

Configuración de IPSec router a router completamente mallado

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[Introducción](#)

Esta configuración de ejemplo muestra el cifrado de malla completa entre tres routers mediante el uso de un mapa crypto en cada router a las redes detrás de cada uno de sus dos peers.

Se debe realizar el encriptación desde:

- red 160.160.160.x a red 170.170.170.x
- 160.160.160.x red a 180.180.180.x red
- Red 170.170.170.x a red 180.180.180.x

[Prerequisites](#)

[Requirements](#)

No hay requisitos específicos para este documento.

[Componentes Utilizados](#)

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Software Cisco IOS® versión 12.2.7C y 12.2.8(T)4
- Routers Cisco 2500 y 3600

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

[Convenciones](#)

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

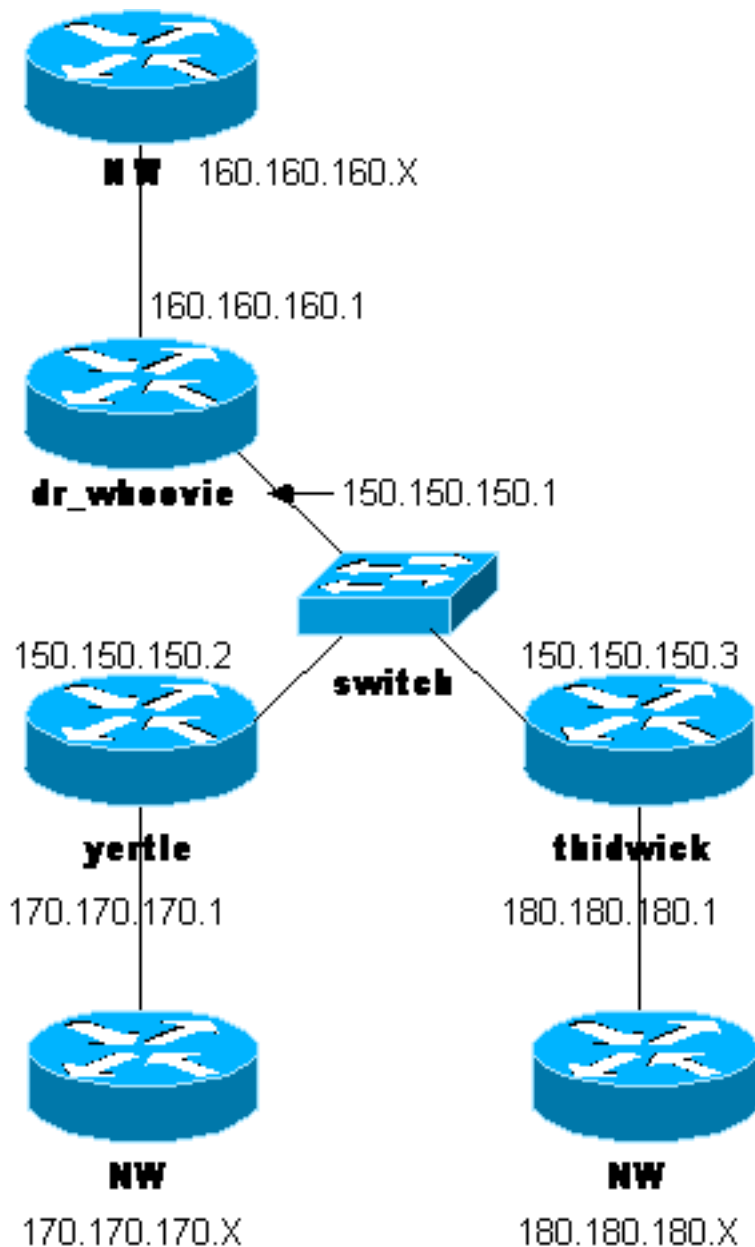
[Configurar](#)

En esta sección encontrará la información para configurar las funciones descritas en este documento.

Nota: Para encontrar información adicional sobre los comandos usados en este documento, utilice la [Command Lookup Tool](#) ([sólo](#) clientes registrados) .

[Diagrama de la red](#)

Este documento utiliza la configuración de red que se muestra en el siguiente diagrama.



Configuraciones

Este documento usa estas configuraciones.

- [Configuración Dr_Whoovie](#)
- [Configuración yertle](#)
- [Configuración thidwick](#)

Nota: Estas configuraciones se probaron recientemente con el código actual (noviembre de 2003) del documento.

Configuración Dr_Whoovie

```

Current configuration:
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!

```

```
hostname dr_whoovie
!
enable secret 5 $1$KxKv$cbqKsZtQTLJLGPn.tErFZ1
enable password ww
!
ip subnet-zero
!
cns event-service server
!
!--- Internet Key Exchange (IKE) Policies: crypto isakmp
policy 1
authentication pre-share
crypto isakmp key cisco123 address 150.150.150.3
crypto isakmp key cisco123 address 150.150.150.2
!
!--- IPsec Policies: crypto ipsec transform-set 170cisco
esp-des esp-md5-hmac
crypto ipsec transform-set 180cisco esp-des esp-md5-hmac
!
crypto map ETH0 17 ipsec-isakmp
set peer 150.150.150.2
set transform-set 170cisco
!--- Include the 160.160.160.x to 170.170.170.x network
!--- in the encryption process. match address 170
crypto map ETH0 18 ipsec-isakmp
set peer 150.150.150.3
set transform-set 180cisco
!--- Include the 160.160.160.x to 180.180.180.x network
!--- in the encryption process. match address 180
!
interface Ethernet0
ip address 150.150.150.1 255.255.255.0
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
no mop enabled
crypto map ETH0
!
interface Ethernet1
no ip address
no ip directed-broadcast
shutdown
!
interface Serial0
ip address 160.160.160.1 255.255.255.0
no ip directed-broadcast
no ip mroute-cache
no fair-queue
!
interface Serial1
no ip address
no ip directed-broadcast
clockrate 4000000
!
ip classless
ip route 170.170.170.0 255.255.255.0 150.150.150.2
ip route 180.180.180.0 255.255.255.0 150.150.150.3
no ip http server
!
!--- Include the 160.160.160.x to 170.170.170.x network
!--- in the encryption process. access-list 170 permit
ip 160.160.160.0 0.0.0.255 170.170.170.0 0.0.0.255
!--- Include the 160.160.160.x to 180.180.180.x network
!--- in the encryption process. access-list 180 permit
```

```
ip 160.160.160.0 0.0.0.255 180.180.180.0 0.0.0.255
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
!
line con 0
transport input none
line aux 0
line vty 0 4
password ww
login
!
end
```

Configuración yertle

```
Current configuration:
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname yertle
!
enable secret 5 $1$me5Q$2kF5zKlPPTvHEBdGiEZ9m/
enable password ww
!
ip subnet-zero
!
cns event-service server
!
!--- IKE Policies: crypto isakmp policy 1
authentication pre-share
crypto isakmp key cisco123 address 150.150.150.3
crypto isakmp key cisco123 address 150.150.150.1
!
!--- IPsec Policies: crypto ipsec transform-set 160cisco
esp-des esp-md5-hmac
crypto ipsec transform-set 180cisco esp-des esp-md5-hmac
!
crypto map ETH0 16 ipsec-isakmp
set peer 150.150.150.1
set transform-set 160cisco
!--- Include the 170.170.170.x to 160.160.160.x network
!--- in the encryption process. match address 160
crypto map ETH0 18 ipsec-isakmp
set peer 150.150.150.3
set transform-set 180cisco
!--- Include the 170.170.170.x to 180.180.180.x network
!--- in the encryption process. match address 180
!
interface Ethernet0
ip address 150.150.150.2 255.255.255.0
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
no mop enabled
crypto map ETH0
!
interface Serial0
no ip address
no ip directed-broadcast
no ip mroute-cache
```

```

shutdown
no fair-queue
!
interface Serial1
ip address 170.170.170.1 255.255.255.0
no ip directed-broadcast
!
ip classless
ip route 160.160.160.0 255.255.255.0 150.150.150.1
ip route 180.180.180.0 255.255.255.0 150.150.150.3
no ip http server
!
!--- Include the 170.170.170.x to 160.160.160.x network
!--- in the encryption process. access-list 160 permit
ip 170.170.170.0 0.0.0.255 160.160.160.0 0.0.0.255
!--- Include the 170.170.170.x to 180.180.180.x network
!--- in the encryption process. access-list 180 permit
ip 170.170.170.0 0.0.0.255 180.180.180.0 0.0.0.255
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
!
line con 0
transport input none
line aux 0
line vty 0 4
password ww
login
!
end

```

Configuración thidwick

```

Current configuration:
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname thidwick
!
enable secret 5 $1$Pcpo$fj4FNS1dEDY9lGg3Ne6FK1
enable password ww
!
ip subnet-zero
!
isdn switch-type basic-5ess
isdn voice-call-failure 0
cns event-service server
!
!--- IKE Policies: crypto isakmp policy 1
authentication pre-share
crypto isakmp key cisco123 address 150.150.150.1
crypto isakmp key cisco123 address 150.150.150.2
!
!--- IPSec Policies: crypto ipsec transform-set 160cisco
esp-des esp-md5-hmac
crypto ipsec transform-set 170cisco esp-des esp-md5-hmac
!
crypto map ETH0 16 ipsec-isakmp
set peer 150.150.150.1
set transform-set 160cisco
!--- Include the 180.180.180.x to 160.160.160.x network

```

```

!--- in the encryption process. match address 160
crypto map ETH0 17 ipsec-isakmp
set peer 150.150.150.2
set transform-set 170cisco
!--- Include the 180.180.180.x to 170.170.170.x network
!--- in the encryption process. match address 170
!
interface Ethernet0
ip address 150.150.150.3 255.255.255.0
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
no mop enabled
crypto map ETH0
!
interface Serial0
no ip address
no ip directed-broadcast
no ip mroute-cache
no fair-queue
clockrate 4000000
!
interface Serial1
ip address 180.180.180.1 255.255.255.0
no ip directed-broadcast
clockrate 4000000
!
interface BRI0
no ip address
no ip directed-broadcast
shutdown
isdn switch-type basic-5ess
!
ip classless
ip route 160.160.160.0 255.255.255.0 150.150.150.1
ip route 170.170.170.0 255.255.255.0 150.150.150.2
no ip http server
!
!--- Include the 180.180.180.x to 160.160.160.x network
!--- in the encryption process. access-list 160 permit
ip 180.180.180.0 0.0.0.255 160.160.160.0 0.0.0.255
!--- Include the 180.180.180.x to 170.170.170.x network
!--- in the encryption process. access-list 170 permit
ip 180.180.180.0 0.0.0.255 170.170.170.0 0.0.0.255
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
!
line con 0
transport input none
line aux 0
line vty 0 4
password ww
login
!
end

```

Verificación

En esta sección encontrará información que puede utilizar para confirmar que su configuración esté funcionando correctamente.

La herramienta [Output Interpreter](#) (sólo para clientes registrados) permite utilizar algunos comandos "show" y ver un análisis del resultado de estos comandos.

- **show crypto ipsec sa**: muestra la configuración utilizada por las asociaciones de seguridad actuales [IPSec].
- **show crypto isakmp sa**: muestra todas las asociaciones de seguridad IKE actuales en un par.

[Troubleshoot](#)

En esta sección encontrará información que puede utilizar para solucionar problemas de configuración.

[Comandos para resolución de problemas](#)

Nota: Antes de ejecutar un comando **debug**, consulte [Información Importante sobre Comandos Debug](#).

- **debug crypto ipsec** — **Muestra los IPSec Negotiations de la Fase 2.**
- **debug crypto isakmp**: muestra las negociaciones de la fase 1 de la Asociación de Seguridad de Internet y del Protocolo de administración de claves (ISAKMP).
- **debug crypto engine**: muestra el tráfico cifrado.
- **clear crypto isakmp** — **Borra las asociaciones de seguridad relacionadas con la fase 1.**
- **clear crypto sa**: borra las asociaciones de seguridad relacionadas con la fase 2.

[Información Relacionada](#)

- [Página de soporte de IPSec](#)
- [Configuración de seguridad de red IPSec](#)
- [Configuración del protocolo de seguridad de intercambio de claves de Internet](#)
- [Soporte Técnico - Cisco Systems](#)