

# 使用GRE隧道配置EIGRP和IPX的IPSec

## 目錄

[簡介](#)

[必要條件](#)

[需求](#)

[採用元件](#)

[慣例](#)

[設定](#)

[網路圖表](#)

[組態](#)

[驗證](#)

[show Command Output With Tunnels Up](#)

[疑難排解](#)

[疑難排解指令](#)

[相關資訊](#)

## 簡介

一般IPSec配置無法傳輸路由協定（如增強型內部網關路由協定[EIGRP]和開放最短路徑優先[OSPF]）或非IP流量（如網際網路資料包交換[IPX]、AppleTalk等）。本文檔說明如何使用IPSec使用路由協定在不同網路之間路由和非IP流量。此技術使用通用路由封裝(GRE)作為方法來完成此操作。

## 必要條件

### 需求

嘗試此組態之前，請確保符合以下要求：

- 應用密碼編譯對應之前，請確保通道正常運作。
- 加密訪問清單需要將GRE作為允許協定：`access-list 101 permit gre host x.x.x.x host y.y.y.y x.x.x.x= <tunnel_source> y.y.y.y = <tunnel_destination>`
- 使用環回IP地址標識Internet金鑰交換(IKE)對等體以及隧道源和隧道目標，以提高可用性。
- 有關可能的最大傳輸單元(MTU)問題的討論，請參閱[在Windows和Sun系統上調整IP MTU、TCP MSS和PMTUD](#)。

### 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Cisco IOS®軟體版本12.1.8和12.2.1

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

## 慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

## 設定

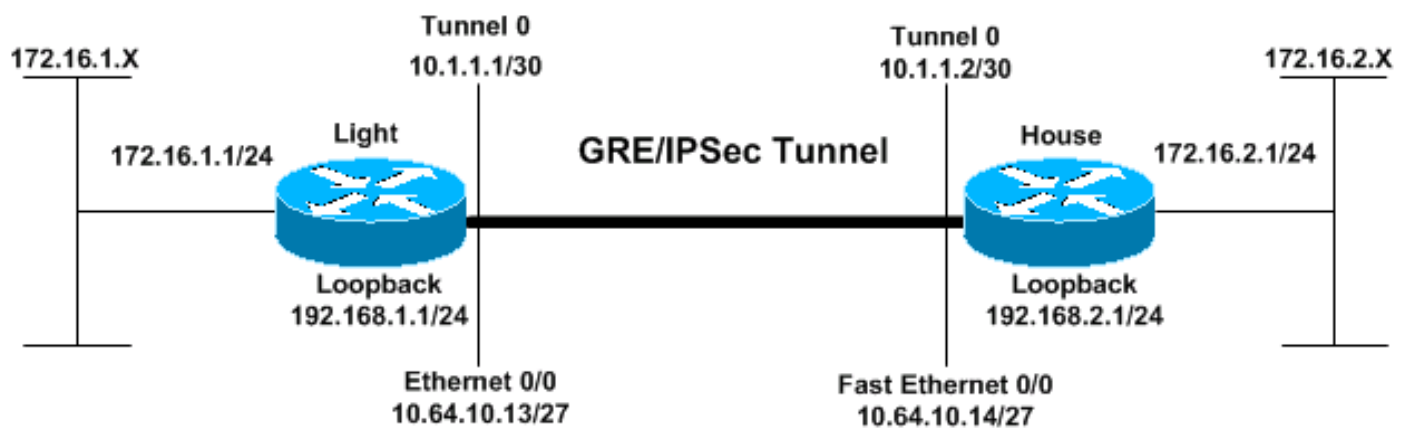
本節提供用於設定本文件中所述功能的資訊。

**注意：**要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)（**僅限註冊客戶**）。

**IOS配置說明：**對於Cisco IOS軟體版本12.2(13)T和更新版本的代碼（編號更高的T系列代碼、Cisco IOS軟體版本12.3和更新版本的代碼），配置的IPSec「加密對映」只需應用於物理介面。不再需要將其應用於GRE通道介面。使用Cisco IOS軟體版本12.2.(13)T和更新版本代碼時，在實體和通道介面上建立「密碼編譯對應」仍然有效。但是，強烈建議僅將其應用於物理介面。

## 網路圖表

本檔案會使用下圖中所示的網路設定。



## 組態

- [光](#)
- [房子](#)

```
光
Current configuration:
!
version 12.2
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Light
```

```
!  
logging rate-limit console 10 except errors  
!  
ip subnet-zero  
!  
!  
no ip finger  
!  
no ip dhcp-client network-discovery  
ipx routing 00e0.b06a.40fc  
!  
!--- IKE policies. crypto isakmp policy 25  
hash md5  
authentication pre-share  
crypto isakmp key cisco123 address 192.168.2.1  
!  
!--- IPsec policies. crypto ipsec transform-set WWW esp-  
des esp-md5-hmac  
mode transport  
!  
crypto map GRE local-address Loopback0  
crypto map GRE 50 ipsec-isakmp  
set peer 192.168.2.1  
set transform-set WWW  
!--- What to encrypt? match address 101  
!  
call rsvp-sync  
!  
fax interface-type modem  
mta receive maximum-recipients 0  
!  
interface Loopback0  
ip address 192.168.1.1 255.255.255.0  
!  
interface Tunnel0  
ip address 10.1.1.1 255.255.255.252  
ip mtu 1440  
ipx network CC  
tunnel source Loopback0  
tunnel destination 192.168.2.1  
crypto map GRE  
!  
interface FastEthernet0/0  
ip address 10.64.10.13 255.255.255.224  
no ip route-cache  
no ip mroute-cache  
duplex auto  
speed auto  
crypto map GRE  
!  
interface FastEthernet0/1  
ip address 172.16.1.1 255.255.255.0  
duplex auto  
speed auto  
ipx network AA  
!  
router eigrp 10  
network 10.1.1.0 0.0.0.3  
network 172.16.1.0 0.0.0.255  
network 192.168.1.0  
no auto-summary  
no eigrp log-neighbor-changes  
!  
ip kerberos source-interface any
```

```
ip classless
ip route 192.168.2.0 255.255.255.0 10.64.10.14
ip http server
!
!--- What to encrypt? access-list 101 permit gre host
192.168.1.1 host 192.168.2.1
!
dial-peer cor custom
!
line con 0
transport input none
line aux 0
line vty 0 4
login
!
end

Light#!
```

## 房子

```
Current configuration:
version 12.1
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname House
!
ip subnet-zero
!
ipx routing 00e0.b06a.4114
!
!--- IKE policies. crypto isakmp policy 25
hash md5
authentication pre-share
crypto isakmp key cisco123 address 192.168.1.1
!
!--- IPSec policies. crypto ipsec transform-set WWW esp-
des esp-md5-hmac
mode transport
!
crypto map GRE local-address Loopback0
crypto map GRE 50 ipsec-isakmp
set peer 192.168.1.1
set transform-set WWW
!--- What to encrypt? match address 101
!
!
interface Loopback0
ip address 192.168.2.1 255.255.255.0
!
interface Tunnel0
ip address 10.1.1.2 255.255.255.252
ip mtu 1440
ipx network CC
tunnel source Loopback0
tunnel destination 192.168.1.1
crypto map GRE
!
interface FastEthernet0/0
ip address 10.64.10.14 255.255.255.224
no ip route-cache
```

```

no ip mroute-cache
duplex auto
speed auto
crypto map GRE
!
interface FastEthernet0/1
ip address 172.16.2.1 255.255.255.0
duplex auto
speed auto
ipx network BB
!
interface FastEthernet4/0
no ip address
shutdown
duplex auto
speed auto
!
router eigrp 10
network 10.1.1.0 0.0.0.3
network 172.16.2.0 0.0.0.255
network 192.168.2.0
no auto-summary
no eigrp log-neighbor-changes
!
ip classless
ip route 192.168.1.0 255.255.255.0 10.64.10.13
ip http server
!--- What to encrypt? access-list 101 permit gre host
192.168.2.1 host 192.168.1.1
!
line con 0
line aux 0
line vty 0 4
login
!
end

House#

```

## 驗證

本節提供的資訊可用於確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視[show](#)命令輸出的分析。

- **show crypto engine connections active** — 顯示IPSec對等體之間的加密和解密資料包。
- **show crypto isakmp sa** — 顯示第1階段安全關聯。
- **show crypto ipsec sa** — 顯示第2階段安全關聯。
- **show ipx route [network] [default] [detailed]** — 顯示IPX路由表的內容。

## [show Command Output With Tunnels Up](#)

Light#**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

```
172.16.0.0/24 is subnetted, 2 subnets
C    172.16.1.0 is directly connected, FastEthernet0/1
D    172.16.2.0 [90/297246976] via 10.1.1.2, 00:00:31, Tunnel0
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    10.1.1.0/30 is directly connected, Tunnel0
C    10.64.10.0/27 is directly connected, FastEthernet0/0
C    192.168.1.0/24 is directly connected, Loopback0
S    192.168.2.0/24 [1/0] via 10.64.10.14
```

Light#**ping**

```
Protocol [ip]:
Target IP address: 172.16.2.1
Repeat count [5]:
Datagram size [100]:
Timeout in seconds [2]:
Extended commands [n]: y
Source address or interface: 172.16.1.1
Type of service [0]:
Set DF bit in IP header? [no]:
Validate reply data? [no]:
Data pattern [0xABCD]:
Loose, Strict, Record, Timestamp, Verbose[none]:
Sweep range of sizes [n]:
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.2.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
Light#
```

House#**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

```
172.16.0.0/24 is subnetted, 2 subnets
D    172.16.1.0 [90/297246976] via 10.1.1.1, 00:00:36, Tunnel0
C    172.16.2.0 is directly connected, FastEthernet0/1
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    10.1.1.0/30 is directly connected, Tunnel0
C    10.64.10.0/27 is directly connected, FastEthernet0/0
S    192.168.1.0/24 [1/0] via 10.64.10.13
C    192.168.2.0/24 is directly connected, Loopback0
```

House#**ping**

```
Protocol [ip]:
Target IP address: 172.16.1.1
Repeat count [5]:
Datagram size [100]:
Timeout in seconds [2]:
Extended commands [n]: y
Source address or interface: 172.16.2.1
Type of service [0]:
Set DF bit in IP header? [no]:
Validate reply data? [no]:
```

Data pattern [0xABCD]:  
Loose, Strict, Record, Timestamp, Verbose[none]:  
Sweep range of sizes [n]:  
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 172.16.1.1, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms

Light#**show ipx route**

Codes: C - Connected primary network, c - Connected secondary network  
S - Static, F - Floating static, L - Local (internal), W - IPXWAN  
R - RIP, E - EIGRP, N - NLSP, X - External, A - Aggregate  
s - seconds, u - uses, U - Per-user static

3 Total IPX routes. Up to 1 parallel paths and 16 hops allowed.

No default route known.

C AA (NOVELL-ETHER), Fa0/1  
C CC (TUNNEL), Tu0  
R BB [151/01] via CC.00e0.b06a.4114, 17s, Tu0

House#**show ipx route**

Codes: C - Connected primary network, c - Connected secondary network  
S - Static, F - Floating static, L - Local (internal), W - IPXWAN  
R - RIP, E - EIGRP, N - NLSP, X - External, A - Aggregate  
s - seconds, u - uses, U - Per-user static

3 Total IPX routes. Up to 1 parallel paths and 16 hops allowed.

No default route known.

C BB (NOVELL-ETHER), Fa0/1  
C CC (TUNNEL), Tu0  
R AA [151/01] via CC.00e0.b06a.40fc, 59s, Tu0

Light#**ping ipx BB.0004.9af2.8261**

Type escape sequence to abort.  
Sending 5, 100-byte IPX Novell Echoes to BB.0004.9af2.8261, timeout is 2 second:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms

House#**ping ipx AA.0004.9af2.8181**

Type escape sequence to abort.  
Sending 5, 100-byte IPX Novell Echoes to AA.0004.9af2.8181, timeout is 2 second:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms

Light#**show crypto isa sa**

dst	src	state	conn-id	slot
192.168.2.1	192.168.1.1	QM_IDLE	1	0
192.168.1.1	192.168.2.1	QM_IDLE	2	0

House#**show crypto isa sa**

dst	src	state	conn-id	slot
192.168.1.1	192.168.2.1	QM_IDLE	1	0
192.168.2.1	192.168.1.1	QM_IDLE	2	0

Light#**show crypto engine connections active**

ID Interface	IP-Address	State	Algorithm	Encrypt	Decrypt
--------------	------------	-------	-----------	---------	---------

```

 1 <none>          <none>          set    HMAC_MD5+DES_56_CB    0      0
 2 <none>          <none>          set    HMAC_MD5+DES_56_CB    0      0
2000 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    0      161
2001 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    161    0
2002 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    0      0
2003 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    0      0
2004 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    0      0
2005 FastEthernet0/0 10.64.10.13     set    HMAC_MD5+DES_56_CB    0      0

```

House#show crypto engine connections active

```

ID Interface      IP-Address      State Algorithm      Encrypt Decrypt
 1 <none>          <none>          set    HMAC_MD5+DES_56_CB    0      0
 2 <none>          <none>          set    HMAC_MD5+DES_56_CB    0      0
2000 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    0      159
2001 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    159    0
2002 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    0      0
2003 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    0      0
2004 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    0      0
2005 FastEthernet0/0 10.64.10.14     set    HMAC_MD5+DES_56_CB    0      0

```

House#show crypto ipsec sa detail

interface: Tunnel0

Crypto map tag: GRE, local addr. 192.168.2.1

local ident (addr/mask/prot/port): (192.168.2.1/255.255.255.255/47/0)

remote ident (addr/mask/prot/port): (192.168.1.1/255.255.255.255/47/0)

current\_peer: 192.168.1.1

PERMIT, flags={origin\_is\_acl,transport\_parent,}

#pkts encaps: 192, #pkts encrypt: 192, #pkts digest 192

#pkts decaps: 190, #pkts decrypt: 190, #pkts verify 190

#pkts compressed: 0, #pkts decompressed: 0

#pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0

#pkts no sa (send) 12, #pkts invalid sa (rcv) 0

#pkts encaps failed (send) 0, #pkts decaps failed (rcv) 0

#pkts invalid prot (rcv) 0, #pkts verify failed: 0

#pkts invalid identity (rcv) 0, #pkts invalid len (rcv) 0

#pkts replay rollover (send): 0, #pkts replay rollover (rcv) 0

##pkts replay failed (rcv): 0

#pkts internal err (send): 0, #pkts internal err (rcv) 0

local crypto endpt.: 192.168.2.1, remote crypto endpt.: 192.168.1.1

path mtu 1514, media mtu 1514

current outbound spi: 1FA721CA

inbound esp sas:

spi: 0xEE52531(249898289)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2000, flow\_id: 1, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4607961/2797)

IV size: 8 bytes

replay detection support: Y

spi: 0xFEE24F3(267265267)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2002, flow\_id: 3, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4608000/2826)

IV size: 8 bytes

replay detection support: Y

spi: 0x19240817(421791767)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }



slot: 0, conn id: 2004, flow\_id: 5, crypto map: GRE  
sa timing: remaining key lifetime (k/sec): (4608000/2759)  
IV size: 8 bytes  
replay detection support: Y

inbound ah sas:

inbound pcp sas:

outbound esp sas:

spi: 0x1FA721CA(531046858)  
transform: esp-des esp-md5-hmac ,  
in use settings ={Transport, }  
slot: 0, conn id: 2001, flow\_id: 2, crypto map: GRE  
sa timing: remaining key lifetime (k/sec): (4607972/2797)  
IV size: 8 bytes  
replay detection support: Y

spi: 0x12B10EB0(313593520)  
transform: esp-des esp-md5-hmac ,  
in use settings ={Transport, }  
slot: 0, conn id: 2003, flow\_id: 4, crypto map: GRE  
sa timing: remaining key lifetime (k/sec): (4608000/2826)  
IV size: 8 bytes  
replay detection support: Y

spi: 0x1A700242(443548226)  
transform: esp-des esp-md5-hmac ,  
in use settings ={Transport, }  
slot: 0, conn id: 2005, flow\_id: 6, crypto map: GRE  
sa timing: remaining key lifetime (k/sec): (4608000/2759)  
IV size: 8 bytes  
replay detection support: Y

outbound ah sas:

outbound pcp sas:

local ident (addr/mask/prot/port): (192.168.2.1/255.255.255.255/0/0)

remote ident (addr/mask/prot/port): (192.168.1.1/255.255.255.255/0/0)

current\_peer: 192.168.1.1

PERMIT, flags={transport\_parent,}

#pkts encaps: 0, #pkts encrypt: 0, #pkts digest 0

#pkts decaps: 0, #pkts decrypt: 0, #pkts verify 0

#pkts compressed: 0, #pkts decompressed: 0

#pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0

#pkts no sa (send) 0, #pkts invalid sa (rcv) 0

#pkts encaps failed (send) 0, #pkts decaps failed (rcv) 0

#pkts invalid prot (rcv) 0, #pkts verify failed: 0

#pkts invalid identity (rcv) 0, #pkts invalid len (rcv) 0

#pkts replay rollover (send): 0, #pkts replay rollover (rcv) 0

##pkts replay failed (rcv): 0

#pkts internal err (send): 0, #pkts internal err (rcv) 0

local crypto endpt.: 192.168.2.1, remote crypto endpt.: 192.168.1.1

path mtu 1514, media mtu 1514

current outbound spi: 0

inbound esp sas:

inbound ah sas:

inbound pcp sas:

outbound esp sas:

outbound ah sas:

outbound pcp sas:

interface: FastEthernet0/0

Crypto map tag: GRE, local addr. 192.168.2.1

local ident (addr/mask/prot/port): (192.168.2.1/255.255.255.255/47/0)

remote ident (addr/mask/prot/port): (192.168.1.1/255.255.255.255/47/0)

current\_peer: 192.168.1.1

PERMIT, flags={origin\_is\_acl,transport\_parent,}

#pkts encaps: 193, #pkts encrypt: 193, #pkts digest 193

#pkts decaps: 192, #pkts decrypt: 192, #pkts verify 192

#pkts compressed: 0, #pkts decompressed: 0

#pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0

#pkts no sa (send) 12, #pkts invalid sa (rcv) 0

#pkts encaps failed (send) 0, #pkts decaps failed (rcv) 0

#pkts invalid prot (rcv) 0, #pkts verify failed: 0

#pkts invalid identity (rcv) 0, #pkts invalid len (rcv) 0

#pkts replay rollover (send): 0, #pkts replay rollover (rcv) 0

##pkts replay failed (rcv): 0

#pkts internal err (send): 0, #pkts internal err (rcv) 0

local crypto endpt.: 192.168.2.1, remote crypto endpt.: 192.168.1.1

path mtu 1514, media mtu 1514

current outbound spi: 1FA721CA

inbound esp sas:

spi: 0xEE52531(249898289)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2000, flow\_id: 1, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4607961/2789)

IV size: 8 bytes

replay detection support: Y

spi: 0xFEE24F3(267265267)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2002, flow\_id: 3, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4608000/2817)

IV size: 8 bytes

replay detection support: Y

spi: 0x19240817(421791767)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2004, flow\_id: 5, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4608000/2750)

IV size: 8 bytes

replay detection support: Y

inbound ah sas:

inbound pcp sas:

outbound esp sas:

spi: 0x1FA721CA(531046858)

transform: esp-des esp-md5-hmac ,

in use settings ={Transport, }

slot: 0, conn id: 2001, flow\_id: 2, crypto map: GRE

sa timing: remaining key lifetime (k/sec): (4607972/2789)

IV size: 8 bytes

```
replay detection support: Y
spi: 0x12B10EB0(313593520)
transform: esp-des esp-md5-hmac ,
in use settings ={Transport, }
slot: 0, conn id: 2003, flow_id: 4, crypto map: GRE
sa timing: remaining key lifetime (k/sec): (4608000/2817)
IV size: 8 bytes
replay detection support: Y
spi: 0x1A700242(443548226)
transform: esp-des esp-md5-hmac ,
in use settings ={Transport, }
slot: 0, conn id: 2005, flow_id: 6, crypto map: GRE
sa timing: remaining key lifetime (k/sec): (4608000/2750)
IV size: 8 bytes
replay detection support: Y
```

outbound ah sas:

outbound pcp sas:

```
local ident (addr/mask/prot/port): (192.168.2.1/255.255.255.255/0/0)
remote ident (addr/mask/prot/port): (192.168.1.1/255.255.255.255/0/0)
current_peer: 192.168.1.1
  PERMIT, flags={transport_parent,}
#pkts encaps: 0, #pkts encrypt: 0, #pkts digest 0
#pkts decaps: 0, #pkts decrypt: 0, #pkts verify 0
#pkts compressed: 0, #pkts decompressed: 0
#pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0
#pkts no sa (send) 0, #pkts invalid sa (rcv) 0
#pkts encaps failed (send) 0, #pkts decaps failed (rcv) 0
#pkts invalid prot (rcv) 0, #pkts verify failed: 0
#pkts invalid identity (rcv) 0, #pkts invalid len (rcv) 0
#pkts replay rollover (send): 0, #pkts replay rollover (rcv) 0
##pkts replay failed (rcv): 0
#pkts internal err (send): 0, #pkts internal err (rcv) 0

local crypto endpt.: 192.168.2.1, remote crypto endpt.: 192.168.1.1
path mtu 1514, media mtu 1514
current outbound spi: 0
```

inbound esp sas:

inbound ah sas:

inbound pcp sas:

outbound esp sas:

outbound ah sas:

outbound pcp sas:

## [疑難排解](#)

本節提供的資訊可用於對組態進行疑難排解。

## [疑難排解指令](#)

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

注意：發出debug指令之前，請參閱[有關Debug指令的重要資訊](#)。

- debug crypto isakmp — 顯示階段1期間的錯誤。
- debug crypto ipsec — 顯示階段2期間的錯誤。
- debug crypto engine — 顯示來自加密引擎的資訊。
- debug ip *your routing protocol* — 顯示有關路由協定的路由事務的資訊。
- clear crypto connection connection-id [*slot / rsm / vip*] — 終止當前正在執行的加密會話。加密的作業階段通常會在作業階段逾時終止。使用show crypto cisco connections命令獲取connection-id值。
- clear crypto isakmp — 清除第1階段安全關聯。
- clear crypto sa — 清除第2階段安全關聯。

## [相關資訊](#)

- [IPSec支援頁面](#)
- [IP安全\(IPSec\)加密簡介](#)
- [配置IPSec網路安全](#)
- [配置Internet金鑰交換安全協定](#)
- [命令查詢工具\(僅限註冊客戶\)](#)
- [技術支援 - Cisco Systems](#)