Cisco IOS/CCP - Configurazione di DMVPN con Cisco CCP

Sommario

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Introduzione

In questo documento viene fornita una configurazione di esempio per il tunnel DMVPN (Dynamic Multipoint VPN) tra router hub e spoke tramite Cisco Configuration Professional (Cisco CP). Dynamic Multipoint VPN è una tecnologia che integra diversi concetti, quali GRE, crittografia IPSec, NHRP e routing, per fornire una soluzione sofisticata che consente agli utenti finali di comunicare in modo efficace tramite i tunnel IPSec spoke creati in modo dinamico.

Prerequisiti

Requisiti

Per ottenere le migliori funzionalità di DMVPN, è consigliabile eseguire il software Cisco IOS® versione 12.4 mainline, 12.4T e successive.

Componenti usati

Le informazioni fornite in questo documento si basano sulle seguenti versioni software e hardware:

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

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Convenzioni

Fare riferimento a <u>Cisco Technical Tips Conventions per ulteriori informazioni sulle convenzioni</u> <u>dei documenti.</u>

Premesse

Questo documento offre informazioni su come configurare un router come spoke e un altro router come hub con Cisco CP. Inizialmente viene mostrata la configurazione spoke, ma più avanti nel documento, viene mostrata in dettaglio anche la configurazione relativa all'hub per fornire una migliore comprensione. È possibile configurare anche altri raggi utilizzando un approccio simile per la connessione all'hub. Lo scenario corrente utilizza i parametri seguenti:

- Rete pubblica router hub 209.165.201.0
- Rete tunnel 192.168.10.0
- Protocollo di routing utilizzato OSPF

Configurazione

In questa sezione vengono presentate le informazioni necessarie per configurare le funzionalità descritte più avanti nel documento.

Nota: per ulteriori informazioni sui comandi menzionati in questa sezione, usare lo <u>strumento di</u> ricerca dei comandi (solo utenti registrati).

Esempio di rete

Nel documento viene usata questa impostazione di rete:



Configurazione spoke con Cisco CP

Questa sezione illustra come configurare un router come spoke utilizzando la procedura guidata DMVPN in Cisco Configuration Professional.

 Per avviare l'applicazione Cisco TCP e avviare la procedura guidata DMVPN, andare a Configurazione > Sicurezza > VPN > Dynamic Multipoint VPN. Quindi, selezionare l'opzione Crea un raggio in una VPN DMVPN e fare clic su Avvia l'attività selezionata

VPN eate Dynamic Multipoint VPN (DMVPN)	Edit Dynamic Multipoint VPN (DMVPN)	2
eate Dynamic Multipoint VPN (DMVPN)	Edit Dynamic Multipoint VPN (DMVPN)	
Configure DMVPN Spoke		1
Spoke 1 Daven Spoke 2 Hub		
Create a spoke (client) in a DMVPN Use this option to configure the route and spoke network topology. To com	r as a spoke in a full mesh or hub plete this configuration, you must formation, pre-shared key, IVE	
policy, IPSec Transform set and dyna	mic routing protocol information.	
Use this option to configure the route are configuring a backup hub, you mu information, pre-shared key, IKE polic dynamic routing protocol information.	r as a primary or backup hub. If you ust know the primary hub's NHRP cy, IPSec Transform set and	
	Kaunch the selected task	

2. Fare clic su *Next* (Avanti) per iniziare.

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 pre-shared key. * Configuring it RE policies. * Configuring an IPSec transform set. * Configuring a dynamic routing protocol. To begin, click Next.
	< Back Next > Finish Cancel Help

3. Selezionare l'opzione *Rete Hub e Spoke* e fare clic su *Avanti*.



4. Specificare le informazioni relative all'hub, ad esempio l'interfaccia pubblica del router hub e l'interfaccia del tunnel del router hub.

DMVPN Spoke Wizard (Ht	ub 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 Paddress of the mG to be entered above	Iblic IP address be entered above Hub RE tunnel
	<	Back Next > Finish Cancel Help

5. Specificare i dettagli dell'interfaccia tunnel dello spoke e l'interfaccia pubblica dello spoke. Quindi fare clic su *Avanzate*.

	Select the interface that connects to Selecting an interface configured be always up. GRE Tunnel Interface	the Internet: FastEthernetU M
	Selecting an interface configured be always up. GRE Tunnel Interface	f for a dialup connection may cause the connection to
	GRE Tunnel Interface	
	A GRE tunnel interface will be crea address information for this interfa	ited for this DMVPN connection. Please enter the ice.
	IP address of the tunnel interfa	ace Advanced settings
Ser Car	IP Address:	Click Advanced to verify that values
	192.168.10.5	match peer settings.
	Subnet Mask:	Advanced
	255.255.255.0 24	4
B	Interface connected to Internet. This is the interface from which GRE/mGRE Tunnel originaties- Internet	Logical GRE/mGRE Tunnel interface. IP address of GRE/mGRE tunnel interface on all hubs and spoke routers are private IP addresses and must be in the same subnet. For more information please click the help button.

6. Verificare i parametri tunnel e NHRP e assicurarsi che corrispondano perfettamente ai

Advanced configuration for th	ie tunnel inter 🚺
Some of the following parameter in all devices in this DMVPN. Obt from your network administrator I Cisco CP defaults.	s should be identical ain the correct values before changing the
NHRP	
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
3047-354	

parametri Hub.

7. Specificare la chiave già condivisa e fare clic su

State of the state					
	Select the method you of DMVPN network. You of the router must have a on this router must mad C Digital Certificates Pre-shared Keys pre-shared key: Reenter key:	want to use to auti an use digital certi valid certificate con tch the keys config s	enticate this route ficate or a pre-sha nfigured. If pre-sha ured on all other ro	r to the peer device(s) in t red key. If digital certificate red key is used, the key co buters in the DMVPN netwo	he is used onfigured ork.

8. Per aggiungere una proposta IKE separata, fare clic su *Add* (Aggiungi).

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.

1 Aller		Priority	Encryption	Hash	D-H Group	Authentication	Туре
	1	1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defa
1 <u>.</u>							
Same Same							
1 Accession	A	dd	Edit.				
1 and the second	_		-	-			
and filling							
the second se							

9. Specificare i parametri di crittografia, autenticazione e hash. Quindi fare clic su

Frioniy.	Addrenation.
2	PRE_SHARE
Encryption:	D-H Group:
AES_192 👱	group1 🛛 😽
Hash:	Lifetime:
SHA_1 💌	24 0 0 HH:MM:S8

10. I nuovi criteri IKE possono essere visualizzati qui. Fare clic su *Next* (Avanti).

	IKE pro- metho device device	oposals oposals d that is . For the should t the Add	specify the en used by this n VPN connecti De configured . button to add	cryption algo outer when n on to be esta with at least t more policie	rithm, authenticat egotiating a VPN blished with the r one of the policies as and the Edit t	ion algorithm and connection with t emote device, the s listed below. putton to edit an e	t key exchange he remote e remote xisting policy.
		Priority	Encryption	Hash	D-H Group	Authentication	Туре
Color-		1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defa
È.							
		Add	Edit	J			

11. Fare clic su *Avanti* per continuare con il set di trasformazioni predefinito.

	Transform Pot			
VPN Wizard	A transform set A transform set specifies th data in the VPN tunnel. Sin communicate, the remote of one selected below. Click the Add button to ad transform set. Select Transform Set:	ne encryption and auth ce the two devices mu device must be config id a new transform se	hentication algorit ust use the same jured with the sam at and the Edit bu	hms used to protect th algorithms to le transform set as the itton to edit the specific
	Details of the specified	transform set		
	Name	ESP Encryption	ESP Integrity	AH Integrity
	BE ESF-JUES-SHA	E8F_3DE8	TOP_OHA_HMAU	*
VA				

12. Selezionare il protocollo di routing desiderato. In questo caso, è selezionato OSPF.

DMVPN Spoke Wizard (Hi	ub 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 OSPFE	
	< Back (Next >) Finish Cancel Help	

13. Specificare l'ID processo OSPF e l'ID area. Per aggiungere le reti che devono essere annunciate da OSPF, fare clic su *Add* (Aggiungi).



- 14. Aggiungere la rete del tunnel e fare clic su OK.
- 15. Aggiungere la rete privata dietro il router spoke. Fare quindi clic su *Avanti*.

ard Routing Informatio	n:				
C Select an existin	g OSPF process ID		2		
Create a new OS	SPF process ID:		10		
OSPF Area ID for tu	OSPF Area ID for tunnel network: 2				
Add the private network must be enabled of Private network	vorks that you want n the other routers to advertised using	to advertise to o send and rec OSPF	the other routers in this ceive these advertiseme		
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 Network advertised to the	that will be DMVPN cloud.				
Internet	1				

16. Fare clic su *Fine* per completare la configurazione della procedura guidata.



17. Fare clic su *Consegna* per eseguire i comandi. Per salvare la configurazione, selezionare la casella di controllo *Salva configurazione in esecuzione nella configurazione di avvio del dispositivo*.

Deliver Configuration to Device	×
Deliver delta commands to the device's running config.	
Preview commands that will be delivered to the device's running configuration.	
crypto ipsec transform-set ESP-3DES-SHA esp-sha-hinac 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	~
4	2.
The differences between the running configuration and the startup configuration a the device is turned off. Save running config. to device's startup config. This operation can take several minutes. Deliver Cancel Save to file Help	re lost whenever

La configurazione CLI correlata è mostrata di seguito:

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 tcp 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
```

Configurazione hub con Cisco CP

In questa sezione viene mostrato un approccio graduale su come configurare il router hub per la VPN DMVPN.

1. Selezionare *Configura > Sicurezza > VPN > Dynamic Multipoint VPN* e selezionare l'opzione *Crea un hub in una VPN DPM*. Fare clic su *Avvia l'attività selezionata*.

2.1	
eate Dynamic Me Spoke 1 Spoke 2	tipoint VPN (DMVPN) Edit Dynamic Multipoint VPN (DMVPN)
C Create a spol Use this op and spoke i know the hu	e (client) in a DMVPN on to configure the router as a spoke in a full mesh or hub etwork topology. To complete this configuration, you must o's IP address, NHRP information, pre-shared key, IKE Transform set and dynamic routing protocol information.
· Create a hub	server or head-end) in a DMVPN
	on to configure the router as a primary or backup hub. If you ng a backup hub, you must know the primary hub's NHRP

2. Fare clic su *Next* (Avanti).

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 DMVPN network topology. * Specifying the hub type. * Configuring a multipoint GRE tunnel. * Configuring a multipoint GRE tunnel. * Configuring an IPSec transform set. * Configuring an IPSec transform set. * Configuring a dynamic routing protocol. To begin, click Next.
	Rack Next > Finish Cancel Help
Salazionara l'anziana	Bata Hub a Spake a fare alia au

3. Selezionare l'opzione *Rete Hub e Spoke* e fare clic su *Avanti.*



4. Selezionare *Hub primario*. Fare quindi clic su *Avanti*.

DMVPN Hub Wizard (Hub	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. Specificare i parametri dell'interfaccia del tunnel e fare clic su *Avanzate*.

PN Wizard	Multipoint GRE Tunnel Inter	face Configura	tion			
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 milenace				
	192,168,10,2		match peer settings.			
	Subnet Mask:	17.5	Advanced			
	255.255.255.0	24				
B	Interface connected to Internet. This is the interface from which GRE/mGRE Tunnel originaties-	Logic IP ac 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. Specificare i parametri Tunnel e NHRP. Quindi fare clic su

from your network administrator t Cisco CP defaults.	pefore changing
NHRP Authentication String:	DMVPN_NW
NHRP Network ID:	100000
NHRP Hold Time:	360
GRE Tunnel Interface Inform Tunnel Key:	100000
Bandwidth:	1000
MTU:	1400
Tunnel Throughput Delay:	1000

7. Specificare l'opzione in base alla configurazione della



8. Selezionare *Chiavi già condivise* e specificare le chiavi già condivise. Fare quindi clic su *Avanti*.

DMVPN Hub Wizard (Hub	and Spoke Topology) -	40% Complete		×
VPN Wizard	Authentication Select the method you w DMVPN network. You ca the router must have a v on this router must mato Digital Certificates Pre-shared Keys pre-shared key: Reenter key:	vant to use to authon use digital certificate contract of the keys configu	enticate this router to tr cate or a pre-shared k figured. If pre-shared k red on all other routers	ne peer device(s) in the ey. If digital certificate is used, ey is used, the key configured s in the DMVPN network.
			< Back (Next >)	Finish Cancel Help

9. Per aggiungere una proposta IKE separata, fare clic su *Add* (Aggiungi).

DMVPN Hub 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.

	Priority	Encryption	Hash	D-H Group	Authentication	Туре
	1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defa
1						
-						
6		12-mil	1			
	Add	HOL				
-	1					

10. Specificare i parametri di crittografia, autenticazione e hash. Quindi fare clic su

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

11. I nuovi criteri IKE possono essere visualizzati qui. Fare clic su Next (Avanti).

VPN Wizard	IKE P IKE p methi device device	roposals roposals od that is e. For the e should l (the Add.	specify the en used by this r VPN connecti be configured button to add	cryption algo outer when n on to be esta with at least t more polici	rithm, authentical egotiating a VPN iblished with the r one of the policie es and the Edit	tion algorithm an connection with t emote device, th s listed below. button to edit an e	d key exchange he remote e remote existing policy.
		Priority	Encryption	Hash	D-H Group	Authentication	Туре
		1	3DES	SHA_1	group2	PRE_SHARE	Cisco CP Defau
							a gen hoong noondan gr
		Add	Edit]			
					< Back Ne	Content Finish	Cancel Help

12. Fare clic su *Avanti* per continuare con il set di trasformazioni predefinito.

VPN Wizard	Transform Set			
	A transform set specifies data in the VPN tunnel. Si communicate, the remote one selected below.	the encryption and aut nce the two devices m device must be config	hentication algorit ust use the same ured with the sam	hms used to protect the algorithms to le transform set as the
	Click the Add button to a transform set. Select Transform Set:	dd a new transform se	t and the Edit bu	tton to edit the specifie
W/ Com	Cisco CP Default T	ransform Set 🛛 🔽 🗖		
	Details of the specifie	i transform set		
	Name	ESP Encryption	ESP Integrity	AH Integrity
	ESP-3DES-SHA	ESP_3DES	ESP_SHA_HMAC	
RE		110		
	Add Ed	t		dis.

13. Selezionare il protocollo di routing desiderato. In questo caso, è selezionato OSPF.

DMVPN Hub Wizard (Hub	and Spoke Topology) - 70% Complete
	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 C OSPF
	Back Next > Finish Cancel Help

14. Specificare l'ID processo OSPF e l'ID area. Per aggiungere le reti che devono essere annunciate da OSPF, fare clic su *Add* (Aggiungi).

Wizard	Routing Information	on		
	C Select an exist	ng OSPF process ID.		
	(Create a new O	SPF 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 DMVPI ve these advertisements.
	Network	Wildcard Mask	Area	Add
N. Same				Edit
A	Private Networ advertised to th	k that will be he DMVPN cloud.		Delete
	Private Networ advertised to th Internet DMVPN Cload	k that will be ne DMVPN cloud.		Delete
	Private Networ advertised to the Internet DMVPN Closed	k that will be he DMVPN cloud.	< Back 1	Next > Finish Cancel
	Private Networ advertised to the Internet DMVPN Cload	k that will be he DMVPN cloud.	< Back 1 a Network twork:	Vext > Finish Cancel
	Private Networ advertised to the Internet DMVPN Cloud	k that will be he DMVPN cloud.	Back 1 a Network twork:	Next > Finish: Cancel
	Private Networ advertised to the Internet DMVPN Closed	k that will be he DMVPN cloud.	Back 1 a Network twork: Idcard Mask:	Delete Next > Finish Cancel 192.168.10.0 0.0.255

- 15. Aggiungere la rete del tunnel e fare clic su *OK*.16. Aggiungere la rete privata dietro il router hub e fare clic su

Wizard	Routing Infor	mation		
- management	C Select an	existing OSPF process I	×.	
	(+ Create a n	ew OSPF process ID:	10	
	OSPF Area II) for tunnel network:	2	
	Add the prival must be enal	te networks that you wan bled on the other routers	t to advertise to to send and re	the other routers in this DMVPN. (ceive these advertisements.
14	Private n	etworks advertised usin	g OSPF	
	192.168.1 172.16.20	0.0 0.0.0.255 0.0 0.0.0.255	2 2	Edd.
A	Private N	etwurk that will be d to the DMVPN cloud.		
	1			

Avanti.

17. Fare clic su *Fine* per completare la configurazione della procedura guidata.



18. Fare clic su Consegna per eseguire i

comandi.



Configurazione CLI per hub

Di seguito è illustrata la configurazione CLI correlata:

Router hub
!
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 cransion-set ESP-SDES-SHA esp-sdes esp-
mode transport
crypto ipsec 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
```

Modificare la configurazione DMVPN utilizzando CCP

Èpossibile modificare manualmente i parametri del tunnel DMVPN esistenti quando si seleziona l'interfaccia del tunnel e si fa clic su *Modifica*.

VPN					
reate Dynamic Multipoir	t VPN (DMVPN)	Edit Dynamic	: Multipoint VPN (DMVPN)		
				Add Edit De	ele
Interface	IPSec Pro	ofile	IP Address	Description	
Funnel0	CiscoCP_	Profile1	192 168 10 2	<none></none>	
Details for interface Tun	nelO:				
Details for interface Tuni Item Name	nelO:		Item Value		
Details for interface Tun Item Name nterface	nelO:		Item Value Tunnel0		
Details for interface Tuni Item Name nterface PSec Profile	nelO:		Item Value Tunnel0 CiscoCP_Profile1		
Details for interface Tuni Item Name nterface PSec Profile P Address	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2		
Details for interface Tuni Item Name Interface PSec Profile P Address Description	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 <none> 1000</none>		
Details for interface Tuni Item Name nterface PSec Profile P Address Description Funnel Bandwidth ATU	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 «None» 1000 1400		
Details for interface Tuni Item Name Interface PSec Profile P Address Description Funnel Bandwidth ATU NHRP Authentication	nel0:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 <none> 1000 1400 DMVPN_NW</none>		
Details for interface Tuni Item Name Interface PSec Profile P Address Description Funnel Bandwidth MTU NHRP Authentication NHRP Network ID	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 <none> 1000 1400 DMVPN_NW 100000</none>		
Details for interface Tuni Item Name Interface PSec Profile P Address Description Funnel Bandwidth VITU VHRP Authentication VHRP Network ID VHRP Hold Time	nelO:		Item Value Tunnel0 CiscoCP_Profile1 192.168.10.2 «None» 1000 1400 DMVPN_NW 100000 360		

I parametri dell'interfaccia del tunnel, come MTU e chiave del tunnel, vengono modificati nella scheda *Generale*.

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

1. I parametri correlati a NHRP vengono individuati e modificati in base al requisito nella scheda *NHRP*. Nel caso di un router spoke, dovrebbe essere possibile visualizzare il servizio NHS come indirizzo IP del router hub. Per aggiungere il mapping NHRP, fare clic su *Aggiungi*

	Routing	
Authentication Strin	g: DMVI	PN_N/V
fold Time:	360	
letwork ID:	1000	00
Next Hop Server	s	
Next Hop Serve	rs	Add
		Delete
NHRP Map	T	
Destination	Mask	Add
SNURES	<nou65< td=""><td>Edit</td></nou65<>	Edit
		and the second sec
		Delete

nella sezione Mappa NHRP.

2. A seconda dell'impostazione della rete, è possibile configurare i parametri di mapping NHRP

	NHRP Map Configuration	
	C Statically configure the IP-to-NM of IP destinations connected t Destination reachable thro	IBA address mapping o a NBMA network. ugh NBMA network
	IP Address	
	Mask (Optional)	
	NBMA address directly rea	chable
	IP Address	
come illustrato di seguito:	Configure NBMA addresses us or multicast packets to be sent Opnamically add spokes' IP OIP address of NBMA addres OK Can	ed as destinations for broadcast over a tunnel network. Paddresses to hub's multicast cache as directly reachable Cel Help

I parametri relativi al ciclo vengono visualizzati e modificati nella scheda Ciclo.

General NHRP Routin	a 🔤
Routing Protocol:	OSPF N
Ø OSPF	
OSPF Network Type:	point-to-multipoint
OSPF Priority:	
Hello Interval:	
Dead Interval:	

Ulteriori informazioni

I tunnel DMVPN sono configurati nei due modi seguenti:

- Comunicazione Spoke-to-Spoke attraverso l'hub
- Comunicazione spoke-to-spoke senza hub

In questo documento viene illustrato solo il primo metodo. Per consentire la creazione di tunnel IPSec dinamici spoke-to-spoke, questo approccio viene utilizzato per aggiungere spoke al cloud DMVPN:

- 1. Avviare la procedura guidata DMVPN e selezionare l'opzione di configurazione Spoke.
- 2. Dalla finestra *Topologia di rete DMVPN*, selezionare l'opzione *Rete a mesh completa* anziché l'opzione *Rete hub e spoke*.



3. Completare il resto della configurazione seguendo la stessa procedura delle altre configurazioni descritte in questo documento.

Verifica

Attualmente non è disponibile una procedura di verifica per questa configurazione.

Informazioni correlate

- Cisco Dynamic Multipoint VPN: Comunicazioni Branch-to-Branch semplici e sicure
- IOS 12.2 Dynamic Multipoint VPN (DMVPN)
- Documentazione e supporto tecnico Cisco Systems