如何为vManage生成自签名Web证书

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简介

本文档介绍当现有证书在内部vManage上过期时如何生成和安装自签名Web证书。思科不为此类部 署签署Web证书,客户必须通过自己的证书颁发机构(CA)或某些第三方CA进行签名。

问题

vManage Web证书即将过期或已过期。对图形用户界面(GUI)的访问可能会丢失,或者您可以在GUI中看到有关证书过期的永久警报。

解决方案

如果您不关心自签名证书使用的安全方面,只想避免警报消息和由于证书过期而可能出现的 vManage GUI访问问题,则可以将此解决方案与自签名Web证书一起在vManage上使用。

1.在vManage GUI中,导航至Administration > Settings > Web Server Certificate > Certificate,然 后将此信息保存到有关证书主题的某个位置,例如,Subject:CN=vmanage, OU=Cisco SDWAN, O=Cisco Systems, L=San Jose, ST=CA, C=US。

Web Server Certificate	13 Jul 2024 12:30:30 AM	CSR Certificate
View Import		
Certificate		
Version: V3 Subject: CN-wmanage, OU=Cisco SDWAN, 0=Cisco Systems, L=Si Signature Algorithm: SHA256withRSA, OID = 1.2.840.113549.1.1.1 Key: Sun RSA public key. 2048 bits modulus: 23257422859723715294893994137067968032294712756617277 28112318915108103404901552614372077801699915148966813 29595290195550502053350301253794396639561043882019430 public exponent: 65537 Validity: [From: Fri Aug 09 00:30:30 CEST 2019, To: Stat Juli 310:30:30 CEST 2014] Issuer: CN+wmanage, OU=Cisco Systems, L=Sar Sexialbumber: 1163754	an Jose, ST=CA, CHUS 11 2567005780853862318177138330202276269146134490362485498651156210938818891769834287129736981667130016526207139832013993030166631321624231252892044164101597241923 39517478047229573781204247939322989166063312343000764649339290845453583485000926261696387763217257681242793006586766749337598825691413855212922564917474349087 201762521697203144861309110671191948813513203545050136221855234826228848105049451459370645612042907851141913	0527012553150009 6622725395717414

2.在vManage GUI中,导航至 Administration > Settings > Web Server Certificate > CSR,然后选 择Generate以生成新的证书签名请求(CSR)。 确保输入您在上一步中捕获的"主题"的值。

Web Server Certificate	13 Jul 2024 12:30	2:30
Common Name		
vmanage	1	1
Organizational Unit	Organization	
Cisco SDWAN	Cisco Systems	
City	State	
San Jose	CA	
2-Letter Country Code		
Validity 3 Years 🗢		

3.将新生成的CSR复制到复制粘贴缓冲区,如图所示。

Web Server Certificate	13 Jul 2024 12:30:30 AM	CSR Certificate
		1 mm
CSR DECIMANENT CERTIFICATE DECIMENT		± Downloar
MIICsjCCAZoCAQAwbTELMAkGA1UEBhMCVVMxCzAJBgNVBAg	AkNBMREwDwYDVQQH	
EwhTYW4gSm9zZTEWMBQGA1UEChMNQ2IzY28gU3IzdGVtczEU Y28gU0RX0U4xEDa0BgNVBaMTR3Z1YW5b72UwggEiMA0GCSg	//BIGA1UECx/MLQ2lz SIb3D0FR40LI444IB	
DwAwggEKAolBAQCRDdlKGUYuDwobn60PeDqfq96d+r5z66VQ81	BTBBhgwZgG57J7	
YIY9yNF5oSb+b1xUEXb61Wntq7qSHSzJhFDX0BaL4/c9ll0Qped3 vR8vp7TlZinmz+iRlo92cRXnZLZ9V.lwfs9PwFF0Z/4Gw50lkukdan	DEICEOly3oH LmkeKiQWD2A	
4pG2sV80g+hnhUw8tJ1rKzQKsj2JJmD+ikeZbXu36iZvdKJB34iM	AsmsRbJhUFf	
ujUU705E0z1nF2SBCJ+fpf7ze75dQRrBT0PA23QRobQEEg5wSMc IEvLIAX0/0N0f0atMmcBm70.IDESterOStfv4b9AaMBAAGaADAN	rG//jD26zBCNg akabkiG9w08A0sE	
AAOCAQEAK2BenHnfYuW1agdcYrZJD6+uGC6fNfl6qqmvv9XEPF	W0QfPhu8rESyY	
K3qgf/ED+iCXEk/hudnf09vZ6gygM+P8a/zN3+J3VM5zCb6tn7vM mn7GnDD+Xi7DDI YmS6iIR+b05nXeYv01t40v/s2H8iPh/WTraV32	//cytcJONPtu /F+S9o318cva	
7D7yp3W+ce5ltHs90bKW0aexVsypAV4USrDaVsfSbyU97G2rCXq	nMgRLJdBwZofg	
Close		

4.然后输入vshell,并**借助**echo命令将带有CSR的缓冲区内容粘贴到vManage上的文**件中**。

vr	nanage#
vr	nanage# vshell
vr	nanage:~\$ mkdir web
vr	nanage:~\$ cd web
vr	nanage:~/web\$ echo "BEGIN NEW CERTIFICATE REQUEST
>	$\tt MIICsjCCAZoCAQAwbTELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAkNBMREwDwYDVQQH$
>	${\tt EwhTYW4gSm9zZTEWMBQGA1UEChMNQ2lzY28gU3lzdGVtczEUMBIGA1UECxMLQ2lz}$
>	$\tt Y28gu0RXQU4xEDAOBgNVBAMTB3ZtYW5hZ2UwggEiMA0GCSqGSIb3DQEBAQUAA4IB$
>	DwAwggEKAoIBAQCRDdIKGUYuDwobn60PeDqfq96d+r5z66VQ8NBTBBhgwZgG57J7
>	$\tt YIY9yNF5oSb+blxUEXb61Wntq7qSHSzJhFDX0BaL4/c9ll0Qped3yDElCE0ly3oH$
>	y88yg7TIZjnmz+j8Io92cRXnZLZ9YJwfs9PwEF0Z/4Gw5QIkukdAmLmkeKjOWD2A
>	${\tt 4pG2sV80g+hnhUw8tJ1rKzQKsj2JJmD+ikeZbXu36iZvdKJB34iM2AsmsRbJhUFf}$
>	ujUU705E0z1nF2SBCJ+fpf7ze75dQRrBT0PA23QRobQEEg5wSMc+G//jD26zBCNg
>	${\tt IEyUAX0/0NQfOqtMmcBm7QJDESseOSufv4b9AgMBAAGgADANBgkqhkiG9w0BAQsF}$
>	AAOCAQEAK2BenHnfYuWlagdcYrZJD6+uGC6fNfI6qqmvv9XEPFFW0QfPhu8rESyY
>	K3qgf/ED+iCXEk/hudnf09vZ6gygM+P8a/zN3+J3VM5zCb6tn7vM0/cytcJONPtu
>	mnZGpDO+XjZDDLYmS6jlB+hO5gXeYyQ1t4Qv/s2H8jPhIWTraV376E+S9o318cva
>	7D7yp3W+ce5ItHs9ObKWOaexVsypAV4USrDaVsfSbyU97G2rCXqmMgRLJdBwZofg
>	04qsgrC8qG28aue1Q88XPa/HQtp0WB/Pxg7oe91s59Je/ETsMkR3vt7aglemyXAJ
>	nal67+T/QWgLSJB2pQuPHo51MbA55w==
>	END NEW CERTIFICATE REQUEST" > web_cert.csr

5.确保在cat命令的帮助下正确保 存CSR。

vmanage:~/web\$ cat web_cert.csr

```
----BEGIN NEW CERTIFICATE REQUEST----
```

MIICsjCCAZoCAQAwbTELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAkNBMREwDwYDVQQH EwhTYW4gSm9zZTEWMBQGA1UEChMNQ2lzY28gU3lzdGVtczEUMBIGA1UECxMLQ2lz Y28gU0RXQU4xEDAOBgNVBAMTB3ZtYW5hZ2UwggEiMA0GCSqGSIb3DQEBAQUAA4IB DwAwggEKAoIBAQCRDdIKGUYuDwobn60PeDqfq96d+r5z66VQ8NBTBBhgwZgG57J7 YIY9yNF5oSb+blxUEXb61Wntq7qSHSzJhFDX0BaL4/c9ll0Qped3yDElCE0ly3oH y88yg7TIZjnmz+j8Io92cRXnZLZ9YJwfs9PwEF0Z/4Gw5QIkukdAmLmkeKj0WD2A 4pG2sV80g+hnhUw8tJ1rKzQKsj2JJmD+ikeZbXu36iZvdKJB34iM2AsmsRbJhUFf ujUU705E0z1nF2SBCJ+fpf7ze75dQRrBT0PA23QRobQEEg5wSMc+G//jD26zBCNg IEyUAX0/0NQfOqtMmcBm7QJDESseOSufv4b9AgMBAAGgADANBgkqhkiG9w0BAQsF AAOCAQEAK2BenHnfYuW1agdcYrZJD6+uGC6fNfI6qqmvv9XEPFFW0QfPhu8rESyY K3qgf/ED+iCXEk/hudnf09vZ6gygM+P8a/zN3+J3VM5zCb6tn7vM0/cytcJONPtu mnZGpD0+XjZDDLYmS6jlB+h05gXeYyQlt4Qv/s2H8jPhIWTraV376E+S9o318cva 7D7yp3W+ce5ItHs90bKWOaexVsypAV4USrDaVsfSbyU97G2rCXqmMgRLJdBwZofg 04qsgrC8qG28aue1Q88XPa/HQtp0WB/Pxg7oe91s59Je/ETsMkR3vt7aglemyXAJ nal67+T/QWgLSJB2pQuPHo51MbA55w==

-----END NEW CERTIFICATE REQUEST-----

vmanage:~/web\$
6.在openssl的帮助下,为名为rootca.key的根证书生成密钥。
vmanage:~/web\$ openssl genrsa -out rootca.key 2048
Generating RSA private key, 2048 bit long modulus
...
e is 65537 (0x10001)
vmanage:~/web\$ ls
rootca.key web_cert.csr
vmanage:~/web\$
7.生成名为rootca.pem的根CA证书,并使用上一步中生成的rootca.key对其进行签名。

vmanage:~/web\$ openssl req -x509 -new -nodes -key rootca.key -sha256 -days 4000 -out rootca.pem You are about to be asked to enter information that will be incorporated into your certificate request. What you are about to enter is what is called a Distinguished Name or a DN. There are quite a few fields but you can leave some blank For some fields there will be a default value, If you enter '.', the field will be left blank. ____ Country Name (2 letter code) [AU]:US State or Province Name (full name) [Some-State]:CA Locality Name (eg, city) []:San Jose Organization Name (eg, company) [Internet Widgits Pty Ltd]: Cisco Systems Organizational Unit Name (eg, section) []:Cisco SDWAN Common Name (e.g. server FQDN or YOUR name) []:vmanage Email Address []: vmanage:~/web\$ ls rootca.key rootca.pemweb_cert.csr vmanage:~/web\$

8.使用根CA证书和密钥对CSR签名。

vmanage:~/web\$ openssl x509 -req -in web_cert.csr -CA rootca.pem -CAkey rootca.key -CAcreateserial -out web_cert.crt -days 4000 -sha256 Signature ok subject=/C=US/ST=CA/L=San Jose/O=Cisco Systems/OU=Cisco SDWAN/CN=vmanage Getting CA Private Key vmanage:~/web\$ ls rootca.key rootca.pemrootca.srl web_cert.crt web_cert.csr vmanage:~/web\$ 9.将新的签名证书复制到复制粘贴缓冲区。您可以使用cat 查看已签名的证书。

vmanage:~/web\$ cat web_cert.crt

----BEGIN CERTIFICATE-----

MIIDVjCCAj4CCQDXH8GlDhvL4DANBgkqhkiG9w0BAQsFADBtMQswCQYDVQQGEwJV UzELMAkGA1UECAwCQ0ExETAPBgNVBAcMCFNhbiBKb3N1MRYwFAYDVQQKDA1DaXNj byBTeXN0ZW1zMRQwEgYDVQQLDAtDaXNjbyBTRFdBTjEQMA4GA1UEAwwHdm1hbmFn ZTAeFw0xOTEwMjIwODU0MzdaFw0zMDEwMDQwODU0MzdaMG0xCzAJBgNVBAYTA1VT MQswCQYDVQQIEwJDQTERMA8GA1UEBxMIU2FuIEpvc2UxFjAUBgNVBAoTDUNpc2Nv IFN5c3RlbXMxFDASBgNVBAsTC0Npc2NvIFNEV0FOMRAwDgYDVQQDEwd2bWFuYWdl MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAkQ3SChlGLg8KG5+tD3g6 n6venfq+c+ulUPDQUwQYYMGYBueye2CGPcjReaEm/m9cVBF2+tVp7au6kh0syYRQ 19AWi+P3PZZTkKXnd8gxJQhNJct6B8vPMoO0yGY55s/o/CKPdnEV52S2fWCcH7PT 8BBdGf+BsOUCJLpHQJi5pHiozlg9gOKRtrFfDoPoZ4VMPLSdays0CrI9iSZg/opH mW17t+omb3SiQd+IjNgLJrEWyYVBX7o1FOzuRNM9ZxdkgQifn6X+83u+XUEawU9D wNt0EaG0BBIOcEjHPhv/4w9uswQjYCBMlAF9P9DUHzqrTJnAZu0CQxErHjkrn7+G /QIDAQABMA0GCSqGSIb3DQEBCwUAA4IBAQBZAIxV/GI/AP0aw54PA//+QMUs9t+b i6lhATUuTdyQwOuQSSfGjhWypDsqm3oh86GXmgoxIF1D/UmcOXHKVeK/MZrhZ/P9 USAAnPGyqOha/TqQvPbSMKALHj9cGc9389io2AAeDQqneEcDqie5uOs0M0vBth3V DXpq8mYgTjhqIUyab4txWZwXvQmZj+Hu2h2S4wj/us92KgE+XcljNeaky/GEZqZ jWNoWDgWeJdsm8hx2QteHHbDTahuArVJf1p45eLIcJR1k01RL8TTroWaST1bZCJz 20aYK4S0K0nTkpscuVIrXHkwNN6Ka4q9/rVxnLzAf1J4E9DXojpD3qNH -----END CERTIFICATE-----

10.将证书导入vManage。为此,请导航至Administration > Settings > Web Server Certificate > Import,然后粘贴复制粘贴缓冲区的内容,如图所示。

Web Server Certificate 13 Jul 2024 12:30:30 AM	CSR Certificate
View Import	
Certificate	📓 Select a file
	0

11.如果您做得一切正确,vManage将显示"Certificate Installed Successfully",如图所示。

Certificate Installed Successfully

12.最后,检查结果,确保证书有效日期成功更新,如图所示。

Web Server Certificate	04 Oct 2030 10:54:37 AM	CSR Certificate
View Import		
Certificate		

相关信息

- <u>生成Web服务器证书</u>
- <u>OpenSSL人</u>
- <u>技术支持和文档 Cisco Systems</u>