RV160和RV260路由器上的OpenVPN

目标

本文的目的是指导您在RV160或RV260路由器上设置OpenVPN,以及在计算机上设置OpenVPN的 VPN客户端。

适用设备

- RV160
- RV260

软件版本

• 1.0.00.15

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简介

OpenVPN是可设置并用于虚拟专用网络(VPN)的免费开源应用。 它使用客户端 — 服务器连接在服务器和远程客户端位置之间通过互联网提供安全通信。

OpenVPN使用OpenSSL加密UDP和TCP以传输流量。VPN提供安全的保护隧道,由于它通过 VPN连接加密从您的计算机发送的数据,因此不易受到黑客攻击。例如,如果您在公共场所(如机 场)使用WiFi,则会阻止其他用户看到您的数据、交易和查询。与HTTPS非常相似,它加密两个端 点之间发送的数据。

设置OpenVPN的最重要步骤之一是从证书颁发机构(CA)获取证书。 这用于身份验证。从任意数量 的第三方站点购买证书。这是证明您的站点是安全的官方方式。本质上,CA是可信赖的来源,用于 验证您是合法企业且可信。对于OpenVPN,您只需以最低成本获得较低级别的证书。CA会签出您 ,一旦他们验证您的信息,他们会向您颁发证书。此证书可以作为文件下载到您的计算机上。然后 ,您可以进入路由器(或VPN服务器)并上传它。请注意,客户端使用OpenVPN时不需要证书,它 只是通过路由器进行验证。

先决条件

将OpenVPN应用安装到系统。单击此处转到OpenVPN网站。

有关OpenVPN的详细信息以及您可能遇到的许多问题的答案,请单击<u>此处</u>。



安装OpenVPN后,应用程序应显示在桌面上或任务栏右侧的小图标上。OpenVPN客户端也需要安 装此。



确保在所有设备上设置正确的系统时间。创建证书之前,必须在路由器上完全同步正确的系统时间 。这通常是自动完成的,但如果遇到问题,这是检查的好地方。

在RV160/RV260路由器上设置演示OpenVPN

如果要在为CA支付费用之前尝试OpenVPN,可以创建自签名证书。这是查看OpenVPN是否是您希望为您的企业部署的免费方式。如果您已经知道要购买CA,可以跳过本文的此部分,直接转到<u>在</u> RV160/RV260路由器上设置OpenVPN。 步骤1.使用您的凭证登录路由器。默认用户名和密码为cisco。

注意:强烈建议您将所有密码更改为更复杂的密码。否则,就像把钥匙丢到门口上锁的门上一样。



步骤2.您需要在路由器上获取证书。导航至管理 > 证书 > 生成CSR/证书……这是如何创建证书请求

	Î	•	ılı.ılı. cısco	RV260-PnPDemo				 Alert cisco(admin) 	English	· 9 8
Getting Started Status and Statistics	Ce	erti	ficate							
Administration File Management		Certif	ficate Tab	ble						^
Reboot			Index	Certificate	Used by	Туре	Signed By	Duration	Details	Action
Diagnostic		0	1	Default	-	Local Certificate	-	From 2018-Sep-17, 00:00:00 To 2048-Sep- 09, 00:00:00		1
Configuration Management		0	2	CertTi	-	CA Certificate	Self-Signed	From 2018-Apr-04, 00:00:00 To 2023-Apr- 04, 00:00:00		1 🛍
System Configuration		•	3	CertImport	NETCONF WebServer RESTCONF	Local Certificate	CiscoTest- DC1-CA	From 2018-Aug-03, 00:00:00 To 2020-Aug- 02, 00:00:00		1
LAN		0	4	AnthonyRouterIm	-	Local Certificate	CiscoTest- DC1-CA	From 2018-Sep-18, 00:00:00 To 2020-Sep- 17, 00:00:00		1
Firewall				3						
VPN	l Ir	npor	t Certificat	te Generate CS	R/Certificate	Show bu	ilt-in 3rd party C	A Certificates Selec	t as Primaŋ	/ Certificate

步骤3.请求CA*证书*。

0

\bigotimes	Getting Started	Generate CSP/Certifica		0	Generate	Cancel
G	Status and Statistics				Cenerate	Cancer
*		Туре:	CA Certificate	-		
	File Management	Cortificato Namo:	Cert Test CA			
	Reboot	Certificate Name.		-		
	Diagnostic	Subject Alternative Name:	192.168.1.50			
	Certificate		IP Address O FQDN O Email	_		
	Configuration Management	Country Name (C):	United States	~		
٠	System Configuration	State or Province Name (ST):				
۲	WAN	Locality Name (L):				
	LAN	Organization Name (O):				
Ş	Wireless	Organization Unit Name (OU):	Training			
8	Routing	Common Name (CN):	Cert Test CA			
	Firewall	Email Addrose (E):	@cisco.com			
Ð	VPN	Email Address (E).	e and a domain in			
	Security	Key Encryption Length:	2048	Ÿ		

- •从下*拉菜单*中选择CA Certificate
- 输入证书名称
- 输入IP地址、完全限定域名(FQDN)或电子邮件。输入IP地址是最常见的选择。
- 输入您所在的国家/地区
- 输入您的省/自治区
- 输入您所在地的名称,通常是您所在的城市
- 输入您的组织名称
- 输入您的组织单位名称
- 输入您的电子邮件地址
- 输入密钥加密长度,建议使用2048

单击右上角的"生**成"**按钮。

步骤4.您还需要服务器证书。此由CA证书签名的证书将由您刚创建的CA证书签名。

		•	۱۱۱۱۱۱۰، cisco					8 Alert cisco(admin)) English	✓ ?	0
3	Getting Started	Cor	tificato								
Ģ	Status and Statistics	Cer	lincale								
ł	Administration	Cor	tificato Tab	le							•
	File Management	Cer	uncate rap								
	Reboot		Index	Certificate	Used by	Туре	Signed By	Duration	Details	Action	
	Diagnostic	0	1	Default	-	Local Certificate	-	From 2018-Sep-17, 00:00:00 To 2048-Sep- 09, 00:00:00		±	
	Configuration Management	0	2	CertT		CA Certificate	Self-Signed	From 2018-Apr-04, 00:00:00 To 2023-Apr- 04, 00:00:00		1 🛍	
	System Configuration WAN	٢	3	CertImport	NETCONF WebServer RESTCONF	Local Certificate	CiscoTest- DC1-CA	From 2018-Aug-03, 00:00:00 To 2020-Aug- 02, 00:00:00		1 🛍	
	LAN	0	4	AnthonyRouterIm	-	Local Certificate	CiscoTest- DC1-CA	From 2018-Sep-18, 00:00:00 To 2020-Sep-		1	
	Routing Firewall			0				17, 00:00:00			
	VPN	Impo	ort Certificat	e Generate CS	R/Certificate	Show bu	uilt-in 3rd party C	A Certificates Selec	t as Primar	y Certificate	

步骤5.请求CA证书签名的证书。

\bigotimes	Getting Started	Concrete CSP/Cortifier		
•	Status and Statistics		ale	Generate
*	Administration	Туре:	Certificate Signed by CA Certificate	
	File Management	Authorize External CSR:		
	Reboot	Certificate Name:	CertTest_CA	
	Diagnostic	Subject Alternative Name	192.168.1.50	
	Certificate	Subject Alternative Name.	IP Address O FODN O Email	
	Configuration Management	Country Name (C):	United States	1
٠	System Configuration			
3	WAN	State or Province Name (S1):		
.	LAN	Locality Name (L):		
Ŕ	Wireless	Organization Name (O):]
*	Routing	Organization Unit Name (OU):		
	Firewall	Common Name (CN):	Cert Test CA	1
Ŧ	VPN	Email Address (E):	.com	
	Security	Key Free sties Length	2048	1
T	QoS	Key Encryption Length:	2040	
		Valid Duration:	360	davs (Range: 1-10950, Default 360)
		Certificate Authority:	Ŭ,	

- •从下拉菜单中选择证书签名请求
- 输入证书名称
- 输入IP地址、完全限定域名(FQDN)或电子邮件。输入IP地址是最常见的选择。
- 输入您所在的国家/地区
- 输入您的省/自治区
- 输入您所在地的名称,通常是您所在的城市
- 输入您的组织名称
- 输入您的组织单位名称
- 输入您的电子邮件地址
- 输入密钥加密长度,建议使用2048
- •从下拉菜单中选择适当的证书颁发机构

单击右上角的"生**成"**按钮。

步骤6.导航至System Configuration > User Groups。选择加号图标以添加新组。

\otimes	Getting Started	Ш	lser	Groups					Ap	olv Ca	ncel		
()	Status and Statistics	Ŭ	001	aroupo									
**	Administration 1	0	G										
٩	System Configuration	•	Ð		Web Login								
	Initial Router Setup			Group	/NETCONF	Lobby	802 1v	S2S IPSec	C2S IPSec		DDTD	Captive	
	System			Circup	ALGIOONI	Ambassa	002.17	VEIN	VEIN	Openviri	TT IF	Portai	
	Time			Ambassa	Disable	Enable	Disable	Disable	Disable	Disable	Disable	Enable	
	Log			admin	Admin	Enable	Enable	Enable	Enable	Enable	Enable	Enable	
	Email			guest	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable	
	User Accounts												
	User Groups 2												

步骤7.输入组名称,单击单选按钮On以打开OpenVPN。单击 Apply。

User Groups	3	Apply	Cancel						
Group Name: OpenVPN 1	Group Name: OpenVPN 1								
Local User Membership List									
			_						
* Should have at least one account in the 'admin' group.									
Services									
Web Login/NETCONF/RESTCONF: O Disable O Readonly O Admin									
Site to Site VPN:			_						
Client to Site VPN:									
802.1x: O On O Off									
Lobby Ambassador: O On <a>O Off									

步骤8.在"系统配置"菜单中导航,然后单击"用**户帐户"**。在本地用户下,单击加**号**图标。

\otimes	Getting Started	l leer Accounts	Apply
•	Status and Statistics		Appry
**	Administration	Minimal Password Length:	8 (Range: 0-64, Default: 8)
٠	System Configuration	Minimal Number of Character Classes:	3 (Range: 0-4, Default: 3)
	Initial Router Setup	The four classes are: uppercase (A,B,C), lowercase (a,b	.c), numbers (1,2,3) and special characters (!@#\$).
	System	The new password must be different from the current one	.: D Enabled
	Time	Password Asing Time:	180 days (Pange: 0-365, 0 means payer expires)
	Log	Password Aging Time.	days (hange, or ood, or means never expires)
(Email User Accounts	Local Users	^
	User Groups	+ 🖉 🛍 📥 🔔	
	IP Address Groups		Group
	SNMP	Test_Admin	Ambassador
	Discovery-Bonjour	□ cisco	admin
	LLDP	guest	guest
	Automatic Updates	* Should have at least one account in the 'admin' group).
	Schedules		

步骤9.填写以下信息。确保从下拉菜单中选择OpenVPN。单击 Apply。

Add user account

A The current minimum	n requirements are a	s follows		
* Minimal Password	Length:	8		
* Minimal Number o	f Character Classes:	3		
Username:	VPN			
New Password:	••••••	•]	
Confirm Password:	•••••	•]	
Password Strength meter:)	
Group:	OpenVPN ~			
		2	Apply	Cancel

所有依赖项都已完成,现在可以为路由器配置OpenVPN。

步骤10.导航**到VPN > OpenVPN**。将打开OpenVPN页面。填写页面上的每个框,确保从下拉菜单中 选择之前创建的证书。

	Getting Started						Cancel
G	Status and Statistics	Openven					Cancer
**	Administration	Enable: 3					
٠	System Configuration	Interface:	All	~			
۲	WAN	CA Certificate:	A_Trust_	~			
	LAN	Server Certificate					
Ş	Wireless	4					
R	Routing	Client Authentication:	Password Only	~			
蠿	Firewall	Client Address Pool:	10.1.	N	letmask:	255.255.255.0	
Ð	VPN	Protocol:	UDP	~ P	Port:	1194	
	VPN Setup Wizard	Encryption:	AES-256	~			
	IPSec VPN	Tunnel Mode:	O Full Tunnel, routing all client traffic throug	h VPN	N		
<u> (</u>	OpenVPN 2		• Split Tunnel, routing client traffic destined	d to th	e following	subnets through VPN	

- •选中*启用*框。选择允许流量的接口。在本例中为广域网(WAN),并选择证书颁发机构 (CA)证书。
- •从下拉*菜单中选择*CA证书
- •从下拉菜单中选择您下载的服务器证书
- •选择"*Client Authentication*"。如果选择Password,则需要使用密码进行身份验证。如果 选择密码+证书,则客户端还必须具有证书。这更加安全,但会增加VPN的成本,因为他

们需要购买单独的CA。

- 输入客*户端地址池*。在网络子网中选择公司其他任何地方都未使用的IP地址。从保留范围 中选择,并选择不在其他位置使用的范围。
- •选择加密形式。确保加密与客户端相同。不建议使用DES和3DES,应仅用于向后兼容。
- •如果只想指定通过VPN的流量,请选择拆分隧道。对于VPN,需要拆分隧道。*当您希望所* 有客户端流量通过VPN时,在其他情况下会选择全通道模式。

步骤11.向下滚动页面,填写"域*名"和DNS1*。

Domain Name:	Openvpn.net
DNS1:	192.168.1.1

注意:DNS1 IP地址可以是专用的内部DNS服务器、Internet服务提供商(ISP)、虚拟机上提供的默 认网关的相同IP地址,也可以是Internet上的受信任DNS服务器。

步骤12.单击Apply以在路由器上保存配置。

步骤13.保留在同一页,然后进一步滚动。生成要安装在OpenVPN客户端上的配置模板。此文件具 有*.ovpn*扩展名,将由OpenVPN客户端使用。选中导出客户*端配置模板(.ovpn)的框,然*后单击**生成** 。这会将文件下载到您的计算机上。

Export setting:							
Include client certificate:							
Please choose the method you want to export:							
1 Export client configuration template (.ovpn)							
Send Email Click here to configure Email settings.							
Email client configuration template (.ovpn) to recipients (multiple email addresses separated by comma):	input email address						
Email Subject:	OpenVPN Client Configurat						
Generate							

步骤14.导航至Status and Statistics > VPN Status。您可以向下滚动以获取更详细的信息。

() ()	Getting Started Status and Statistics	System Sum	nmary						
_	System Summary	IPv4 IPv	6						
	TCP/IP Services		WAN (Copper)		usa				
	Port Traffic	IP Address:	210.1.100.20/24						
	WAN QoS Statistics	Default Gateway:	210.1.100.1						
	Switch QoS Statistics	DNS:	210.1.100.1						
	Connected Devices	Dynamic DNS:	Disabled		Disabled				
	Routing Table		Release Rer	16W	(No Attached)				
	DHCP Bindings								
Ċ	Mobile Network VPN Status	VPN Status							
	View Logs	Type		Active	Configured		Max Supported	Connected	
쓭	Administration	IPSec		Disabled	0		20	0	
۰	System Configuration	PPTP		Disabled	1		20	0	
۲	WAN	Oper/VPN		Enabled	1		20	0	3
ф.	LAN	\square							-
3	Routing	Firewall Settin	a Status			Log Setting	Status		
	Firewall	i neman ootan	ig oterus			Log outing	outos		
•	VPN	SPI (Stateful Packet	Inspection): On			Syslog Server:	or		
۵	Security	Block WAN Becuret	De): On			Email Log:	Off		
T	QoS	Remote Managemen	e On						

本文的下一部分很重要,因为它说明了如何使用自签名证书登录。

在设置演示OpenVPN后使用自签名证书登录

使用自签名证书登录时,尝试登录时可能会出现警告弹出窗口。您需要点击Advanced、Proceed、 Trust或其他选项(具体取决于您的Web浏览器)才能继续。

此时,您可能会收到警告,称其不安全。您可以选择继续、添加例外或高级。这取决于Web浏览器 。

在本例中,Chrome用于Web浏览器。出现此消息,单击"Advanced"。



Your connection is not private

Attackers might be trying to steal your information from **...net** (for example, passwords, messages, or credit cards). <u>Learn more</u> NET::ERR_CERT_AUTHORITY_INVALID

Help improve Safe Browsing by sending some system information and page content to Google. Privacy policy.

ADVANCED

BACK TO SAFETY

将会打开一个新屏幕,您需要单击"继续到您的website.net(不安全)"

This server could not prove that it is **...net**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

Proceed to ______.net (unsafe)

以下是将Firefox用作Web浏览器时访问设备警告的示例。单击"Advanced(高级)"。

🖌 Υοι	ir connection is not secure
The ow stolen,	ner of net has configured their website improperly. To protect your information from being Firefox has not connected to this website.
Learn n	nore
Re	port errors like this to help Mozilla identify and block malicious sites
	Go Back Advanced
单击 添加例 夕	k
	.net:50 uses an invalid security certificate.
The certifica	ate is not trusted because it is self-signed.
The certifica	ate is only valid for .
Error code:	MOZILLA_PKIX_ERROR_SELF_SIGNED_CERT
	Add Exception
最后,您必须	顺单击"确认安全 异常"。

Add Security Exception	>
You are about to override how Firefox identifies this site. Legitimate banks, stores, and other public sites will not ask you to do this.	
Server	
Location: https:// /login.html	<u>G</u> et Certificate
Certificate Status	
This site attempts to identify itself with invalid information.	<u>V</u> iew
Wrong Site	
The certificate belongs to a different site, which could mean that someone is trying to impersonate Unknown Identity	e this site.
The certificate is not trusted because it hasn't been verified as issued by a trusted authority using a	secure signature.
\checkmark Permanently store this exception	
<u>C</u> onfirm Security Exception	on Cancel

现在,路由器已配置了支持OpenVPN客户端连接所需的所有参数。由于您已将客户端配置模板下载 到您的设备(以*.ovpn结结*尾的模板),因此可以转到"计算机上的<u>OpenVPN客户端设置"部分</u>。如果您 决定为公司部署OpenVPN,可以执行下一节中的步骤。

在RV160/RV260路由器上设置OpenVPN

这是一个更复杂的过程,因为它涉及从第三方获取CA,而这需要资金。您还需要将以.ovpn结尾的 VPN客户端配置模板发送给所*有客户端*,以便它们可以在其设备上设置。客户端需要与路由器相同 的多种设置才能通信。最好的是,您和您的员工能够以最低的成本使用互联网,更安全地开展业务 。

步骤1.使用您的凭证登录路由器。默认用户名和密码为cisco。

注意:强烈建议您将所有密码更改为更复杂的密码。否则,就像把钥匙丢到门口上锁的门上一样。



步骤2.您必须获得证书。导航至管理 > 证书 > 生成CSR/证书……这是如何创建证书请求。

	^	B	cisco F	RV260-PnPDemo				 Alert cisco(admin) 	English	· ? 6	G
\otimes	Getting Started	Corti	ficato								
•	Status and Statistics	Certi	incate								
*	Administration	Corti	ficato Tablo								~
	File Management	Certi	licate Table								
	Reboot		Index	Certificate	Used by	Туре	Signed By	Duration	Details	Action	
\subset		0	1	Default	-	Local Certificate	-	From 2018-Sep-17, 00:00:00 To 2048-Sep- 09, 00:00:00	-	1	
	Configuration Management	0	2	CertT		CA Certificate	Self-Signed	From 2018-Apr-04, 00:00:00 To 2023-Apr- 04, 00:00:00		1	
* ©	System Configuration WAN	۲	3	CertImport	NETCONF WebServer RESTCONF	Local Certificate	CiscoTest- DC1-CA	From 2018-Aug-03, 00:00:00 To 2020-Aug- 02, 00:00:00		1	
*	LAN	0	4	AnthonyRouterIm	-	Local Certificate	CiscoTest- DC1-CA	From 2018-Sep-18, 00:00:00 To 2020-Sep-		1 🛍	
R	Routing							17, 00:00:00			
H	Firewall			3							
Ŧ	VPN	Impor	t Certificate.	Generate CSI	R/Certificate	Show bui	ilt-in 3rd party C	A Certificates Selec	t as Primary	Certificate	

步骤3.请求由CA证书签名的证书。导航至Administration > Certificate即可找到此证书。

Getting Started	Generate CSP/Certifica		
🕒 Status and Statistics	Generate OSK/Certifica	ite .	4 Unitable Cana
Administration	Type:	Certificate Signing Request	
File Management	Contificato Nama:	Pruter	
Reboot	Cerdicate Name.		
Diagnostic	Subject Alternative Name:	192.168.	
Certificate 2		IP Address O FQDN O Email	
Configuration	Country Name (C):	United States 🗸	
Management	State or Province Name (ST):		
System Configuration	Locality Name (L):		
WAN	Oversite News (O)		
LAN	Organization Name (O):		
Wireless	Organization Unit Name (OU):	Training	
Routing	Common Name (CN):		
Firewall	Empil Address (E)	Briero com	
VPN	Email Address (E).	ensection	
Security	Key Encryption Length:	2048 ~	

- •从下拉菜单中选择证书签名请求
- 输入证书名称
- 输入IP地址、完全限定域名(FQDN)或电子邮件。输入IP地址是最常见的选择。
- 输入您所在的国家/地区
- 输入您的省/自治区
- 输入您所在地的名称,通常是您所在的城市
- 输入您的组织名称
- 输入您的组织单位名称
- 输入您的电子邮件地址
- 输入密钥加密长度,建议使用2048

٨	Getting Started	Cert	ificate							
6	Status and Statistics	0011	inouto							
*	Administration	Cert	ificate Table							
	File Management	Cent	incate table							
	Reboot		Index	Certificate	Used by	Туре	Signed By	Duration	Details	Action
	Diagnostic	0	1	Default	-	Local Certificate	-	From 2018-Sep-17, 00:00:00 To 2048-Sep-09, 00:00:00		1
	Certificate	0	2	CertTest_CA	-	CA Certificate	Self-Signed	From 2018-Apr-04, 00:00:00 To 2023-Apr-04, 00:00:00		1
	Configuration Management		3	CertImport	NETCONF WebServer	Local Certificate	CiscoTest-DC1- CA	From 2018-Aug-03, 00:00:00 To 2020-Aug-02, 00:00:00		1
٠	System Configuration				RESTCONF				2	
0	WAN	0	4 😡	AnthonyRouterImport	1	Local Certificate	CiscoTest-DC1- CA	From 2018-Sep-18, 00:00:00 To 2020-Sep-17, 00:00:00		
÷	LAN									
	Routing									
	Firewall	Impo	ort Certificate	Generate CSR/C	Certificate	Show built-in 3rd part	y CA Certificates	Select as Primary Certificat	e	

步骤4.通过点击操作(Action)下的向上箭头选择将其导出。

单击右上角的"生成**"按**钮

步骤5.此屏幕将出现。单击Export。

Export Certificate

Export as PEM format	
Export to:	
⊙ PC O USB 🔁	
Export C 步骤6.从下拉菜 <i>单中选择"打</i> 开方式"和"记事本"(默认)。Click OK .	ancel
Opening AnthonyRouter.pem	>
You have chosen to open:	
AnthonyRouter.pem which is: PEM file (1.2 KB) from: blob:	
What should Firefox do with this file?	
Open with Notepad (default)	~
○ Save File	
Do this automatically for files like this from now on.	
OK Canc	el
步骤7.将打开XML文件。	
AnthonyRoute:pem - Notepad File Edit Format View HeipBEGIN CERTIFICATE REQUEST MIIDYTCCAkkCAQAwgZcxCzAJBgIN/BAYTALVTMRUwEwYDVQQIDAxTb3VBaCBEYWtvdGExFDASBgIN/BACMC1Npb3V4IEZhbGxzMQ4wDAYDVQQKDAVDaXNjbzERMA8GALUE Cwk. GhvbnkgUm31GGVMRBwHQYJxoZIhvcHAQKBFhBhcmVubGI wBBAQEFAADCAQBAWIIB CgKCAQCApZLPhuMow2Ig5vM7b1gXo/6vnp18Yn1HWDKjnll:FfcroCdqREcEjEd1XYCLsR9LXtG1F13UKaQOrRpLyz7n11jRoL0BsZaeV30/bFDNDFF6X1DxDpaAyKs az85038gKt0vgr8WUJjkzEPI1havLCGd48PjEpyE53j DakrB0L47vg-r4WPUASJUNJ64Z4ZyZFEw+xjkUn/N +ytd51DvH1P6TyqK2DDQE51xs1-29jF1ac3Gw6CEDYXgD2G9a8x1agBasGcrwnJaycF+MB0L5s41UMaUDAQBaItGDMI6ABgkqhktiG9w8BCQ4xczBxdMkGA1UdEwQCMAwHQVDVR00BB +8r4zePCPInbx54HYDdPQcwzBMAsGA1UdDwQEAwIF4DanBgIN/HSUEIDa&Bgr9gEFBQcDAQY1Kw1DBQUHAwIGCSGGAQUFCAL +28MBC10Yuth5UMA4tBic6s2U2PhnI6yemQz+3g1N/RASHIF5.70s483yaad02XXp6Xp2+mK5pm6vA1e0ef3mdJ/R+rP2AhB+11RWrqQoMsf15smR52HE0n4 T2CTKNBCMLeHIIB11Y095020X2k2+9vH0T5xgVae2wFompHBBsUvcUNT4jUzYkysV7XkREz70Y1PF5TZW9KzzAIo2N8aQbHUQNTxJqFBm4iF01cMUYs73q06M2M=END CERTIFICATE REQUEST	I X

注意:确保BEGIN CERTIFICATE REQUEST和END CERTIFICATE REQUEST分别位于各自的行中,如上所示。

步骤8.在屏幕顶部单击"编辑",**然后从**下拉菜单**中选择**"复制"。

<u> </u>	InthonyRouter.pem - N	lotepad	
File (Edit F1 t View	Help	
	Undo	Ctrl+Z	JEST
MIII CwwJ	Cut	Ctrl+X	MDkFu
CgKC	Copy 2	Ctrl+C	gXo∕6v
az85	Päste	Ctrl+V	AVLOC
+yE¢ +8r4	Delete	Del	l+Z9jF AsGA1U
MA80	Find	Ctrl+F	/JKoZI
+280	Find Next	F3	PnlGye
120	Replace	Ctrl+H	11Y095
	Go To	Ctrl+G	
	Select All	Ctrl+A	
	Time/Date	F5	

1.0

步骤9.选择信誉良好的第三方站点以发出证书请求。您需要将复制的XML文件粘贴为请求的一部分 。

注意:如果您的网络上有内部证书服务器,则可以改用该服务器,但这并不常见。

Submit a Certificate Request or Renewal Request

To submit a saved request to the CA, paste a base-64-encoded CMC Saved Request box.

Saved Request:		
Base-64-encoded certificate request (CMC or PKCS #10 or PKCS #7):	TZOTKHXBcMTWpChljPFyALeNH811Y095aB02WX2e cUNT4jU2YNysV7XkREz7oY1PF5TZW9KzzAIoZW8a 3g06H2H- END CERTIFICATE REQUEST	< >
Certificate Temp	late:	
	Web Server V	
Additional Attrib	utes:	
Attributes:	Â	
	Submit >	_

步骤10.验证完毕后,您可以选择"下载证书"。

Certificate Issued

The certificate you requested was issued to you.

ODER encoded or
Base 64 encoded Download certificate Download certificate chain

步骤11.单击单选按钮以保存*文件,*然后单击**确定**。

Charles Inc.		the Martin State	and the second se
Opening	openvon.	-cuent t	mpl.ovpn

You have chosen to	openc			
n openvpn_clie	nt_tmpLovpn			
which is: ovp	n File (5.3 KB)			
from: blob:				
What should Firefo	x do with this file?			
O Open with	Browse			
Do this auto	matically for files li	ke this from now c	on.	
		1×		Cancel
骤12.保存后,选择	该证书的单选按钮	,然后单击向 下箭	튓头 图标。	
骤12.保存后,选择 mport Certificate	该证书的单选按钮 Generate CSR/Certificate	,然后单击向下 箭 Show Built-in 3	5头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 mport Certificate 骤13.此屏幕将打开	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。	,然后单击向下 箭 Show Built-in 3	퉛头 图标。 Brd-Party CA	A Certificates
骤12.保存后,选择 mport Certificate 骤13.此屏幕将打开 mport Signed-0	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	奇头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 mport Certificate 骤13.此屏幕将打开 mport Signed-(该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	奇头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-(Type: Local C	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 们	奇头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 mport Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name:	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	奇头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name: Upload Certificate f	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	脊头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name: Upload Certificate f ◎ Import from PC	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	脊头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name: Upload Certificate f Import from PC Browse No file	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 箭 Show Built-in 3	脊头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name: Upload Certificate f Import from PC Browse No file O Import from USB 2	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate	,然后单击向下 都 Show Built-in 3	脊头 图标。 Brd-Party CA	Certificates
骤12.保存后,选择 Import Certificate 骤13.此屏幕将打开 mport Signed-C Type: Local C Certificate Name: Upload Certificate f Import from PC Browse No file O Import from USB 3 Browse No file	该证书的单选按钮 Generate CSR/Certificate 。选择 浏览。 Certificate file is selected	,然后单击向下 箭 Show Built-in 3	脊头 图标。 Brd-Party CA	Certificates

步骤14.选择证书的文件,然后单击"打**开"**。

🌜 File Upload						×
← → ~ ↑ 🗖	> This	s PC > Desktop	v č	Search Desktop		ρ
Organize 🔻 New	folder	r		8	= • 🔟	0
E Desktop	^	Name	Date modified	Туре	Size	^
Pole Position		export-7e49e72b-80c8-4d2c-9a83-7448f6	8/27/2018 12:09 PM	Microsoft Excel C	16 KB	
Con Dia		🔧 GNS3	10/31/2017 9:01 AM	Shortcut	2 KB	
> OneDrive		📄 insurance.txt	8/24/2018 12:28 PM	Text Document	1 KB	
🗸 🛄 This PC		messages2.txt	9/6/2018 11:51 AM	Text Document	209 KB	
> Desktop		messages3.txt	9/6/2018 11:56 AM	Text Document	225 KB	
> Documents		💬 NetSpot	3/30/2017 2:53 PM	Application Refere	1 KB	
Downloads		Router and Wireless Topics-RMHadsx	9/11/2018 3:48 PM	Microsoft Excel W	15 KB	
> Cowinidads		SolarWinds-TFTP-Server.zip	8/31/2018 3:03 PM	Compressed (zipp	1,416 KB	
> 🔊 Music		😰 Switch_Tesla-Tombaugh-Option82-MRv	8/29/2018 1:36 PM	Microsoft PowerP	1,891 KB	
> E Pictures		Tftpd32	8/31/2018-3:01 PM	Shortcut	2 KB	- 1
> Sideos		Tftpd64	9/10/2018 8:28 AM	Shortcut	2 KB	
> 🏰 OS (C:)		C WhatsApp	8/31/2017 8:48 AM	Shortcut	3 KB	
	~	AnthonyRouter.cer	9/18/2018 2:01 PM	Security Certificate	3 KB	¥
	File na	me		 All Files (*.*) 		~
				Open -	Cancel	
				Open 🗸	Cancel	

步骤15.输入要导入的证书名称,然后单击**上传**。

Import Sigi	ned-Certificate	×
Туре:	Local Certificate	
Certificate Name	AnthonyRouterImport	
Upload Certi	ificate file	
Import from P	с	
Browse	AnthonyRouter.cer	
O Import from U	SB 🔁	
Browse	No file is selected	
		Cancel
步骤16.您将收	到证书已成功导入的通知。Click OK .	
Informa	tion	ж
Import	certificate successfully!	
		ОК

注意:在本例中,使用了本地证书服务器。

		0	-1 1-1 1- CISCO	RV260-PnPDemo				cisco(admin)	English	8	0 (Э
	Getting Started	Cart	ificate									
6	Status and Statistics	Cen	meate									
۲	Administration	Cert	ificate Tab	le .							~	
	File Management											
	Reboot		Index	Certificate	Used by	Туре	Signed By	Duration	Details	Action		
	Diagnostic	0	1	Default	-	Local Certificate		From 2018-Sep-17, 00:00:00 To 2048-Sep-09, 00:00:00		*		
(Certificate	0	2	CertTest_CA		CA Certificate	Self-Signed	From 2018-Apr-04, 00:00:00 To 2023-Apr-04, 00:00:00		10	1	
	Configuration Management	•	3	Certimport	NETCONF WebServer	Local Gertificate	CiscoTest-DC1- CA	From 2018-Aug-03, 00:00:00 To 2020-Aug-02, 00:00:00	•	11	1	
٠	System Configuration	G		Arthon Rostedmoot		Local Certificate	CircoTest-OC1-	From 2018-Sep-18, 00:00:00	-			
۲	WAN	Č		An a plant of a		LICE OF FICE	¢)	To 2020-Sep-17, 00:00:00		-	<u> </u>	
4	LAN											
	Routing	Impo	rt Certificat	e Generate CSR/C	ertificate	Show built-in 3rd part	y CA Certificates	Select as Primary Certificat				
	Firewall											

步骤18.导航到VPN > OpenVPN。将打开OpenVPN页面。使用您的信息完成以下操作。

	Administration		0W-RV260		cisco/admin	English	O A	6
۵	System Configuration	CISCO (V20	011 111200		0000(001111	, crighter	•••	<u> </u>
۲	WAN	OpenVPN				5 Apply	Cano	cel
*	LAN							
Ş	Wireless	Enable: 3						
X	Routing	Interface:	All	~				
	Firewall	CA Certificate:	A_Trust_nQual_03	~				
Ţ	VPN 1	Server Certificate: 4		~				
	VPN Setup Wizard	Client Authentiaction:	Password Only					
	IPSec VPN	Client Autrentication.						
	OpenVPN 2	Client Address Pool:	10.1.4.0	Netmask: 2	255.255.255.0			
	PPTP Server	Protocol:	UDP	✓ Port: 1	1194			
	GRE Tunnel	Encryption:	AES-256	~				
	VPN Passthrough	Tunnel Mode:	O Full Tunnel, routing all client traffic	: through VPN				
	Resource Allocation		• Split Tunnel, routing client traffic of	destined to the following su	bnets through VPN			

- 选中*启用*框。选择允许流量的接口。在本例中为广域网(WAN),并选择证书颁发机构 (CA)证书
- •从下拉菜单中选择CA证书
- •从下拉菜单中选择您下载的服务器证书
- 选择"Client Authentication"。如果选择Password,则需要使用密码进行身份验证。如果
 选择密码+证书,则客户端还必须具有证书。这更加安全,但会增加VPN的成本,因为他
 们需要购买单独的CA。
- 输入客户端地址池。在网络子网中选择公司其他任何地方都未使用的IP地址。从保留范围
 中选择,并选择不在其他位置使用的范围。
- •选择加密形式。确保加密与客户端相同。不建议使用DES和3DES,应仅用于向后兼容。
- 如果希望所有客户端流量通过VPN,请选择*Full Tunnel Mode*;如果只想指定哪些流量通过VPN,请选择Split tunnel
- DNS1 IP地址可以是专用的内部DNS服务器、Internet服务提供商(ISP)、虚拟机上提供的 默认网关的相同IP地址,或者Internet上的受信任DNS服务器。

单击Apply以保存配置。

第19步(选项1)。 您可以将此配置通过电子邮件发送给客户端。选中Send Email*(发送电子邮件*)。输入电子邮件地址。为电子邮件添加主题标题。单击生成。

Export setting:	
Include client certificate: AnthonyRouterImport	\sim
Please choose the method you want to export:	
Export client configuration template (.ovpn)	
Send Email Click here to configure Email settings.	2
Email client configuration template (.ovpn) to recipients (multiple email addresses separated by comma):	s nick@cisco.com
Email Subject:	OpenVPN Client Config
Generate 4	
步骤20.(选项2)。 选择 <i>导出客户端配置模板(.ovp</i>	on), <i>然</i> 后单击 生成 。
Export setting:	
Include client certificate:	
Please choose the method you want to export:	
Export client configuration template (.ovpn)	
Send Email Click here to configure Email settings.	
Email client configuration template (.ovpn) to recipients (multiple email addresses separated by comma):	input email address
Email Subject:	OpenVPN Client Configurat
Generate	
步骤21.您将收到成功的确认。Click OK .	
Information	×
Export client configuration template download	ed successfully!
	OK

步骤22.单击Save。

Enter name of file	to save to					30
• -> - + 1	> This PC $>$ Desktop $>$	config > 260W	~ ô	Search 260W		P
Organize • Ne	sv folder				81 -	0
This PC	 Name 	A	Date modified	Турн	Size	
Desktop			Working on it			
Documents						
Counloads						
Music						
E Pictures						
Wideos						
🔛 Q5 (C)						
- Network	w					
File name:	openivpn, client, tmpLovpn	т				
Save as type:	ovpn File (*.ovpn)					w
A Hide Falders				Save	Cancel	

步骤23.在桌面右下角单击打开OpenVPN。右键单击打开下拉菜单。单击"导入文件"。



______ 步骤24.选择以.ovpn结尾的OpenVPN*文件*。

📙 🔄 🔜 🖛 260W				
File Home Share	View			
Pin to Quick Copy Paste	Cut Copy path Paste shortcut Delete Rena Organize	me New folder	ccess • Properties	Open - Select all Content and Select none History History Select
🔶 🚽 🐘 📩 > This	$PC \rightarrow OS (C:) \rightarrow Users \rightarrow arenli \rightarrow Desktop \rightarrow$	config > 260W		
👃 Downloads 🚿 ^	Name	Date modified	Туре	Size
🔚 Pictures 🛷	O openvpn_client_t(\pl.ovpn	9/11/2018 2:44 PM	OpenVPN Config	6 KB
3534	RV260.aml	8/16/2018 8:08 AM	XML Document	117 KB
Desktop	🖆 RV260W.xml	8/15/2018 9:36 AM	XML Document	118 KB
marketing	RV260W_syslog_2018-08-21_09-59-23.log	8/21/2018 10:59 AM	Text Document	3 KB
Pole Position	Tftpd32-4.62-setup.exe	8/31/2018 2:50 PM	Application	543 KB
ConeDrive ConeDrive This PC ConeDesktop Co	Tftpd64-4.62-setup.exe	8/31/2018 2:51 PM	Application	564 KB
Videos				
🏥 OS (C:)				

步骤25.单击单选按钮"保存文*件",*然后单击**确定**。

openvpn_clier	t_tmpLovpn	
which is: ovpn	File (5.3 KB)	
What should Firefm	do with this file?	
	Browse	
ave File		
Do this autor	natically for files like this from (now on.

步骤26.如果选择,请更改文件名,但*将。*ovpn留在文件名末尾。Click **Save**.



步骤27.导航至Status and Statistics > VPN Status。您可以向下滚动以获取更详细的信息。

\odot	Getting Started	Sustan Summary						
6	Status and Statistics	System Sun	imary					
_	System Summary	IPv4 IPv	6					
	TCP/IP Services		WAN (Cooper)	1158				
	Port Traffic	IP Address:	210.1.100.20/24					
	WAN QoS Statistics	Default Gateway	210.1.100.1					
	Switch QoS Statistics	DNS:	210.1.100.1					
	Connected Devices	Dynamic DNS:	Disabled	Disabled				
	Routing Table		Release Renew	(No Attached)				
	DHCP Bindings							
	Mobile Network							
ſ	VPN Status	VPN Status						
	View Logs	Type	Active	Configured	Max Supported	Connected		
썉	Administration	IPSec	Disabled	0	20	0		
٠	System Configuration	PPTP	Disabled	1	20	0		
0	WAN	OpenVPN	Enabled	1	20			
*	LAN							
8	Routing	5			an Ontrino Otatura			
	Firewall	Firewall Settin	ng Status	L	bg Setting Status			
	VPN	SPI (Stateful Packet	Inspection): On	9	slog Server: Off			
4	Security	DoS (Denial of Servi	ce): On	Er	nail Log: Off			

现在,路由器已配置了支持个人试用版OpenVPN客户端连接所需的所有参数。

计算机上的OpenVPN客户端设置

每个OpenVPN客户端都需要执行以下任务作为前提条件:

- •在设备上下载OpenVPN应用。
- •打开并保存在上一节步骤19-22中发送的配置文件。配置文件以.ovpn结尾。

注意:此设置专门用于Windows 10。

步骤1.导航至桌面右下角的箭头图标,然后点击以打开OpenVPN图标。右键单击并选择"导*入文件"* 。



注意:图标为黑白,表示当前未运行。运行后,图标将以颜色显示。

步骤2.单击上*箭头*。点击OpenVPN图标。右键单击,然后从下*拉菜*单中选择"连接"。

Connect 3					
Disconnect					
Reconnect					
Show Status					
View Log		-		-	
Edit Config					
Clear Saved Passwords	а	Ng.	e.		
Import file					
Settings	2	•	0		
Exit 2	Ð	5	0		
	<u> </u>	~ ~	`		
67 C		0(J	4 <u>p</u>	(13)

步骤3.输入用户名和密码。

OpenVPN Connection	(openvpn_client_tmpl)		_		×
Current State: Connecting					
Fri Aug 10 13:31:20 2018 Fri Aug 10 13:31:20 2018 Fri Aug 10 13:31:20 2018	OpenVPN 2.4.6 x86_64-w64-mingw32 [S: Windows version 6.2 (Windows 8 or great Ibrary versions: OpenSSL 1.1.0h 27 Mar openvpn_client_tmpl Usemame: cisco Paseword: Save password OK Can	SL (OpenSSL)) (L2 er) 64bt 2018, LZO 2, 10 ×	:0] (LZ4] (P	KCS11][/	AEAI
٢		OpenV/	N GUE 11 1	10 0 0/2 4	>
		opener	n doi m,	10.0.0/ 2.4	.0
Disconnect	Reconnect			Hide	
聚4.该窗口将显示 OpenVPN Connection	:OpenVPN连接和一些日志 	数据。	_		>
Current State: Connecting					AFAI

Fri Aug 10 13:31:42 2010 Fri Aug 10 13:31:42 2010 Fri Aug 10 13:31:42 2010 Fri Aug 10 13:31:42 2010	3 Notified TAP-Windows driver to s 3 Successful ARP Flush on interfac 3 do_ifconfig.tt->did_ifconfig_jov6;	et a DHCP IP/netmask of 10.1.4.3/255.25 :e [21] {CD0193D1-B5B6-456B-82A6-F441 _setup=0	35.255.0 o 181AC5E1
<	2		>
Bytes in: 0.8 out: 14.8		OpenVPN GUI 11,10.0	0/2.4.6
Disconnect	Reconnect	Hid	



步骤6. VPN客户端应能安全地通过OpenVPN传输传入和传出信息。这可设置为在OpenVPN设置中 自动连接。

步骤7.管理员可以通过导航到路由器上的Status and Statistics > VPN Status来确认VPN状态。

\odot	Getting Started	System Summany							
6	Status and Statistics	System Summar	System Summary						
	System Summary	IPv4 IPv6							
	TCP/IP Services	WAN /	(Conner)	1158					
	Port Traffic	IP Address: 210.1.1	100.20/24						
	WAN QoS Statistics	Default Gateway: 210.1.1	100.1						
	Switch QoS Statistics	DNS: 210.1.1	100.1						
	Connected Devices	Dynamic DNS: Disable	d	Disabled					
	Routing Table	Rela	ase Renew	(No Attached)					
	DHCP Bindings								
ſ	Mobile Network VPN Status	VPN Status							
	View Logs	Туре	Active	Configured	Max Supported	Connected			
쓭	Administration	IPSec	Disabled	0	20	0			
۰	System Configuration	PPTP	Disabled	1	20	0			
ø	WAN	OpenVPN	Enabled	1	20	0			
ф	LAN								
3	Routing	Firewall Setting Sta	Eizewall Satting Status						
	Firewall	r neman betting bu			g oorang oracas				
•	VPN	SPI (Stateful Packet Inspection	on): On	Sys	log Server: Off				
•	Security	DoS (Denial of Service):	On	Em	al Log: Off				
т	QoS	Remote Management:	On						

结论

现在,您应该已在RV160或RV260路由器和VPN客户端站点成功安装OpenVPN。

有关OpenVPN的社区讨论,请<u>单击</u>此处搜索OpenVPN。



单击此处查看思科提供的其他技术讲座