

用拨号程序配置文件配置 ISDN 的 DDR 备份

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简介

此配置示例显示您如何能使用ISDN BRI电路备份一条租用的线路、广域网或者串行连接。

本文使用拨号配置文件和备用接口功能。**backup interface**命令在备用模式放置已配置的物理或逻辑接口，直到这样次要接口断开。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

此配置使用一个BRI电路备份串行链路。因为dialer string在该路由器，配置路由器ramses执行拨出。在此配置中：

- 使用Cisco 2500路由器(ramses)，连接对思科2520路由器(狮身人面象)。两个路由器也通过BRI接口安装，此接口用于备份链路。
- 两路由器运行Cisco IOS软件版本12.0.7T.

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原

始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

配置

本部分提供有关如何配置本文档所述功能的信息。这三个步骤完成此配置：

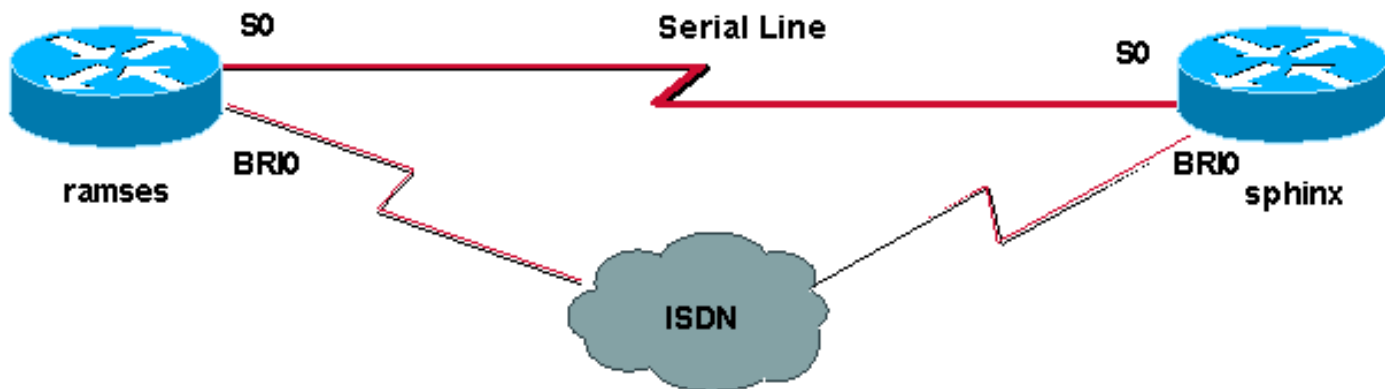
1. 配置与传统DDR或拨号配置文件的按需拨号路由(DDR)。在本文显示的配置示例使用拨号配置文件。
2. 当主链路发生故障时，请使用**backup interface**命令触发拨出呼叫。
3. 定义关注数据流。

注意：推荐您配置是工作正常的DDR连接(与BRI0的拨号1)并且验证，在您配置备份接口和**backup delay**命令前。在您配置备份前，这允许您有效管理和排除故障拨号配置文件，ISDN、PPP和验证问题。

注意：要查找本文档所用命令的其他信息，请使用[命令查找工具](#)（[仅限注册用户](#)）。

网络图

本文档使用以下网络设置：



配置

本文档使用以下配置：

- [ramses \(Cisco 2500路由器\)](#)
- [狮身人面象\(思科2520路由器\)](#)

ramses (Cisco 2500路由器)
<pre>ramses#show running-config Building configuration... Current configuration: !</pre>

```
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname ramses
!
username sphinx password <password>
  !-- password is case sensitive and should be the same
  on both sides ! isdn switch-type basic-net3 ! !
interface Loopback1 ip address 1.1.1.1 255.255.255.255 !
interface Ethernet0 ip address 10.48.74.45 255.255.254.0
! interface Serial0 backup delay 10 30 backup interface
Dialer1 ip address 3.3.3.1 255.255.255.0 no ip directed-
broadcast clockrate 125000 ! interface BRI0 no ip
address no ip directed-broadcast encapsulation ppp
dialer pool-member 2 isdn switch-type basic-net3 no cdp
enable ppp authentication chap callin ! interface
Dialer1 ip unnumbered Loopback1 no ip directed-broadcast
encapsulation ppp dialer remote-name sphinx dialer pool
2 dialer string 5551000 dialer-group 1 ppp
authentication chap callin ! ip classless ip route
2.2.2.1 255.255.255.255 Dialer1 ip route 2.2.2.1
255.255.255.255 Serial0 no ip http server ! dialer-list
1 protocol ip permit ! line con 0 exec-timeout 0 0
transport input none line aux 0 line vty 0 4 exec-
timeout 0 0 password <password> login ! ntp server
10.200.20.134 end
```

狮身人面象(思科2520路由器)

```
sphinx#show running-config

Building configuration...
Current configuration:
!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname sphinx
!
!
username ramses password <password>
  !-- password is case sensitive and should be the same
  on both sides ! isdn switch-type basic-net3 interface
Loopback1 ip address 2.2.2.1 255.255.255.255 ! interface
Serial0 ip address 3.3.3.2 255.255.255.0 ! interface
BRI0 no ip address no ip directed-broadcast
encapsulation ppp dialer pool-member 2 isdn switch-type
basic-net3 no cdp enable ppp authentication chap callin
! interface Dialer1 ip unnumbered Loopback1 no ip
directed-broadcast encapsulation ppp dialer remote-name
ramses dialer pool 2 dialer-group 1 ppp authentication
chap ! ip classless ip route 1.1.1.1 255.255.255.255
Serial0 ip route 1.1.1.1 255.255.255.255 Dialer1 2
dialer-list 1 protocol ip permit ! line con 0 exec-
timeout 0 0 transport input none line aux 0 line vty 0 4
! end
```

[验证](#)

本部分所提供的信息可用于确认您的配置是否正常工作。

[命令输出解释程序工具](#) ([仅限注册用户](#)) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

- **show isdn status**显示所有ISDN接口或一个特定ISDN接口状况。
- **show interface serial** ? ? ? 显示关于serial interfaces的信息。
- **show interface dialer** ? ? ? 显示关于拨号接口的信息。
- **debug dialer** ? ? ? 显示关于在拨号接口接收的数据包的DDR信息。
- **调试isdn q931**???'Shows呼叫建立并且切断ISDN网络连接(在路由器和ISDN交换机之间的层3)。
- **debug ppp协商** ? ? ? 显示关于PPP流量的信息并且交换，当协商PPP组件包括链路控制协议(LCP)、验证和NCP时。成功的PPP协商将首先开放LCP状态，然后进行验证，最后进行NCP协商。
- **debug ppp authentication** ? ? ? 显示PPP认证协议消息，包括质询验证协议(CHAP)信息包交换和密码认证协议交换。如果观察一失败，请验证CHAP用户名和密码正确地配置。

[故障排除](#)

本部分提供的信息可用于对配置进行故障排除。

[故障排除步骤](#)

遵从这些说明排除故障您的配置：

请使用**show isdn status**命令保证路由器用ISDN交换机适当地通信。在输出中，请验证那：

- 第1层状态是活跃的
- 第2层状态=MULTIPLE_FRAME_ESTABLISHED出现。

此指令也显示活动的呼叫的数量。请看下面的示例：

```
ramses#show isdn status
Global ISDN Switchtype = basic-net3
ISDN BRI0 interface
dsl 0, interface ISDN Switchtype = basic-net3
Layer 1 Status:
ACTIVE
Layer 2 Status:
TEI = 97, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED
Layer 3 Status:
0 Active Layer 3 Call(s)
Activated dsl 0 CCBs = 0
The Free Channel Mask: 0x80000003
Total Allocated ISDN CCBs = 0

ramses#show interface serial 0
Serial0 is up, line protocol is up
Hardware is HD64570
Internet address is 3.3.3.1/24
Backup interface Dialer1, failure delay 10 sec, secondary disable
delay 30 sec
```

```
ramses#show interface dialer 1
```

```
Dialer1 is standby mode, line protocol is down ! --- In standby mode. Hardware is Unknown
```

因为备份接口在备用模式，您在输出看不到此信息show ip route命令中。

请查看在输出中显示出的差异，当曾经管理距离时(AD)使用一个，和，当不。

使用管理距离，当不

使用AD，当不，您看到以下输出：

```
sphinx#show interface dialer 1
```

```
Dialer1 is up (spoofing), line protocol is up (spoofing)
```

```
Hardware is Unknown
```

如果不使用AD在路由器狮身人面象的拨号程序，您看到从show ip route命令的以下输出：

```
sphinx(config)#ip route 1.1.1.1 255.255.255.255 dialer1
```

```
! --- No AD used here. sphinx#show ip route 1.1.1.1
```

```
Routing entry for 1.1.1.1/32
```

```
Known via "static", distance 1, metric 0 (connected)
```

```
Routing Descriptor Blocks:
```

```
* directly connected, via Dialer1
```

```
Route metric is 0, traffic share count is 1
```

```
directly connected, via Serial0
```

```
Route metric is 0, traffic share count is 1
```

ping命令看起来显示的输出类似于以下，因为未命中其中一ping：

```
sphinx#ping 1.1.1.1
```

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

```
Sending 5, 100-byte ICMP Echos to 1.1.1.1, timeout is 2 seconds:
```

```
..!..
```

当曾经管理距离时

当曾经AD时，您看到以下输出：

```
sphinx(config)#ip route 1.1.1.1 255.255.255.255 dialer1 2
```

```
! --- The AD used here is two. sphinx#show ip route 1.1.1.1
```

```
Routing entry for 1.1.1.1/32
```

```
Known via "static", distance 1, metric 0 (connected)
```

```
Routing Descriptor Blocks:
```

```
* directly connected, via Serial0
```

```
Route metric is 0, traffic share count is 1
```

```
sphinx#ping 1.1.1.1
```

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

```
Sending 5, 100-byte ICMP Echos to 1.1.1.1, timeout is 2 seconds:
```

```
!!!!
```

配置并且验证DDR连接(在拨号1和BRI0之间)是工作正常，在您配置备份接口和backup delay命令前。这允许您验证拨号配置文件、ISDN、PPP和验证在配置备份前正确地作用。

一旦验证DDR连接是工作正常，您能继续到如下被概述的以下备份故障排除步骤：

1. 关闭主链路。**注意：**请勿对配置了 **backup interface** 命令的路由器使用 **shutdown** 命令。这不造成Cisco IOS拨号备份链路。通过关闭不带有**backup interface**命令的路由器上的主要接口，您可以激活备份。**注意：**在我们的方案中，**backup interface**命令在ramses (Cisco 2500路由器)配置。所以，执行在主要接口的一**shutdown**命令狮身人面象(思科2520路由器)激活备份链路。**注意：**您能通过拔掉电缆或者使用某个等效方法，为了启动备份接口物理的减少主要连接。
2. 您应该看到一条控制台消息，指明备份接口（接口拨号程序 1）已接通。此消息在间隔时间之后只出现，指定由**backup delay**命令，超时。在此配置中，备份激活延迟为 10 秒。如果未看到此控制台消息，请检查 **backup delay** 计时器。

```
sphinx(config)#ip route 1.1.1.1 255.255.255.255 dialer1 2
! --- The AD used here is two. sphinx#show ip route 1.1.1.1
Routing entry for 1.1.1.1/32
Known via "static", distance 1, metric 0 (connected)
Routing Descriptor Blocks:
* directly connected, via Serial0
Route metric is 0, traffic share count is 1

sphinx#ping 1.1.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.1.1.1, timeout is 2 seconds:
!!!!!
```

3. 使用 **show ip route** 命令来查看主链路关闭时的路由表。您应该直接地观察一已连接路由到拨号1。
4. ping远程路由器的回环接口的IP地址。如果链路不拨号，请验证您的触发数据流定义允许ICMP流量(ping)。**注意：**在我们的示例中，AD两使用路由在路由器狮身人面象(这可以是任何编号除一个之外)。

```
sphinx(config)#ip route 1.1.1.1 255.255.255.255 dialer1 2
! --- The AD used here is two. sphinx#show ip route 1.1.1.1
Routing entry for 1.1.1.1/32
Known via "static", distance 1, metric 0 (connected)
Routing Descriptor Blocks:
* directly connected, via Serial0
Route metric is 0, traffic share count is 1

sphinx#ping 1.1.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.1.1.1, timeout is 2 seconds:
!!!!!
```

注意：对此的原因是，如果主链路是UP，ping的半丢失。因为拨号1和serial0接口是UP，路由为两个接口安装。然而，因为BRI接口不上升，拨号接口不能发送数据包。

故障排除命令

请使用显示的命令在此部分排除故障您的配置。

[命令输出解释程序工具](#)（[仅限注册用户](#)）支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

注意：在发出 **debug** 命令之前，请参阅[有关 Debug 命令的重要信息](#)。

设法对ping 2.2.2.1创建关注数据流：

ramses#ping 2.2.2.1

```
*Mar 1 04:53:26.574: %LINK-3-UPDOWN: Interface Serial0, changed state to down
*Mar 1 04:53:27.574: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0, changed state to down
*Mar 1 04:53:38.590: %LINK-3-UPDOWN: Interface Dialer1, changed state to up
*Mar 1 04:53:38.606: Dil LCP: Not allowed on a Dialer Profile.
*Mar 1 04:53:40.058: BRI0 DDR: rotor dialout [priority]
*Mar 1 04:53:40.062: BRI0 DDR: Dialing cause ip (s=1.1.1.1, d=2.2.2.1)
*Mar 1 04:53:40.066: BRI0 DDR: Attempting to dial 5551000
*Mar 1 04:53:40.078: ISDN BR0: TX -> SETUP pd = 8 callref = 0x0A
*Mar 1 04:53:40.078: Bearer Capability i = 0x8890
*Mar 1 04:53:40.082: Channel ID i = 0x83
*Mar 1 04:53:40.086: Called Party Number i = 0x80, '5551000'
*Mar 1 04:53:40.342: ISDN BR0: RX <- CALL_PROC pd = 8 callref = 0x8A
*Mar 1 04:53:40.346: Channel ID i = 0x89
*Mar 1 04:53:40.834: ISDN BR0: RX <- CONNECT pd = 8 callref = 0x8A
*Mar 1 04:53:40.846: ISDN BR0: TX -> CONNECT_ACK pd = 8 callref = 0x0A
*Mar 1 04:53:40.854: %LINK-3-UPDOWN: Interface BRI0:1, changed state to up
*Mar 1 04:53:40.870: BRI0:1: interface must be fifo queue, force fifo
*Mar 1 04:53:40.874: %DIALER-6-BIND: Interface BRI0:1 bound to profile Dialer1
*Mar 1 04:53:40.882: %ISDN-6-CONNECT: Interface BRI0:1 is now connected to 5551000
*Mar 1 04:53:40.890: BR0:1 PPP: Treating connection as a callout
*Mar 1 04:53:40.890: BR0:1 PPP: Phase is ESTABLISHING, Active Open
*Mar 1 04:53:40.894: BR0:1 PPP: No remote authentication for call-out
*Mar 1 04:53:40.898: BR0:1 LCP: O CONFREQ [Closed] id 18 len 10
*Mar 1 04:53:40.902: BR0:1 LCP: MagicNumber 0xE1BD38B8 (0x0506E1BD38B8)
*Mar 1 04:53:40.930: BR0:1 LCP: I CONFREQ [REQsent] id 22 len 15
*Mar 1 04:53:40.934: BR0:1 LCP: AuthProto CHAP (0x0305C22305)
*Mar 1 04:53:40.938: BR0:1 LCP: MagicNumber 0xEEBCFA2D (0x0506EEBCFA2D)
*Mar 1 04:53:40.942: BR0:1 LCP: O CONFACK [REQsent] id 22 len 15
*Mar 1 04:53:40.946: BR0:1 LCP: AuthProto CHAP (0x0305C22305)
*Mar 1 04:53:40.950: BR0:1 LCP: MagicNumber 0xEEBCFA2D (0x0506EEBCFA2D)
*Mar 1 04:53:40.954: BR0:1 LCP: I CONFACK [ACKsent] id 18 len 10
*Mar 1 04:53:40.954: BR0:1 LCP: MagicNumber 0xE1BD38B8 (0x0506E1BD38B8)
*Mar 1 04:53:40.958: BR0:1 LCP: State is Open
*Mar 1 04:53:40.962: BR0:1 PPP: Phase is AUTHENTICATING, by the peer
*Mar 1 04:53:40.982: BR0:1 CHAP: I CHALLENGE id 9 len 27 from "sphinx"
*Mar 1 04:53:40.986: BR0:1 CHAP: O RESPONSE id 9 len 27 from "ramses"
*Mar 1 04:53:41.046: BR0:1 CHAP: I SUCCESS id 9 len 4
*Mar 1 04:53:41.050: BR0:1 PPP: Phase is UP
*Mar 1 04:53:41.054: BR0:1 IPCP: O CONFREQ [Not negotiated] id 9 len 10
*Mar 1 04:53:41.058: BR0:1 IPCP: Address 1.1.1.1 (0x030601010101)
*Mar 1 04:53:41.062: BR0:1 CDPCP: O CONFREQ [Not negotiated] id 9 len 4
*Mar 1 04:53:41.066: BR0:1 IPCP: I CONFREQ [REQsent] id 6 len 10
*Mar 1 04:53:41.070: BR0:1 IPCP: Address 2.2.2.1 (0x030602020201)
*Mar 1 04:53:41.074: BR0:1 IPCP: O CONFACK [REQsent] id 6 len 10
*Mar 1 04:53:41.078: BR0:1 IPCP: Address 2.2.2.1 (0x030602020201)
*Mar 1 04:53:41.082: BR0:1 CDPCP: I CONFREQ [REQsent] id 9 len 4
*Mar 1 04:53:41.086: BR0:1 CDPCP: O CONFACK [REQsent] id 9 len 4
*Mar 1 04:53:41.110: BR0:1 IPCP: I CONFACK [ACKsent] id 9 len 10
```

```
*Mar 1 04:53:41.110: BR0:1 IPCP: Address 1.1.1.1 (0x030601010101)
*Mar 1 04:53:41.114: BR0:1 IPCP: State is Open
*Mar 1 04:53:41.122: BR0:1 CDPCP: I CONFACK [ACKsent] id 9 len 4
*Mar 1 04:53:41.126: BR0:1 CDPCP: State is Open
*Mar 1 04:53:41.126: BRI0:1 DDR: dialer protocol up
*Mar 1 04:53:41.134: Dil IPCP: Install route to 2.2.2.1
*Mar 1 04:53:42.086: %LINEPROTO-5-UPDOWN: Line protocol on Interface
BRI0:1, changed state to up
*Mar 1 04:53:46.886: %ISDN-6-CONNECT: Interface BRI0:1 is now connected
to 5551000 5551000
```

```
ramses#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 data link layer up
Dial reason: ip (s=1.1.1.1, d=2.2.2.1)
! --- we see dial reason, this is the calling router
Interface bound to profile Dialer1
Time until disconnect 105 secs
Current call connected 00:00:16
Connected to 5551000 (5551000)
```

```
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 idle
```

```
Dialer1 - 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
Number of active circuit switched calls = 0
```

```
Dial String Successes Failures Last DNIS Last status
5551000 5 0 00:00:19 successful
Default
```

```
Dialer2 - dialer type = NONE
Idle timer (120 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Number of active calls = 0
```

```
Dial String Successes Failures Last DNIS Last status
```

```
ramses#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

1.0.0.0/32 is subnetted, 1 subnets
C 1.1.1.1 is directly connected, Loopback1
2.0.0.0/32 is subnetted, 1 subnets
C 2.2.2.1 is directly connected, Dialer1
10.0.0.0/23 is subnetted, 1 subnets
C 10.48.74.0 is directly connected, Ethernet0

sphinx(config)#**interface serial 0**

sphinx(config-if)#**shutdown**

sphinx(config-if)#

*Mar 3 20:07:40.603: %LINK-5-CHANGED: Interface Serial0, changed state to administratively down

*Mar 3 20:07:41.603: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0, changed state to down

*Mar 3 20:07:54.331: ISDN BR0: RX <- SETUP pd = 8 callref = 0x14

*Mar 3 20:07:54.335: Bearer Capability i = 0x8890

*Mar 3 20:07:54.339: Channel ID i = 0x89

*Mar 3 20:07:54.343: Called Party Number i = 0xC1, '5551000'

*Mar 3 20:07:54.355: ISDN BR0: Event: Received a DATA call from <unknown> on B1 at 64 Kb/s

*Mar 3 20:07:54.355: BRI0:1: interface must be fifo queue, force fifo

*Mar 3 20:07:54.363: %DIALER-6-BIND: Interface BRI0:1 bound to profile Dialer1

*Mar 3 20:07:54.383: %LINK-3-UPDOWN: Interface BRI0:1, changed state to up

*Mar 3 20:07:54.403: %ISDN-6-CONNECT: Interface BRI0:1 is now connected to <unknown phone number>

*Mar 3 20:07:54.411: BR0:1 PPP: Treating connection as a callin

*Mar 3 20:07:54.415: BR0:1 PPP: Phase is ESTABLISHING, Passive Open

*Mar 3 20:07:54.415: BR0:1 LCP: State is Listen

*Mar 3 20:07:54.471: %ISDN-6-LAYER2UP: Layer 2 for Interface BR0, TEI 99 changed to up

*Mar 3 20:07:54.479: ISDN BR0: TX -> CALL_PROC pd = 8 callref = 0x94

*Mar 3 20:07:54.687: ISDN BR0: TX -> CONNECT pd = 8 callref = 0x94

*Mar 3 20:07:54.851: ISDN BR0: RX <- CONNECT_ACK pd = 8 callref = 0x14

*Mar 3 20:07:54.939: BR0:1 LCP: I CONFREQ [Listen] id 18 len 10

*Mar 3 20:07:54.939: BR0:1 LCP: MagicNumber 0xE1BD38B8 (0x0506E1BD38B8)

*Mar 3 20:07:54.943: BR0:1 LCP: O CONFREQ [Listen] id 22 len 15

*Mar 3 20:07:54.947: BR0:1 LCP: AuthProto CHAP (0x0305C22305)

*Mar 3 20:07:54.951: BR0:1 LCP: MagicNumber 0xEEBCFA2D (0x0506EEBCFA2D)

*Mar 3 20:07:54.955: BR0:1 LCP: O CONFACK [Listen] id 18 len 10

*Mar 3 20:07:54.959: BR0:1 LCP: MagicNumber 0xE1BD38B8 (0x0506E1BD38B8)

*Mar 3 20:07:54.987: BR0:1 LCP: I CONFACK [ACKsent] id 22 len 15

*Mar 3 20:07:54.987: BR0:1 LCP: AuthProto CHAP (0x0305C22305)

*Mar 3 20:07:54.991: BR0:1 LCP: MagicNumber 0xEEBCFA2D (0x0506EEBCFA2D)

*Mar 3 20:07:54.995: BR0:1 LCP: State is Open

*Mar 3 20:07:54.995: BR0:1 PPP: Phase is AUTHENTICATING, by this end

*Mar 3 20:07:54.999: BR0:1 CHAP: O CHALLENGE id 9 len 27 from "sphinx"

*Mar 3 20:07:55.027: BR0:1 CHAP: I RESPONSE id 9 len 27 from "ramses"

*Mar 3 20:07:55.035: BR0:1 CHAP: O SUCCESS id 9 len 4

*Mar 3 20:07:55.039: BR0:1 PPP: Phase is UP

*Mar 3 20:07:55.043: BR0:1 IPCP: O CONFREQ [Not negotiated] id 6 len 10

*Mar 3 20:07:55.047: BR0:1 IPCP: Address 2.2.2.1 (0x030602020201)

*Mar 3 20:07:55.051: BR0:1 CDPCP: O CONFREQ [Not negotiated] id 9 len 4

*Mar 3 20:07:55.115: BR0:1 IPCP: I CONFREQ [REQsent] id 9 len 10

```
*Mar 3 20:07:55.119: BR0:1 IPCP: Address 1.1.1.1 (0x030601010101)
*Mar 3 20:07:55.123: BR0:1 IPCP: O CONFACK [REQsent] id 9 len 10
*Mar 3 20:07:55.127: BR0:1 IPCP: Address 1.1.1.1 (0x030601010101)
*Mar 3 20:07:55.131: BR0:1 CDPCP: I CONFREQ [REQsent] id 9 len 4
*Mar 3 20:07:55.135: BR0:1 CDPCP: O CONFACK [REQsent] id 9 len 4
*Mar 3 20:07:55.139: BR0:1 IPCP: I CONFACK [ACKsent] id 6 len 10
*Mar 3 20:07:55.143: BR0:1 IPCP: Address 2.2.2.1 (0x030602020201)
*Mar 3 20:07:55.147: BR0:1 IPCP: State is Open
*Mar 3 20:07:55.151: BR0:1 CDPCP: I CONFACK [ACKsent] id 9 len 4
*Mar 3 20:07:55.155: BR0:1 CDPCP: State is Open
*Mar 3 20:07:55.159: BRI0:1 DDR: dialer protocol up
*Mar 3 20:07:55.167: Dil IPCP: Install route to 1.1.1.1
*Mar 3 20:07:56.039: %LINEPROTO-5-UPDOWN: Line protocol on Interface
BRI0:1, changed state to up
*Mar 3 20:08:00.411: %ISDN-6-CONNECT: Interface BRI0:1 is now connected
to <unknown phone number> ramses
```

```
sphinx#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 data link layer up
Interface bound to profile Dialer1
Time until disconnect 95 secs
Connected to <unknown phone number> (ramses)
```

```
! --- We see ramses. 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 idle Dialer1 - 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 Number of
active circuit switched calls = 0 Dial String Successes Failures Last DNIS Last status
sphinx#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
```

```
1.0.0.0/32 is subnetted, 1 subnets
C 1.1.1.1 is directly connected, Dialer1
2.0.0.0/32 is subnetted, 1 subnets
C 2.2.2.1 is directly connected, Loopback1
sphinx#
```

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