使用PPP半橋接連線路由和橋接網路

目錄

簡介

本文提供使用PPP半橋接連線路由和橋接網路的示例配置。

必要條件

需求

本文件沒有特定需求。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Cisco IOS®軟體版本12.2(7b)。
- 兩台Cisco 2500系列路由器。每個介面至少有一個ISDN BRI介面。

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

此配置還可以用於以下硬體和軟體版本：

- 任何序列介面，例如序列、基本速率介面(BRI)、主要速率介面(PRI)等。
- Cisco IOS軟體版本11.2.
- 運行上述思科IOS軟體的任何路由器，以及至少一個ISDN-BRI埠。但是，在帶有串列介面的路由器上可以使用半橋功能。

慣例

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

背景資訊

網橋將網橋資料包傳送到PPP半網橋，後者將其轉換為路由資料包，並將其轉發到其它路由器進程。同樣，PPP半橋會將路由的資料包轉換為乙太網橋接資料包，並將它們傳送到同一乙太網子網上的網橋。

注意：此配置不會覆蓋兩端的完整網橋。有關此類配置，請參閱跨ISDN橋接文檔。

請注意，在ISDN連線上進行橋接往往會長時間保持連線處於活動狀態（如果不是永久性的）。如果Telco根據連線時間對ISDN計費，則可能會產生非常高的費用。因此，對於擁有無限使用ISDN線路的客戶，建議使用此方案。

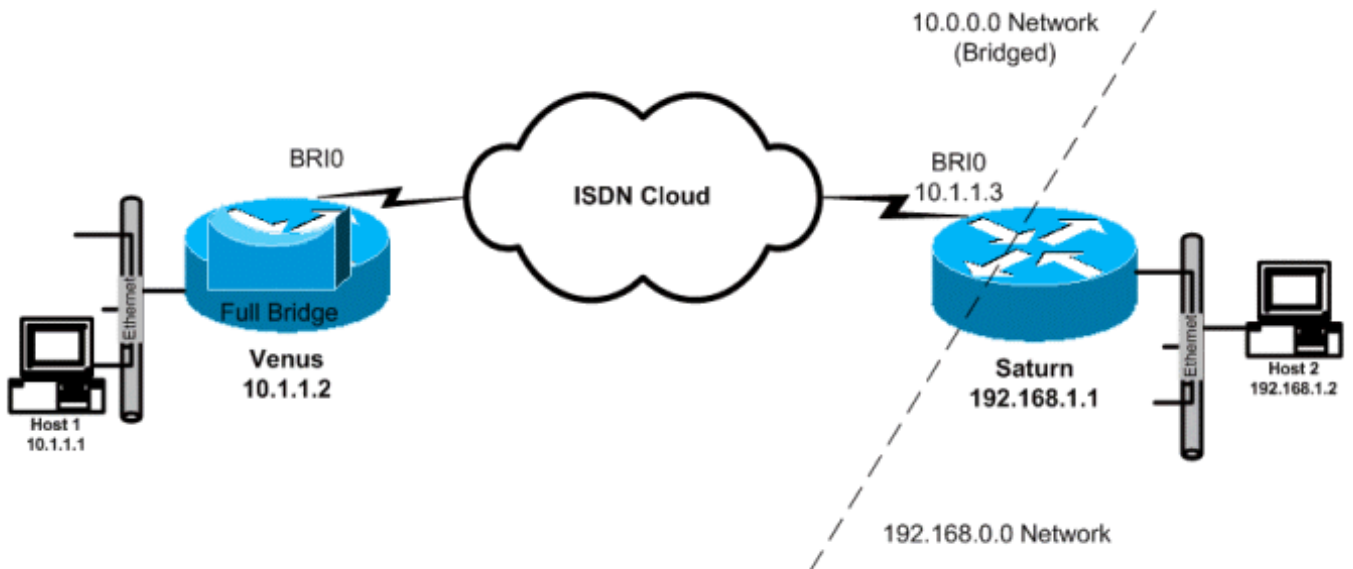注意：介面不能同時充當半橋和網橋。Cisco IOS軟體支援每個乙太網子網最多一個PPP半網橋。

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：

- **金星**此路由器被配置為禁用IP路由的完整網橋。任何橋接流量到達時，裝置都會撥號。
- **土星**此路由器已配置為半網橋。請注意，此端未設定**dialer string**、**dialer group**和**dialer list**命令。因此，此路由器不會撥號，但會接受來電。這可防止路由器撥打遠端路由器。此處已開啟IP路由。此路由器上未配置完全橋接軟體。PPP半橋接器正在BRI介面上運行，因此**show bridge**和**show spanning-tree**等命令不會在此路由器上生成任何輸出。

金星
| ```
Venus#show running-config
!
version 12.2
!
hostname Venus
!
username Saturn password 0 same
!--- Required for PPP CHAP authentication during dialup
ip subnet-zero no ip routing !--- Turn off routing no ip
domain-lookup ! isdn switch-type basic-5ess !--- The
ISDN switchtype for this circuit. Obtain this
information from the !--- Telco. This ISDN switch type
is USA specific and could be changed !--- depending on
the country and TELCO requirements ! interface Ethernet0
ip address 10.1.1.2 255.0.0.0 !--- This is for
management purpose only no ip route-cache no ip mroute-
cache bridge-group 1 !--- Assign this interface to
Bridge Group 1 !--- Frames are bridged only among
interfaces in the same group !--- Note: the dialer1
interface is also in this bridge-group 1 interface BRI0
no ip address no ip route-cache no ip mroute-cache
dialer pool-member 1 !--- Dialer profiles configured
with same dialer pool # !--- (in this case, dialer1)
will bind to this interface isdn switch-type basic-5ess
!--- Check with your Telco for the correct values !
interface Dialer1 !--- Configure the Dialer profile
description ISDN to Saturn ip address 10.1.1.2 255.0.0.0
``` |

```
encapsulation ppp dialer pool 1 !--- Use physical
interfaces configured with same pool # !--- (in this
case, bri0) during dialup dialer remote-name Saturn !---
Specifies remote CHAP name dialer string 5552000 !---
Specifies the number to dial when interesting traffic
arrives dialer-group 1 !--- Defines the interesting
traffic as configured in the dialer-list ppp
authentication chap !--- Use CHAP as the authentication
method bridge-group 1 !--- Assign this interface to
Bridge Group 1. !--- Frames are bridged only among
interfaces in the same group. !--- Note: the Ethernet
interface 0 is also in this bridge-group 1 ip default-
gateway 10.1.1.3 !--- All default traffic from Venus
should go through Saturn dialer-list 1 protocol bridge
permit !--- Defines the interesting traffic. In this
case, all bridged traffic bridge 1 protocol ieee !---
Define the type of Spanning-Tree Protocol used for the
interface in !--- bridge-group 1. Here we use the IEEE
spanning tree protocol. The IEEE 802.1D !--- Spanning-
Tree Protocol is the preferred way of running the
bridge. !
```

土星

```
Saturn#show running-config
!
version 12.2
!
hostname Saturn
!
username Venus password 0 same
!--- Required for PPP CHAP authentication during dialup
ip subnet-zero no ip domain-lookup ! isdn switch-type
basic-5ess !--- The ISDN switchtype for this circuit.
Obtain this information from the !--- Telco. This ISDN
switch type is USA specific and could be changed !---
depending on the country and Telco requirements !
interface Ethernet0 ip address 192.168.1.1 255.255.0.0 !
interface BRI0 no ip address no ip mroute-cache dialer
pool-member 1 !--- Dialer profiles configured with same
dialer pool # !--- (in this case, dialer1) will bind to
this interface isdn switch-type basic-5ess ! interface
Dialer1 !--- Configure the Dialer profile description
ISDN to Venus ip address 10.1.1.3 255.0.0.0 !--- IP
address is required to route the bridged traffic from
Venus !--- This ip address MUST be in the same subnet as
the remote bridge network encapsulation ppp dialer pool
1 !--- Use physical interfaces configured with same pool
# !--- (in this case, bri0) during dialup dialer remote-
name Venus pulse-time 0 ppp bridge ip !--- Configures
half bridge ppp authentication chap !--- Use CHAP as the
authentication method !
```

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 — 顯示ISDN介面的L1、L2和L3狀態。

- **show dialer** — 顯示撥號器的狀態和ISDN通道的單獨狀態。
- **show bridge** — 在特權EXEC模式下顯示網橋轉發資料庫中的條目類。
- **show interface** — 顯示各種介面的狀態，包括串列介面和BRI介面。
- **show arp** — 檢查ARP對映。ARP是用於將第2層位址（MAC位址）對應到第3層位址（IP位址）的通訊協定。
- **show spanning-tree** — 顯示路由器已知的生成樹拓撲。

撥入土星後在金星上顯示Show命令

```
Venus#show isdn status
Global ISDN Switchtype = basic-5ess
ISDN BRI0 interface
        dsl 0, interface ISDN Switchtype = basic-5ess
    Layer 1 Status:
        ACTIVE
    Layer 2 Status:
        TEI = 107, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED
    Layer 3 Status:
        1 Active Layer 3 Call(s)
        CCB:callid=800E, sapi=0, ces=1, B-chan=2, calltype=DATA
Active dsl 0 CCBs = 1
    The Free Channel Mask:
  0x80000001
    Number of L2 Discards = 0, L2 Session ID = 17
    Total Allocated ISDN CCBs = 1

Venus#show dialer
BRI0 - dialer type = ISDN

Dial String Successes Failures Last DNIS Last status
    0 incoming call(s) have been screened.
    0 incoming call(s) rejected for callback.

BRI0:1 - dialer type = ISDN
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is idle

BRI0:2 - dialer type = ISDN
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is data link layer up
    Dial reason: bridge (0x0800)
    Interface bound to profile Di1
    Time until disconnect 90 secs
    Current call connected 00:00:31

Di1 - dialer type = DIALER PROFILE
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is data link layer up
    Number of active calls = 1
    Dial String Successes Failures Last DNIS Last status
    5552000   5   1   00:00:34  Successful Default


Venus#show interface bri0:2
    BRI0:2 is up, line protocol is up
```

```
      Hardware is BRI
      MTU 1500 bytes, BW 64 Kbit, DLY 20000 usec,
      reliability 255/255, txload 1/255, rxload 1/255
      Encapsulation PPP, loopback not set
      Keepalive set (10 sec)
      Time to interface disconnect: idle 00:01:18
      Interface is bound to Di1 (Encapsulation PPP)
      LCP Open
      Closed: IPCP
      Open: BRIDGECP, CDPCP
```
!--- Bridge Control Protocol is open Last input 00:00:42, output 00:00:00, output hang never
Last clearing of "show interface" counters never Input queue: 0/75/0/0 (size/max/drops/flushes);
Total output drops: 0 Queueing strategy: fifo Output queue :0/40 (size/max) 5 minute input rate
0 bits/sec, 0 packets/sec 5 minute output rate 0 bits/sec, 0 packets/sec 161 packets input, 9796
bytes, 0 no buffer Received 0 broadcasts, 0 runts, 0 giants, 0 throttles 0 input errors, 0 CRC,
0 frame, 0 overrun, 0 ignored, 0 abort 328 packets output, 16659 bytes, 0 underruns 0 output
errors, 0 collisions, 7 interface resets 0 output buffer failures, 0 output buffers swapped out
16 carrier transitions

```
Venus#show bridge
Total of 300 station blocks, 298 free
   Codes: P - permanent, S - self

Bridge Group 1:

 Address Action Interface Age RX count TX count
   00d0.58ad.ae13 forward Ethernet0 0 74 58
   0060.5cf4.a955 forward Dialer1 0 58 72

Venus#show arp
   Protocol Address Age (min) Hardware Addr Type Interface
   Internet 10.1.1.2 - 0060.5cf4.a9a8 ARPA Ethernet0
   Internet 10.1.1.3 0 0060.5cf4.a955 ARPA Dialer1

Venus#show spanning-tree

Bridge group 1 is executing the ieee compatible Spanning Tree protocol
   Bridge Identifier has priority 32768, address 0060.5cf4.a9a8
   Configured hello time 2, max age 20, forward delay 15
   Current root has priority 32768, address 0009.7c2e.ba00
   Root port is 2 (Ethernet0), cost of root path is 100
   Topology change flag not set, detected flag not set
   Number of topology changes 1 last change occurred 22:09:28 ago
   from Ethernet0
   Times: hold 1, topology change 35, notification 2
   hello 2, max age 20, forward delay 15
   Timers: hello 0, topology change 0, notification 0, aging 300

Port 2 (Ethernet0) of Bridge group 1 is forwarding
   Port path cost 100, Port priority 128, Port Identifier 128.2.
   Designated root has priority 32768, address 0009.7c2e.ba00
   Designated bridge has priority 32768, address 0009.7c2e.ba00
   Designated port id is 128.13, designated path cost 0
   Timers: message age 2, forward delay 0, hold 0
   Number of transitions to forwarding state: 1
   BPDU: sent 1, received 39911

 Port 8 (Dialer1) of Bridge group 1 is forwarding
   Port path cost 17857, Port priority 128, Port Identifier 128.8.
   Designated root has priority 32768, address 0009.7c2e.ba00
   Designated bridge has priority 32768, address 0060.5cf4.a9a8
   Designated port id is 128.8, designated path cost 100
   Timers: message age 0, forward delay 0, hold 0
```

```
    Number of transitions to forwarding state: 1
    BPDU: sent 39879, received 0
```

Venus撥入後顯示Saturn命令

```
Saturn#show dialer
BRI0 - dialer type = ISDN
Dial String Successes Failures Last DNIS Last status
    0 incoming call(s) have been screened.

    0 incoming call(s) rejected for callback.

BRI0:1 - dialer type = ISDN
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is idle

BRI0:2 - dialer type = ISDN
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is data link layer up
    Interface bound to profile Di1
    Time until disconnect 45 secs
    Connected to




Di1 - dialer type = DIALER PROFILE
    Idle timer (120 secs), Fast idle timer (20 secs)
    Wait for carrier (30 secs), Re-enable (15 secs)
    Dialer state is data link layer up   Number of active calls = 1

Dial String Successes Failures Last DNIS Last status

Saturn#show isdn status
    Global ISDN Switchtype = basic-5ess
    ISDN BRI0 interface
    dsl 0, interface ISDN Switchtype = basic-5ess
    Layer 1 Status:
    ACTIVE
    Layer 2 Status:
    TEI = 105, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED
    I_Queue_Len 0, UI_Queue_Len 0
    Layer 3 Status:
    1 Active Layer 3 Call(s)
    CCB:callid=2B, sapi=0, ces=1, B-chan=2, calltype=DATA
    Active dsl 0 CCBs = 1
    The Free Channel Mask: 0x80000001
    Number of L2 Discards = 0, L2 Session ID = 37
    Total Allocated ISDN CCBs = 1

Saturn#show arp
    Protocol Address Age (min) Hardware Addr Type Interface
    Internet 10.1.1.2 27 0060.5cf4.a9a8 ARPA Dialer1
    Internet 10.1.1.1 63 00d0.58ad.ae13 ARPA Dialer1
    Internet 192.168.1.1 - 0060.5cf4.a955 ARPA Ethernet0
    Internet 192.168.1.2 53 0000.0c76.2882 ARPA Ethernet0

Saturn#show spanning-tree
No spanning tree instances exist.
```

```
Saturn#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
C 10.0.0.0/8 is directly connected, Dialer1
C 192.168.0.0/16 is directly connected, Ethernet0
```

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

疑難排解資源

撥號技術中介紹了傳入和傳出ISDN呼叫的故障排除過程：疑難排解技術檔案。有關如何對ISDN第1層、第2層和第3層問題進行故障排除的其他資訊，請參閱使用show isdn status命令進行BRI故障排除和使用debug isdn q931命令進行ISDN BRI第3層故障排除。

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。

- debug dialer — 指示檢測到相關流量以及撥號啟動的時間。
- debug isdn event — 指示ISDN介面的使用者端發生ISDN活動，類似於debug isdn q931。
- debug isdn q931 — 提供本地路由器（使用者端）與網路之間的ISDN網路連線（第3層）的呼叫建立和拆除資訊。
- debug isdn q921 — 顯示路由器在其ISDN介面的D通道(LAPD)上發生的資料鏈路層（第2層）訪問過程。
- debug ppp negotiation — 執行PPP選項和網路控制協定(NCP)引數的協商。
- debug ppp authentication — 允許交換質詢身份驗證協定(CHAP)和口令身份驗證協定(PAP)資料包。

相關流量到達時Venus上的Debug命令

```
Venus#
*Mar  1 22:00:14.838: BR0 DDR: rotor dialout [priority]
*Mar  1 22:00:14.838: BR0 DDR: Dialing cause bridge (0x0800)
*Mar  1 22:00:14.842: BR0 DDR: Attempting to dial 5552000
*Mar  1 22:00:14.846: ISDN BR0: Outgoing call id = 0x8006, dsl 0
*Mar  1 22:00:14.846: ISDN BR0: Event: Call to 5552000 at 64 Kb/s
*Mar  1 22:00:14.850: ISDN BR0: process_bri_call(): call id 0x8006,
called_number 5552000, speed 64, call type DATA
*Mar  1 22:00:14.854: CCBRI_Go Fr Host InPkgInfo (Len=22) :
*Mar  1 22:00:14.858: 1 0 1 80 6 0 4 2 88 90 18 1 83 2C 7 35 35 35 32 30 30 30
*Mar  1 22:00:14.866:
```

```
*Mar  1 22:00:14.870: CC_CHAN_GetIdleChanbri: dsl 0
*Mar  1 22:00:14.870:     Found idle channel B1
*Mar  1 22:00:14.886: ISDN BR0: TX -> INFOc sapi=0 tei=106 ns=0 nr=0
i=0x0801060504028890180183 2C0735353532303030
*Mar  1 22:00:14.906:     SETUP pd = 8  callref = 0x06
*Mar  1 22:00:14.914:         Bearer Capability i = 0x8890
*Mar  1 22:00:14.918:         Channel ID i = 0x83
*Mar  1 22:00:14.92Venus#6:        Keypad Facility i = '5552000'
*Mar  1 22:00:15.190: ISDN BR0: RX <- INFOc sapi=0 tei=106 ns=0 nr=1
i=0x0801860218018A
*Mar  1 22:00:15.198:     CALL_PROC pd = 8  callref = 0x86
*Mar  1 22:00:15.206:         Channel ID i = 0x8A
*Mar  1 22:00:15.222: ISDN BR0: TX -> RRr sapi=0 tei=106 nr=1
*Mar  1 22:00:15.230: CCBRI_Go Fr L3 pkt (Len=7) :
*Mar  1 22:00:15.230: 2 1 6 98 18 1 8A
*Mar  1 22:00:15.234:
*Mar  1 22:00:15.238: ISDN BR0: LIF_EVENT: ces/callid 1/0x8006
HOST_PROCEEDING
*Mar  1 22:00:15.238: ISDN BR0: HOST_PROCEEDING
*Mar  1 22:00:15.242: ISDN BR0: HOST_MORE_INFO
*Mar  1 22:00:15.658: ISDN BR0: RX <- INFOc sapi=0 tei=106 ns=1
nr=1 i=0x08018607
*Mar  1 22:00:15.666:     CONNECT pd = 8  callref = 0x86
*Mar  1 22:00:15.678: ISDN BR0: TX -> RRr sapi=0 tei=106 nr=2
*Mar  1 22:00:15.686: CCBRI_Go Fr L3 pkt (Len=4) :
*Mar  1 22:00:15.690: 7 1 6 91
*Mar  1 22:00:15.690:
*Mar  1 22:00:15.694: ISDN BR0: LIF_EVENT: ces/callid 1/0x8006 HOST_CONNECT
22:00:15: %LINK-3-UPDOWN: **Interface BRI0:2, changed state to up**
*Mar  1 22:00:15.702: BR0:2 PPP: Phase is DOWN, Setup [0 sess, 0 load]
*Mar  1 22:00:15.706: BR0:2 PPP: No remote authentication for call-out
*Mar  1 22:00:15.710: BR0:2 PPP: Phase is ESTABLISHING [0 sess, 0 load]
*Mar  1 22:00:15.710: BR0:2 PPP: Treating connection as a callout
*Mar  1 22:00:15.714: BR0:2 PPP: No remote authentication for call-out
*Mar  1 22:00:15.718: BR0:2 LCP: O CONFREQ [Closed] id 1 len 10
*Mar  1 22:00:15.722: BR0:2 LCP:    MagicNumber 0x6515B12A (0x05066515B12A)
*Mar  1 22:00:15.722: BR0:2: interface must be fifo queue, force fifo
22:00:15: %DIALER-6-BIND: **Interface BR0:2 bound to profile Di1**
*Mar  1 22:00:15.742: ISDN: get_isdn_service_state(): idb 0x1A2DBC bchan 3
is_isdn 1 Not a Pri
*Mar  1 22:00:15.746: BR0:2 PPP: Treating connection as a callout
*Mar  1 22:00:15.746: ISDN BR0: Event: Connected to 5552000 on B2 at 64 Kb/s
*Mar  1 22:00:15.762: ISDN BR0: TX -> INFOc sapi=0 tei=106 ns=1 nr=2 i=0x0801060F
*Mar  1 22:00:15.766:     CONNECT_ACK pd = 8  callref = 0x06
*Mar  1 22:00:15.774: BR0:2 LCP: I CONFREQ [REQsent] id 1 len 15
*Mar  1 22:00:15.778: BR0:2 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 22:00:15.782: BR0:2 LCP:    MagicNumber 0x788C6F8F (0x0506788C6F8F)
*Mar  1 22:00:15.786: BR0:2 LCP: O CONFACK [REQsent] id 1 len 15
*Mar  1 22:00:15.790: BR0:2 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 22:00:15.790: BR0:2 LCP:    MagicNumber 0x788C6F8F (0x0506788C6F8F)
*Mar  1 22:00:15.798: BR0:2 LCP: I CONFACK [ACKsent] id 1 len 10
*Mar  1 22:00:15.798: BR0:2 LCP:    MagicNumber 0x6515B12A (0x05066515B12A)
*Mar  1 22:00:15.802: BR0:2 LCP: State is Open
*Mar  1 22:00:15.806: BR0:2 PPP: Phase is AUTHENTICATING, by the peer
[0 sess, 1 load]
*Mar  1 22:00:15.870: ISDN BR0: RX <- RRr sapi=0 tei=106 nr=2
*Mar  1 22:00:15.882: BR0:2 CHAP: I CHALLENGE id 31 len 27 from "Saturn"
*Mar  1 22:00:15.890: BR0:2 CHAP: O RESPONSE id 31 len 26 from "Venus"
*Mar  1 22:00:15.914: BR0:2 **CHAP: I SUCCESS** id 31 len 4
*Mar  1 22:00:15.918: BR0:2 PPP: Phase is UP [0 sess, 1 load]
*Mar  1 22:00:15.922: BR0:2 BNCP: O CONFREQ [Closed] id 1 len 4
*Mar  1 22:00:15.926: BR0:2 IPCP: O CONFREQ [Closed] id 1 len 10
*Mar  1 22:00:15.930: BR0:2 IPCP:    Address 10.1.1.2 (0x03060A010102)
*Mar  1 22:00:15.934: BR0:2 CDPCP: O CONFREQ [Closed] id 1 len 4
```

```
*Mar  1 22:00:15.942: BR0:2 BNCP: I CONFREQ [REQsent] id 1 len 4
*Mar  1 22:00:15.946: BR0:2 BNCP: O CONFACK [REQsent] id 1 len 4
*Mar  1 22:00:15.950: BR0:2 CDPCP: I CONFREQ [REQsent] id 1 len 4
*Mar  1 22:00:15.954: BR0:2 CDPCP: O CONFACK [REQsent] id 1 len 4
*Mar  1 22:00:15.958: BR0:2 BNCP: I CONFACK [ACKsent] id 1 len 4
*Mar  1 22:00:15.958: BR0:2 BNCP: State is Open
*Mar  1 22:00:15.966: BR0:2 LCP: I PROTREJ [Open] id 2 len 16 protocol IPCP
(0x80210101000A03060A010102)
*Mar  1 22:00:15.970: BR0:2 IPCP: State is Closed
*Mar  1 22:00:15.974: BR0:2 CDPCP: I CONFACK [ACKsent] id 1 len 4
*Mar  1 22:00:15.978: BR0:2 CDPCP: State is Open
*Mar  1 22:00:15.978: BR0:2 DDR: dialer protocol up
22:00:16: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0:2,
changed state to up
22:00:21: %ISDN-6-CONNECT: Interface BRI0:2 is now connected to 5552000
Venus#


Saturn#
4d16h: ISDN BR0: RX <- UI c/r=1 sapi=0 tei=127
i=0x08014105040288901801 8A7008C135353532303030
4d16h:     SETUP pd = 8  callref = 0x41
4d16h:         Bearer Capability i = 0x8890
4d16h:         Channel ID i = 0x8A
4d16h:         Called Party Number i = 0xC1, '5552000', Plan:ISDN,
Type:Subscriber(local)
4d16h: CCBRI_Go Fr L3 pkt (Len=21) :
4d16h: 5 1 C1 90 4 2 88 90 18 1 8A 70 8 C1 35 35 35 32 30 30 30
4d16h:
4d16h: ISDN BR0: Incoming call id = 0x002B, dsl 0
4d16h: ISDN BR0: LIF_EVENT: ces/callid 1/0x2B HOST_INCOMING_CALL
4d16h: ISDN BR0: HOST_INCOMING_CALL: (non-POTS) DATA
4d16h: ISDN BR0: HOST_INCOMING_CALL: (1) call_type = DATA
4d16h: ISDN BR0: HOST_INCOMING_CALL: voice_answer_data = FALSE call type is DATA
4d16h: ISDN BR0: Event: Received a DATA call from




4d16h: ISDN BR0: Event: Accepting the call id 0x2B
4d16h: BR0:2 PPP: Phase is DOWN, Setup [0 sess, 1 load]
4d16h: BR0:2 PPP: Phase is ESTABLISHING [0 sess, 1 load]
4d16h: BR0:2: inteSarface must be fifo queue, force fifo
4d16h: %DIALER-6-BIND: Interface BR0:2 bound to profile Di1
4d16h: ISDN BR0: RM returned call_type 0 resource type 0 response 1
4d16h: CCBRI_Go Fr Host InPkgInfo (Len=9) :
4d16h: 7 0 1 0 2B 3 18 1 8A
4d16h:
4d16h: ISDN BR0: isdn_send_connect(): msg 4, call id 0x2B, ces 1 bchan 1, c
all type DATA
4d16h: %LINK-3-UPDOWN: Interface BRI0:2, changed state to up
4d16h: ISDN: get_isdn_service_state(): idb 0x1A2EAC bchan 3 is_isdn 1 Not a Pri
4d16h: BR0:2 PPP: Treating connection as a callin
4d16h: BR0:2 LCP: State is Listen
4d16h: CCBRI_Go Fr Host InPkgInfo (Len=6) :
4d16h: 4 0 1 0 2B 0
4d16h:
4d16h: ISDN BR0: TX -> INFOc sapi=0 tei=105 ns=7 nr=5 i=0x0801C10218018A
4d16h:     CALL_PROC pd = 8  callref = 0xC1
4d16h:         Channel ID i = 0x8A
4d16h: ISDN BR0: RX <- RRr sapi=0 tei=105 nr=8
4d16h: ISDN BR0: TX -> INFOc sapi=0 tei=105 ns=8 nr=5 i=0x0801C107
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```
4d16h:     CONNECT pd = 8  callref = 0xC1
4d16h: ISDN BR0: RX <- INFOc sapi=0 tei=105 ns=5 nr=9 i=0x0801410F
4d16h:     CONNECT_ACK pd = 8  callref = 0x41
4d16h: ISDN BR0: TX -> RRr sapi=0 tei=105 nr=6
4d16h: CCBRI_Go Fr L3 pkt (Len=4) :
4d16h: F 1 C1 92
4d16h:
4d16h: ISDN BR0: LIF_EVENT: ces/callid 1/0x2B HOST_CONNECT
4d16h: ISDN BR0: Event: Connected to <unknown> on B2 at 64 Kb/s
4d16h: BR0:2 LCP: I CONFREQ [Listen] id 1 len 10
4d16h: BR0:2 LCP:    MagicNumber 0x6515B12A (0x05066515B12A)
4d16h: BR0:2 LCP: O CONFREQ [Listen] id 1 len 15
4d16h: BR0:2 LCP:    AuthProto CHAP (0x0305C22305)
4d16h: BR0:2 LCP:    MagicNumber 0x788C6F8F (0x0506788C6F8F)
4d16h: BR0:2 LCP: O CONFACK [Listen] id 1 len 10
4d16h: BR0:2 LCP:    MagicNumber 0x6515B12A (0x05066515B12A)
4d16h: BR0:2 LCP: I CONFACK [ACKsent] id 1 len 15
4d16h: BR0:2 LCP:    AuthProto CHAP (0x0305C22305)
4d16h: BR0:2 LCP:    MagicNumber 0x788C6F8F (0x0506788C6F8F)
4d16h: BR0:2 LCP: State is Open
4d16h: BR0:2 PPP: Phase is AUTHENTICATING, by this end [0 sess, 0 load]
4d16h: BR0:2 CHAP: O CHALLENGE id 31 len 27 from "Saturn"
4d16h: BR0:2 CHAP: I RESPONSE id 31 len 26 from "Venus"
4d16h: BR0:2 CHAP: O SUCCESS id 31 len 4
4d16h: BR0:2 PPP: Phase is UP [0 sess, 0 load]
4d16h: BR0:2 BNCP: O CONFREQ [Closed] id 1 len 4
4d16h: BR0:2 CDPCP: O CONFREQ [Closed] id 1 len 4
4d16h: BR0:2 BNCP: I CONFREQ [REQsent] id 1 len 4
4d16h: BR0:2 BNCP: O CONFACK [REQsent] id 1 len 4: BR0:2 IPCP: I CONFREQ
[Not negotiated] id 1 len 10
4d16h: BR0:2 IPCP:    Address 10.1.1.2 (0x03060A010102)
4d16h: BR0:2 LCP: O PROTREJ [Open] id 2 len 16 protocol IPCP
(0x80210101000A03060A010102)
4d16h: BR0:2 CDPCP: I
4d16h CONFREQ [REQsent] id 1 len 4
4d16h: BR0:2 CDPCP: O CONFACK [REQsent] id 1 len 4
4d16h: BR0:2 BNCP: I CONFACK [ACKsent] id 1 len 4
4d16h: BR0:2 BNCP: State is Open
4d16h: BR0:2 CDPCP: I CONFACK [ACKsent] id 1 len 4
4d16h: BR0:2 CDPCP: State is Open
4d16h: BR0:2 DDR: dialer protocol up
4d16h: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0:2, changed state to up
4d16h: %ISDN-6-CONNECT: Interface BRI0:2 is now connected to
<unknown phone number> Venus
 !--- Unknown phone number because of no dialer string on Saturn Saturn#
```

相關資訊

- [有關Dial-Backup命令的更多資訊](#)
- [思科技術支援 — 撥號](#)
- [技術支援 - Cisco Systems](#)