将云交付的防火墙隧道从RSA更改为PSK身份验证

目录

简介

本文档介绍在Cisco ASA上将云交付防火墙隧道的身份验证机制从RSA重新配置为PSK的步骤。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

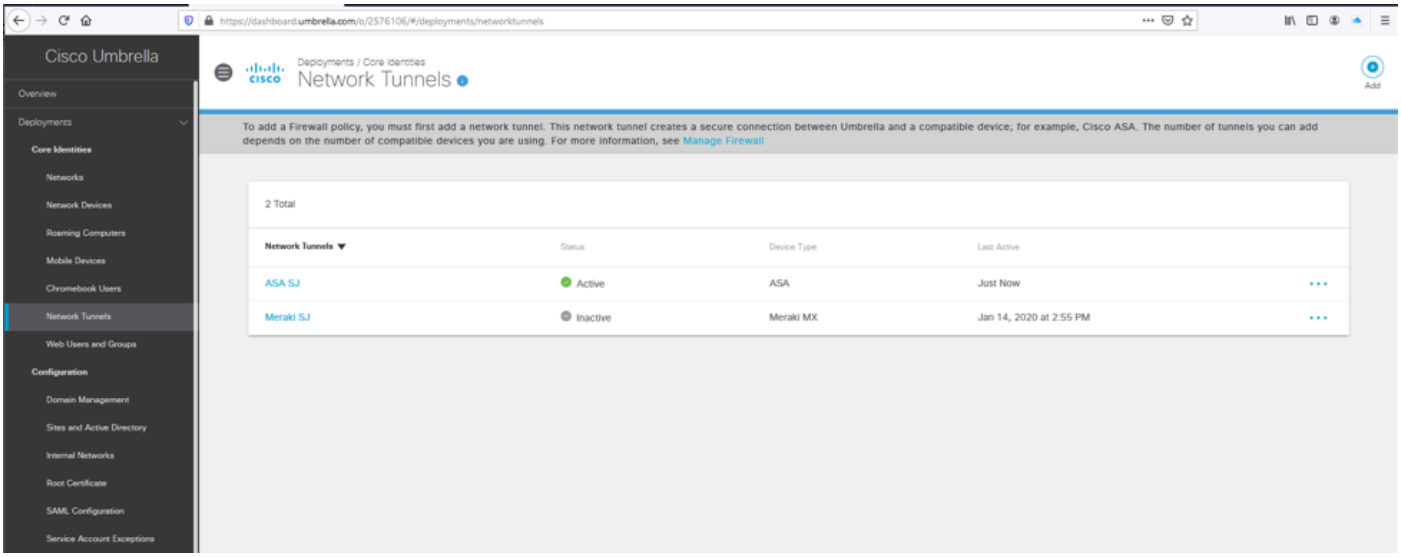
本文档中的信息基于Cisco Umbrella。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

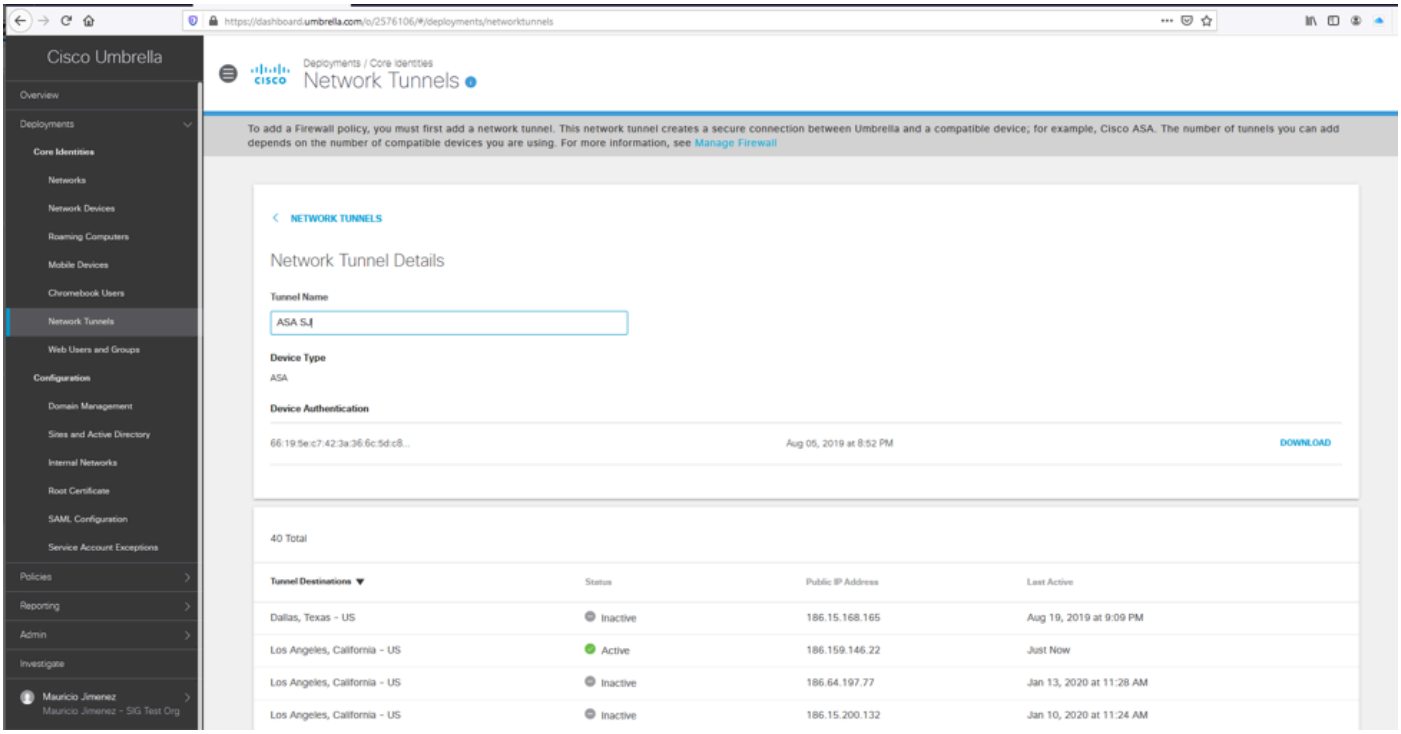
步骤 1：使用RSA身份验证验证现有隧道

验证您有一个使用RSA身份验证的现有隧道，并且ASA中该隧道的状态显示已与此身份验证类型连接。

1.在Umbrella控制面板中，找到ASA显示设备身份验证指纹的网络隧道。



图片1.png



图片2.png

2.在Cisco ASA中，您可以运行这些命令来验证用于隧道的身份验证类型和前端IP。

```
show crypto ikev2 sa
```

和

show crypto ipsec sa

```
ASA-SJ# sh crypto ikev2 sa

IKEv2 SAs:

Session-id:1, Status:UP-ACTIVE, IKE count:1, CHILD count:1

Tunnel-id Local                                         Remote
                                    Status          Role
 26325699 186.159.146.22/4500                           146.112.67.2/4500
                                     READY    INITIATOR
      Encr: AES-CBC, keysize: 256, Hash: SHA96, DH Grp:19, Auth sign: RSA, Auth
verify: RSA
      Life/Active Time: 86400/4542 sec
Child sa: local selector  0.0.0.0/0 - 255.255.255.255/65535
          remote selector 0.0.0.0/0 - 255.255.255.255/65535
          ESP spi in/out: 0xeccfd18d/0xccb02302
ASA-SJ#
```

图片3.png

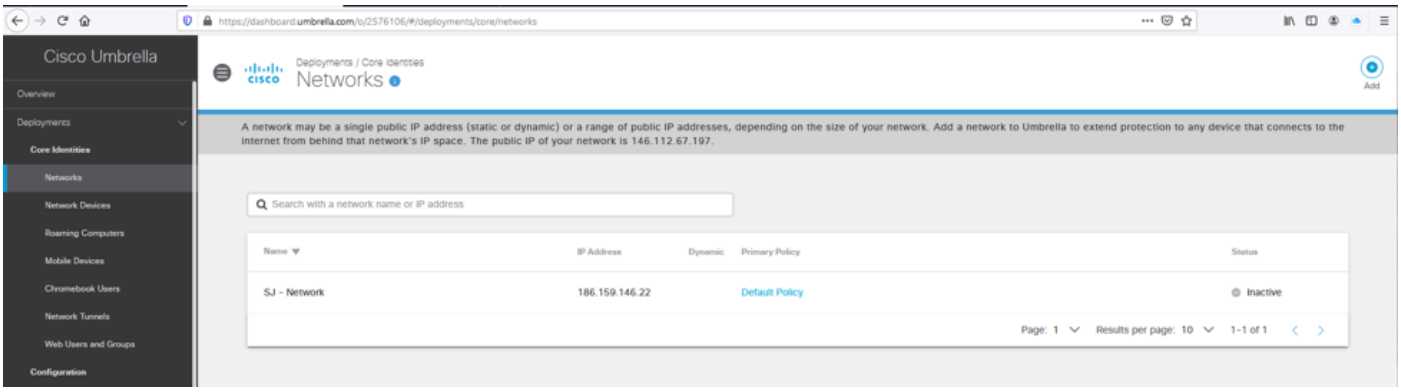
```
ASA-SJ# sh crypto ipsec sa
interface: vti
    Crypto map tag: __vti-crypto-map-5-0-1, seq num: 65280, local addr: 186.159.
146.22

      local ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0)
      remote ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0)
      current_peer: 146.112.67.2


      #pkts encaps: 1734481, #pkts encrypt: 1734481, #pkts digest: 1734481
      #pkts decaps: 3553655, #pkts decrypt: 3553655, #pkts verify: 3553655
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 1734482, #pkts comp failed: 0, #pkts decomp failed:
0
      #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0
      #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 186.159.146.22/4500, remote crypto endpt.: 146.112.67
.2/4500
      path mtu 1500, ipsec overhead 82(52), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: CCB02302
      current inbound spi : ECCFD18D

<--- More --->
```

图片4.png

步骤 2：注册ASA的公共IP

1.确保您的公有IP已被ASA外部接口在Umbrella控制面板中注册为Network。

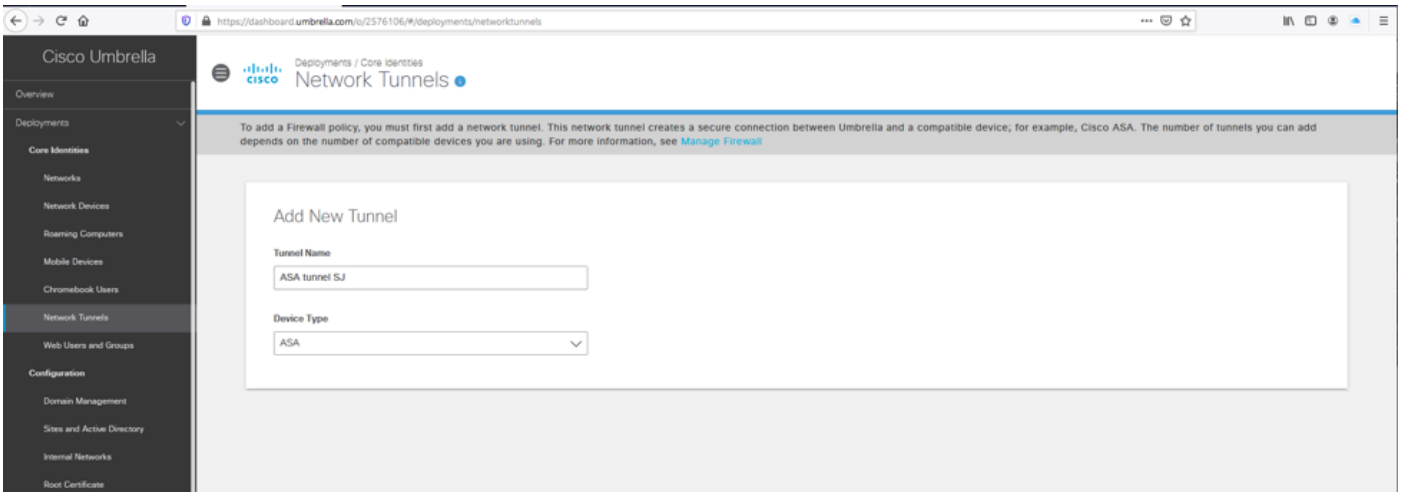
2.如果Network不存在，则继续添加它并确认ASA接口使用的公用IP。用于此隧道的Network对象必须使用/32子网掩码进行定义。



图片5.png

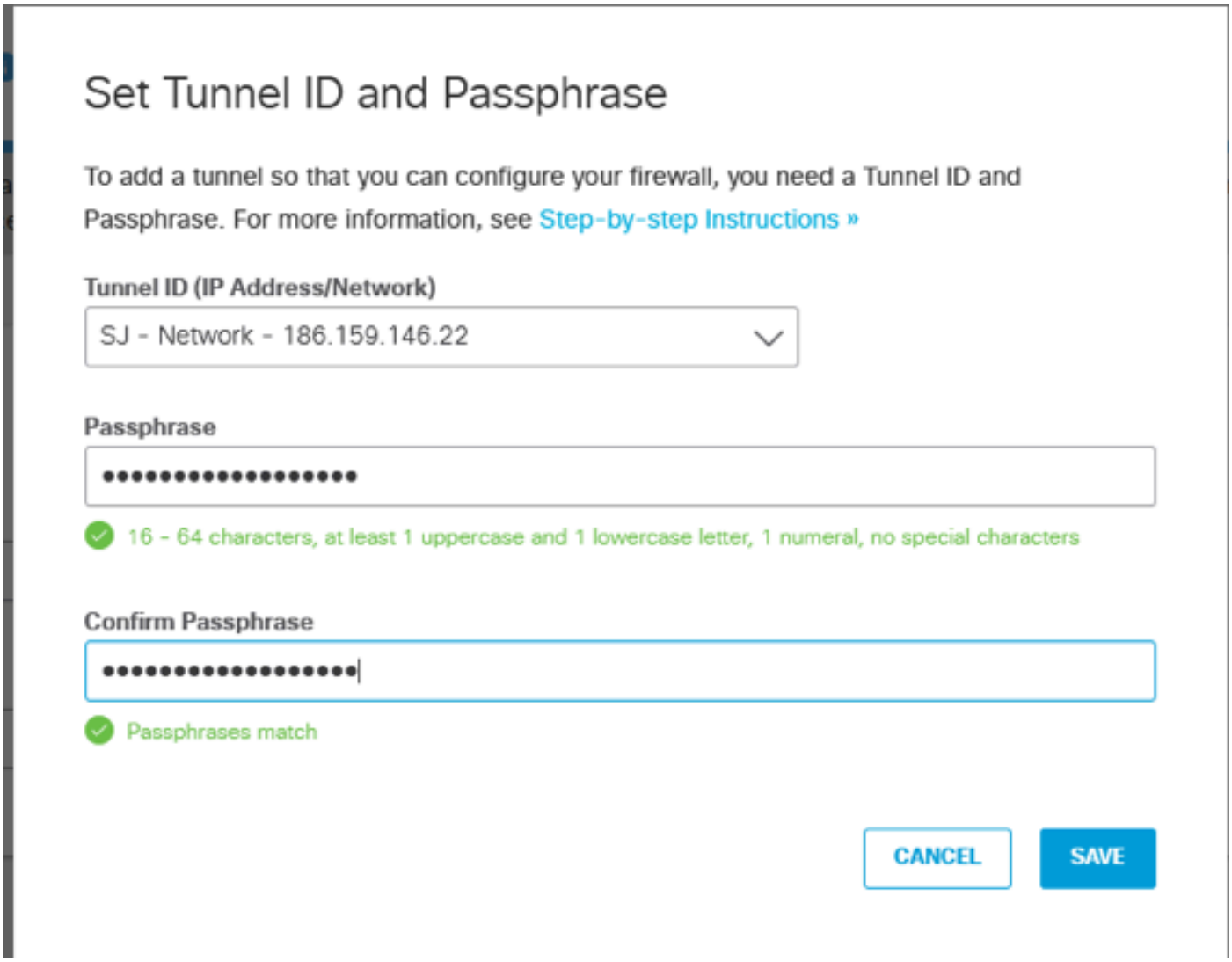
步骤 3：创建新的ASA隧道

1.在部署/网络隧道下的Umbrella控制面板中，通过选择添加选项创建新隧道。

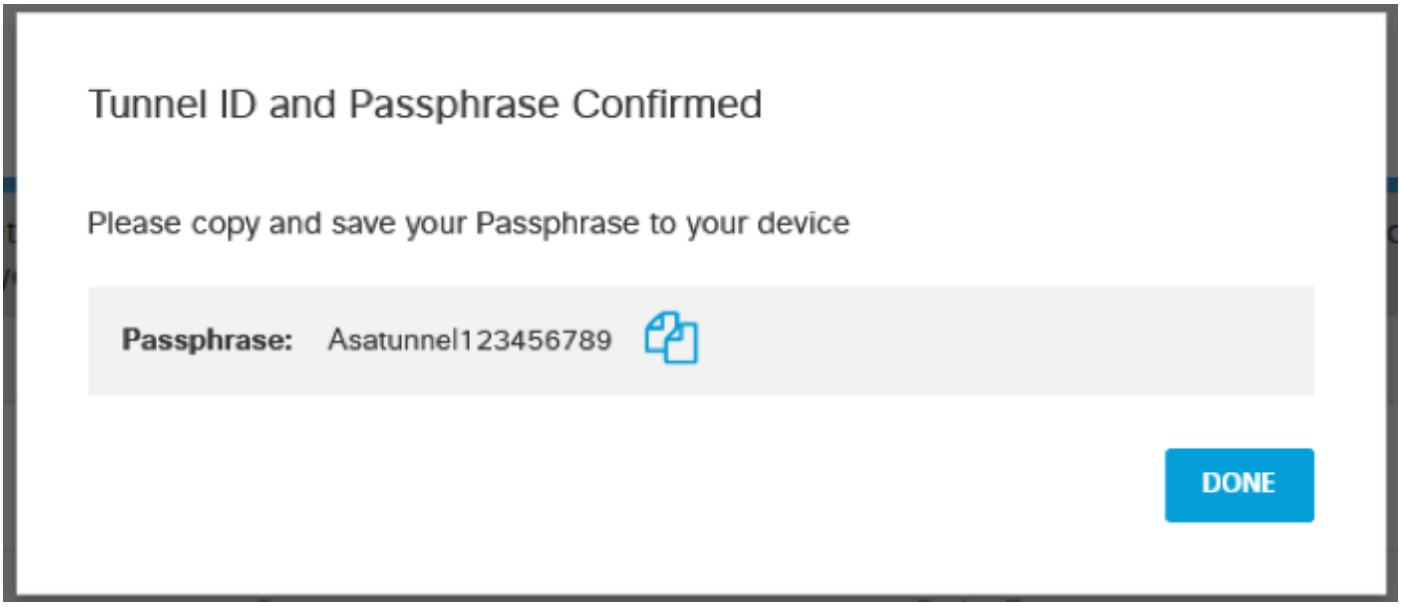


图片6.png

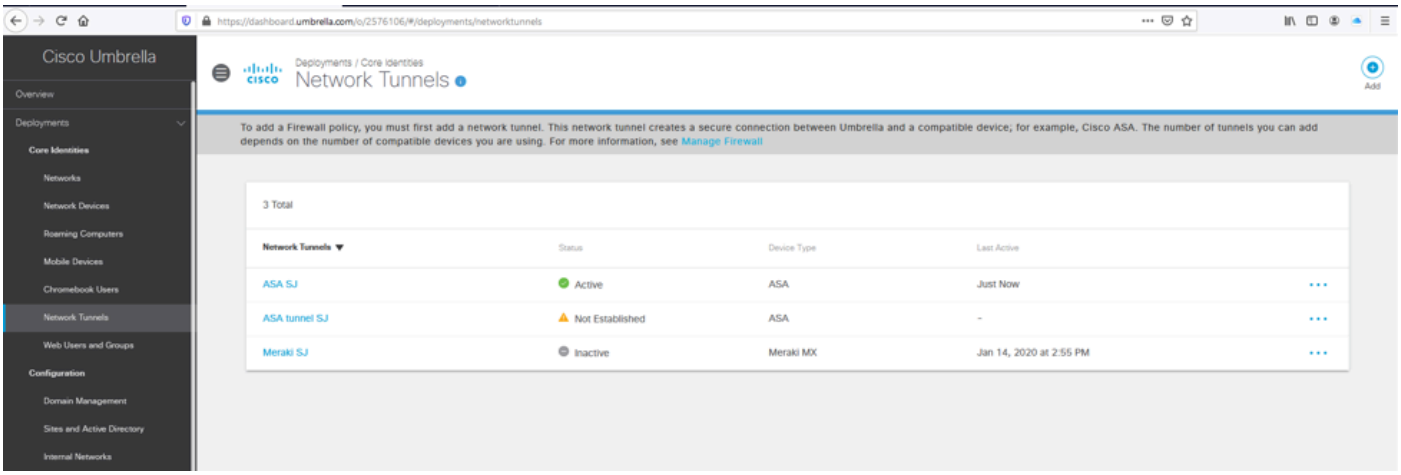
2.根据与ASA外部接口的公共IP匹配的网络，选择隧道ID，并为PSK身份验证设置口令。



图片7.png



图片8.png



图片9.png

步骤 4：创建新隧道组

1.在ASA上，使用Umbrella的新前端IP创建新的隧道组，并指定Umbrella控制面板中为PSK身份验证定义的口令。

2. Umbrella文档中提供了更新的前端Umbrella数据中心和IP的列表。

```
tunnel-group <UMB DC IP address .8> type ipsec-l2l
tunnel-group <UMB DC IP address .8> general-attributes
 default-group-policy umbrella-policy
tunnel-group <UMB DC IP address .8> ipsec-attributes
 peer-id-validate nocheck
ikev2 local-authentication pre-shared-key 0 <passphrase>
ikev2 remote-authentication pre-shared-key 0 <passphrase>
```

```
ASA-SJ(config-tunnel-ipsec)# sh run tunnel-group 146.112.67.8
tunnel-group 146.112.67.8 type ipsec-l2l
tunnel-group 146.112.67.8 general-attributes
 default-group-policy umbrella-policy
tunnel-group 146.112.67.8 ipsec-attributes
 peer-id-validate nocheck
 ikev2 remote-authentication pre-shared-key *****
 ikev2 local-authentication pre-shared-key *****
```

图片10.png

步骤 5：找到用于隧道接口的IPSec配置文件

1.搜索隧道接口中正在使用的“crypto ipsec profile”，以对Umbrella头端进行基于路由的配置（#替换为对Umbrella的隧道接口使用的ID）：

```
show run interface tunnel#
```

```
ASA-SJ(config-tunnel-ipsec)# sh run interface tunnel1
!
interface Tunnel1
 nameif vti
 ip address 11.11.11.11 255.255.255.0
 tunnel source interface outside
 tunnel destination 146.112.67.2
 tunnel mode ipsec ipv4
 tunnel protection ipsec profile umbrella-profile
ASA-SJ(config-tunnel-ipsec)#
```

图片11.png

2.如果您不确定隧道ID，则可以使用此命令验证现有隧道接口，并确定哪个接口用于基于Umbrella隧道的配置：

```
show run interface tunnel
```

步骤 6：从IPSec简档中删除旧信任点

1.从引用隧道的RSA身份验证的IPSec配置文件中删除trustpoint。您可以使用以下命令验证配置：

```
show crypto ipsec
```

```
ASA-SJ(config-ipsec-profile)# sh run crypto ipsec
crypto ipsec ikev2 ipsec-proposal umbrella-ipsec
 protocol esp encryption aes-256
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal l2l-proposal
 protocol esp encryption aes-256
 protocol esp integrity md5
crypto ipsec profile umbrella-profile
 set ikev2 ipsec-proposal umbrella-ipsec
 set trustpoint umbrella-trustpoint
crypto ipsec security-association pmtu-aging infinite
```

图片12.png

2.继续使用以下命令删除trustpoint:

```
crypto ipsec profile <profile name>
no set trustpoint umbrella-trustpoint
```

```
ASA-SJ(config-ipsec-profile)# crypto ipsec profile umbrella-profile
ASA-SJ(config-ipsec-profile)# no set trustpoint umbrella-trustpoint
```

图片13.png

3.确认信任点已从加密ipsec配置文件中删除:

```
ASA-SJ(config-if)# sh run crypto ipsec
crypto ipsec ikev2 ipsec-proposal umbrella-ipsec
 protocol esp encryption aes-256
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal l2l-proposal
 protocol esp encryption aes-256
 protocol esp integrity md5
crypto ipsec profile umbrella-profile
 set ikev2 ipsec-proposal umbrella-ipsec
crypto ipsec security-association pmtu-aging infinite
```

图片14.png

步骤 7：使用新的Umbrella前端IP更新隧道接口

1.将隧道接口的目标替换为.8中终止的新Umbrella前端IP地址。

- 您可以使用此命令验证当前目标，以便将其替换为新的数据中心IP地址范围中的IP，该地址范围可在Umbrella文档中找到：

```
show run interface tunnel
```

```
ASA-SJ(config-tunnel-ipsec)# sh run interface tunnel1
!
interface Tunnel1
 nameif vti
 ip address 11.11.11.11 255.255.255.0
 tunnel source interface outside
 tunnel destination 146.112.67.2
 tunnel mode ipsec ipv4
 tunnel protection ipsec profile umbrella-profile
ASA-SJ(config-tunnel-ipsec)#
```

图片15.png

```
Interface tunnel#
No tunnel destination <UMBRELLA DC IP address.2>
Tunnel destination <UMBRELLA DC IP address .8>
```

```
ASA-SJ(config-if)# interface Tunnel1
ASA-SJ(config-if)# no  tunnel destination 146.112.67.2
ASA-SJ(config-if)#  tunnel destination 146.112.67.8
```

图片16.png

2.使用命令确认更改：

```
show run interface tunnel#
```

```
ASA-SJ(config-if)# show run interface tunnel1
!
interface Tunnel1
 nameif vti
 ip address 11.11.11.11 255.255.255.0
 tunnel source interface outside
 tunnel destination 146.112.67.8
 tunnel mode ipsec ipv4
 tunnel protection ipsec profile umbrella-profile
```

图片17.png

步骤 8::确认新隧道配置已成功建立

1.确认已使用更新的前端IP正确重新建立与Umbrella的隧道连接，并使用带有以下命令的PSK身份验证：

```
show crypto ikev2 sa
```

```
ASA-SJ(config-if)# sh crypto ikev2 sa

IKEv2 SAs:

Session-id:5, Status:UP-ACTIVE, IKE count:1, CHILD count:1

Tunnel-id Local                                 Remote                                Status         Role
89307167 186.159.146.22/4500                    146.112.67.8/4500                     READY    INITIATOR
      Encr: AES-CBC, keysize: 256, Hash: SHA96, DH Grp:19, Auth sign: PSK, Auth verify: PSK
      Life/Active Time: 86400/347 sec
Child sa: local selector  0.0.0.0/0 - 255.255.255.255/65535
          remote selector 0.0.0.0/0 - 255.255.255.255/65535
          ESP spi in/out: 0xc133a3b2/0xea076575
```

图片18.png

```
show crypto ipsec sa
```

```
ASA-SJ(config-if)# show crypto ipsec sa
interface: vti
    Crypto map tag: __vti-crypto-map-5-0-1, seq num: 65280, local addr: 186.159.146.22

      local ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0)
      remote ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0)
      current_peer: 146.112.67.8


      #pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0
      #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0
      #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0
      #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 186.159.146.22/4500, remote crypto endpt.: 146.112.67.8/4500
      path mtu 1500, ipsec overhead 82(52), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: EA076575
      current inbound spi : C133A3B2
```

图片19.png

第9步（可选）：删除旧隧道组

1.删除指向上一个Umbrella前端IP范围。2的旧隧道组。

在删除配置之前，可以使用此命令确定正确的隧道：

```
show run tunnel-group
```

```
ASA-SJ(config)# sh run tunnel-group
tunnel-group DefaultL2LGroup general-attributes
 default-group-policy l2lpolicy
tunnel-group DefaultL2LGroup ipsec-attributes
 ikev2 remote-authentication pre-shared-key *****
 ikev2 local-authentication pre-shared-key *****
tunnel-group 146.112.67.2 type ipsec-l2l
tunnel-group 146.112.67.2 general-attributes
 default-group-policy umbrella-policy
tunnel-group 146.112.67.2 ipsec-attributes
 peer-id-validate nocheck
 ikev2 remote-authentication certificate
 ikev2 local-authentication certificate umbrella-trustpoint
tunnel-group 146.112.67.8 type ipsec-l2l
tunnel-group 146.112.67.8 general-attributes
 default-group-policy umbrella-policy
tunnel-group 146.112.67.8 ipsec-attributes
 peer-id-validate nocheck
 ikev2 remote-authentication pre-shared-key *****
 ikev2 local-authentication pre-shared-key *****
```

图片20.png

2.使用以下命令删除旧隧道组的任何引用：

```
clear config tunnel-group <UMB DC IP address .2>
```

```
ASA-SJ(config)# clear config tunnel-group 146.112.67.2
```

图片21.png

第10步（可选）：删除旧信任点

1.使用以下命令，删除之前使用基于Umbrella隧道的配置使用的信任点的任何引用：

```
sh run crypto ipsec
```

当您查看“crypto ipsec profile”时，可以找到用于信任点的友好名称：

```
ASA-SJ(config-ipsec-profile)# sh run crypto ipsec
crypto ipsec ikev2 ipsec-proposal umbrella-ipsec
 protocol esp encryption aes-256
 protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal l2l-proposal
 protocol esp encryption aes-256
 protocol esp integrity md5
crypto ipsec profile umbrella-profile
 set ikev2 ipsec-proposal umbrella-ipsec
 set trustpoint umbrella-trustpoint
crypto ipsec security-association pmtu-aging infinite
```

图片22.png

2.可以运行此命令来确认信任点配置。确保友好名称与crypto ipsec profile命令中使用的配置匹配：

```
sh run crypto ca trustpoint
```

```
ASA-SJ(config-if)# sh run crypto ca trustpoint
crypto ca trustpoint umbrella-trustpoint
 keypair umbrella-trustpoint
 crl configure
crypto ca trustpoint asaconnector-trust
 enrollment terminal
 crl configure
```

图片23.png

3.要获取有关证书的更多详细信息，请使用命令：

```
show crypto ca certificate <trustpoint-name>
```

```
ASA-SJ(config-if)# show crypto ca certificates umbrella-trustpoint
Certificate
  Status: Available
  Certificate Serial Number: 365510264a580b66b1f5a2b6b8a618ec
  Certificate Usage: Signature
  Public Key Type: RSA (3072 bits)
  Signature Algorithm: SHA384 with RSA Encryption
  Issuer Name:
    cn=Cisco Umbrella CA
    o=Cisco Umbrella
    c=US
  Subject Name:
    cn=cdfw-2576106-293960662-umbrella.com
  Validity Date:
    start date: 20:52:11 CST Aug 5 2019
    end   date: 20:52:11 CST Aug 5 2021
  Storage: config
  Associated Trustpoints: umbrella-trustpoint

CA Certificate
  Status: Available
  Certificate Serial Number: 60fa7229af4c481e
  Certificate Usage: General Purpose
  Public Key Type: RSA (4096 bits)
  Signature Algorithm: SHA1 with RSA Encryption
  Issuer Name:
```

图片24.png

4.使用以下命令删除trustpoint:

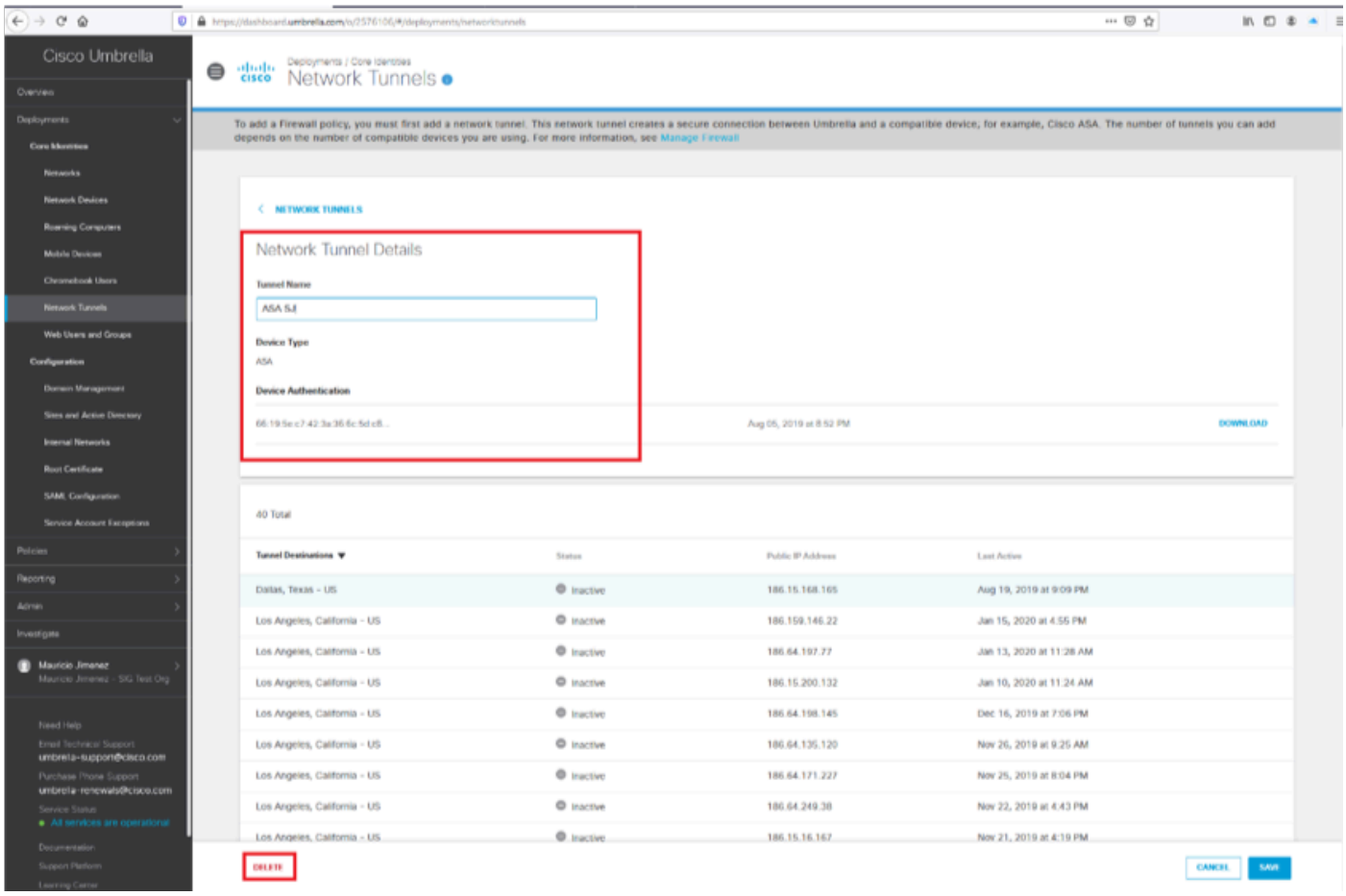
```
no crypto ca trustpoint <trustpoint-name>
```

```
ASA-SJ(config)# no crypto ca trustpoint umbrella-trustpoint
WARNING: Removing an enrolled trustpoint will destroy all
certificates received from the related Certificate Authority.

Are you sure you want to do this? [yes/no]: yes
INFO: Be sure to ask the CA administrator to revoke your certificates.
ASA-SJ(config)#
```

图片25.png

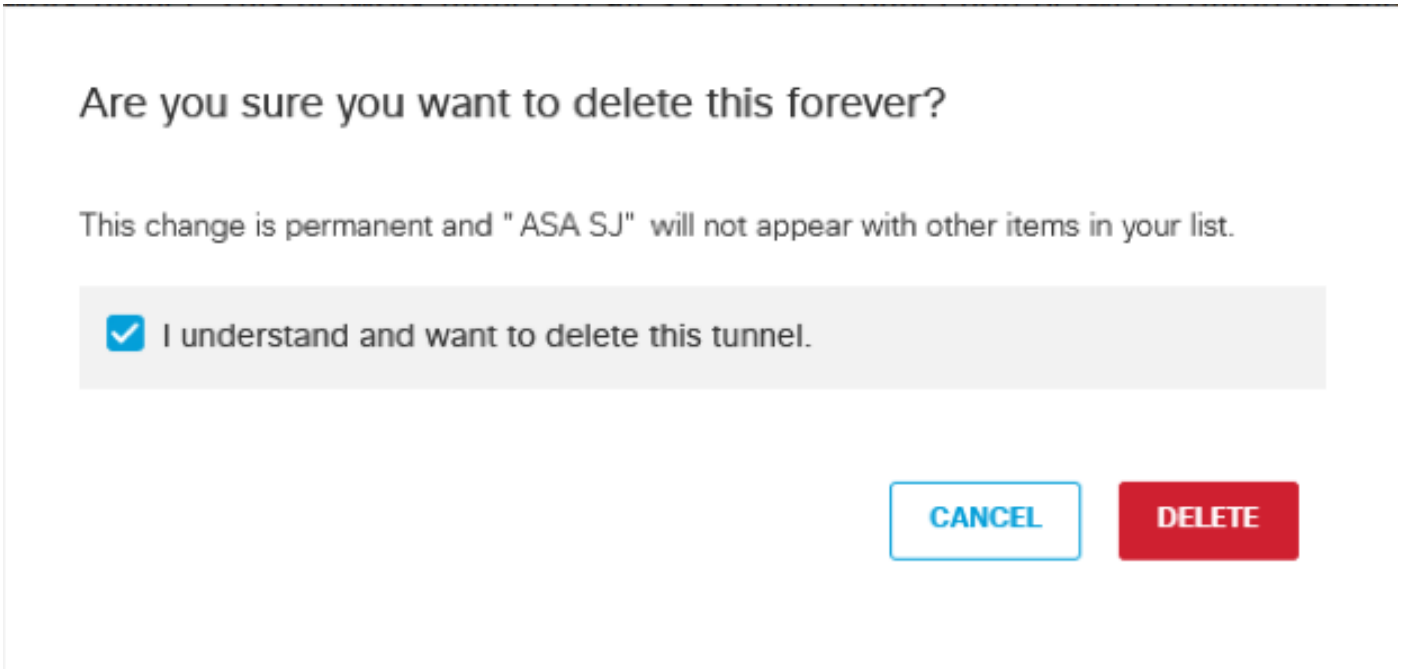
第11步（可选）：删除旧网络隧道

1.导航到网络隧道详细信息并选择删除，从Umbrella控制面板中删除旧的网络隧道。



图片26.png

2.在弹出窗口中选择“我了解并希望删除此通道”选项，然后选择删除,以确认删除。



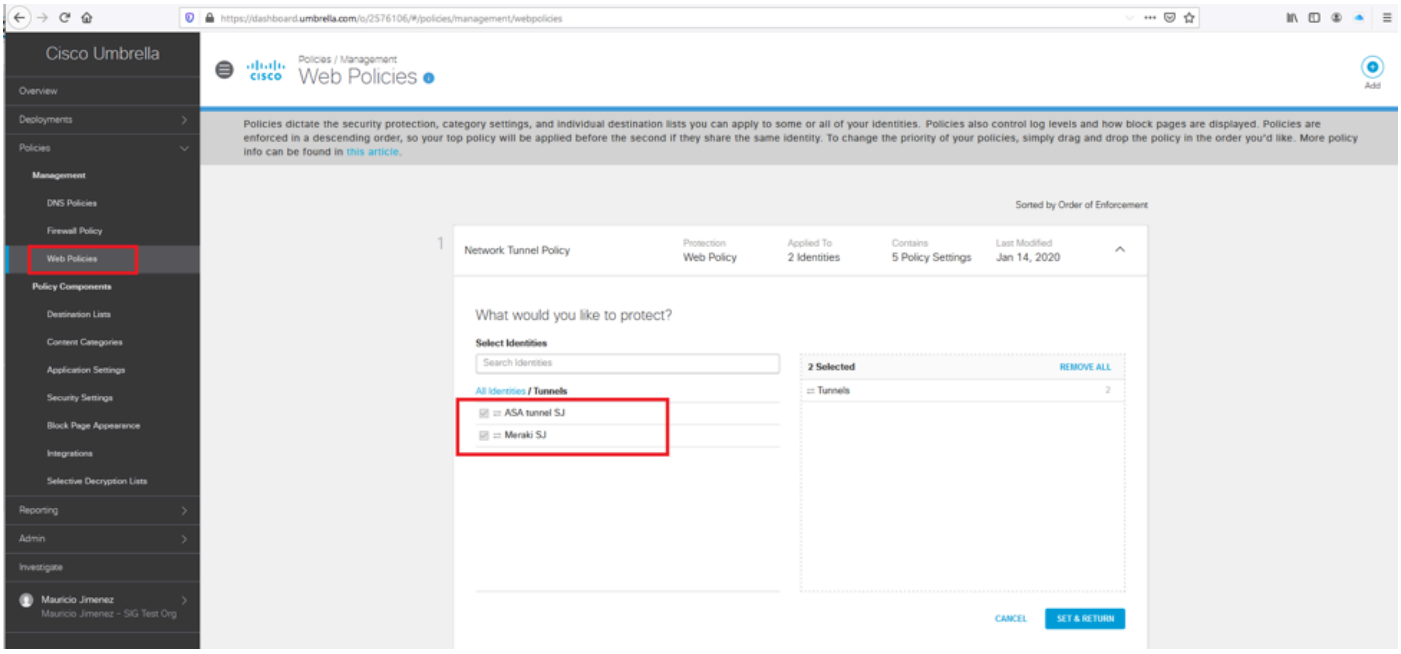
图片27.png

步骤 12：使用新隧道标识更新Web策略

确认您的Web策略具有使用新网络隧道的更新身份：

1.在Umbrella控制面板中，导航至策略>管理> Web策略。

2.检查隧道部分，并确认您的Web策略具有新网络隧道的更新标识。



图片28.png

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