在FTD上配置AnyConnect VPN客戶端: 髮夾和 NAT免除

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簡介

本檔案介紹如何在FMC管理的Firepower威脅防禦(FTD)v6.3上配置思科遠端訪問VPN解決方案 (AnyConnect)。

必要條件

需求

思科建議您瞭解以下主題:

- 基本遠端訪問VPN、安全套接字層(SSL)和網際網路金鑰交換版本2(IKEv2)知識
- 基本驗證、授權及記帳(AAA)和RADIUS知識
- 基本的FMC知識
- 基本FTD知識

採用元件

本文中的資訊係根據以下軟體和硬體版本:

- 思科FMC 6.4
- 思科FTD 6.3
- AnyConnect 4.7

本檔案介紹在Firepower威脅防禦(FTD)版本6.3(由Firepower管理中心(FMC)管理)上配置思科遠端訪問VPN解決方案(AnyConnect)的程式。

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。如果您的網路運作中,請確保您瞭解任何指令可能造成的影響。

背景資訊

本文檔旨在介紹FTD裝置上的配置。如果您查詢ASA配置示例,請參閱文檔

: <u>https://www.cisco.com/c/en/us/support/docs/security/asa-5500-x-series-next-generation-firewalls/100918-asa-sslvpn-00.html</u>

限制:

目前,這些功能在FTD上不受支援,但在ASA裝置上仍然可用:

- 雙AAA驗證(在FTD 6.5版上可用)
- 動態訪問策略
- 主機掃描
- ISE狀態
- RADIUS CoA
- VPN負載平衡器
- 本地身份驗證(在Firepower裝置管理器6.3上可用。思科錯誤ID CSCvf92680)
- LDAP屬性對映(通過FlexConfig提供,思科錯誤ID <u>CSCvd64585</u>)
- AnyConnect自定義
- AnyConnect指令碼
- AnyConnect本地化
- 每應用VPN
- ・ SCEP代理
- WSA整合
- SAML SSO(思科錯誤ID CSCvq90789)
- 適用於RA和L2L VPN的同步IKEv2動態加密對映
- AnyConnect模組(NAM、Hostscan、AMP Enabler、SBL、Umbrella、Web Security等)。DART是此版本中預設安裝的唯一模組。
- TACACS、Kerberos(KCD身份驗證和RSA SDI)
- 瀏覽器代理

設定

要通過FMC中的遠端訪問VPN嚮導,必須完成以下步驟:

步驟 1.匯入SSL證書

設定AnyConnect時,憑證是必需的。SSL和IPSec僅支援基於RSA的證書。

IPSec支援橢圓曲線數位簽章演演算法(ECDSA)憑證,但使用基於ECDSA的憑證時,無法部署新的 AnyConnect封包或XML設定檔。 它可用於IPSec,但必須預先部署AnyConnect軟體包和XML配置檔案,所有XML配置檔案更新必須 在每個客戶端上手動推送(思科錯誤ID <u>CSCtx42595</u>)。

此外,憑證必須包含具有DNS名稱和/或IP位址的通用名稱(CN)擴充模組,才能避免Web瀏覽器中的「Untrusted server certificate」錯誤。

註:在FTD裝置上,需要先取得憑證授權單位(CA)憑證,才能產生憑證簽署請求(CSR)。

- 如果在外部伺服器(例如Windows Server或OpenSSL)中產生CSR,則手動註冊方法會失敗 ,因為FTD不支援手動金鑰註冊。
- 必須使用其他方法,例如PKCS12。

若要使用手動註冊方法取得FTD裝置的憑證,需要產生CSR,使用CA對其進行簽名,然後匯入身分 憑證。

1.導覽至Devices > Certificates,然後選擇Add,如下圖所示。

Overview Analysis Policies Devices Object	ts AMP Intelligence	3	(Deploy 🤱	2 System	Help 🔻	admin 🔻
Device Management NAT VPN QoS Pla	atform Settings FlexCor	nfig Certificates					
						0	Add
Name	Domain	Enrollment Type	Status				
	No certifi	icates Add Certific	ates				
	no com						

2. 選擇Device並新增新的Cert Enrollment對象,如下圖所示。

Overview Analysis Policies Devices	Objects AMP	Intelligence			02 System	Help 🔻	admin 🔻
Device Management NAT VPN • C	QoS Platform Setting	s FlexConfig Certificate	S				
						\odot	Add
Name	Domain	Enrollment Type	Status				
		No certificates Add Cer	ificates				
		No certificates Add Cer	incates				
	Add New Certifica	te		? ×			
	Add a new certificate to identify certificate.	o the device using cert enrollment	bject which is used to genera	te CA and			
	Device*:	FTD-Virtual	*				
	Cert Enrollment*:	Select a certificate entrollmen	object 💙 🔘				
			Add	Cancel			
Ad	Id Cert Enrollment			?	×		
N	lame*						
	escription						
	CA Information Ce	rtificate Parameters Key R	evocation		_		
	Enrollment Type:	SCEP		*			
	Enrollment URL:*	http://					
	Challenge Password:						
	Confirm Password:						
	Retry Period:	1 Minutes	(Range 1-60)				
	Retry Count:	10	(Range 0-100)				
	Fingerprint:	Ex: e6f7d542 e355586c a758e7c	bdcddd92				
					-		
A	llow Overrides						
			Save	e Cancel			

3.選擇手動註冊型別,然後貼上CA證書(用於簽署CSR的證書)。

Add Cert Enrollment

Name*	Anyconnect-certificate				
Description					
CA Information	Certificate Parameters	Key Rev	vocation		
Enrollment Type:	Manual			*	
CA Certificate:*	/3C4hi07uzuR0ygwKEE 4x3nk3tTUhYpfmbWqi RqV66GI9iE7Z2 xiVrSrJFqhkrT795kMb8 VLSP+vHGm8X g6wEFsKuZay27a48e/I LhBNFby8Vb9 d0jUkmdSvzQDR5qSo VMYhiVB0T8h H8eMjSQIGhhHbxuKoPv mwNgySmTP9cHa 9Or3RIWRzEa11HE3m DI8ZcLYmfaIdC W2cZuBROy/DxCvq4fl usiu9KTGH1 btVKEYACKVyETw== END CERTIFICATE	3aMdg4Dl/z NAXM7GNDRV amBxhb4eXY7 JG2LgRDrA0K +HINEm3E8/q /IzQmM0RvGn HO4Rj6DOnm 04ISEIBfOWFS	WG9BZ1svk3s (xUg3mODtPqi t+jwb57DGSK j20wrtlZpD4Mg TB6EKiYIvb4C gufjx+TZRYczx d5rAD/bvk2n6	hDK2Bogklzxu6 Z76RSTAT0+v1 4mfZsZqhFdQP DAabyhr+hEpeP UW8HcgDdDv ownSKLL7LcW1 xrJI1SLqABMJJ	
Allow Overrides					
				Save	Cancel

4.選擇「Certificate Parameters」頁籤,然後為「Include FQDN」欄位選擇「自定義FQDN」,並 填寫證書詳細資訊,如下圖所示。

A	dd Cert Enrollmen	t					? ×
	Name*	An	nyconnect-certificate				
	Description						
	CA Information	ertific	cate Parameters	Key	Revocation		
	Include FQDN:		Use Device Hostname	e as FQI	DN	~	
	Include Device's IP Add	dress:					
	Common Name (CN):		vpn.cisco.com				
	Organization Unit (OU)	:	TAC				
	Organization (O):		Cisco				
	Locality (L):		МХ				
	State (ST):		Mexico				
	Country Code (C):		MX				
	Email (E):						
	Include Device's Ser	ial Num	ıber				
,	Allow Overrides						
						Save	Cancel

5.選擇鍵頁籤,然後選擇鍵型別,您可以選擇名稱和大小。對於RSA,最低要求為2048位元組。 6.選擇儲存,確認裝置,然後在證書註冊下選擇剛建立的信任點,選擇新增以部署證書。

Add New Certificate

Add a new certificate to the device using cert enrollment object which is used to generate CA and identify certificate.

Device*:	FTD-Virtual	~	
Cert Enrollment*:	Anyconnect-certificate	~	0
Cert Enrollment Details:			
Name:	Anyconnect- certificate		
Enrollment Type:	Manual		
SCEP URL:	NA		
			Add Cancel

7.在Status列中,選擇ID圖示,然後選擇Yes以產生CSR,如下圖所示。

Overview Analysis Policies Devices	Objects AMP Intel	lligence		Deploy 🧶 System	Help 🔻 admin 🔻
Device Management NAT VPN • Qo	S Platform Settings	FlexConfig Certificates			
					O Add
Name	Domain	Enrollment Type	Status		
4 🗐 FTD-Virtual					
Anyconnect-certificate	Global	Manual	CA 🔍	▲ ID 🛦 Identity certificate import required	£ 🗘 🗄
	Warnin	g			
	want to	This operation will generate Certificate Signing Request do continue?	you		
		Yes No.			

8.複製CSR並用您首選的CA(例如GoDaddy或DigiCert)簽名。

9.從CA收到身份證書(必須採用base64格式)後,選擇Browse Identity Certificate,然後在本地電 腦中查詢該證書。選擇匯入。

Import Identity Certificate	? ×
Step 1 Send Certificate Signing Request (CSR) to the Certificate Authority.	
Certificate Signing Request (Copy the CSR below and send to the Certificate Authority):	
BEGIN CERTIFICATE REQUEST MIIC9TCCAd0CAQAwejELMAkGA1UEBhMCTVgxDzANBgNVBAgTBk1leGljbzELMAkG A1UEBxMCTVgxFjAUBgNVBAMTDXZwbi5jaXNjby5jb20xDjAMBgNVBAoTBUNpc2Nv MQwwCgYDVQQLEwNUQUMxFzAVBgkqhkiG9w0BCQIWCGNpc2NvYXNhMIIBIjANBgkq hkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAzgnRRu5LjeufjMoVw1u0Fx5CPnpTjCRR gQTJd6kUaUDdM8YqD209C6XLVSsYML3K87zJgsbQkX/+uGzg4CJd34T1Wa661iml 9dSOIE3bkpY+VVkQKvd2PfdlXrSW7/EOIFU2fiS7uQzioZuLfCGo2bc7K3Uuj4VV XUXtzuwHsTM8fgZSBK18C7iL65aMfmjPwJUX5I/NuNNhx9iR7uNJ5CBj7UdYV+dv ipKEEPM8PtBLIxPZZ315Xo5NLUJMHoz5VHZX3TdYREbQ4HEW/8HJwzCENM1uxd5PWK	
Step 2 Once certificate authority responds back with identity certificate file, import it to device.	
Identity Certificate File: Anyconnect-Document.pem Browse Identity	Certificate
Impor	t Cancel

10.匯入後,CA和ID證書詳細資訊可供顯示。

Overview Analysis	Policie	es Devi	ces O	bjects AMP	Intelligen	ce			Deploy	e 2	System	Help 🔻	admin 🔻
Device Management	NAT	VPN 🔻	QoS	Platform Settin	gs FlexC	Config	Certificates						
												\odot	Add
Name				Domain		Enroll	ment Type	Status					
4 🗐 FTD-Virtual													
Anyconnect-certifie	cate			Global		Manua	al	🔍 CA 🔍 ID				P	Φ 🗎

步驟 2.設定RADIUS伺服器

在FMC管理的FTD裝置上,不支援本地使用者資料庫,必須使用其他身份驗證方法,例如 RADIUS或LDAP。

1.導覽至Objects > Object Management > RADIUS Server Group > Add RADIUS Server Group , 如下圖所示。

Add RADIUS Server Group

Name:*	Radius-server			
Description:				
Group Accounting Mode:	Single	~		
Retry Interval:*	10		(1-10) Seconds	
Realms:		~		
Enable authorize only				
Enable interim account update				
Interval:*			(1-120) hours	
Enable dynamic authorization				
Port:*			(1024-65535)	
RADIUS Servers (Maximum 16 serve	ers)			0
IP Address/Hostname				
	No records to display			
			Save	Cancel

2.為Radius Server Group指定名稱,並將Radius伺服器IP地址與共用金鑰一起新增(需要共用金鑰 才能將FTD與Radius伺服器配對),完成此表單後,選擇Save,如下圖所示。

? X

Add RADIUS Server Group

Name:	*	Radius-server		
Descri	ption:			
Group	Accounting Mode:	Single 💌		
Retr	New RADIUS Server	11 11	N Casada	? ×
	IP Address/Hostname:*	192.168.10.34 Configure DNS at Threat Defense Platform Settings to	o resolve hostna	ame
O E	Authentication Port:*	1812	(1-65535)	
	Key:*	•••••		_
	Confirm Key:*	•••••		_
RAD	Accounting Port:	1813	(1-65535)	
100	Timeout:	10	(1-300) Se	conds
IP	Connect using:	• Routing O Specific Interface (1)		- 1
		Default: Diagnostic Interface	*	⊙ •
	Redirect ACL:		×	0
		Save	Cance	4
			Save	Cancel

? ×

3. RADIUS伺服器資訊現在在Radius伺服器清單中可用,如下圖所示。

Add RADIUS Server Group

Name:*	Radius-server			
Description:				
Group Accounting Mode:	Single	·		
Retry Interval:*	10	(1-10) Seconds		
Realms:	~	•		
Enable authorize only				
Enable interim account update				
Interval:*		(1-120) hours		
Enable dynamic authorization				
Port:*		(1024-65535)		
RADIUS Servers (Maximum 16 server	rs)			
				0
IP Address/Hostname				
192.168.10.34				ĩ
		Save	Ca	ncel

步驟 3.建立IP池

1.導航到對象 > 對象管理 > 地址池 > 新增IPv4池。

2.指定IP地址的名稱和範圍,不需要Mask欄位,但可以指定該欄位,如下圖所示。

? X

Add IPv4 Pool

Name*	vpn-pool]	
IPv4 Address Range*	192.168.55.1-192.168.55.253		
	Format: ipaddr-ipaddr e.g., 10.72.1.1-10.72.1.150		
Mask	255.255.255.0		
Description			
Allow Overrides			
Configure device over shared across multiple	rrides in the address pool object to avoid IP address co e devices	onflicts in case	of object is
		Save	Cancel

步驟 4.建立XML配置檔案

1.從Cisco.com下載配置檔案編輯器工具並運行應用程式。

2.在「配置檔案編輯器」應用程式中,導航到伺服器清單,然後選擇新增,如下圖所示。

VPN	Server List						
Preferences (Part 1)							
Backup Servers	Hostname	Host Address	User Group	Backup Server List	SCEP	Mohile Settings	Certificate Pins
🛃 Certificate Pinning	nostname	nost Address	oser Group	backup server cist	JCLI	Mobile Settings	Certificate rins
Certificate Matching							
B Mobile Policy							
Server List							
	Note: it is h	ighly recommend	ed that at least	one server be defir	ed in a profile	Add	Delete
		5 ,					
						Edit	Details

3.指定顯示名稱、完全限定域名(FQDN)或IP地址,然後選擇OK,如下圖所示。

Server List Entry

Server	Load Balancing Serve	ers SCEF	P Mobile	Certificate Pinning			
_							
Pr	imary Server				Connection Informa	tion	
[Display Name (required) Corp	orate - FT	D (SSL)	Primary Protocol	SSL \lor	
F	EQDN or IP Address			User Group	🗸 ASA gateway		
[vpn.cisco.com			ssl	Auth Method [During IKE Negotiation	EAP-AnyConnect 🗸
c	Group URL				IKE Identity <mark>(</mark> I	OS gateway only)	
[
	Bad	kup Serve	rs				
	ł	Host Addro	ess			Add]
]	
						Move Up	
						Move Down	
						Delete	
				ОК	Cancel		

4.現在可在Server List選單中看到該條目:

VPN 	Server List Profile: Untitled									
Certificate Pinning	Hostname	Host Address	User Group	Backup Server	SCEP	Mobile Settings	Certificate Pins			
Certificate Enrollment	Corporate - FTD (SSL)	vpn.cisco.com	ssl	Inherited						
Mobile Policy										
Server List										
	Note: it is highly recommended that at least one server be defined in a profile. Add Delete Edit Details						elete			

5.導覽至File > Save as。

注意:使用.xml副檔名儲存帶有易於識別名稱的配置檔案。

步驟 5.上傳Anyconnect XML配置檔案

1.在FMC中,導覽至Objects > Object Management > VPN > AnyConnect File > Add AnyConnect File。

2. 為對象指定名稱,然後按一下瀏覽,在本地系統中找到客戶端配置檔案,然後選擇儲存。

Add AnyConnect File

Name:*	Corporate-profile(SSL)	
File Name:*	FTD-corp-ssl.xml	Browse
File Type:*	AnyConnect Client Profile	~
Description:		

? X

步驟 6.上傳AnyConnect映像

1.從思科下載網頁下載webdeploy(.pkg)映像。

AnyConnect Headend Deployment Package (Mac OS)	26-Jun-2019	51.22 MB	<u>+</u> \.
anyconnect-macos-4.7.04056-webdeploy-k9.pkg			

2.導航到Objects > Object Management > VPN > AnyConnect File > Add AnyConnect File。

3.為Anyconnect軟體包檔案指定名稱,並在選擇檔案後從本地系統中選擇.pkg檔案。

4.選擇儲存。

Add AnyConnect	t File	?	×
		_	
Name:*	MAC4.7		
File Name:*	anyconnect-macos-4.7.04056-webdeploy-k9 Browse		
File Type:*	AnyConnect Client Image	•	
Description:			
	Save Cancel		

注意:您可以根據您的要求(Windows、Mac、Linux)上傳其他軟體包。

步驟 7.遠端訪問VPN嚮導

根據以上步驟,可以相應地執行遠端訪問嚮導。

1.導航至Devices > VPN > Remote Access。

2.分配遠端訪問策略的名稱,並從可用裝置中選擇FTD裝置。

Overview Analysis Policies Devic	es Objects AMP Intelli	gence			Deploy 🧕	System He	elp v a	admin 🔻
Device Management NAT VPN ► Re	mote Access QoS Platfo	orm Settings F	TexConfig Certificates					
Remote Access VPN Policy Wiz	ard							
1 Policy Assignment 2 Conne	ection Profile > 🗿 AnyCo	onnect > 4	Access & Certificate	5 Sum	mary			
Targeted Devic	es and Protocols							
This wizard will guid	de you through the required minimal	steps to configure	the Remote Access VPN policy v	vith	() Before You Start			
a new user-defined	connection prome.				Before you start, ensure the following configuration elements to be in place to			
Name:*	TAC				complete Remote Access VPN Policy.			
Description:					Authentication Server			
					to authenticate VPN clients.			
VPN Protocols:	SSL IPsec-IKEv2				AnyConnect Client Package			
Targeted Devices:	Available Devices		Selected Devices		for VPN Client downloaded or you have the relevant Cisco credentials to download			
	🔍 Search]	FTD-Virtual		it during the wizard.			
	FTD-Virtual				Device Interface			
					Interfaces should be already configured on targeted <u>devices</u> so that they can be used			
					as a security zone or interface group to enable VPN access.			
		(bha						
					Back	Next	Cane	cel

3.指定連線配置檔名稱(連線配置檔名稱是隧道組名稱),選擇Authentication Server和Address Pools,如下圖所示。

Overview Analysis Policies Devices	Objects AMF	P Intelligence	•		Deploy 02	System Hel	p v admin v
Device Management NAT VPN > Rem	ote Access QoS	Platform Se	ttings	FlexConfig	Certificates		
Remote Access VPN Policy Wiza	ard						
1 Policy Assignment 2 Connec	tion Profile	AnyConnec	t >	4 Access 8	Certificate	> 5 Summ	ary
Remote User AnyConnect Client	Internet		Outside		Inside	Corporate Reso	urces
Connection Profile:							
Connection Profiles specify the tunne accomplished and how addresses are	el group policies for a VP a assigned. They also in	N connection. The clude user attribute	se poli es, whi	cies pertain to created in g	ating the tunnel its proup policies.	elf, how AAA is	
Connection Profile Name:*	TAC		1				
Authentication, Authorization & A Specify the method of authentication	This name is configured Accounting (AAA): (AAA, certificates or bo	as a connection ali	as, it ca	an be used to conne s that will be used	for VPN connection	ns.	
Authentication Method:	AAA Only	~					
Authentication Server:*	Radius-server	*	0-	(Realm or RADIUS)		
Authorization Server:	Use same authenticat	ion server	0	(RADIUS)			
Accounting Server:		*	0	(RADIUS)			
Client Address Assignment: Client IP address can be assigned fro assignment is tried in the order of A Use AAA Server (RADIUS Use DHCP Servers Vse IP Address Pools	om AAA server, DHCP se AA server, DHCP server only) ()	erver and IP addres and IP address po	ss pool ol.	s. When multiple o	ptions are selected	d, IP address	
IPv4 Address Pools:	vpn-pool		P				
IPv6 Address Pools:			P				
Group Policy: A group policy is a collection of user- or create a Group Policy object.	oriented session attribu	tes which are assig	gned to	o client when a VP	N connection is est	ablished. Select	
Group Policy:*	RemoteAccess-GP-SS Edit Group Policy	L ¥	0				
					n -ri-	No.	Count
					DdLK	IVEXt	Cancel

4.選擇+符號以建立組策略。

Add Group Policy

Name:*	RemoteA	ccess-GP				
Description:						
General An	yConnect	Advanced				
VPN Protocols IP Address Pools Banner DNS/WINS Split Tunneling		VPN Tunnel Pro Specify the VPI configured for to SSL IPsec-IKEv2	otocol: N tunnel types that user c users to connect over a Vf	an use. At least one	e tunneling mode	must be
					Save	Cancel

5.(可選)可以基於組策略配置本地IP地址池。如果未配置,則從連線配置檔案(隧道組)中配置 的池繼承該池。

Add Group Policy

Name:*	RemoteA	ccess-GP			
Description:					
General An	yConnect	Advanced			
VPN Protocols		IP Address Pools:			\bigcirc
IP Address Pools		Name	IP Address Range		
Banner DNS/WINS Split Tunneling		vpn-pool	192.168.55.1-192.168.55.253		
				Save	Cancel

6.在此案例中,所有流量都透過通道路由,IPv4分割通道原則設定為允許所有流量透過通道,如下 圖所示。

Edit Group Policy

Name:*	RemoteA	Access-GP-SSL			
Description:					
General An	yConnec	t Advanced			
VPN Protocols		IPv4 Split Tunneling:	Allow all traffic over tunnel	~	
IP Address Pools Banner		IPv6 Split Tunneling:	Allow all traffic over tunnel	~	
DNS/WINS		Split Tunnel Network List Type:	Standard Access List C Extended Access	List	
Split Tunneling		Standard Access List:		~	
		DNS Request Split Tunneling			
		DNS Requests:	Send DNS requests as per split tunnel policy	~	
		Domain List:			
			Save	Ca	incel

7.選擇Anyconnect配置檔案的.xml配置檔案,然後選擇Save,如下圖所示。

Add Group Policy

Name:*	RemoteA	Access-GP-SSL		
Description:				
General An	yConnec	t Advanced		
Profiles		AnyConnect profiles co	ntains settings for the VPN clier	nt functionality and optional
SSL Settings		features. FTD deploys	the profiles during AnyConnect	client connection.
Connection Setting	gs	Client Profile:	Corporate-profileSSL	▼ ③
		Standalone profile edit profile. You can downlo	or can be used to create a new bad the profile editor from Cisco	or modify existing AnyConnect Software Download Center.
				Save Cancel

8.根據運行的系統要求選擇所需的AnyConnect映像,然後選擇Next(圖中所示)。

Overview Analysis Policies Devices Device Management NAT VPN ▶ Remo Remote Access VPN Policy Wizar	Objects AMP Intelligence ote Access QoS Platform Settings rd Platform Settings Platform Settings	Deploy Q_2 System Help v admin v FlexConfig Certificates
1 Policy Assignment 2 Connect	ion Profile 3 AnyConnect	Access & Certificate 5 Summary
Remote User AnyConnect Client	Internet Outside	VPN Device Inside Corporate Resources
The VPN gateway can automatically down initiated. Minimize connection setup time b	nload the latest AnyConnect package to the client by choosing the appropriate OS for the selected pac	device when the VPN connection is ckage.
Download AnyConnect Client packages from	m Cisco Software Download Center.	Show Re-order buttons
AnyConnect File Object Name	AnyConnect Client Package Name	Operating System
		Back Next Cancel

9.選擇Security Zone和DeviceCertificates:

• 此配置定義VPN終止的介面以及通過SSL連線提供的證書。

注意:在此案例中,FTD設定為不檢查任何VPN流量,並繞過存取控制原則(ACP)選項。

Overview Analy	sis Policies Devices Obje	cts AMP Intelligence	Deploy 🧕	System Help 🔻 admin 🔻
Device Management	NAT VPN > Remote Acce	QoS Platform Setting	FlexConfig Certificates	
Remote Acces	s VPN Policy Wizard			
1 Policy Assign	ment $>$ 2 Connection Pro	ofile > 3 AnyConnect	4 Access & Certificate	5 Summary
Remote User	AnyConnect Client	Internet Outsk	le VPN Device Inside	Corporate Resources
	Network Interface for Incomi	ng VPN Access	AAA	
	Select or create an Interface Group o connections.	or a Security Zone that contains the	network interfaces users will access f	or VPN
	Interface group/Security Zone:*	outside	• •	
		Enable DTLS on member interfa	ces	
	Device Certificates Device certificate (also called Identity certificate which is used to authentic Certificate Enrollment:* Access Control for VPN Traffie All decrypted traffic in the VPN tunne bypass decrypted traffic from the Acc Bypass Access Control policy for This option bypasses the Access C AAA server are still applied to VPN	c c c c c c c c c c c c c c c c c c c	vay to the remote access clients. Sele Policy by default. Select this option to ACL and authorization ACL downloaded f	ect a
			Back	Next Cancel

10.選擇Finish和Deploy更改:

• 與VPN、SSL證書和AnyConnect軟體包相關的所有配置均通過FMC部署進行推送,如下圖所示。



NAT免除和發卡

步驟 1.NAT免除配置

NAT免除是一種首選轉換方法,用於在流量通過VPN隧道(遠端訪問或站點到站點)時防止將其路 由到網際網路。

當來自內部網路的流量要流經隧道而不進行任何轉換時,就需要使用此功能。

1.導覽至對象>網路>新增網路>新增對象,如下圖所示。

New Network	Object				? ×
Name	vpn-pool				
Description					
Network	⊖ Host	Range	 Network 	○ FQDN	
	192.168.55.0/	/24			
Allow Overrides					
				Save	Cancel

2.導航到Device > NAT,選擇相關裝置使用的NAT策略,然後建立新語句。

d NAT Rule								
AT Rule:	Manual NAT Ru	le 👻	Insert:	nsert: In Category V NAT Rules Before V				
ype:	Static	~ 6	Enable					
escription:								
nterface Objects	Translation	PAT Pool	Advanced					
vailable Interface O	bjects 🖒		Source Interf	ace Objects (1)	Destination Interface Objects	; (1)		
Search by name			inside-zon	e	outside-zone	6		
a calo-internal-outsid	e							
inside-zone		Sour	rce					
outside-zone		Add	to					
🚡 📥 outsideFW		Destin	ation					

3.選擇FTD(原始來源和已轉換來源)背後的內部資源,以及目的地作為Anyconnect使用者的ip本地池 (原始目的地和已轉換目的地),如下圖所示。

Add NAT Rule								? >
NAT Rule:	Manual NAT Ru	ule 💙	Ins	ert:	In Category	▼ NAT Rules Before	~	
Туре:	Static	~	🗹 Enable					
Description:								
Interface Objects	ranslation	PAT Pool	Advanced					
Original Packet					Translated Packet			
Original Source:*	FTDv-Ins	ide-SUPERNE		v 🔾	Translated Source:	Address	~	
Original Destination:	Address			~		FTDv-Inside-SUPERNE	~	0
	vpn-pool			~ 🔾	Translated Destination:	vpn-pool	~	0
Original Source Port:				v 🔾	Translated Source Port:		~	0
Original Destination Po	rt:			v ()	Translated Destination Port:		~	0
						C	KCanc	cel

4.確保切換選項(如圖所示),要在NAT規則中啟用「no-proxy-arp」和「route-lookup」,請選擇 OK(如圖所示)。

Edit NAT Rule									? ×
NAT Rule:		Rule 💙	Insert	[In Category	~		*	
Туре:	Static	*	Enable						
Description:									
Interface Objects	Translation	PAT Pool	Advanced						
Translate DNS replie	es that match th	is rule							
Fallthrough to Inter	face PAT(Destina	ation Interface)						
IPv6									
Net to Net Mapping									
Do not proxy ARP of	n Destination Inf	terface							
Perform Route Look	up for Destination	on Interface							
Unidirectional									
							OK		Cancel

5.這是NAT免除配置的結果。

1 🛃 Static 🚠 inside-zone 🚔 outside-zone 🚔 FTDv-Inside-SUPERNE 💂 vpn-pool 🚔 FTDv-Inside-SUPERNE 💂 vpn-pool 🚳 Dns:false 🥜 🖥 dig route-look: dig ne-proxy-a

上一節中使用的對象如下所述。

Name Description	FTDv-Inside-SU	PERNE		
Network	O Host	O Range	Network	O FQDN
Allow Overrides	10.124.0.0/16			
Name	vpn-pool			
Description				
Network	O Host	O Range	Network	O FQDN
	192.168.55.0/24	4		
Allow Overrides				

步驟 2.髮夾配置

這也稱為U-turn,這是一種轉換方法,允許流量在接收流量的同一介面上流動。

例如,當Anyconnect配置了Full tunnel split-tunnel策略時,根據NAT免除策略訪問內部資源。如果 Anyconnect客戶端流量要到達網際網路上的外部站點,髮夾NAT(或U-turn)負責將流量從外部路 由到外部。

在NAT配置之前必須建立VPN池對象。

1.建立新的NAT語句,在NAT Rule欄位中選擇自動NAT規則,然後選擇Dynamic作為NAT型別。

2. 為源介面對象和目標介面對象(外部)選擇相同的介面:

Add NAT Rule							? ×
NAT Rule: Type:	Auto NAT Rule	*	✓ Enable				
Interface Objects	Translation	PAT Pool	Advanced	1			
Available Interface O	bjects 🖒		5	Source Interface Objects (1)		Destination Interface Objects	(1)
Search by name	le	A Des	dd to ource dd to tination	outside-zone	5	outside-zone	
						ОК	Cancel

3.在「轉換」選項卡中,選擇vpn-pool對象作為原始源,然後選擇Destination Interface IP作為轉換 源,選擇OK,如下圖所示。

Add NAT Rule							? ×
NAT Rule:	Auto NAT Rule	~					
Туре:	Dynamic	~	I Enable				
Interface Objects	Translation	PAT Pool	Advanced	l			
Original Packet					Translated Packet		
Original Source:*	vpn-pool			~ 📀	Translated Source:	Destination Interface IP	
						The values selected for Destination Interface Objects in 'Interface Objects' tab will be used	
Original Port:		*					
					Translated Port:		
						OK Can	cel

4.這是NAT配置的摘要,如下圖所示。

m Fi	Iter by Device	r by Device 🛛 🚅 Filter Rules									× O /	Add Rule
						Original Packet			Translated Packet			
	Direction	Туре	Source Interface Obje	Destination Interface Obje	Original Sources	Original Destinations	Original Services	Translated Sources	Translated Destinations	Translated Services	Options	
. NA	T Rules Before											
1	*	Static	📩 inside-zone	📩 outside-zone	FTDv-Inside-SUPERNE	💭 vpn-pool		FTDv-Inside-SUPERNE	ypn-pool		용 Dns:false 용 route-lookuj 용 no-proxy-ar	08
• Au	to NAT Rules											
•	+	Dyna	🛔 outside-zone	📩 outside-zone	👳 vpn-pool			🧠 Interface			🔩 Dns:false	00
. NA	T Rules After											

驗證

使用本節內容,確認您的組態是否正常運作。

在FTD命令列中運行這些命令。

- sh crypto ca certificates
- show running-config ip local pool
- show running-config webvpn
- show running-config tunnel-group
- show running-config group-policy
- show running-config ssl
- show running-config nat

疑難排解

目前尚無適用於此組態的具體疑難排解資訊。

關於此翻譯

思科已使用電腦和人工技術翻譯本文件,讓全世界的使用者能夠以自己的語言理解支援內容。請注 意,即使是最佳機器翻譯,也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準 確度概不負責,並建議一律查看原始英文文件(提供連結)。