

# Configuration de la redondance IPSec sur RNIS à l'aide de Dialer Watch

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## [Introduction](#)

Ce document fournit un exemple de configuration pour chiffrer le trafic du réseau derrière le routeur 1 vers le réseau derrière le routeur 2 (les 0 de bouclage sont utilisés comme réseaux dans cet exemple). Si la liaison principale (Ethernet) entre le routeur 1 et le routeur 2 tombe en panne, le trafic de sécurité IP (IPSec) continue de transiter par la liaison secondaire (RNIS). Il existe plusieurs moyens d'atteindre cet objectif ; vous pouvez utiliser dialer watch, l'interface de sauvegarde, le circuit de demande et l'interface statique flottante. Cet exemple de configuration illustre le mécanisme de surveillance du numéroteur. Pour plus d'informations sur d'autres fonctionnalités, référez-vous à [Évaluation des interfaces de sauvegarde, des routes statiques flottantes et à Surveillance du numéroteur pour la sauvegarde DDR](#).

## [Conditions préalables](#)

### [Conditions requises](#)

Aucune spécification déterminée n'est requise pour ce document.

### [Components Used](#)

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

- Routeurs Cisco 2621 et 3640
- Logiciel Cisco IOS® Version 12.3(3)

Les informations présentées dans ce document ont été créées à partir de périphériques dans un environnement de laboratoire spécifique. All of the devices used in this document started with a cleared (default) configuration. Si votre réseau est actif, assurez-vous de bien comprendre l'incidence potentielle de chaque commande avant de l'utiliser.

## Conventions

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

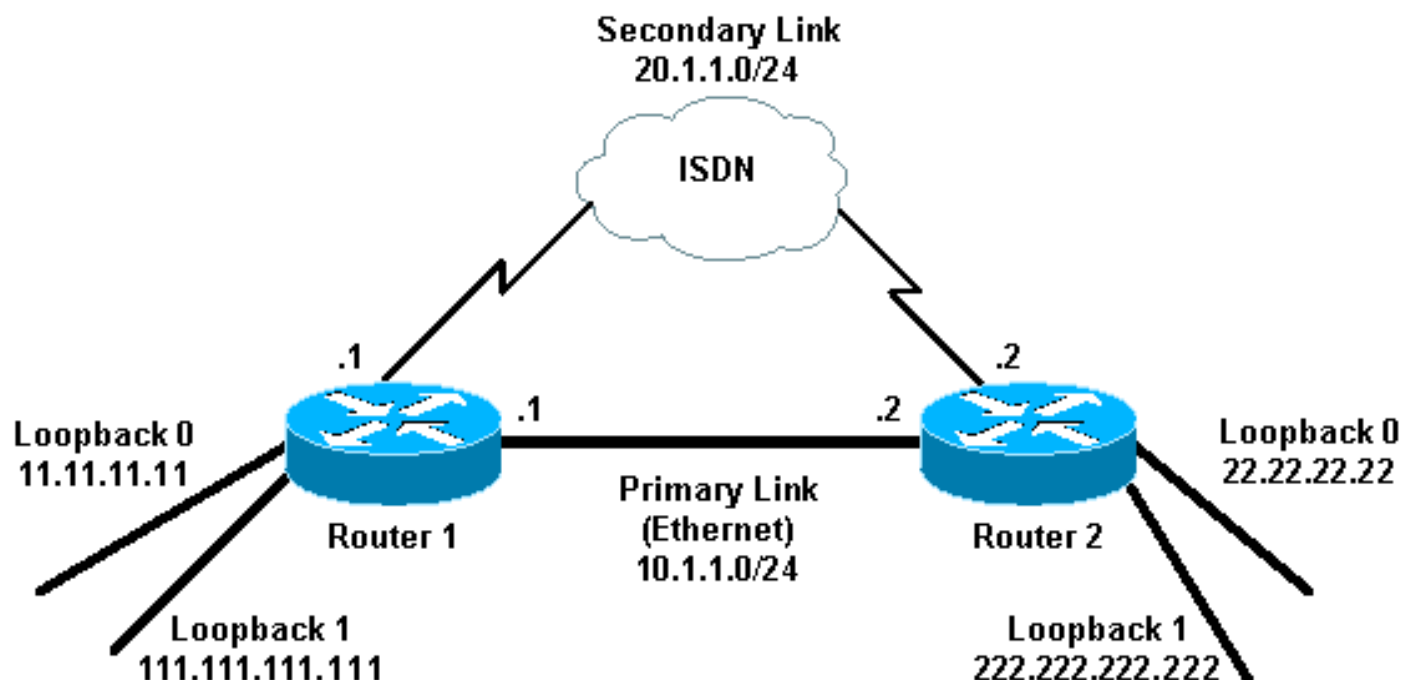
## Configuration

Cette section vous fournit des informations pour configurer les fonctionnalités décrites dans ce document.

**Remarque :** Pour en savoir plus sur les commandes utilisées dans le présent document, utilisez [l'outil de recherche de commandes](#) (clients [inscrits](#) seulement).

## Diagramme du réseau

Ce document utilise la configuration réseau présentée dans le schéma ci-dessous :



## Configurations

Ce document utilise les configurations indiquées ici:

- [Routeur 1 \(2621\)](#)
- [Routeur 2 \(3640\)](#)

Routeur 1 (2621)
------------------

```

r1#show running-config
Building configuration...

Current configuration : 2244 bytes
!
version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname r1
!
boot-start-marker
boot-end-marker
!
!
username r2 password 0 cisco
!--- This is the username for remote router (Router 2)
!--- and shared secret. Shared secret (used for
Challenge Handshake !--- Authentication Protocol [CHAP])
must be the same on both sides.
no aaa new-model
ip subnet-zero
ip tcp synwait-time 5
! ! no ip domain lookup
! ip audit notify log ip audit po max-events 100
ip ssh break-string
no ftp-server write-enable
! ! !
crypto isakmp policy 10
  hash md5
  authentication pre-share
crypto isakmp key cisco address 222.222.222.222
!
!
  crypto ipsec transform-set abc esp-des esp-md5-hmac
!
crypto map cisco local-address Loopback1
crypto map cisco 10 ipsec-isakmp
  set peer 222.222.222.222
!--- Peer address, Loopback 1 of Router 2 set transform-set abc
match address 101
!--- Networks to encrypt (Loopback 0 on both ends) !
isdn switch-type basic-ts013
! ! ! ! ! ! ! ! ! no voice hpi capture buffer
no voice hpi capture destination
! ! ! ! interface Loopback0
!--- Network to encrypt ip address 11.11.11.11 255.255.255.0
! interface Loopback1
!--- Used for peer address for IPSec ip address 111.111.111.111 255.255.255.0
! interface FastEthernet0/0
!--- Primary link ip address 10.1.1.1 255.255.255.0
no ip route-cache
!--- Enable process switching
no ip mroute-cache
duplex auto speed auto
crypto map cisco
!--- Apply crypto map on primary interface !
interface BRI0/0
no ip address encapsulation ppp
no ip route-cache
no ip mroute-cache
dialer pool-member 1
isdn switch-type basic-ts013
no cdp enable
! interface Dialer1
!--- Backup link ip address 20.1.1.1 255.255.255.0
encapsulation ppp
no ip route-cache
!--- Enable process switching
ip ospf cost 9999
!--- Increase the cost so that when primary comes up again,
!--- Open Shortest Path First (OSPF) routes are
!--- preferred using the primary link (due to better cost).
no ip mroute-cache
dialer idle-timeout 180
dialer pool 1

```

```

dialer string 94134028
dialer watch-group 1
!--- Enable dialer watch on this backup interface. !---
Watch the route specified with the dialer watch-list 1
command.

dialer-group 1
!--- Apply interesting traffic defined in dialer list 1.
no peer neighbor-route ppp authentication chap crypto
map cisco
!--- Apply crypto map on backup interface. ! router ospf
1
!--- OSPF advertising Loopback 0, Loopback 1, !---
primary, and secondary links. log-adjacency-changes
network 10.1.1.0 0.0.0.255 area 0
network 11.11.11.0 0.0.0.255 area 0
network 20.1.1.0 0.0.0.255 area 0
network 111.111.111.0 0.0.0.255 area 0
!
ip http server
no ip http secure-server
ip classless
!
!
access-list 101 permit ip host 11.11.11.11 host
22.22.22.22
!--- Access control list (ACL) 101 is the !--- IPsec
traffic used in match address. access-list 110 deny ip
any any
!--- ACL 110 is for the dialer list to mark !--- all IP
traffic uninteresting. The dialer watch will !---
trigger the ISDN backup when the route is lost. dialer
watch-list 1 ip 222.222.222.222 255.255.255.255
!--- This defines the route(s) to be watched. !--- This
exact route (including subnet mask) !--- must exist in
the routing table. !--- Use the dialer watch-group 1
command to apply this !--- list to the backup interface.

dialer watch-list 1 delay route-check initial 10
dialer-list 1 protocol ip list 110
!--- Interesting traffic is defined by ACL 110. !---
This is applied to Dialer1 using dialer group 1. !!!
dial-peer cor custom ! ! ! ! ! line con 0 exec-timeout 0
0 logging synchronous escape-character 27 line aux 0
line vty 0 4 login ! end

```

## Routeur 2 (3640)

```

r2#show running-config
Building configuration...

Current configuration : 2311 bytes
!
version 12.3
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname r2
!
boot-start-marker
boot-end-marker
!

```

```

username r1 password 0 cisco
!--- This is the username for remote router (Router 1)
!--- and shared secret. Shared secret (used for CHAP) !-
-- must be the same on both sides. no aaa new-model ip
subnet-zero ip tcp synwait-time 5 ! ! no ip domain
lookup ! ip audit notify log ip audit po max-events 100
ip ssh break-string no ftp-server write-enable ! ! !
crypto isakmp policy 10
  hash md5
  authentication pre-share
crypto isakmp key cisco address 111.111.111.111
!
!
  crypto ipsec transform-set abc esp-des esp-md5-hmac
!
!
crypto map cisco local-address Loopback1
crypto map cisco 10 ipsec-isakmp
  set peer 111.111.111.111
!--- Peer address, Loopback 1 of Router 1 set
transform-set abc
  match address 101
!--- Networks to encrypt (Loopback 0 on both ends) !
isdn switch-type basic-ts013 ! ! ! ! ! ! ! ! ! no voice
hpi capture buffer no voice hpi capture destination ! !
! ! ! ! interface Loopback0 ip address 22.22.22.22
255.255.255.0 !--- Network to encrypt ! interface
Loopback1 ip address 222.222.222.222 255.255.255.0 !---
Used for peer address for IPSec. ! interface BRI0/0 no
ip address encapsulation ppp no ip route-cache no ip
mroute-cache dialer pool-member 1 isdn switch-type
basic-ts013 ! interface Ethernet0/0 !--- Primary link ip
address 10.1.1.2 255.255.255.0 no ip route-cache
!--- Enable process switching. no ip mroute-cache half-
duplex crypto map cisco
!--- Apply crypto map on primary interface. ! interface
Dialer1 ip address 20.1.1.2 255.255.255.0 encapsulation
ppp no ip route-cache ip ospf cost 9999
no ip mroute-cache
dialer pool 1
dialer idle-timeout 600
dialer remote-name r1
!--- Dialer for the BRI interface of the remote router
!--- without a dial string. dialer-group 1 !--- Apply
interesting traffic defined in dialer list 1. ppp
authentication chap crypto map cisco
!--- Apply crypto map on backup interface. ! router ospf
1
  log-adjacency-changes
  network 10.1.1.0 0.0.0.255 area 0
  network 20.1.1.0 0.0.0.255 area 0
  network 22.22.22.0 0.0.0.255 area 0
  network 222.222.222.0 0.0.0.255 area 0
!
no ip http server
no ip http secure-server
ip classless
!
!
access-list 101 permit ip host 22.22.22.22 host
11.11.11.11
access-list 110 deny ospf any any
!--- Mark OSPF as uninteresting. !--- This will not
allow OSPF hellos !--- to try to bring the link up.

```

```
access-list 110 permit ip any any
dialer-list 1 protocol ip list 110
!--- Interesting traffic is defined by ACL 110. !---
This is applied to Dialer1 using dialer group 1. ! line
con 0 exec-timeout 0 0 logging synchronous escape-
character 27 line aux 0 line vty 0 4 login ! end
```

## Vérification

Cette section fournit des informations que vous pouvez utiliser pour vérifier si votre configuration fonctionne correctement.

## Exemple de sortie de commande

Certaines commandes **show** sont prises en charge par l'[Output Interpreter Tool](#) (clients enregistrés uniquement), qui vous permet de voir une analyse de la sortie de la commande show.

- Table de routage du routeur 1 (2621) - liaison principale active

```
r1#show ip route
```

```
Codes: C - connected, S - static, 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
I - IS-IS, su - IS-IS summary, 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

```
    222.222.222.0/32 is subnetted, 1 subnets
O       222.222.222.222 [110/2] via 10.1.1.2, 00:00:25, FastEthernet0/0
    20.0.0.0/24 is subnetted, 1 subnets
C       20.1.1.0 is directly connected, Dialer1
    22.0.0.0/32 is subnetted, 1 subnets
O       22.22.22.22 [110/2] via 10.1.1.2, 00:00:25, FastEthernet0/0
    111.0.0.0/24 is subnetted, 1 subnets
C       111.111.111.0 is directly connected, Loopback1
    10.0.0.0/24 is subnetted, 1 subnets
C       10.1.1.0 is directly connected, FastEthernet0/0
    11.0.0.0/24 is subnetted, 1 subnets
C       11.11.11.0 is directly connected, Loopback0
```

- Table de routage du routeur 2 (3640) - liaison principale active

```
r2#show ip route
```

```
Codes: C - connected, S - static, 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
I - IS-IS, su - IS-IS summary, 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       222.222.222.0/24 is directly connected, Loopback1
    20.0.0.0/24 is subnetted, 1 subnets
```

```

C      20.1.1.0 is directly connected, Dialer1
      22.0.0.0/24 is subnetted, 1 subnets
C      22.22.22.0 is directly connected, Loopback0
111.0.0.0/32 is subnetted, 1 subnets
O      111.111.111.111 [110/11] via 10.1.1.1, 00:06:22, Ethernet0/0
      10.0.0.0/24 is subnetted, 1 subnets
C      10.1.1.0 is directly connected, Ethernet0/0
11.0.0.0/32 is subnetted, 1 subnets
O      11.11.11.11 [110/11] via 10.1.1.1, 00:06:23, Ethernet0/0

```

- Voisin OSPF du routeur 1 (2621) : liaison principale vers le haut

```

r1#show ip ospf neighbor
Neighbor ID      Pri   State           Dead Time   Address      Interface
222.222.222.222  1    FULL/DR        00:00:33   10.1.1.2    FastEthernet0/0

```

- Voisin OSPF du routeur 2 (3640) : liaison principale vers le haut

```

r2#show ip ospf neighbor
Neighbor ID      Pri   State           Dead Time   Address      Interface
111.111.111.111  1    FULL/BDR       00:00:31   10.1.1.1    Ethernet0/0

```

- Table de routage du routeur 1 (2621) - liaison principale désactivée

```

r1#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.

```

222.222.222.0/32 is subnetted, 1 subnets
O      222.222.222.222 [110/10000] via 20.1.1.2, 00:00:09, Dialer1
      20.0.0.0/24 is subnetted, 1 subnets
C      20.1.1.0 is directly connected, BRI0/0
      20.0.0.0/24 is subnetted, 1 subnets
C      20.1.1.0 is directly connected, Dialer1
22.0.0.0/32 is subnetted, 1 subnets
O      22.22.22.22 [110/10000] via 20.1.1.2, 00:00:09, Dialer1
      111.0.0.0/24 is subnetted, 1 subnets
C      111.111.111.0 is directly connected, Loopback1
      10.0.0.0/24 is subnetted, 1 subnets
O      10.1.1.0 [110/10009] via 20.1.1.2, 00:00:09, Dialer1
      11.0.0.0/24 is subnetted, 1 subnets
C      11.11.11.0 is directly connected, Loopback0

```

- Table de routage du routeur 2 (3640) - liaison principale désactivée

```

r2#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    222.222.222.0/24 is directly connected, Loopback1
    20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    20.1.1.0/24 is directly connected, Dialer1
C    20.1.1.1/32 is directly connected, Dialer1
    22.0.0.0/24 is subnetted, 1 subnets
C    22.22.22.0 is directly connected, Loopback0
111.0.0.0/32 is subnetted, 1 subnets
O    111.111.111.111 [110/10000] via 20.1.1.1, 00:00:07, Dialer1
    10.0.0.0/24 is subnetted, 1 subnets
C    10.1.1.0 is directly connected, Ethernet0/0
11.0.0.0/32 is subnetted, 1 subnets
O    11.11.11.11 [110/10000] via 20.1.1.1, 00:00:08, Dialer1

```

- voisin OSPF du routeur 1 (2621) : liaison principale désactivée

```
r1#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
222.222.222.222	0	FULL/ -	00:00:32	20.1.1.2	<b>Dialer1</b>

- voisin OSPF du routeur 2 (3640) : liaison principale désactivée

```
r2#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
111.111.111.111	0	FULL/ -	00:00:31	20.1.1.1	<b>Dialer1</b>

Le numéroteur de débogage et plusieurs sorties de la commande **show** affichées ici montrent que la liaison principale a échoué, et Dialer watch reconnaît la route perdue. Le routeur initie ensuite la liaison de sauvegarde et OSPF converge via la liaison secondaire. Chaque fois que le délai d'inactivité expire, le routeur vérifie si la liaison principale est arrêtée. Si la liaison principale est activée, dialer watch déconnecte la liaison de secours après l'expiration et la fin de l'appel du compteur de désactivation, et OSPF converge par la liaison principale comme d'habitude.

Il s'agit des sorties **debug** et **show** de la commande du routeur un (2621), lorsque la liaison principale tombe en panne et est réactivée.

```
r1#show debug
```

```
Dial on demand:
```

```
Dial on demand events debugging is on
```

```

r1#
03:00:21: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to down
!--- Primary link was brought down manually when you disable the switch ports. 03:00:21: %OSPF-
5-ADJCHG: Process 1, Nbr 222.222.222.222 on FastEthernet0/0
from FULL to DOWN, Neighbor Down: Interface down or detached
!--- Primary link goes down. !--- OSPF loses neighbor adjacency. r1# !--- Dialer watch kicks in.
03:00:21: DDR: Dialer Watch: watch-group = 1
03:00:21: DDR: network 222.222.222/255.255.255.255 DOWN,
03:00:21: DDR: primary DOWN
03:00:21: DDR: Dialer Watch: Dial Reason: Primary of group 1 DOWN
03:00:21: DDR: Dialer Watch: watch-group = 1,
03:00:21: BR0/0 DDR: rotor dialout [best]
least recent failure is also most recent failure
03:00:21: BR0/0 DDR: rotor dialout [best] also has most recent failure
03:00:21: BR0/0 DDR: rotor dialout [best]
03:00:21: DDR: dialing secondary by dialer string 94134028 on Di1
03:00:21: BR0/0 DDR: Attempting to dial 94134028
03:00:21: DDR: Dialer Watch: watch-group = 1
r1#
03:00:21: DDR: network 222.222.222.222/255.255.255.255 DOWN,
03:00:21: DDR: primary DOWN

```



```

03:00:21: DDR: Dialer Watch: Dial Reason: Secondary of group 1 AVAILABLE
03:00:21: DDR: Dialer Watch: watch-group = 1,
03:00:21: DDR: Dialer Watch: watch-group = 1
03:00:21: DDR:      network 222.222.222/255.255.255.255 DOWN,
03:00:21: DDR:      primary DOWN
03:00:21: DDR: Dialer Watch: Dial Reason: Secondary of group 1 AVAILABLE
03:00:21: DDR: Dialer Watch: watch-group = 1,
03:00:21: %ISDN-6-LAYER2UP: Layer 2 for Interface BR0/0, TEI 82 changed to up
03:00:94489280514: %LINK-3-UPDOWN: Interface BRI0/0:1, changed state to up
03:00:94489280516: BR0/0:1 DDR: Dialer Watch: resetting call in progress
03:00:94489280512: BR0/0:1: interface must be fifo queue, force fifo
03:00:94489280512: %DIALER-6-BIND: Interface BR0/0:1 bound to profile Di1
r1#
03:00:22: BR0/0:1 DDR: Remote name for r2
03:00:22: BR0/0:1 DDR: dialer protocol up
03:00:23: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:1,
      changed state to up
r1#
03:00:28: %ISDN-6-CONNECT: Interface BRI0/0:1 is now connected to 94134028 r2
!--- Backup link is now connected to Router 2. r1# 03:00:31: %OSPF-5-ADJCHG: Process 1, Nbr
222.222.222.222 on Dialer1
      from LOADING to FULL, Loading Done
!--- OSPF converges over the backup link. r1# r1#show dialer

```

BRI0/0 - 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.

```

BRI0/0:1 - dialer type = ISDN

```

Idle timer (180 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Dialer state is data link layer up
Dial reason: Dialing on watched route loss
!--- Dial reason is the lost route. Interface bound to profile Di1 Time until disconnect 154
secs
!--- Idle timeout is ticking. Current call connected 00:00:25 Connected to 94134028 (r2)

```

```

BRI0/0:2 - 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 Di1 - dialer type = DIALER PROFILE Idle
timer (180 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 94134028 45 24 00:00:27 successful Default r1#show isdn active

```

-----  
ISDN ACTIVE CALLS  
-----

Call Type	Calling Number	Called Number	Remote Name	Seconds Used	Seconds Left	Seconds Idle	Charges Units/Currency
Out	---N/A---	94134028	r2	37	142	37	0

r1#show dialer

BRI0/0 - 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.

```

BRI0/0:1 - dialer type = ISDN

```

Idle timer (180 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Dialer state is data link layer up
Dial reason: Dialing on watched route loss

```

Interface bound to profile Di1

**Time until disconnect 47 secs**

*!--- Idle timeout is ticking.* Current call connected 00:02:12 Connected to 94134028 (r2)  
BRI0/0:2 - 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 Di1 - dialer type = DIALER PROFILE Idle  
timer (180 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 94134028 45 24 00:02:14 successful Default r1#**show dialer**

BRI0/0 - 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.

BRI0/0:1 - dialer type = ISDN

Idle timer (180 secs), Fast idle timer (20 secs)  
Wait for carrier (30 secs), Re-enable (15 secs)  
Dialer state is data link layer up  
Dial reason: Dialing on watched route loss  
Interface bound to profile Di1

**Time until disconnect 0 secs**

*!--- Idle timeout is ticking.* Current call connected 00:02:59 Connected to 94134028 (r2)  
BRI0/0:2 - 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 Di1 - dialer type = DIALER PROFILE Idle  
timer (180 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 94134028 45 24 00:03:05 successful Default r1# **03:03:22: BR0/0:1 DDR: idle  
timeout**

*!--- Idle timed out. !--- Dialer watch checks lost routes !--- again and reset the idle time  
since primary is not up yet.* 03:03:22: DDR: Dialer Watch: watch-group = 1 03:03:22: DDR: network  
222.222.222.222/255.255.255.255 UP, 03:03:22: DDR: **primary DOWN**  
*!--- Primary link is still down.* r1# r1#**show dialer**

BRI0/0 - 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.

BRI0/0:1 - dialer type = ISDN

Idle timer (180 secs), Fast idle timer (20 secs)  
Wait for carrier (30 secs), Re-enable (15 secs)  
Dialer state is data link layer up  
Dial reason: Dialing on watched route loss  
Interface bound to profile Di1

**Time until disconnect 154 secs**

*!--- Idle timeout was reset by dialer watch.* Current call connected 00:03:25 Connected to  
94134028 (r2) BRI0/0:2 - 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 Di1 - dialer type = DIALER  
PROFILE Idle timer (180 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 94134028 45 24 00:03:28 successful Default r1# 03:04:59:  
%LINEPROTO-5-UPDOWN: Line protocol on Interface **FastEthernet0/0,**

**changed state to up**

*!--- Primary link was brought up manually when the switch ports are enabled.* r1# r1# 03:05:50:  
%OSPF-5-ADJCHG: Process 1, **Nbr 222.222.222.222 on FastEthernet0/0**

**from LOADING to FULL, Loading Done**

r1#

r1#**show ip ospf neigh**

Neighbor ID	Pri	State	Dead Time	Address	Interface
222.222.222.222	0	FULL/	- 00:00:02	20.1.1.2	Dialer1

*!--- OSPF over secondary link is still up because !--- the call is not terminated yet, waiting*

```

for idle timeout. 222.222.222.222 1 FULL/DR 00:00:38 10.1.1.2 FastEthernet0/0 !--- OSPF is now
starts to converge over primary link. r1# r1#show ip route 222.222.222.222
!--- The watched route is now learned through the primary link. !--- Check the cost. Routing
entry for 222.222.222.222/32
  Known via "ospf 1", distance 110, metric 2, type intra area
  Last update from 10.1.1.2 on FastEthernet0/0, 00:00:16 ago
  Routing Descriptor Blocks:
  * 10.1.1.2, from 222.222.222.222, 00:00:16 ago, via FastEthernet0/0
    Route metric is 2, traffic share count is
r1#
03:06:22: BR0/0:1 DDR: idle timeout
!--- Idle timed out. !--- Dialer watch checks lost routes. Since primary is up, !--- it tears
down the call. 03:06:22: DDR: Dialer Watch: watch-group = 1 03:06:22: DDR: network
222.222.222.222/255.255.255.255 UP, 03:06:22: DDR: primary UP
03:06:22: BR0/0:1 DDR: disconnecting call
03:06:22: BR0/0:1 DDR: Dialer Watch: resetting call in progress
03:06:22: DDR: Dialer Watch: watch-group = 1
03:06:22: DDR: network 222.222.222.222/255.255.255.255 UP,
03:06:22: DDR: primary UP
03:06:22: %ISDN-6-DISCONNECT: Interface BRI0/0:1
disconnected from 94134028 r2,
  call lasted 360 seconds
03:06:96677768412: %LINK-3-UPDOWN: Interface BRI0/0:1, changed state to down
03:06:94489281195: BR0/0 DDR: has total 0 call(s), dial_out 0, dial_in 0
r1#
03:06:94489280544: %DIALER-6-UNBIND: Interface BR0/0:1
  unbound from profile Di1
03:06:23: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:1,
  changed state to down
r1#
03:06:37: %ISDN-6-LAYER2DOWN: Layer 2 for Interface BR0/0,
  TEI 82 changed to down
r1#
03:07:01: %OSPF-5-ADJCHG: Process 1, Nbr 222.222.222.222 on Dialer1
from FULL to DOWN, Neighbor Down: Dead timer expired
!--- OSPF neighbor is down because the secondary link is down. !--- Dead timer has expired. r1#
r1#show ip ospf neigh

```

```

Neighbor ID      Pri   State           Dead Time   Address      Interface
222.222.222.222  1    FULL/DR         00:00:38   10.1.1.2    FastEthernet0/0
!--- OSPF neighbor is through the primary link only. r1#u all
All possible debugging has been turned off
r1#

```

## Dépannage

Cette section fournit des informations que vous pouvez utiliser pour dépanner votre configuration. Pour plus d'informations sur le dépannage de problèmes généraux avec les couches RNIS 1, 2 et 3, référez-vous à [Utilisation de la commande show isdn status pour le dépannage BRI](#).

## Dépannage des commandes

Certaines commandes **show** sont prises en charge par l'[Output Interpreter Tool](#) (clients enregistrés uniquement), qui vous permet de voir une analyse de la sortie de la commande show.

**Remarque :** Avant d'émettre des commandes **debug**, reportez-vous à [Informations importantes sur les commandes de débogage](#).

Ces commandes **debug** peuvent être exécutées sur les deux homologues IPsec.

- **debug crypto isakmp** - Affiche les erreurs au cours de la phase 1.
- **debug crypto ipsec** - Affiche les erreurs pendant la phase 2.
- **debug crypto engine** — Affiche des informations du moteur de chiffrement.

Ces commandes **show** peuvent être exécutées sur les deux homologues IPsec.

- **show crypto isakmp sa** - Affiche toutes les associations de sécurité (SA) IKE (Internet Key Exchange) actuelles sur un homologue.
- **show crypto ipsec sa** - Affiche les paramètres utilisés par les SA [IPsec] actuelles.
- **show crypto engine connections active** - Affiche les connexions actuelles et les informations concernant les paquets chiffrés et déchiffrés.

Ces commandes **clear** peuvent être utilisées pour effacer les SA.

- **clear crypto isakmp** : efface les associations de sécurité de phase 1.
- **clear crypto sa** : efface les associations de sécurité de la phase deux.

## Informations connexes

- [Page d'assistance IPsec](#)
- [Configuration d'une sauvegarde DDR et résolution des problèmes associés](#)
- [Évaluation des interfaces de secours, routes statiques flottantes et Dialer Watch pour DDR de secours](#)
- [Configuration de la sauvegarde de numérotation à l'aide de Dialer Watch](#)
- [Utilisation de la commande show isdn status pour le dépannage d'un accès de base \(BRI\)](#)
- [Support technique - Cisco Systems](#)