = 0x8090 - Normal call clearing
Aug 21 09:33:51.147 EST: ISDN BR1/0: RX <- RELEASE pd = 8 callref = 0x8D
Aug 21 09:33:51.155 EST: ISDN BR1/0: TX -> RELEASE_COMP pd = 8 callref = 0x0Di

!--- No CONNECT follows the PROGRESS, and so the ISDN carrier times out.
!--- Interestingly the ISDN dialer calls out, but the IOS
!--- disconnects the same (due to the expiry of certain dialer timers).
```

Use the **show isdn active** command to check the connection. Note that only one connection is active.

```
-------------------------------------------------------------------------------
ISDN ACTIVE CALLS
-------------------------------------------------------------------------------
Call      Calling     Called      Remote     Seconds    Seconds   Seconds     Charges
Type      Number      Number      Name       Used       Left      Idle
```

```
Units/Currency
         ------------------------------------------------------------------------
Out              +3305551111  asc001      25      Unavail       0          0
         ------------------------------------------------------------------------
```

Related Information

- **Multilink PPP for DDR – Basic Configuration and Verification**
- **ISDN BRI Troubleshooting Flowchart**
- **Troubleshooting ISDN BRI Layer 3 using the debug isdn q931 Command**
- **How to Speed Up the Addition of ISDN B Channels to a Multilink PPP Bundle**
- **Technical Support & Documentation – Cisco Systems**