Configurar el hub and spoke del router a router del IPSec

Contenido

Introducción

Este documento muestra el encripción de red radial de un router (el "eje de conexión") a tres otros routers (los "radios"). Existe un mapa de encripción en el router hub que especifica las redes detrás de cada uno de sus tres pares. Los mapas de criptografía de cada uno de los routers radiales especifican la red que hay detrás del router hub.

El cifrado se hace entre estas redes:

- red 160.160.160.x a red 170.170.170.x
- 160.160.160.x red a 180.180.180.x red
- red 160.160.160.x a red 190.190.190.x

prerrequisitos

Requisitos

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 Release 12.0.7.T o Posterior de Cisco IOS®
- Cisco 2500 Router

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener cualquier comando.

Convenciones

Para obtener más información sobre las convenciones del documento, consulte Convenciones de Consejos Técnicos de Cisco.

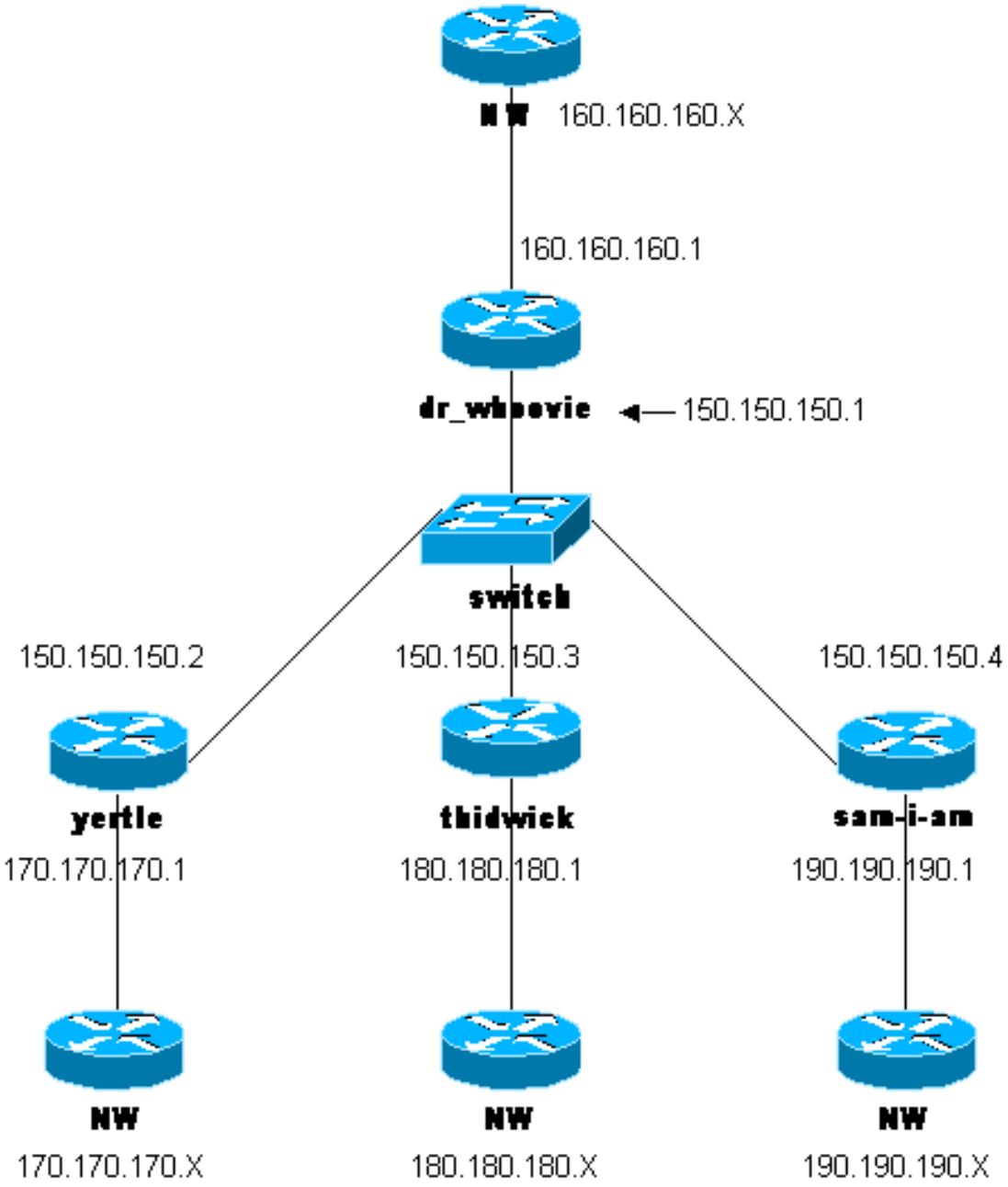
Configurar

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

Note: Para obtener información adicional sobre los comandos que se utilizan en este documento, use la Command Lookup Tool (solo para clientes registrados).

Diagrama de la red

En este documento, se utiliza esta configuración de red:



Configuraciones

En este documento, se utilizan estas configuraciones:

- configuración del dr_whoovie
- Configuración de sam-i-am
- Configuración thidwick
- Configuración yertle

configuración del dr_whoovie
Current configuration: ! version 12.0 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
!--- Configure the Internet Key Exchange (IKE) !---
policy and preshared key for each peer: !--- IKE policy
defined for peers. crypto isakmp policy 1
authentication pre-share
!--- Preshared keys for different peers. crypto isakmp
key cisco170 address 150.150.150.2
crypto isakmp key cisco180 address 150.150.150.3
crypto isakmp key cisco190 address 150.150.150.4
!--- Configure the IPSec parameters: !--- IPSec
transform sets. crypto ipsec transform-set 170cisco esp-
des esp-md5-hmac
crypto ipsec transform-set 180cisco esp-des esp-md5-hmac
crypto ipsec transform-set 190cisco esp-des esp-md5-hmac
!
crypto map ETH0 17 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.2
!--- The IPSec transform set is used for this tunnel.
set transform-set 170cisco
!--- Interesting traffic for peer 150.150.150.2. match
address 170
crypto map ETH0 18 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.3
!--- The IPSec transform set is used for this tunnel.
set transform-set 180cisco
!--- Interesting traffic for peer 150.150.150.3. match
address 180
crypto map ETH0 19 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.4
!--- The IPSec transform set is used for this tunnel.
set transform-set 190cisco
!--- Interesting traffic for peer 150.150.150.4. match
address 190
!
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
!--- Apply crypto map on the interface. crypto map ETH0
!
interface Serial0
ip address 160.160.160.1 255.255.255.0
no ip directed-broadcast
no ip mroute-cache
no fair-queue
!
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
ip route 190.190.190.0 255.255.255.0 150.150.150.4
no ip http server
!
!--- Access list that shows traffic to encryption from
yertle. access-list 170 permit ip 160.160.160.0
0.0.0.255 170.170.170.0 0.0.0.255
```

```
!--- Access list that shows traffic to encryption from
thidwick. access-list 180 permit ip 160.160.160.0
0.0.0.255 180.180.180.0 0.0.0.255
!--- Access list that shows traffic to encryption from
sam-i-am. access-list 190 permit ip 160.160.160.0
0.0.0.255 190.190.190.0 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 de sam-i-am

```
Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Sam-I-am
!
enable secret 5 $1$HDyw$qubSJdqfIC0f1VLvHmg/P0
enable password ww
!
ip subnet-zero
!
isdn switch-type basic-5ess
isdn voice-call-failure 0
cns event-service server
!--- Configure the IKE policy and preshared key for the
hub: crypto isakmp policy 1
authentication pre-share
crypto isakmp key cisco190 address 150.150.150.1
!--- Configure the IPSec parameters: !--- IPSec
transform set. crypto ipsec transform-set 190cisco esp-
des esp-md5-hmac
!--- Crypto map definition for the hub site. crypto map
ETH0 19 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.1
!--- IPSec transform set. set transform-set 190cisco
!--- Interesting traffic for peer 150.150.150.1 (hub
site). match address 190
!
interface Ethernet0
ip address 150.150.150.4 255.255.255.0
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
no mop enabled
!--- Apply crypto map on the interface. crypto map ETH0
!
interface Serial0
ip address 190.190.190.1 255.255.255.0
no ip directed-broadcast
no ip mroute-cache
no fair-queue
!
ip classless
ip route 160.160.160.0 255.255.255.0 150.150.150.1
no ip http server
!--- Access list that shows traffic to encryption !---
for the hub site (dr_whoovie). access-list 190 permit ip
190.190.190.0 0.0.0.255 160.160.160.0 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 12.0
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
!--- Configure the IKE policy and preshared key for the
hub: crypto isakmp policy 1
authentication pre-share
crypto isakmp key cisco180 address 150.150.150.1
!--- Configure the IPSec parameters: !--- IPSec
transform set. crypto ipsec transform-set 180cisco esp-
des esp-md5-hmac
!--- Crypto map definition for the hub site. crypto map
ETH0 18 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.1
!--- IPSec transform set. set transform-set 180cisco
!--- Interesting traffic for peer 150.150.150.1 (hub
site). match address 180
!
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
!--- Apply crypto map on the interface. crypto map ETH0
!
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
no ip http server
!--- Access list that shows traffic to encryption !---
for the hub site (dr_whoovie). access-list 180 permit ip
180.180.180.0 0.0.0.255 160.160.160.0 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 12.0
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
!--- Configure the IKE policy and preshared key for the
hub: crypto isakmp policy 1
authentication pre-share
crypto isakmp key cisco170 address 150.150.150.1
!--- Configure the IPSec parameters: !--- IPSec
transform set. crypto ipsec transform-set 170cisco esp-
des esp-md5-hmac
!--- Crypto map definition for the hub site. crypto map
ETH0 17 ipsec-isakmp
!--- Set the peer. set peer 150.150.150.1
!--- IPSec transform set. set transform-set 170cisco
!--- Interesting traffic for peer 150.150.150.1 (hub
site). match address 170
!
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
!--- Apply crypto map on the interface. 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
no ip http server
!--- Access list that shows traffic to encryption for !-
-- the hub site (dr_whoovie). access-list 170 permit ip
170.170.170.0 0.0.0.255 160.160.160.0 0.0.0.255
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
!
tftp-server flash:/c2500-jos56i-l.120-7.T
tftp-server flash:c2500-jos56i-l.120-7.T
tftp-server flash:
!
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 las asociaciones de seguridad de la fase 2.
- show crypto isakmp sa — Muestra las asociaciones de seguridad de la fase 1.

Troubleshooting

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

Comandos para resolución de problemas

Note: Antes de ejecutar un comando de depuración, consulte Información importante sobre comandos de depuración.

- **IPSec del debug crypto** — Visualiza los IPSec Negotiations de la fase 2.
- **isakmp del debug crypto** — Visualiza negociaciones ISAKMP de la fase 1.
- debug crypto engine - Muestra el tráfico cifrado.
- clear crypto isakmp â€" Borra las asociaciones de seguridad relacionadas con la fase 1.
- **borre el sa crypto** — Borra las asociaciones de seguridad relacionadas con la fase 2.

Información Relacionada

- IPSec Network Security de la configuración
- Internet Key Exchange Security Protocol de la configuración
- Página de soporte de IPSec
- Soporte Técnico - Cisco Systems