

# Utilizzo del half-bridging PPP per la connessione di reti con routing e bridge

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## [Introduzione](#)

In questo documento viene fornita una configurazione di esempio per l'utilizzo del half-bridging PPP per la connessione di reti routing e bridge.

## [Prerequisiti](#)

### [Requisiti](#)

Nessun requisito specifico previsto per questo documento.

### [Componenti usati](#)

Le informazioni fornite in questo documento si basano sulle seguenti versioni software e hardware:

- Software Cisco IOS® versione 12.2(7b).

- Due router Cisco serie 2500. Ciascuno di essi dispone di almeno un'interfaccia ISDN BRI.

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

## [Prodotti correlati](#)

Questa configurazione può essere utilizzata anche con le seguenti versioni hardware e software:

- Qualsiasi interfaccia seriale, ad esempio seriale, BRI (Basic Rate Interface), PRI (Primary Rate Interface) e così via.
- Software Cisco IOS release 11.2.1
- Qualsiasi router con software Cisco IOS come accennato in precedenza e almeno una porta ISDN-BRI. Tuttavia, la funzione half-bridge può essere utilizzata su un router con interfaccia seriale.

## [Convenzioni](#)

Per ulteriori informazioni sulle convenzioni usate, consultare il documento [Cisco sulle convenzioni nei suggerimenti tecnici](#).

## [Premesse](#)

Il bridge invia i pacchetti bridge al half-bridge PPP che li converte in pacchetti indirizzati e li inoltra ad altri processi router. Allo stesso modo, il half-bridge PPP converte i pacchetti indirizzati in pacchetti bridge Ethernet e li invia al bridge sulla stessa sottorete Ethernet.

**Nota:** questa configurazione non copre un bridge completo su entrambi i lati. Per una configurazione di questo tipo, consultare il documento sul [bridging tra ISDN](#).

Tenere presente che il bridging di una connessione ISDN tende a mantenere attiva la connessione per periodi molto lunghi, se non in modo permanente. Se la connessione ISDN viene addebitata in Telco in base al tempo di connessione, il costo del servizio potrebbe essere molto elevato. Di conseguenza, questo scenario è consigliato per gli utenti con linee ISDN a utilizzo illimitato.

**Nota:** un'interfaccia non può fungere sia da mezzo ponte che da ponte. Il software Cisco IOS supporta non più di un half-bridge PPP per sottorete Ethernet.

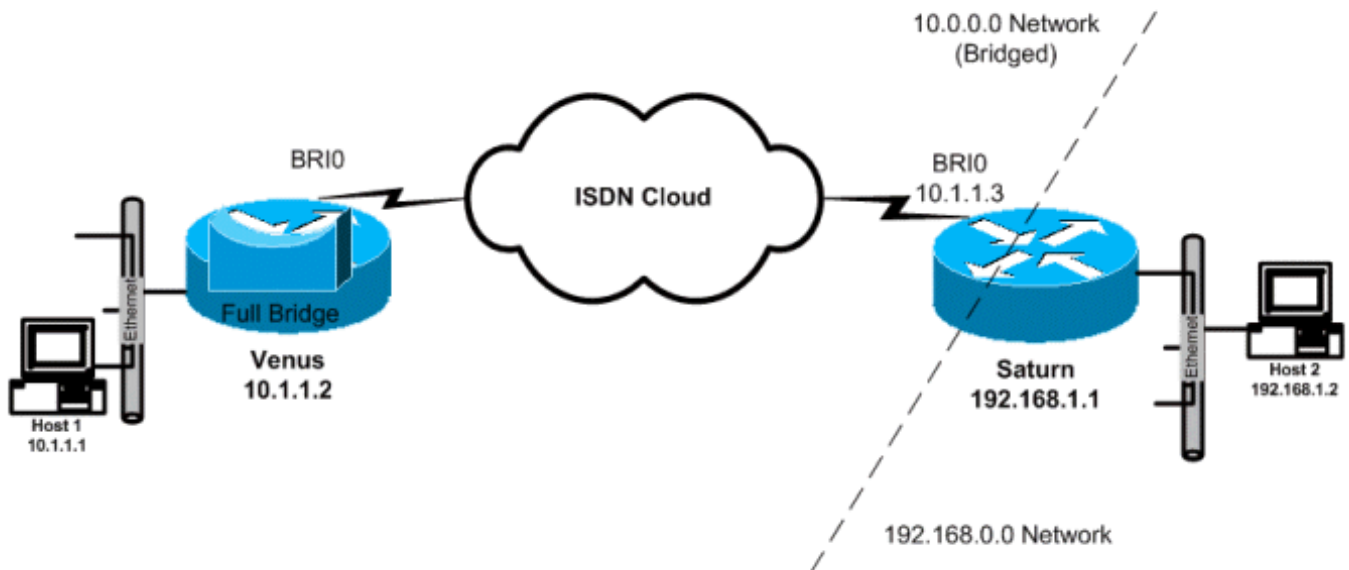
## [Configurazione](#)

In questa sezione vengono presentate le informazioni necessarie per configurare le funzionalità descritte più avanti nel documento.

**Nota:** per ulteriori informazioni sui comandi menzionati in questo documento, usare lo [strumento di ricerca dei comandi](#) (solo utenti [registrati](#)).

## [Esempio di rete](#)

Nel documento viene usata questa impostazione di rete:



## Configurazioni

Nel documento vengono usate queste configurazioni:

- **Venere**Questo router è configurato come bridge completo con routing IP disabilitato. Il dispositivo compone quando arriva un traffico con bridging.
- **Saturno**Questo router è stato configurato come half bridge. Si noti che i comandi **dialer string**, **dialer group** e **dialer list** non sono configurati su questo lato. Questo router non comporrà mai, ma accetterà le chiamate in arrivo. In questo modo il router non potrà comporre il numero del router remoto. Il routing IP è stato attivato qui. Software di bridging completo non configurato su questo router. Il half bridge PPP è in esecuzione sull'interfaccia BRI, quindi comandi come **show bridge** e **show spanning-tree** non generano alcun output su questo router.

### Venere

```
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. !

```

## Saturno

```

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 !

```

[Verifica](#)

Le informazioni contenute in questa sezione permettono di verificare che la configurazione funzioni correttamente.

Alcuni comandi **show** sono supportati dallo [strumento Output Interpreter \(solo utenti registrati\)](#); lo strumento permette di visualizzare un'analisi dell'output del comando **show**.

- **show isdn status**: visualizza lo stato L1, L2 e L3 delle interfacce ISDN.
- **show dialer**: visualizza lo stato della connessione e lo stato dei singoli canali ISDN.
- **show bridge**: visualizza le classi di voci nel database di inoltro bridge in modalità di esecuzione privilegiata.
- **show interface**: visualizza lo stato di diverse interfacce, incluse le interfacce Serial e BRI.
- **show arp** - controlla la mappatura ARP. ARP è un protocollo utilizzato per mappare l'indirizzo MAC (Layer 2 address) a un indirizzo IP (Layer 3 address).
- **show spanning-tree**: visualizza la topologia dello spanning-tree nota al router.

## [Mostra i comandi su Venere dopo aver chiamato Saturno](#)

```
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
<b>0060.5cf4.a955</b>	<b>forward</b>	<b>Dialer1</b>	<b>0</b>	<b>58</b>	<b>72</b>

Venus#**show arp**

Protocol	Address	Age (min)	Hardware Addr	Type	Interface
Internet	10.1.1.2	-	0060.5cf4.a9a8	ARPA	Ethernet0
<b>Internet</b>	<b>10.1.1.3</b>	<b>0</b>	<b>0060.5cf4.a955</b>	<b>ARPA</b>	<b>Dialer1</b>

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

## [Mostra i comandi su Saturno dopo la composizione di Venus](#)

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.
```

```
!--- This router does not run full bridge, !--- so spanning tree does not run on this router
```

```
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
```

## Risoluzione dei problemi

Le informazioni contenute in questa sezione permettono di risolvere i problemi relativi alla configurazione.

### Risorse per la risoluzione dei problemi

Le procedure di risoluzione dei problemi per le chiamate ISDN in entrata e in uscita sono spiegate nella [tecnologia di connessione remota](#): Documento [Tecniche di risoluzione dei problemi](#). Per ulteriori informazioni su come risolvere i problemi relativi ai livelli 1, 2 e 3 dell'ISDN, consultare la sezione [Uso del comando show isdn status per BRI, Risoluzione dei problemi](#) e [Risoluzione dei problemi relativi agli ISDN BRI livello 3 con il comando debug isdn q931](#).

### Comandi per la risoluzione dei problemi

Alcuni comandi **show** sono supportati dallo [strumento Output Interpreter \(solo utenti registrati\)](#); lo strumento permette di visualizzare un'analisi dell'output del comando **show**.

**Nota:** prima di usare i comandi di **debug**, consultare le [informazioni importanti sui comandi di debug](#).

- **debug dialer**: indica quando è stato rilevato traffico di interesse e quando viene avviata la composizione.
- **debug isdn event**: indica l'attività ISDN che si verifica sul lato utente dell'interfaccia ISDN ed è simile al **debug isdn q931**.
- **debug isdn q931**: fornisce informazioni sulla configurazione delle chiamate e sulla disinstallazione delle connessioni di rete ISDN (livello 3) tra il router locale (lato utente) e la rete.
- **debug isdn q921**: visualizza le procedure di accesso al layer di collegamento dati (layer 2) in corso al router sul canale D (LAPD) dell'interfaccia ISDN.



- **debug ppp negotiation:** esegue la negoziazione delle opzioni PPP e dei parametri NCP (Network Control Protocol).
- **debug ppp authentication:** consente lo scambio di pacchetti CHAP (Challenge Authentication Protocol) e PAP (Password Authentication Protocol).

## Comandi di debug su Venus all'arrivo del traffico interessato

```
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=0x08010605040288901801832C0735353532303030
*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 D11
*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=0x080141050402889018018A7008C135353532303030
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: inteSurface 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  
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 PROTREQ [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#
```

## Informazioni correlate

- [Ulteriori informazioni sui comandi di dial-backup](#)
- [Supporto tecnologia Cisco - Composizione](#)
- [Supporto tecnico – Cisco Systems](#)