Cisco IOS/CCP - Configuración de DMVPN con Cisco CP

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Introducción

Este documento proporciona una configuración de ejemplo para el túnel Dynamic Multipoint VPN (DMVPN) entre routers hub y spoke mediante Cisco Configuration Professional (Cisco CP). Dynamic Multipoint VPN es una tecnología que integra diversos conceptos como GRE, encripción de IPSec, NHRP y Ruteo para proporcionar una solución sofisticada que permita a los usuarios finales comunicarse con eficacia a través de los túneles IPsec spoke al spoke creados dinámicamente.

Prerequisites

Requirements

Para obtener la mejor funcionalidad de DMVPN, se recomienda ejecutar la línea principal 12.4 del software Cisco IOS®, 12.4T y posteriores.

Componentes Utilizados

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

hardware.

- Router Cisco IOS serie 3800 con versión de software 12.4 (22)
- Router Cisco IOS serie 1800 con versión de software 12.3 (8)
- Cisco Configuration Professional versión 2.5

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

Consulte Convenciones de Consejos Técnicos de Cisco para obtener más información sobre las convenciones sobre documentos.

Antecedentes

Este documento proporciona información sobre cómo configurar un router como spoke y otro router como hub usando Cisco CP. Se muestra la configuración de spoke inicial, pero más adelante en el documento, la configuración relacionada con hub también se muestra en detalle para proporcionar una mejor comprensión. Otros radios también se pueden configurar utilizando el enfoque similar para conectarse al hub. El escenario actual utiliza estos parámetros:

- Red pública del router hub 209.165.201.0
- Red de túnel: 192.168.10.0
- Protocolo de ruteo utilizado OSPF

Configurar

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

<u>Nota:</u> Utilice la herramienta <u>Command Lookup</u> (sólo para clientes <u>registrados</u>) para obtener más información sobre los comandos utilizados en esta sección.

Diagrama de la red

En este documento, se utiliza esta configuración de red:



Configuración de Spoke con Cisco CP

Esta sección muestra cómo configurar un router como radio mediante el asistente de DMVPN paso a paso en Cisco Configuration Professional.

 Para iniciar la aplicación Cisco CP e iniciar el asistente DMVPN, vaya a Configurar > Seguridad > VPN > Dynamic Multipoint VPN. A continuación, seleccione la opción Crear un spoke en una DMVPN y haga clic en Iniciar la tarea seleccionada

VPN		
reate Demannic Multinoint VDN (DM/DM)	Edit Dynamic Multinaint VRN (DM/RND)	
Configure DMVPN Spoke	Edit Dynamic wolapoint VPN (DMVPN)	
Spoke 1 Danvin Claud		
Create a spoke (client) in a DMVPH Use this option to configure the rou and spoke network topology. To co know the hub's IP address, NHRP policy, IPSec Transform set and dy) ter as a spoke in a full mesh or hub mplete this configuration, you must information, pre-shared key, IKE namic routing protocol information.	
 Create a spoke (client) in a DMVPH Use this option to configure the rou and spoke network topology. To co know the hub's IP address, NHRP policy, IPSec Transform set and dy Create a hub (server or head-end) in Use this option to configure the rou are configuring a backup hub, you r information, pre-shared key, IKE policy 	ter as a spoke in a full mesh or hub mplete this configuration, you must information, pre-shared key, IKE namic routing protocol information. • DMVPN ter as a primary or backup hub. If you must know the primary hub's NHRP blicy, IPSec Transform set and	
 Create a spoke (client) in a DMVPH Use this option to configure the rou and spoke network topology. To co know the hub's IP address, NHRP policy, IPSec Transform set and dyn Create a hub (server or head-end) in Use this option to configure the rou are configuring a backup hub, you in information, pre-shared key, IKE po dynamic routing protocol information 	ter as a spoke in a full mesh or hub mplete this configuration, you must information, pre-shared key, IKE namic routing protocol information. A DMVPN ter as a primary or backup hub. If you must know the primary hub's NHRP blicy, IPSec Transform set and in.	

2. Haga clic en *Siguiente* para comenzar.

DMVPN Spoke Wizard	
VPN Wizard	Configure a DMVPN spoke
	DMVPN allows you to create a scalable network that connects multiple remote routers to a central hub router using the same security features offered by site-to-site VPNs. DMVPN uses IPSec, NHRP, GRE and routing protocols to create secure tunnels between a hub and a spoke. This wizard allows you to configure the router as a DMVPN spoke. The wizard guides you through these tasks: * Specifying the DMVPN network topology. * Providing hub information. * Configuring a GRE tunnel interface. * Configuring a GRE tunnel interface. * Configuring a pre-shared key. * Configuring an IPSec transform set. * Configuring a dynamic routing protocol. To begin, click Next.
	< Back Next > Finish Cancel Help

3. Seleccione la opción *Hub and Spoke network* y haga clic en *Next*.



4. Especifique la información relacionada con el concentrador, como la interfaz pública del router del concentrador y la interfaz de túnel del router del concentrador.

DMVPN Spoke Wizard (Hu	ib and Spoke Topology) - 20% Complete		×
VPN Wizard	Specify Hub Information Enter the IP address of the hub and the IP addre Contact your network administrator to get this in	ess of the hub's mGRE tunnel interface. formation.	
	Hub Information		
	IP address of hub's physical interface:	209.165.201.2	
	IP address of hub's mGRE tunnel interface:	192.168.10.2	
	Spoke You are configuring this spoke router Bins	tblic IP address be entered above Hub RE tunnel	
	<	Back Next > Finish Cancel He	ip 🛛

5. Especifique los detalles de la interfaz de túnel del spoke y la interfaz pública del spoke. A continuación, haga clic en *Advanced*.

VPN Wizard	GRE Tunnel Interface Config	uration			
	Select the interface that conn	ects to the Inte	met: FastEthernet0		
	Selecting an interface cor be always up. 	figured for a d	alup connection may cause the c	onnection to	
	A GRE tunnel interface will address information for this	be created for interface.	this DMVPN connection. Please e	nter the	
121-0-		A Internace	Advanced settings		
	192 168 10 5	j.	Click Advanced to verify that valu match neer settings	les	
N 8 - 1	Subnet Mask:	Subnet Mask:		Advanced	
	255.255.255.0	24	9		
	Interface connected to Internet. This is the interface from which GRE/mGRE Tunnel originaties-	Logic IP ad interf are p in the For n help I	al GRE/mGRE Tunnel interface. dress of GRE/mGRE tunnel ace on all hubs and spoke routers rivate IP addresses and must be same subnet. more information please click the putton.		

6. Verifique los parámetros del túnel y los parámetros NHRP, y asegúrese de que coinciden

Some of the following parameter in all devices in this DMVPN. Obt from your network administrator Cisco CP defaults. NHRP	's should be identica ain the correct value before changing the
NHRP Authentication String:	DMVPN_NW
NHRP Network ID:	100000
NHRP Hold Time:	360
GRE Tunnel Interface Inform	nation
Tunnel Key:	100000
Bandwidth:	1000
MTU:	1400
Tunnel Throughput Delay:	1000

perfectamente con los parámetros del Hub.

7. Especifique la clave previamente compartida y haga clic en

Siguiente.	New York Street Berlinstein	
DMVPN Spoke Wizard (Hu	b and Spoke Topology	r) - 40% Complete 🛛 👔
VPN Wizard	Authentication Select the method you DMVPN network. You o the router must have a on this router must ma C Digital Certificate Pre-shared Keys pre-shared key: Reenter key:	want to use to authenticate this router to the peer device(s) in the an use digital certificate or a pre-shared key is used, the key configure valid certificate configured. If pre-shared key is used, the key configure the the keys configured on all other routers in the DMVPN network.
		< Back Next Finish Cancel Help

8. Haga clic en *Agregar* para agregar una propuesta IKE independiente.

DMVPN Spoke Wizard (Hub and Spoke Topology) - 50% Complete

VPN Wizard

IKE Proposals

IKE proposals specify the encryption algorithm, authentication algorithm and key exchange method that is used by this router when negotiating a VPN connection with the remote device. For the VPN connection to be established with the remote device, the remote device should be configured with at least one of the policies listed below.

Click the Add... button to add more policies and the Edit... button to edit an existing policy.

A starting		Priority	Encryption	Hash	D-H Group	Authentication	Туре
44		1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defa
and the							
1000							
P							
A COLORADO	()	Add	Edit.				
100	-						
14 C							
	_						
					< Back Ne:	d> Finish C	ancel He

9. Especifique los parámetros de cifrado, autenticación y hash. A continuación, haga clic en

Priority:	Authentication:
2	PRE_SHARE
Encryption:	D-H Group:
AES_192	group1 🛛 📝
Hash:	Lifetime:
SHA_1	24 0 0 HH:MM:S

10. La nueva política IKE se puede ver aquí. Haga clic en Next (Siguiente).

Priority Encryption Hash D-H Group Authentication Type 1 3DES SHA_1 group2 PRE_SHARE Cisco of 2 AES_192 SHA_1 group1 PRE_SHARE User D	VPN Wizard	IKE Propos IKE proposa method that device. For t device shou Click the Ad	als ils specify the en is used by this r he VPN connecti Id be configured Id button to add	cryption algo outer when n on to be esta with at least d more polici	rithm, authenticat egotiating a VPN blished with the r one of the policie es and the Edit I	tion algorithm and connection with t emote device, the s listed below. button to edit an e	d key exchange he remote e remote existing policy.
Image: Shall group 2 PRE_SHARE Cisco 4 2 AES_192 SHA_1 group 1 PRE_SHARE User D Image: Shall group 1 PRE_SHARE User D		Prior	rity Encryption	Hash	D-H Group	Authentication	Type
2 AES_192 SHA_1 group1 PRE_SHARE User D	10 million	1	3DE8	SHA_1	group2	PRE_SHARE	Cisco CP Def
Add Edit.	P.						
		Add	Edit.				

11. Haga clic en *Next* para continuar con el conjunto de transformación predeterminado.

VPN Wizard	Transform Set A transform set specifies t data in the VPN tunnel. Sin communicate, the remote one selected below. Click the Add button to ad transform set.	he encryption and aut ice the two devices m device must be config dd a new transform se	hentication algorit ust use the same ured with the sam at and the Edit bu	hms used to protect the algorithms to ne transform set as the utton to edit the specifie
	Select Transform Set:	ansform Set 🛛 💌	1	
	Name	ESP Encryption	ESP Integrity	AH Integrity
KE				
51	Add Edit			

12. Seleccione el protocolo de ruteo necesario. Aquí, se selecciona OSPF.

DMVPN Spoke Wizard (Hu	ib and Spoke Topology) - 70% Complete	×
VPN Wizard	Select Routing Protocol Routing protocols are used to advertise private networks behind this router to other routers in the DMVPN. Select the dynamic routing protocol you want to use. Note: You can only create as many OSPF processes as the number of interfaces that are configured with an IP address and have the status administratively up. C EIGRP OSPFI	
	< Back Next > Finish Cancel Help	

13. Especifique el ID de proceso OSPF y el ID de área. Haga clic en *Agregar* para agregar las redes que serán anunciadas por OSPF.



- 14. Agregue la red de túnel y haga clic en Aceptar.
- 15. Agregue la red privada detrás del router spoke. A continuación, haga clic en *Siguiente*.

ard Routing Informa	tion			
C Select an exis	C Select an existing OSPF process ID:			
 Create a new 	OSPF process ID:		10	
OSPF Area ID fo	r tunnel network:		2	
Add the private n must be enabled Private netw	etworks that you want i on the other routers t orks advertised using	to advertise to o send and re OSPF) the other routers in this I iceive these advertisement	
Network	Wildcard Mask	Area	Add	
192.168.10.0	0.0.0.255	2	Edit	
172.16.18.0	0.0.0.255	2	Delete	
Private Networksed to	the DMVPN cloud.			

16. Haga clic en *Finalizar* para completar la configuración del asistente.



17. Haga clic en Entregar para ejecutar los comandos. Marque la casilla de verificación Guardar configuración en ejecución en la configuración de inicio del dispositivo si desea guardar la configuración.

Derver della commanda lo tric device	es running config.			
Preview commands that will be delive	ered to the device's	running configuration.		
crypto ipsec transform-set ESP-3DE	S-SHA esp-sha-hma	ic esp-3des		^
node transport				
crypto ipsec profile CiscoCP_Profile1	ř.			1
set transform-set ESP-3DES-SHA	53.			
exit				
interface Tunnel0				
exe defective to the second s				
interface Tunnel0				1
handwidth 1000				Y
<				2.
The differences between the ru the device is turned off.	nning configurati	on and the startup c	onfiguration are los	t whenever
Save running config to device	's startup config.			
ouver failing coning. to defice				
Save running config to device	's startup config.			

Configuración CLI para Spoke

La configuración CLI relacionada se muestra aquí:

Router spoke
crypto ipsec transform-set ESP-3DES-SHA esp-sha-hmac
esp-3des
mode transport
exit
crypto ipsec profile CiscoCP_Profile1
set transform-set ESP-3DES-SHA
exit
interface Tunnel0
exit
default interface Tunnel0
interface Tunnel0
bandwidth 1000
delay 1000
ip nhrp holdtime 360
ip nhrp network-id 100000
ip nhrp authentication DMVPN_NW
ip ospf network point-to-multipoint
ip mtu 1400
no shutdown
ip address 192.168.10.5 255.255.255.0
ip top adjust-mss 1360
ip nhrp nhs 192.168.10.2
ip nhrp map 192.168.10.2 209.165.201.2
tunnel source FastEthernet0
tunnel destination 209.165.201.2
tunnel protection ipsec profile CiscoCP_Profile1
tunnel key 100000

```
exit
router ospf 10
network 192.168.10.0 0.0.0.255 area 2
network 172.16.18.0 0.0.0.255 area 2
exit
crypto isakmp key ******* address 209.165.201.2
crypto isakmp policy 2
authentication pre-share
encr aes 192
hash sha
group 1
lifetime 86400
exit
crypto isakmp policy 1
authentication pre-share
encr 3des
hash sha
group 2
lifetime 86400
exit
```

Configuración del hub mediante Cisco CP

En esta sección se muestra un enfoque paso a paso sobre cómo configurar el router hub para la DMVPN.

 Vaya a Configure > Security > VPN > Dynamic Multipoint VPN y seleccione la opción Create a hub in a DMVPN. El, haga clic en Iniciar la tarea seleccionada.

VPN			
Create Dynan Spoke Spoke 2	C Multipoint VPN (DMVPN)	Edit Dynamic Multipoint VPN (DMVPN)	
Create a Use th and sp know t	spoke (client) in a DMVPN s option to configure the rou oke network topology. To cor te hub's IP address, NHRP i PSer Transform set and dy	ter as a spoke in a full mesh or hub mplete this configuration, you must information, pre-shared key, IKE pamic routing protocol information	
Create a	hub (server or head-end) in	a DMVPN:	
Use th are co inform dynam	s option to configure the rou figuring a backup hub, you n tion, pre-shared key, IKE po c routing protocol informatio	iter as a primary or backup hub. If you must know the primary hub's NHRP plicy, IPSec Transform set and in. Launch the selected task	

2. Haga clic en Next (Siguiente).

DMVPN Hub Wizard	
VPN Wizard	Configure a DMVPN hub
	DMVPN allows you to create a scalable network that connects multiple remote routers to a central hub router using the same security features offered by site-to-site VPNs. DMVPN uses IPSec, NHRP, GRE and routing protocols to create secure tunnels between a hub and a spoke. This wizard allows you to configure the router as a DMVPN hub. The wizard guides you through these tasks: * Specifying the DMVPN network topology. * Specifying the hub type. * Configuring a multipoint GRE tunnel. * Configuring a pre-shared key. * Configuring a pre-shared key. * Configuring an IPSec transform set. * Configuring a dynamic routing protocol. To begin, click Next.
	< Back Next > Finish Cancel Help

3. Seleccione la opción Hub and Spoke network y haga clic en Next.



4. Seleccione *Hub principal*. A continuación, haga clic en *Siguiente*.

DMVPN Hub Wizard (Hu	b and Spoke Topology) - 15% Complete	×
VPN Wizard	Type of Hub In a DMVPN network there will be a hub router and multiple spoke routers connecting to t hub. You can also configure multiple routers as hubs. The additional routers will act as backups. Select the type of hub you want to configure this router as.	he
	Primary hub	
	C Backup Hub(Cisco CP does not support backup hub configuration on this router)	
	< Back Next > Finish Cancel H	elp

5. Especifique los parámetros de la interfaz de túnel y haga clic en *Advanced*.

PN Wizard	Multipoint GRE Tunnel Inter	Multipoint GRE Tunnel Interface Configuration					
er one one and and	Select the interface that connects to the Internet: (GigabitEthernet0/0)						
	Selecting an interface co be always up.	infigured for a d	ialup connection may cause the connection				
	A GRE tunnel interface will address information for th) i unnei interta I be created for is interface. nel interface	this DMVPN connection. Please enter the Advanced settings				
	IP Address:	ion milendee	Click Advanced to verify that values match peer settings.				
	192,168,10,2						
	Subnet Mask:	17.5					
	255.255.255.0	255.255.255.0					
	Interface connected to Internet. This is the interface from which GRE/mGRE Tunnel originaties-	Logic IP ad are p in the For n help	al GRE/mGRE Tunnel interface. dress of GRE/mGRE tunnel ace on all hubs and spoke routers rivate IP addresses and must be a same subnet. nore information please click the button.				

6. Especifique los parámetros de túnel y los parámetros NHRP. A continuación, haga clic en

n all devices in this DMVPN. Obta rom your network administrator t Disco CP defaults.	s should be identica ain the correct value before changing the	
NHRP Authentication String:	DMVPN_NW	
NHRP Network ID:	100000	
NHRP Hold Time:	360	
GRE Tunnel Interface Inform	nation	
Tunnel Key:	100000	
Bandwidth:	1000	
MTU:	1400	
Tunnel Throughput Delay:	1000	

Aceptar.

7. Especifique la opción en función de la configuración de la



8. Seleccione *Pre-shared Keys* y especifique las claves previamente compartidas. A continuación, haga clic en

Siguiente.					
DMVPN Hub Wizard (Hub	and Spoke Topology) -	40% Complete			×
VPN Wizard	Authentication Select the method you v DMVPN network. You ca the router must have a v on this router must mat	want to use to author an use digital certifi valid certificate configu ch the keys configu	enticate this router to cate or a pre-shared igured. If pre-shared red on all other route	the peer device(s) in the key. If digital certificate is key is used, the key cont rs in the DMVPN network	i used, figured c
			< Back (Next >)	Finish Cancel H	leip

9. Haga clic en *Agregar* para agregar una propuesta IKE independiente.

DMVPN Hub Wizard (Hub and Spoke Topology) - 50% Complete

	M/i-	and
Y F	VYIZ	alu

IKE Proposals

IKE proposals specify the encryption algorithm, authentication algorithm and key exchange method that is used by this router when negotiating a VPN connection with the remote device. For the VPN connection to be established with the remote device, the remote device should be configured with at least one of the policies listed below.

Click the Add... button to add more policies and the Edit... button to edit an existing policy.

ALL	1	Priority	Encryption	Hash	D-H Group	Authentication	Туре
	2	1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defa
Contract of							
a land							
				t			
1 Action		Add	Edit				
1 Aller	~						
- 187							
					< Back Nex	d> Einish (ancel He

10. Especifique los parámetros de cifrado, autenticación y hash. A continuación, haga clic en

Priority:	Authentication:
2	PRE_SHARE
Encryption:	D-H Group:
AES_192 💙	group1 😪
Hash:	Lifetime:
SHA_1	24 0 0 HH:MM:SS

11. La nueva política IKE se puede ver aquí. Haga clic en Next (Siguiente).

VPN Wizard	IKE	Proposals					
	IKE ;	proposals	specify the en	cryption algo	rithm, authenticat	ion algorithm and	d key exchange
	devic	e. For the	used by this n VPN connecti	outer when h on to be esta	egotiating a VPN Iblished with the r	connection with t emote device, the	ne remote e remote
	devid	e should t	be configured	with at least	one of the policie	s listed below.	
$\sim \uparrow$	8 1 500						
	Clic	k the Add	, button to add	d more polici	es and the Edit I	outton to edit an e	existing policy.
		Priority	Encryption	Hash	D-H Group	Authentication	Туре
100		1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Def
		2	AES_192	SHA_1	group1	PRE_SHARE	User Defined
\mathbf{h} \mathbf{h}	1						
			in the second	Ĩ			
I MARKED		Add	Edit.				
A ROW	1						
States 1							
	1.1						

12. Haga clic en *Next* para continuar con el conjunto de transformación predeterminado.

VPN Wizard	Transform Set			
	A transform set specifies data in the VPN tunnel. Si communicate, the remote one selected below. Click the Add button to a transform set.	the encryption and aut ince the two devices m e device must be config add a new transform se	hentication algorit ust use the same gured with the sam et and the Edit bu	hms used to protect the algorithms to ne transform set as the utton to edit the specifie
	Select Transform Set:			
are a	Cisco CP Default T	Fransform Set 🛛 💌		
	Details of the specifie	d transform set		
	Name	ESP Encryption	ESP Integrity	AH Integrity
	ESP-3DES-SHA	ESP_3DES	ESP_SHA_HMAC	
11de				
	<	iii		5
A Contraction				
	Add	ÚF.		
	Add Ed	it		

13. Seleccione el protocolo de ruteo necesario. Aquí, se selecciona OSPF.

DMVPN Hub Wizard (Hu	b and Spoke Topology) - 70% Complete
	Select Routing Protocol Routing protocols are used to advertise private networks behind this router to other routers in boll/VPN. Select the dynamic routing protocol you want to use. Note: You can only create as many OSPF processes as the number of interfaces that are configured with an IP address and have the status administratively up. C EIORP
	< Back Next > Finish Cancel Helt

14. Especifique el ID de proceso OSPF y el ID de área. Haga clic en *Agregar* para agregar las redes que serán anunciadas por OSPF.

lizard	Routing Information	on		
And	C Select an existi	ng OSPF process ID		×
4	Create a new OSPF process ID:			10
-	OSPF Area ID for 1	tunnel network:		2
	Add the private net must be enabled o	tworks that you want t on the other routers to rks advertised using	o advertise to the send and receiv OSPF	e other routers in this DMVF ve these advertisements.
	Network	Wildcard Mask	Area	(Add.)
A	Private Networ advertised to th	k that will be he DMVPN cloud.		Delete
	Private Networ advertised to the University of the second	k that will be he DMVPN cloud.	< Back 1	Vext > Finish Cancel
	Private Networ advertised to the output of the second seco	k that will be he DMVPN cloud.	< Back 1 a Network	Next > Finish Cancel
	Private Networ advertised to th Internet DMVPN Clearl	k that will be he DMVPN cloud.	< Back 1 a Network	Next > Finish Cancel
	Private Networ advertised to the Internet DMVPN Cheat	k that will be he DMVPN cloud.	Back 1 a Network twork: Idcard Mask:	Vext > Finish Cancel 192.168.10.0 0.0.0.255
	Private Networ advertised to the output of the second seco	k that will be he DMVPN cloud.	Back 1 a Network twork: Idcard Mask: Ba:	Next > Finish Cancel

- 15. Agregue la red de túnel y haga clic en *Aceptar*.16. Agregue la red privada detrás del router Hub y haga clic en



17. Haga clic en *Finalizar* para completar la configuración del asistente.

VPN Wizard	Summary of the Configuration	
	Click Finish to deliver the configuration to the router.	
	Role of this router: DMVPNHub (Primary) Interface that connects this router to the Internet:GigabitEthernet0/0 IP address of this router's tunnel interface:192.168.10.2 Mask 255.255.255.0 Advanced configuration for the tunnel interface: NHRP Authentication String:DMVPN_NW NHRP Network ID:100,000 NHRP Holdtime:360 Tunnel Key:100,000 Bandwidth:1,000 MTU:1,400 Delay:1,000 Routing Protocol:OSPF OSPF Process ID:10 OSPF Area ID for tunnel network:2 Private networks advertised: 192.168.10.0Area2 172.16.20.0Area2 Transform Set: Name: ESP 2DER SMA	
	Spoke Config	uration

18. Haga clic en Entregar para ejecutar los

comandos.



Configuración CLI para Hub

Aquí se muestra la configuración de CLI relacionada:

Router del eje de conexión
!
crypto isakmp policy 1
encr 3des
authentication pre-share
group 2
!
crypto isakmp policy 2
encr aes 192
authentication pre-share
crypto isakmp key abcd123 address 0.0.0.0 0.0.0.0
crypto ipsec transform-set ESP-3DES-SHA esp-3des esp-
sna-nmac
crypto insec profile CiscoCP Profile1
set transform-set ESP-3DES-SHA
interface Tunnel0
bandwidth 1000
ip address 192.168.10.2 255.255.255.0
no ip redirects
ip mtu 1400
ip nhrp authentication DMVPN_NW
ip nhrp map multicast dynamic
ip nhrp network-id 100000

```
ip nhrp holdtime 360
ip tcp adjust-mss 1360
ip ospf network point-to-multipoint
delay 1000
tunnel source GigabitEthernet0/0
tunnel mode gre multipoint
tunnel key 100000
tunnel protection ipsec profile CiscoCP_Profile1
!
router ospf 10
log-adjacency-changes
network 172.16.20.0 0.0.0.255 area 2
network 192.168.10.0 0.0.255 area 2
```

Editar la configuración de DMVPN mediante CCP

Puede editar manualmente los parámetros de túnel DMVPN existentes cuando seleccione la interfaz de túnel y haga clic en *Editar*.

VPN		_		
reate Dynamic Multipoin	IT VPN (DMVPN)	Edit Dynamic	: Multipoint VPN (DMVPN)	
	12			Add Edit
Interface	IPSec Pro	ofile	IP Address	Description
Funnel0	CiscoCP_	Profile1	192.169.10.2	<none></none>
Details for interface Tunr	nelO:			
Details for interface Tunr Item Name	nelO:		Item Value	
Details for interface Tunr Item Name nterface	nelO:		Item Value Tunnel0	
Details for interface Tunr Item Name nterface PSec Profile	nelO:		Item Value Tunnel0 CiscoCP_Profile1	
Details for interface Tunr Item Name Interface PSec Profile P Address	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2	
Details for interface Tunr Item Name nterface PSec Profile P Address Description Funnel Bandwidth	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 <none> 1000</none>	
Details for interface Tunr Item Name Interface PSec Profile P Address Description Funnel Bandwidth	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 «None» 1000 1400	
Details for interface Tunr Item Name nterface PSec Profile P Address Description Funnel Bandwidth MTU NHRP Authentication	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 «None» 1000 1400 DMVPN_NW	
Details for interface Tunr Item Name Interface IPSec Profile IP Address Description Tunnel Bandwidth MTU NHRP Authentication NHRP Network ID	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 «None» 1000 1400 DMVPN_NW 100000	
Details for interface Tunr Item Name Interface IPSec Profile IP Address Description Funnel Bandwidth WTU NHRP Authentication NHRP Network ID NHRP Hold Time	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 <none> 1000 1400 DMVPN_NW 100000 360</none>	

Los parámetros de la interfaz de túnel como MTU y la clave de túnel se modifican bajo la ficha *General*.

eneral NHRP R	outing
IP address:	192.168.10.2
Masic	255.255.255.0 24
Interface:	GigabitEthernet0/0
C IP address:	
Tunnel Destination:	t GRE Tunnel
Tunnel Destination: This is an multipoin This is an multipoin This is an multipoin Sec Profile:	t GRE Tunnel
Tunnel Destination: This is an multipoin P / Hostname: PSec Profile: MTU:	t GRE Tunnel CiscoCP_Proti Add 1400
Tunnel Destination: This is an multipoin P / Hostname: PSec Profile: MTU: Bandwidth:	t GRE Tunnel CiscoCP_Proti M Add 1400 1000
Tunnel Destination: This is an multipoin IP / Hostname: PSec Profile: MTU: Bandwidth: Delay:	t GRE Tunnel CiscoCP_Proti Add 1400 1000 1000

1. Los parámetros relacionados con NHRP se encuentran y modifican según el requisito de la pestaña *NHRP*. En el caso de un router radial, debe poder ver el NHS como la dirección IP del router hub. Haga clic en *Agregar* en la sección Mapa NHRP para agregar el mapping

Authentication String:	DMVPN_NW
Hold Time:	360
Network ID:	100000
Next Hop Servers	Add
	Delete
NHRP Map	
Destination M	fask Add
«None» «	None> Eal
	Delete

NHRP.2. Según la configuración de la red, los parámetros de asignación NHRP se pueden configurar

	NHRP Map Configuration	
	C Statically configure the IP-to-NMBA address mapping of IP destinations connected to a NBMA network. Destination reachable through NBMA network IP Address: Mask (Optional):	
	NBMA address directly reachable	
	 Configure NBMA addresses used as destinations for broost or multicast packets to be sent over a tunnel network. Dynamically add spokes' IP addresses to hub's mult IP address of NBMA address directly reachable 	oadcast icast cache
como se muestra aquí:	OK Cancel Help	

Los parámetros relacionados con el ruteo se ven y modifican en la pestaña Ruteo.

	9
Routing Protocol:	OSPF
Ø OSPF	
OSPF Network Type:	point-to-multipoint
OSPF Priority:	
Hello Interval:	
Dead Interval:	

Más información

Los túneles DMVPN se configuran de estas dos maneras:

- Comunicación de radio a radio a través del concentrador
- Comunicación de radio a radio sin el concentrador

En este documento, sólo se analiza el primer método. Para permitir el establecimiento de túneles IPSec dinámicos de radio a radio, este enfoque se utiliza para agregar el spoke a la nube DMVPN:

- 1. Inicie el asistente DMVPN y seleccione la opción Configuración de Spoke.
- 2. En la ventana *DMVPN Network Topology*, seleccione la opción *Red de malla completa* en lugar de la *opción Red de eje de conexión y radio*.

DMVPN Spoke Wizard - 10% Complete



DMVPN Network Topology

Select the DMVPN network topology.

C Hub and Spoke network

In this topology, all DMVPN traffic is routed through the hub. A point-to-point GRE interface will be configured on the spoke, and the spoke will use it to create a tunnel to the hub which will remain up. Spokes do not create GRE tunnels to other spokes in this topology.

Fully meshed network

In this topology, the spoke dynamically establishes a direct tunnel to another spoke device, and sends DMVPN traffic directly to it. A multipoint GRE tunnel interface is configured on the spoke to support this functionality.

Note: Cisco supports fully meshed DMVPN networks only in the following Cisco IOS images: 12.3(8)T1 and 12.3(9) or later.



< Back Next > Finish Cancel Help

3. Complete el resto de la configuración con los mismos pasos que las otras configuraciones de este documento.

Verificación

Actualmente, no hay un procedimiento de verificación disponible para esta configuración.

Información Relacionada

- VPN multipunto dinámica de Cisco: Comunicaciones sencillas y seguras entre sucursales
- VPN multipunto dinámica (DMVPN) IOS 12.2
- Soporte Técnico y Documentación Cisco Systems