使用 BRI 和 Backup Interface 命令实现 DDR 备份

目录

简介

此配置展示使用综合业务数字网络(ISDN)基本速率接口(BRI)线路备份一租用的线路连接。到主要接口断开之时， **backup interface命令**放置指定的接口到*备用模式*。关于备份接口的功能的更多信息，参考评估备份接口、浮动静态路由和Dialer Watch DDR备份的。

先决条件

要求

推荐您参考配置和故障排除DDR备份文件欲知更多信息。

使用的组件

在此方案中我们有一Cisco 1604路由器连接对在串行连接间的一个Cisco 3640路由器。两路由器也配备有BRI接口，使用备份链路。Cisco 1604运行Cisco IOS软件Release12.1(5)T，并且Cisco 3640使用Cisco IOS 12.1(2)。

注意： 概念在此配置方面在所有路由器可以使用与BRI和广域网接口。

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

背景理论

此示例使用传统按需拨号路由(DDR)，使用**dialer map命令**BRI连接。您能也使用拨号配置文件而不是传统DDR。关于参考的拨号配置文件的更多信息配置与拨号配置文件的ISDN DDR。

配置DDR备份介入二不同步骤：

1. 配置DDR以传统DDR或拨号配置文件。在实施备份配置前验证您的DDR连接正常工作。
2. 当主链路发生故障时，请配置路由器首次DDR连接。此配置使用备份接口触发拨出。参考的评估备份接口、浮动静态路由和Dialer Watch DDR备份的欲知更多信息关于其它选项。

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。

注意： 要寻找关于用于本文的指令的其他信息，请使用命令查找工具

网络图

本文档使用下图所示的网络设置。

配置

本文档使用如下所示的配置。

- maui-soho-01 (1600)
- maui-nas-05 (3640)

此配置使用一个BRI电路备份串行链路。此配置也使用在两路由器之间的开放最短路径优先(OSPF)路由协议。一旦备用连接激活，您必须保证路由表更新使用新的备份路由。

注意： 关于命令规则的更多信息，请参阅Cisco技术提示规则。

maui-soho-01 (1600)

```
maui-soho-01#show running-config
Building configuration...

Current configuration : 1720 bytes
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
```

```
!
hostname maui-soho-01
!
aaa new-model
aaa authentication login default local
aaa authentication login NO_AUTHEN none
aaa authentication ppp default if-needed local
!--- This is basic aaa configuration for PPP calls.
enable secret 5 <deleted> ! username admin password 7
<deleted> username maui-nas-05 password 7 <deleted> !---
Username for remote router (maui-nas-05) and shared
secret !--- (used for CHAP authentication). Shared
secret must be the same on both sides. ip subnet-zero no
ip finger ! isdn switch-type basic-ni ! interface
Loopback0 ip address 172.17.1.1 255.255.255.0 !
interface Ethernet0 ip address 172.16.1.1 255.255.255.0
! interface Serial0 backup delay 10 30 !--- Backup link
is activated 10 seconds after primary link goes down. !-
-- Backup link is deactivated 30 seconds after primary
link is restored. backup interface BRI0 !--- BRI0 will
backup interface serial 0. ip address 192.168.10.2
255.255.255.252 encapsulation ppp no ip mroute-cache no
fair-queue ! interface BRI0 ip address 172.20.10.2
255.255.255.0 !--- IP address for the BRI interface
(backup link). encapsulation ppp dialer idle-timeout 900
!--- Idle timeout(in seconds)for this link. dialer map
ip 172.20.10.1 name maui-nas-05 broadcast 5551111 dialer
map ip 172.20.10.1 name maui-nas-05 broadcast 5551112 !-
-- Dialer maps for remote destination. !--- The 2
different phone numbers correspond to the b-channels of
the remote side. dialer load-threshold 1 outbound !---
Load level for traffic at which additional connections
!--- will be added to the MPPP bundle. !--- Load level
values range from 1 (unloaded) to 255 (fully loaded).
dialer-group 1 !--- Apply interesting traffic definition
from dialer-list 1. isdn switch-type basic-ni isdn spid1
51299699380101 9969938 isdn spid2 51299699460101 9969946
ppp authentication chap !--- Use CHAP authentication.
ppp multilink !--- Use multilink to bring up both BRI
channels. ! router ospf 5 !--- OSPF configuration. If
you use a different protocol !--- configure that here.
Make sure to include the BRI network in the RP. log-
adjacency-changes network 172.16.0.0 0.0.255.255 area 0
network 172.17.0.0 0.0.255.255 area 0 network
172.20.10.0 0.0.0.255 area 0 network 192.168.10.0
0.0.0.3 area 0 ! ip classless no ip http server !
access-list 101 remark Interesting traffic definition
for backup link access-list 101 permit ip any any !---
Interesting traffic definition. If you do not want OSPF
to bring up !--- the link, then mark it uninteresting.
dialer-list 1 protocol ip list 101 !--- Interesting
traffic is applied to BRI0 using dialer-group 1. ! line
con 0 exec-timeout 0 0 login authentication NO_AUTHEN
transport input none line vty 0 4 ! end !
```

验证下列问题在客户端里毛伊SOHO的配置01(1600) ：

- 使用环回地址。使用这，因此OSPF的路由器ID不会更改，并且备份链路能设立对等体，当激活时。
- 拨号负载门限值是集合低。如果不需要128k多链路备用连接，此值可以更改。
- 任何 IP 流量都将触发拨号（基于 dialer-list 1 和 dialer-group 1）。因为备份链路要求触发数据

流拨通备份链路，以验证您有生成触发数据流的数据流源。在本示例中，OSPF hello 数据包将触发拨号。如果您没有使用路由协议，您可以使用ICMP Ping来拨打备份链路。根据需要来调节相关流量。

- 使用OSPF。您能使用您希望的所有路由协议。请确保主要接口和备用接口主网络在路由协议包括。如果希望使用静态路由而不是路由协议，请创建有是的下一跳的静态路由远程BRI接口(您可以必须根据方案做它浮动静态路由)。

maui-nas-05 (3640)

```
maui-nas-05#show running-config
Building configuration...

Current configuration:
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname maui-nas-05
!
aaa new-model
aaa authentication login default local
aaa authentication login NO_AUTHEN none
aaa authentication ppp default if-needed local
!--- Basic AAA configuration for PPP calls. enable
secret 5 <deleted> ! username admin password 7 <deleted>
username maui-soho-01 password 7 <deleted> !--- Username
for remote router (maui-soho-01) and shared secret !---
(used for CHAP authentication). The shared secret must
be the same on both sides. ! ip subnet-zero ! isdn
switch-type basic-ni ! interface Loopback0 ip address
172.22.1.1 255.255.255.0 ! interface Ethernet0/0 no ip
address shutdown ! interface Ethernet0/1 no ip address
shutdown ! interface BRI1/0 ip address 172.20.10.1
255.255.255.0 !--- IP address for the BRI interface
(backup link). encapsulation ppp dialer idle-timeout 900
dialer map ip 172.20.10.2 name maui-soho-01 broadcast !-
-- Dialer map for remote destination. !--- The name
should match the authentication username provided by the
remote side. !--- Even though this router is not dialing
out, the dialer map statement !--- should be used.
dialer-group 1 !--- Apply interesting traffic defined in
dialer-list 1. isdn switch-type basic-ni isdn spid1
51255511110101 5551111 isdn spid2 51255511120101 5551112
ppp authentication chap ppp multilink !--- Use multilink
to bring up both B-channels. ! !--- Output removed. !
interface Serial2/0 ip address 192.168.10.1
255.255.255.252 encapsulation ppp no fair-queue
clockrate 64000 ! !--- Output removed. ! router ospf 5
network 172.20.10.0 0.0.0.255 area 0 network 172.22.1.0
0.0.0.255 area 0 network 192.168.10.0 0.0.0.3 area 0 !
ip classless no ip http server ! dialer-list 1 protocol
ip any !--- This defines all IP traffic as interesting.
! Line con 0 login authentication NO_AUTHEN transport
input none line 97 102 line AUX 0 line vty 0 4 ! end
```

在服务器 maui-nas-05 (3640) 的配置中，验证以下几点：

- 远程站点的一个拨号映射语句配置。一个不正确拨号映射语句能导致在已连接备份链路的路由

问题。
- 所有IP数据流定义作为有趣的。这将重置空闲超时并且保持连接，直到主要的恢复。如果不需要将被固定的备份链路，您能更改此。

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。

输出解释器工具支持某些 **show** 命令（只限于注册用户），通过它可以查看 show 命令输出的分析。

- **show interface bri0** -这指示BRI接口是否是UP。如果主链路是UP， BRI接口在*待机*。只有当主链路断开BRI接口将是UP。
- **show isdn status** -请使用此保证路由器用ISDN交换机适当地通信。在输出中，验证第1层状态是否为活跃状态，是否第2层状态=MULTIPLE_FRAME_ESTABLISHED出现。此指令也显示活动的呼叫的数量。

show ip route 输出示例

客户端的路由表， maui-soho-01 (1600)，与主链路作用如下所示：

```
maui-soho-01#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

     192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.10.0/30 is directly connected, Serial0
C       192.168.10.1/32 is directly connected, Serial0
     172.17.0.0/24 is subnetted, 1 subnets
C       172.17.1.0 is directly connected, Loopback0
     172.16.0.0/24 is subnetted, 1 subnets
C       172.16.1.0 is directly connected, Ethernet0
     172.20.0.0/24 is subnetted, 1 subnets
O       172.20.10.0 [110/1626] via 192.168.10.1, 00:00:22, Serial0
     172.22.0.0/32 is subnetted, 1 subnets
O       172.22.1.1 [110/65] via 192.168.10.1, 00:00:23, Serial0
```

显示的**show ip route**输出如上，显示从使用主链路(serial0)的对等体的OSPF获知的路由。现在我们减少主链路并且激活备份链路。

注意： 发出在主要接口的**shutdown命令不会**造成备份BRI拨号。如果发出**shutdown命令**减少主要连接， Cisco IOS软件不会自动地启动备用连接。您必须通过拔掉电缆或某个等效方法为了启动备份接口物理的减少主要连接。

在备份链路被激活了后， OSPF表交换，并且新的路由使用备份链路安装。此时，流量将流过备份链路。此命令示例如下：

```
maui-soho-01#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

     172.17.0.0/24 is subnetted, 1 subnets
C       172.17.1.0 is directly connected, Loopback0
     172.16.0.0/24 is subnetted, 1 subnets
C       172.16.1.0 is directly connected, Ethernet0
     172.20.0.0/16 is variably subnetted, 2 subnets, 2 masks
C       172.20.10.0/24 is directly connected, BRI0
C       172.20.10.1/32 is directly connected, BRI0
     172.22.0.0/32 is subnetted, 1 subnets
O       172.22.1.1 [110/1563] via 172.20.10.1, 00:00:22, BRI0
```

Show interface 输出示例

如果LCP、ICP和多链路相位PPP顺利地通过， **show interface命令**准许验证。

```
maui-soho-01#show interface BRI 0
    BRI0 is up, line protocol is up
     Hardware is BRI with U interface and external S bus interface
     Internet address is 172.20.10.2, subnet mask is 255.255.255.0
     MTU 1500 bytes, BW 256 Kbit, DLY 100000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
     Encapsulation PPP, loopback not set
     DTR is pulsed for 5 seconds on reset
     LCP Open, multilink Open
     Open: IPCP
   ........................
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

故障排除命令

输出解释器工具支持某些 **show** 命令（只限于注册用户），通过它可以查看 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。

- **debug dialer** -这用于发现按需拨号路由信息。
- **debug isdn events** - 用于查看发生在ISDN接口用户端上的ISDN活动。
- **debug isdn q931** -这表示呼叫建立并且切断ISDN网络连接(层3)和可以用于隔离问题。
- **debug ppp协商**-这显示关于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)、验证和网络控制协议时(NCP)。成功的PPP协商将打开LCP状态，然后首先验证和终于

协商NCP。

- **debug ppp authentication** -这显示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。如果您发现故障，则请验证是否正确配置了 CHAP 用户名和口令。
- **debug ppp error** -这显示协议错误和错误统计信息关联与PPP连接协商和操作。

调试输出示例

关于故障排除的信息DDR备份参考配置和故障排除DDR备份文件。

以下debug输出生成使用以前描述的调试。输出显示主链路失败和备份链路激活：

```
*Mar  1 03:37:42.350: %LINK-3-UPDOWN: Interface Serial0, changed state to down
!--- Primary Link is unplugged. *Mar 1 03:37:42.358: Se0 IPCP: State is Closed *Mar 1
03:37:42.362: Se0 CDPCP: State is Closed *Mar 1 03:37:42.366: Se0 PPP: Phase is TERMINATING [0
sess, 1 load] *Mar 1 03:37:42.370: Se0 LCP: State is Closed *Mar 1 03:37:42.370: Se0 PPP: Phase
is DOWN [0 sess, 1 load] *Mar 1 03:37:42.386: Se0 IPCP: Remove route to 192.168.10.1 *Mar 1
03:37:42.394: %OSPF-5-ADJCHG: Process 5, Nbr 172.22.1.1 on Serial0 from FULL to DOWN, Neighbor
Down: Interface down or detached *Mar 1 03:37:43.358: %LINEPROTO-5-UPDOWN: Line protocol on
Interface Serial0, changed state to down *Mar 1 03:37:52.302: %LINK-3-UPDOWN: Interface BRI0:1,
changed state to down
!--- The backup interface is changed to from "standby" to "down". !--- The backup interface was
activated 10 seconds after the primary link !--- went down. !--- This interval was defined with
the backup delay command in maui-soho-01 !--- (the 1600). *Mar 1 03:37:52.306: BR0:1 LCP: State
is Closed *Mar 1 03:37:52.310: BR0:1 DDR: disconnecting call *Mar 1 03:37:52.314: %LINK-3-
UPDOWN: Interface BRI0:2, changed state to down *Mar 1 03:37:52.318: BR0:2 LCP: State is Closed
*Mar 1 03:37:52.322: BR0:2 DDR: disconnecting call *Mar 1 03:37:52.417: %LINK-3-UPDOWN:
Interface BRI0, changed state to up *Mar 1 03:37:52.477: ISDN BR0: Event: Syncing Discards: L2
Discards 4, L2D_Task Counter 2 *Mar 1 03:37:52.489: BR0 DDR: Dialing cause ip (s=172.20.10.2,
d=224.0.0.5)
!--- OSPF hellos cause the router to dial. *Mar 1 03:37:52.493: BR0 DDR: Attempting to dial
5551111 !--- This is the phone number of the remote router that is dialed. *Mar 1 03:37:54.477:
ISDN BR0: Event: Syncing Discards: L2 Discards 4, L2D_Task Counter 3 *Mar 1 03:37:56.528: %ISDN-
6-LAYER2UP: Layer 2 for Interface BR0, TEI 112 changed to up *Mar 1 03:37:56.556: ISDN BR0: TX -
> INFORMATION pd = 8 callref = (null) SPID Information i = '51299699380101' *Mar 1 03:37:56.627:
ISDN BR0: TX -> SETUP pd = 8 callref = 0x1F *Mar 1 03:37:56.635: Bearer Capability i = 0x8890
*Mar 1 03:37:56.643: Channel ID i = 0x83 *Mar 1 03:37:56.651: Keypad Facility i = '5551111' *Mar
1 03:37:56.667: ISDN BR0: RX <- INFORMATION pd = 8 callref = (null) ENDPOINT IDent i = 0x8081
*Mar 1 03:37:56.703: ISDN BR0: Received EndPoint ID *Mar 1 03:37:56.738: ISDN BR0: RX <-
INFORMATION pd = 8 callref = (null) Locking Shift to Codeset 5 *Mar 1 03:37:56.750: Codeset 5 IE
0x2A i = 0x808001, 'P' *Mar 1 03:37:56.857: %ISDN-6-LAYER2UP: Layer 2 for Interface BR0, TEI 65
changed to up *Mar 1 03:37:56.881: ISDN BR0: TX -> INFORMATION pd = 8 callref = (null) SPID
Information i = '51299699460101' *Mar 1 03:37:56.917: ISDN BR0: RX <- CALL_PROC pd = 8 callref =
0x9F *Mar 1 03:37:56.925: Channel ID i = 0x89 *Mar 1 03:37:56.949: ISDN BR0: RX <- INFORMATION
pd = 8 callref = (null) ENDPOINT IDent i = 0x8181 *Mar 1 03:37:56.984: ISDN BR0: Received
Endpoint ID *Mar 1 03:37:57.175: ISDN BR0: RX <-  CONNECT pd = 8  callref = 0x9F
!--- The call is connected. *Mar 1 03:37:57.199: %LINK-3-UPDOWN: Interface BRI0:1, changed state
to up *Mar 1 03:37:57.218: BR0:1 PPP: Treating connection as a callout !--- PPP negotiation
begins. *Mar 1 03:37:57.222: BR0:1 PPP: Phase is ESTABLISHING, Active Open
   [0 sess, 1 load]
*Mar  1 03:37:57.230: BR0:1 LCP: O CONFREQ [Closed] id 18 len 34
*Mar  1 03:37:57.234: BR0:1 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 03:37:57.242: BR0:1 LCP:    MagicNumber 0x1144F392 (0x05061144F392)
*Mar  1 03:37:57.246: BR0:1 LCP:    MRRU 1524 (0x110405F4)
*Mar  1 03:37:57.250: BR0:1 LCP:    EndpointDisc 1 Local
   (0x130F016D6175692D736F686F2D3031)
*Mar  1 03:37:57.262: ISDN BR0: TX ->  CONNECT_ACK pd = 8  callref = 0x1F
*Mar  1 03:37:57.282: BR0:1 LCP: I CONFREQ [REQsent] id 43 Len 33
*Mar  1 03:37:57.286: BR0:1 LCP:    AuthProto CHAP (0x0305C22305)
*Mar  1 03:37:57.294: BR0:1 LCP:    MagicNumber 0x363030C5 (0x0506363030C5)
```

*Mar 1 03:37:57.298: BR0:1 LCP: MRRU 1524 (0x110405F4)
*Mar 1 03:37:57.302: BR0:1 LCP: EndpointDisc 1 Local
   (0x130E016D6175692D6E61732D3035)
*Mar 1 03:37:57.310: BR0:1 LCP: O CONFACK [REQsent] id 43 Len 33
*Mar 1 03:37:57.314: BR0:1 LCP: AuthProto CHAP (0x0305C22305)
*Mar 1 03:37:57.318: BR0:1 LCP: MagicNumber 0x363030C5 (0x0506363030C5)
*Mar 1 03:37:57.326: BR0:1 LCP: MRRU 1524 (0x110405F4)
*Mar 1 03:37:57.330: BR0:1 LCP: EndpointDisc 1 Local
   (0x130E016D6175692D6E61732D3035)
*Mar 1 03:37:57.341: BR0:1 LCP: I CONFACK [ACKsent] id 18 Len 34
*Mar 1 03:37:57.345: BR0:1 LCP: AuthProto CHAP (0x0305C22305)
*Mar 1 03:37:57.349: BR0:1 LCP: MagicNumber 0x1144F392 (0x05061144F392)
*Mar 1 03:37:57.353: BR0:1 LCP: MRRU 1524 (0x110405F4)
*Mar 1 03:37:57.361: BR0:1 LCP: EndpointDisc 1 Local
   (0x130F016D6175692D736F686F2D3031)
*Mar 1 03:37:57.365: BR0:1 LCP: State is Open
*Mar 1 03:37:57.369: BR0:1 PPP: Phase is AUTHENTICATING, by both
   [0 sess, 1 load]
 !--- PPP authentication begins. *Mar 1 03:37:57.373: BR0:1 CHAP: O CHALLENGE id 17 Len 33 from "**maui-soho-01**"
 !--- The username for CHAP is challenge. The remote router must have this !--- username configured along with it's shared secret password. *Mar 1 03:37:57.381: BR0:1 CHAP: I CHALLENGE id 30 Len 32 from "maui-nas-05" *!--- The incoming username for CHAP is challenge. !--- This username must be locally configured.* *Mar 1 03:37:57.397: BR0:1 CHAP: O RESPONSE id 30 Len 33 from "maui-soho-01" *Mar 1 03:37:57.425: BR0:1 CHAP: I SUCCESS id 30 Len 4 *Mar 1 03:37:57.433: BR0:1 CHAP: I RESPONSE id 17 Len 32 from "maui-nas-05" *Mar 1 03:37:57.445: BR0:1 CHAP: O SUCCESS id 17 Len 4 *!--- CHAP authentication is successful.* *Mar 1 03:37:57.453: BR0:1 PPP: Phase is VIRTUALIZED [0 sess, 1 load] *Mar 1 03:37:57.460: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load] *Mar 1 03:37:57.480: BR0:1 IPCP: Packet buffered while building MLP bundle interface *Mar 1 03:37:57.484: BR0:1 CDPCP: Packet buffered while building MLP bundle interface *Mar 1 03:37:57.488: %LINK-3-UPDOWN: Interface **Virtual-Access1**,
   changed state to up
!--- Virtual Access Interface is created for the multilink !--- (2 b-channel) connection. *Mar 1 03:37:57.496: Vi1 DDR: Dialer statechange to up *Mar 1 03:37:57.500: Vi1 DDR: Dialer call has been placed *Mar 1 03:37:57.504: Vi1 PPP: Treating connection as a callout *Mar 1 03:37:57.508: Vi1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 1 load] *Mar 1 03:37:57.516: Vi1 LCP: O CONFREQ [Closed] id 1 Len 34 *Mar 1 03:37:57.520: Vi1 LCP: AuthProto CHAP (0x0305C22305) *Mar 1 03:37:57.524: Vi1 LCP: MagicNumber 0x1144F4B0 (0x05061144F4B0) *Mar 1 03:37:57.528: Vi1 LCP: MRRU 1524 (0x110405F4) *Mar 1 03:37:57.536: Vi1 LCP: EndpointDisc 1 Local (0x130F016D6175692D736F686F2D3031) *Mar 1 03:37:57.548: Vi1 PPP: Phase is UP [0 sess, 1 load] *Mar 1 03:37:57.556: Vi1 IPCP: O CONFREQ [Closed] id 1 Len 10 *Mar 1 03:37:57.560: Vi1 IPCP: Address 172.20.10.2 (0x0306AC140A02) *Mar 1 03:37:57.572: Vi1 CDPCP: O CONFREQ [Closed] id 1 Len 4 *Mar 1 03:37:57.576: BR0:1 MLP: maui-nas-05, multilink up, first link *Mar 1 03:37:57.580: Vi1 PPP: Pending ncpQ size is 2 *Mar 1 03:37:57.583: BR0:1 IPCP: Redirect packet to Vi1 *Mar 1 03:37:57.587: Vi1 IPCP: I CONFREQ [REQsent] id 1 Len 10 *Mar 1 03:37:57.591: Vi1 IPCP: Address 172.20.10.1 (0x0306AC140A01) *Mar 1 03:37:57.599: Vi1 IPCP: O CONFACK [REQsent] id 1 Len 10 *Mar 1 03:37:57.603: Vi1 IPCP: Address 172.20.10.1 (0x0306AC140A01) *Mar 1 03:37:57.607: BR0:1 CDPCP: Redirect packet to Vi1 *Mar 1 03:37:57.611: Vi1 CDPCP: I CONFREQ [REQsent] id 1 Len 4 *Mar 1 03:37:57.615: Vi1 CDPCP: O CONFACK [REQsent] id 1 Len 4 *Mar 1 03:37:57.623: Vi1 IPCP: I CONFACK [ACKsent] id 1 Len 10 *Mar 1 03:37:57.631: Vi1 IPCP: Address 172.20.10.2 (0x0306AC140A02) *Mar 1 03:37:57.635: **Vi1 IPCP: State is Open**
!--- IPCP state is open and route will be installed. *Mar 1 03:37:57.643: Vi1 CDPCP: I CONFACK [ACKsent] id 1 Len 4 *Mar 1 03:37:57.643: Vi1 CDPCP: State is Open *Mar 1 03:37:57.651: Vi1 DDR: dialer protocol up *Mar 1 03:37:57.663: BR0 IPCP: Install route to 172.20.10.1 *Mar 1 03:37:58.072: BR0 DDR: **Attempting to dial 5551111**
!--- Router is dialing. *Mar 1 03:37:58.199: ISDN BR0: TX -> SETUP pd = 8 callref = 0x20 *Mar 1 03:37:58.206: Bearer Capability i = 0x8890 *Mar 1 03:37:58.218: Channel ID i = 0x83 *Mar 1 03:37:58.226: Keypad Facility i = '5551111' *Mar 1 03:37:58.445: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0:1, changed state to up *Mar 1 03:37:58.512: ISDN BR0: RX <- CALL_PROC pd = 8 callref = 0xA0 *Mar 1 03:37:58.524: Channel ID i = 0x8A *Mar 1 03:37:58.548: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1, changed state to up *Mar 1 03:37:58.599: BR0:1 LCP: I ECHOREQ [Open] id 1 Len 12 magic 0x363030C5 *Mar 1 03:37:58.603: BR0:1 LCP: O ECHOREP [Open] id 1 Len 12 magic 0x1144F392 *Mar 1 03:37:58.746: ISDN BR0: RX <- CONNECT pd = 8 callref = 0xA0 *Mar 1 03:37:58.774: %LINK-3-UPDOWN: Interface BRI0:2, changed state to up *Mar 1

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03:37:58.786: %ISDN-6-CONNECT: Interface BRI0:1 is now connected to 5551111 maui-nas-05 *Mar 1
03:37:58.794: BR0:2 PPP: Treating connection as a callout *Mar 1 03:37:58.798: BR0:2 PPP: Phase
is ESTABLISHING, Active Open [0 sess, 0 load] *Mar 1 03:37:58.810: BR0:2 LCP: O CONFREQ [Closed]
id 16 Len 34 *Mar 1 03:37:58.814: BR0:2 LCP: AuthProto CHAP (0x0305C22305) *Mar 1 03:37:58.818:
BR0:2 LCP: MagicNumber 0x1144F9C9 (0x05061144F9C9) *Mar 1 03:37:58.821: BR0:2 LCP: MRRU 1524
(0x110405F4) *Mar 1 03:37:58.825: BR0:2 LCP: EndpointDisc 1 Local
(0x130F016D6175692D736F686F2D3031) *Mar 1 03:37:58.837: ISDN BR0: TX -> CONNECT_ACK pd = 8
callref = 0x20 *Mar 1 03:37:58.861: BR0:2 LCP: I CONFREQ [REQsent] id 33 Len 33 *Mar 1
03:37:58.865: BR0:2 LCP: AuthProto CHAP (0x0305C22305) *Mar 1 03:37:58.869: BR0:2 LCP:
MagicNumber 0x363036F1 (0x0506363036F1) *Mar 1 03:37:58.873: BR0:2 LCP: MRRU 1524 (0x110405F4)
*Mar 1 03:37:58.877: BR0:2 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3035) *Mar 1
03:37:58.889: BR0:2 LCP: O CONFACK [REQsent] id 33 Len 33 *Mar 1 03:37:58.893: BR0:2 LCP:
AuthProto CHAP (0x0305C22305) *Mar 1 03:37:58.897: BR0:2 LCP: MagicNumber 0x363036F1
(0x0506363036F1) *Mar 1 03:37:58.901: BR0:2 LCP: MRRU 1524 (0x110405F4) *Mar 1 03:37:58.905:
BR0:2 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3035) *Mar 1 03:37:58.917: BR0:2 LCP:
I CONFACK [ACKsent] id 16 Len 34 *Mar 1 03:37:58.921: BR0:2 LCP: AuthProto CHAP (0x0305C22305)
*Mar 1 03:37:58.929: BR0:2 LCP: MagicNumber 0x1144F9C9 (0x05061144F9C9) *Mar 1 03:37:58.933:
BR0:2 LCP: MRRU 1524 (0x110405F4) *Mar 1 03:37:58.937: BR0:2 LCP: EndpointDisc 1 Local
(0x130F016D6175692D736F686F2D3031) *Mar 1 03:37:58.941: BR0:2 LCP: State is Open *Mar 1
03:37:58.945: BR0:2 PPP: Phase is AUTHENTICATING, by both [0 sess, 0 load] *Mar 1 03:37:58.952:
BR0:2 CHAP: O CHALLENGE id 15 Len 33 from "maui-soho-01" *Mar 1 03:37:58.956: BR0:2 CHAP: I
CHALLENGE id 22 Len 32 from "maui-nas-05" *Mar 1 03:37:58.976: BR0:2 CHAP: O RESPONSE id 22 Len
33 from "maui-soho-01" *Mar 1 03:37:59.008: BR0:2 CHAP: I SUCCESS id 22 Len 4
*Mar  1 03:37:59.012: BR0:2 CHAP: I RESPONSE id 15 Len 32 from "maui-nas-05"
*Mar  1 03:37:59.028: BR0:2 CHAP: O SUCCESS id 15 Len 4
!--- Authentication (for the 2nd call) is successful. *Mar 1 03:37:59.036: BR0:2 PPP: Phase is
VIRTUALIZED [0 sess, 0 load] *Mar 1 03:37:59.044: BR0:2 MLP: maui-nas-05, multilink up *Mar 1
03:38:00.036: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0:2, changed state to up *Mar 1
03:38:02.555: %OSPF-5-ADJCHG: Process 5, Nbr 172.22.1.1 on BRI0 from LOADING to FULL, Loading
Done *Mar 1 03:38:04.742: %ISDN-6-CONNECT: Interface BRI0:2 is now connected to
   5551111 maui-nas-05
!--- Second B-channel (BRI0:2) is connected. *Mar 1 03:38:08.599: BR0:1 LCP: I ECHOREQ [Open] id
2 Len 12 magic 0x363030C5 *Mar 1 03:38:08.603: BR0:1 LCP: O ECHOREP [Open] id 2 Len 12 magic
0x1144F392 maui-soho-01#
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相关信息

- DDR 备份的配置与故障排除
- 用于 DDR 备份的备份接口、浮动静态路由与 Dialer Watch 的比较
- 使用 show isdn status 命令用于 BRI 故障排除
- 技术支持 - Cisco Systems