

在FDM管理的FTD上配置远程访问VPN

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简介

本文档介绍如何配置在运行版本6.5.0及更高版本的机上管理器FDM管理的FTD上的RA VPN部署。

先决条件

要求

思科建议您了解Firepower设备管理器(FDM)上的远程访问虚拟专用网(RA VPN)配置。

许可

- Firepower威胁防御(FTD)注册到智能许可门户，并启用导出控制功能（以便启用RA VPN配置选项卡）
- 任何已启用的AnyConnect许可证（APEX、Plus或仅VPN）

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 运行版本6.5.0-115的Cisco FTD
- Cisco AnyConnect Secure Mobility Client 版本 4.7.01076

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。

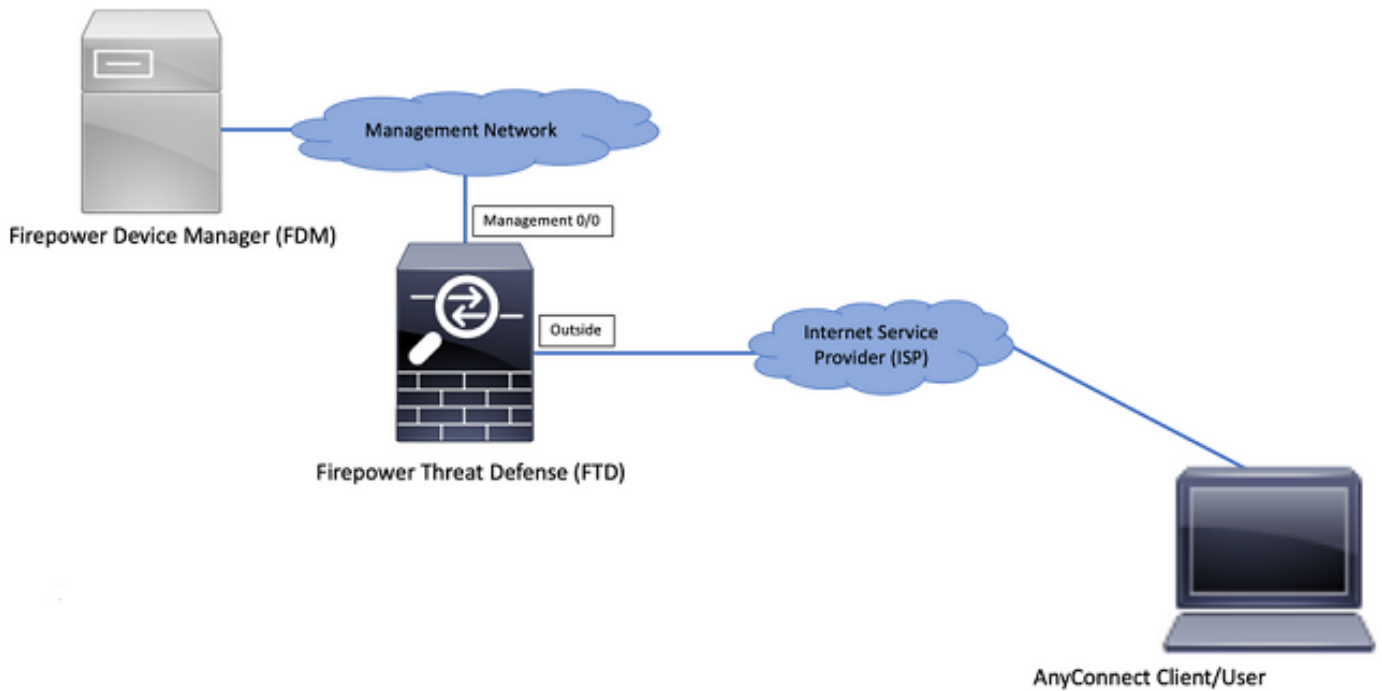
背景信息

通过FDM配置FTD时，当您尝试通过外部接口为AnyConnect客户端建立连接时，如果通过同一接口访问管理，则会遇到困难。这是FDM的已知限制。已针对[此问题提出CSCvm76499](#)增强请求。

配置

网络图

AnyConnect Client Authentication with use of Local (AnyConnect客户端身份验证使用本地) 。



验证FTD上的许可

步骤1:验证设备是否已注册到智能许可，如图所示：

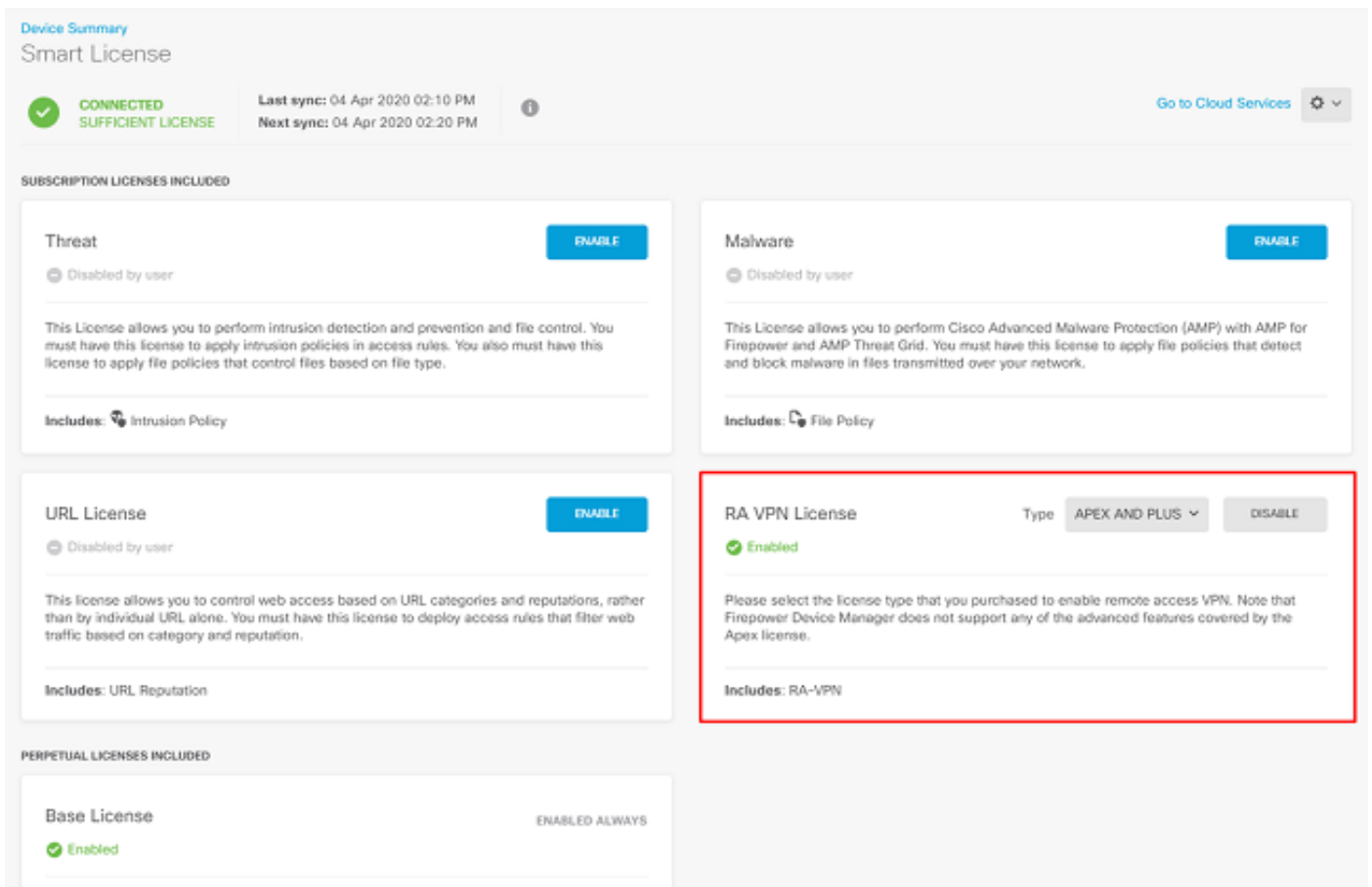
The screenshot displays the Cisco Firepower Device Manager interface for a device named 'firepower'. The top navigation bar includes 'Monitoring', 'Policies', 'Objects', and 'Device: firepower'. The main header shows the device model 'Cisco Firepower Threat Defense for VMWa...', software version '6.5.0-115', VDB '309.0', and rule update '2019-08-12-001-vrt'. A 'High Availability' status is shown as 'Not Configured' with a 'CONFIGURE' button.

The central diagram illustrates the network topology, featuring an 'Inside Network' connected to the device's 'G/1' interface. The device has three interfaces: 'G/0', 'G/1', and 'G/2'. It is connected to an 'ISP/WAN/Gateway' and an 'Internet' cloud. Services shown include 'DNS Server', 'NTP Server', and 'Smart License'.

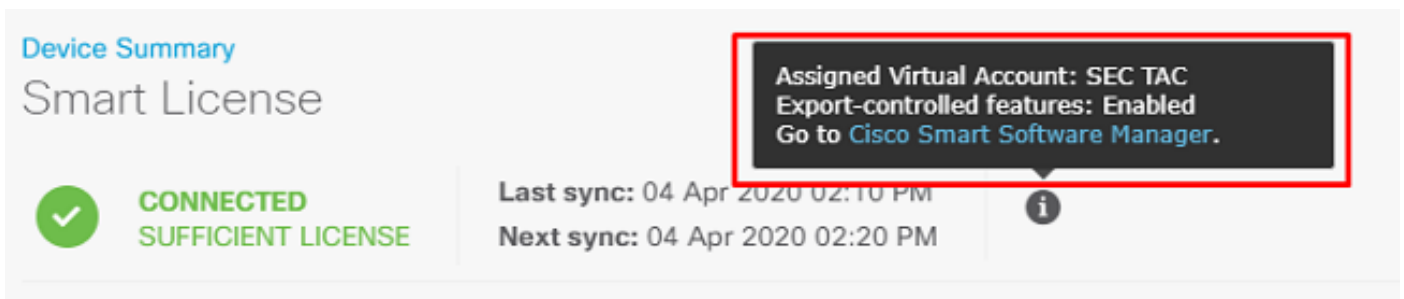
Below the diagram is a grid of system status tiles:

- Interfaces:** Connected, Enabled 3 of 4. [View All Interfaces](#)
- Smart License:** Registered. [View Configuration](#) (highlighted with a red box)
- Routing:** There are no routes yet. [Create the first static route](#)
- Updates:** Geolocation, Rule, VDB, System Upgrade, Security Intelligence Feeds. [View Configuration](#)
- System Settings:** Management Access, Logging Settings, DHCP Server, DNS Server, Management interface, Hostname, NTP, Cloud Services, Reboot/Shutdown, Traffic Settings, URL Filtering Preferences.
- Backup and Restore:** [View Configuration](#)
- Troubleshoot:** No files created yet. [REQUEST FILE TO BE CREATED](#)
- Site-to-Site VPN:** There are no connections yet. [View Configuration](#)
- Remote Access VPN:** Requires RA VPN license. No connections | 1 Group Policy. [View Configuration](#)
- Advanced Configuration:** Includes: FlexConfig, Smart CLI. [View Configuration](#)
- Device Administration:** Audit Events, Deployment History, Download Configuration. [View Configuration](#)

第二步：验证设备上是否启用了AnyConnect许可证，如图所示。

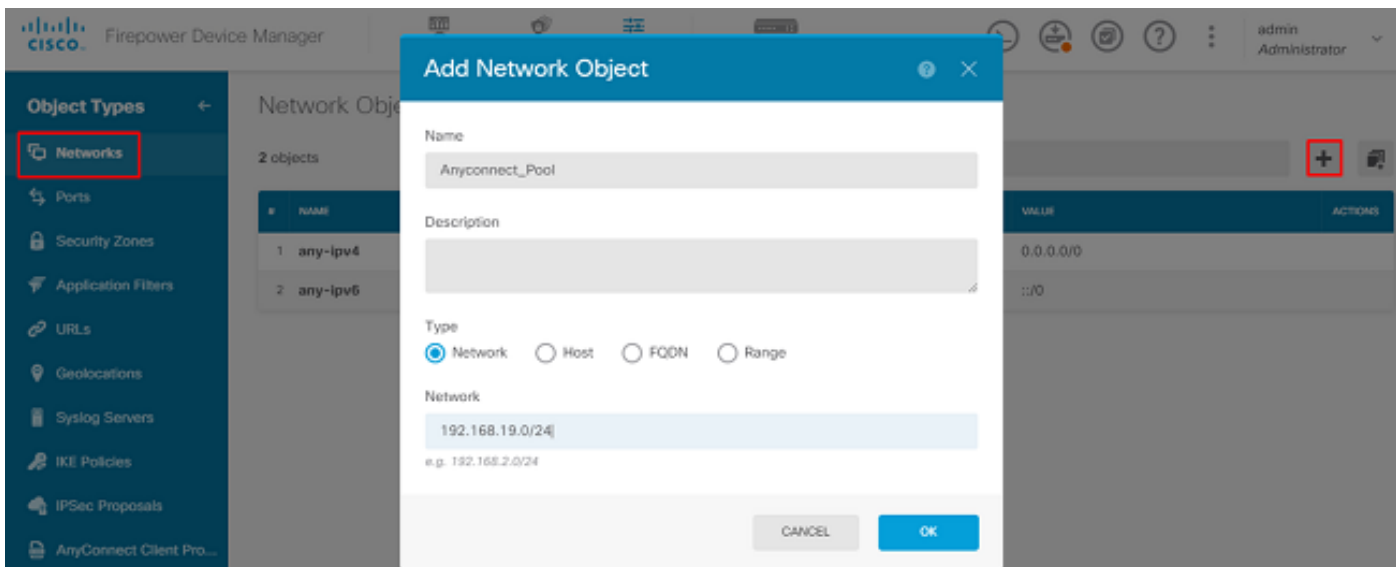


第三步：验证是否在令牌中启用了导出控制功能，如图所示：

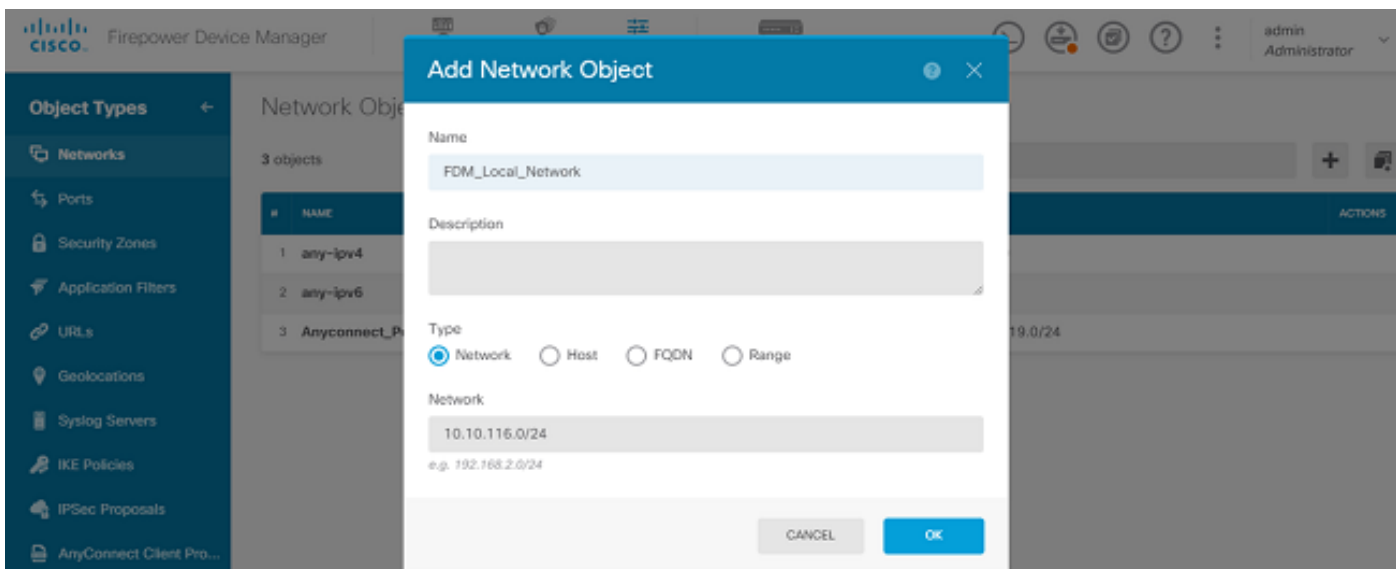


定义受保护的网路

导航至 `Objects > Networks > Add new Network`.从FDM GUI配置VPN池和LAN网络。创建VPN池以用于AnyConnect用户的本地地址分配，如图所示：

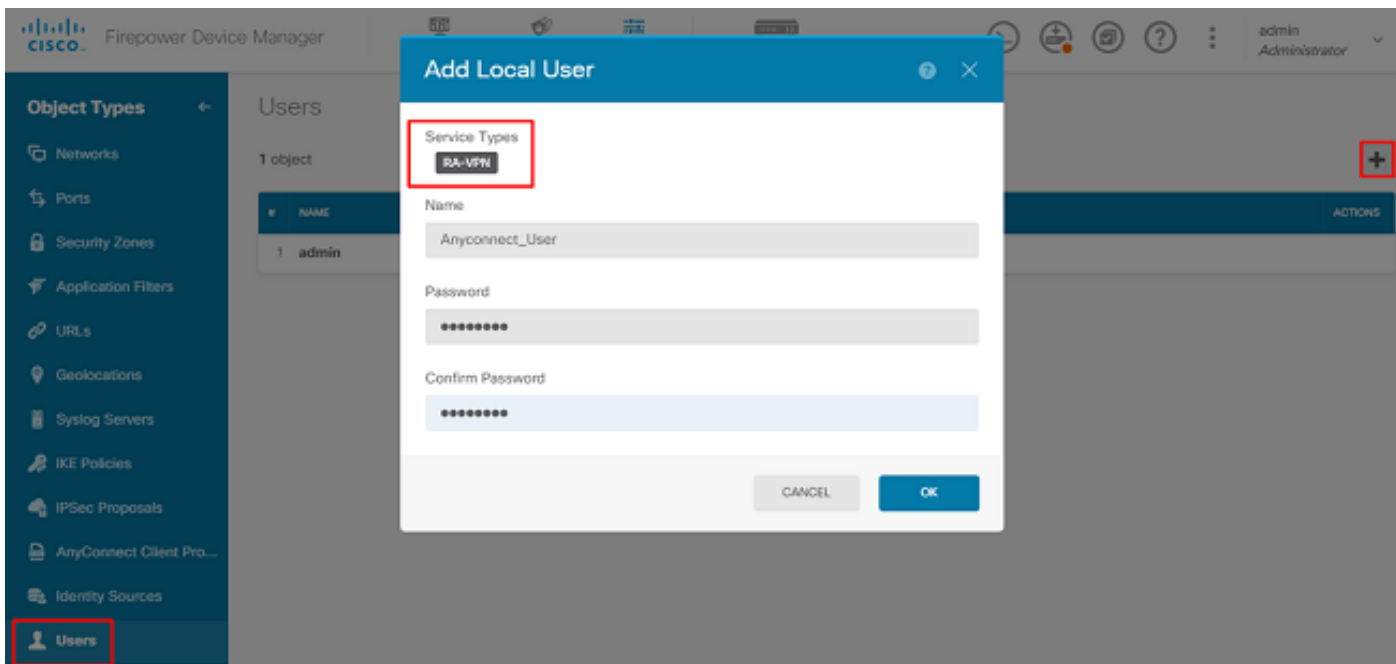


在FDM设备后面创建本地网络对象，如图所示：



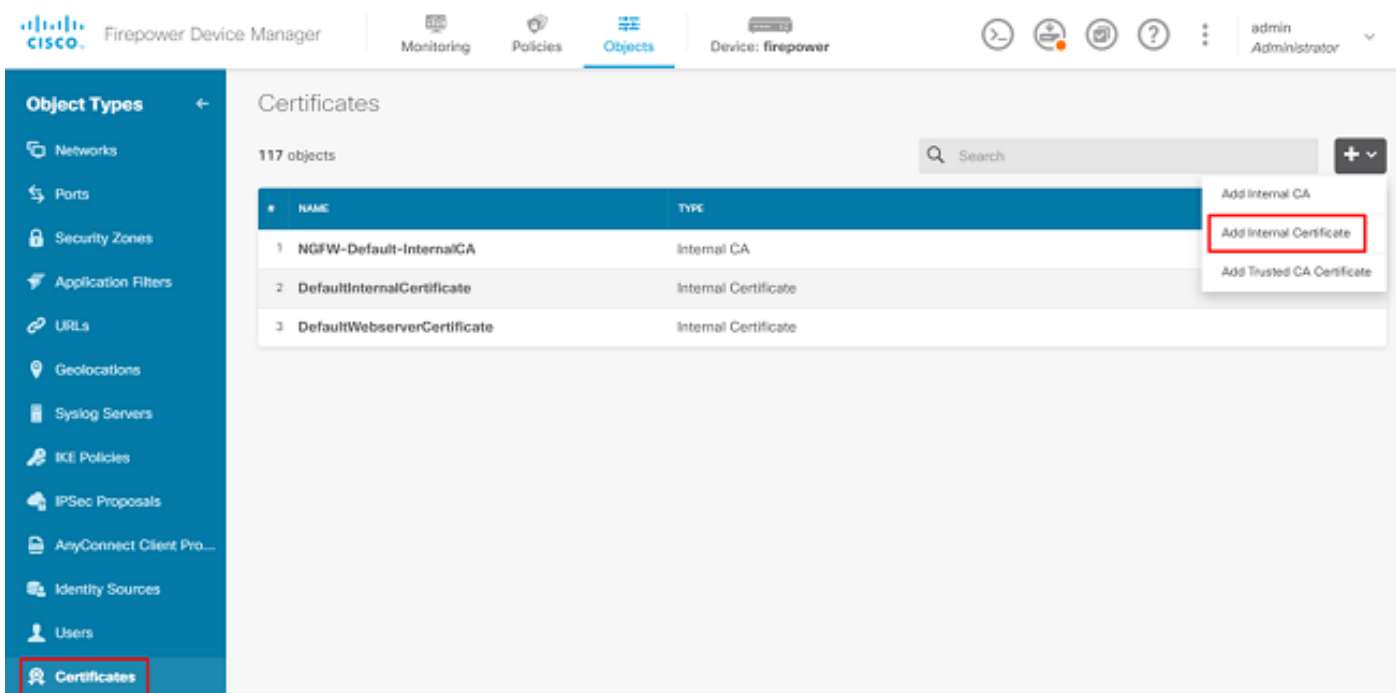
创建本地用户

导航至 `Objects > Users > Add User`. 添加通过Anyconnect连接到FTD的VPN本地用户。创建本地用户，如图所示：



添加证书

导航至 Objects > Certificates > Add Internal Certificate. 配置证书，如图所示：



上传证书和私钥，如图所示：



Choose the type of internal certificate you want to create



Upload Certificate and Key

Create a certificate from existing files.
PEM and DER files are supported.



Self-Signed Certificate

Create a new certificate that is signed
by the device.

可以通过复制并粘贴或每个文件的上传按钮上传证书和密钥，如图所示：

Add Internal Certificate



Name

Anyconnect_Certificate

SERVER CERTIFICATE (USER AGENT)

Paste certificate, or choose file:

UPLOAD CERTIFICATE

The supported formats are: PEM, DER.

```
wkM7QqtRuyzBzGhnoSebJkP/Hiky/Q+r6UrYSnv++UJSrg777/9NgonwTpLI/8/J
idGSN0b/ic6iPh2aGpB1Lra3MGCL1pJaRqxq3+1yBDsfVFCaKT9wWcnUveQd6LZp
k+iaN+V24yOj3vCJILihtxwdllqeSs8F8XdaL4LQObcTfZ/3YNBWqvwV2TL
-----END CERTIFICATE-----
```

CERTIFICATE KEY

Paste key, or choose file:

UPLOAD KEY

The supported formats are: PEM, DER.

```
QzYPpjKcGyEAgJ9nlk8sfPfmotyOwprlBEdwMMDeKLX3KDY58jviv1/8a/wsX+uz
3A7VQn6gA6ISWHgxHdmqYnD38P6kCuK/hQMUCqdIKUITXkh0ZpglQbfW2lJ0VD4M
gKugRI5t0Zva5j+bO5q0f8D/mtYYTBf8JGgqEfSju0Zsy2ifWtsbJrE=
-----END RSA PRIVATE KEY-----
```

CANCEL

OK

配置远程访问VPN

导航至 Remote Access VPN > Create Connection Profile. 在FDM上浏览RA VPN向导，如图所示：

Firepower Device Manager

Monitoring Policies Objects Device: firepower

Model Cisco Firepower Threat Defense for VMWa... Software 6.5.0-115 VDB 309.0 Rule Update 2019-08-12-001-vrt High Availability Not Configured CONFIGURE

Interfaces
Connected
Enabled 3 of 4
View All Interfaces

Smart License
Registered
View Configuration

Site-to-Site VPN
There are no connections yet
View Configuration

Remote Access VPN
Configured
No connections | 1 Group Policy
View Configuration

Routing
There are no routes yet
Create the first static route

Updates
Geolocation, Rule, VDB, System Upgrade, Security Intelligence Feeds
View Configuration

Troubleshoot
No files created yet
REQUEST FILE TO BE CREATED

Advanced Configuration
Includes: FlexConfig, Smart CLI
View Configuration

System Settings
Management Access
Logging Settings
DHCP Server
DNS Server
Management Interface
Hostname
NTP
Cloud Services
Reboot/Shutdown
Traffic Settings
URL Filtering Preferences

Device Administration
Audit Events, Deployment History, Download Configuration
View Configuration

Firepower Device Manager

Monitoring Policies Objects Device: firepower

RA VPN

Connection Profiles

Group Policies

Device Summary
Remote Access VPN Connection Profiles

Search

+	NAME	AAA	GROUP POLICY	ACTIONS
There are no Remote Access Connections yet. Start by creating the first Connection. CREATE CONNECTION PROFILE				

创建连接配置文件并开始配置，如图所示：

Connection and Client Configuration

Specify how to authenticate remote users and the AnyConnect clients they can use to connect to the inside network.

Connection Profile Name

This name is configured as a connection alias, it can be used to connect to the VPN gateway

Anyconnect

Group Alias

Anyconnect

[Add Group Alias](#)

Group URL

[Add Group URL](#)

选择身份验证方法，如图所示。本指南使用本地身份验证。

Primary Identity Source

Authentication Type

AAA Only Client Certificate Only AAA and Client Certificate

Primary Identity Source for User Authentication

LocalIdentitySource

Fallback Local Identity Source

Please Select Local Identity Source

Strip Identity Source server from username

Strip Group from Username

Secondary Identity Source

Secondary Identity Source for User Authentication

Please Select Identity Source

Advanced

Authorization Server

Please select

Accounting Server

Please select

选择 Anyconnect_Pool 对象，如图所示：

Client Address Pool Assignment

IPv4 Address Pool

Endpoints are provided an address from this pool



Anyconnect_Pool

IPv6 Address Pool

Endpoints are provided an address from this pool



DHCP Servers



CANCEL

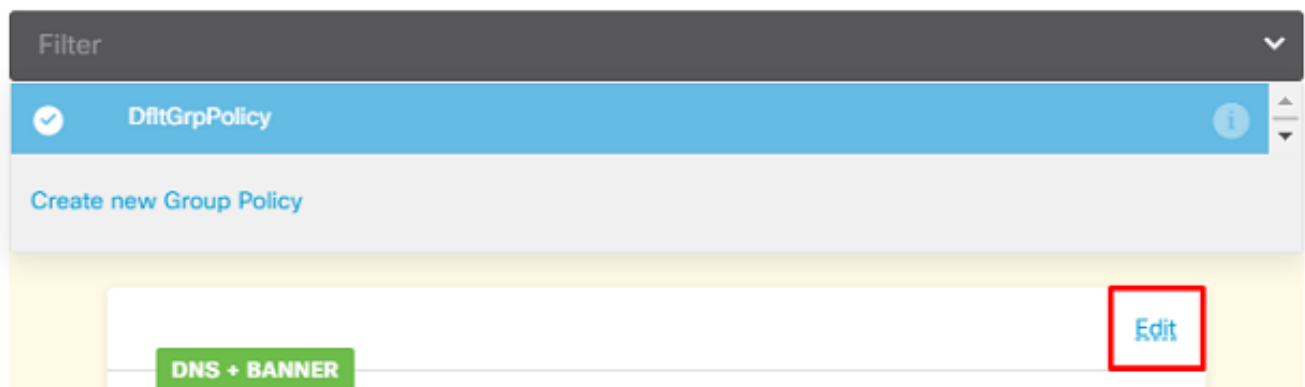
NEXT

默认组策略的摘要显示在下一页上。当您点击下拉菜单并选择以下选项时，可以创建新的组策略
Create a new Group Policy. 在本指南中，使用默认组策略。选择策略顶部的编辑选项，如图所示：

Remote User Experience

A group policy is a collection of user-oriented session attributes which are assigned to client when a VPN connection is established. Select or create a Group Policy object.

View Group Policy



在组策略中，添加拆分隧道，以便连接到Anyconnect的用户仅通过Anyconnect客户端发送发往内部FTD网络的流量，而所有其他流量均流出用户的ISP连接，如图所示：

Corporate Resources (Split Tunneling)

IPv4 Split Tunneling

Allow specified traffic over tunnel ▼

IPv6 Split Tunneling

Allow all traffic over tunnel ▼

IPv4 Split Tunneling Networks

+

FDM_Local_Network

在下一页上，选择 `Anyconnect_Certificate` 已添加到证书部分。接下来，选择FTD侦听AnyConnect连接的接口。选择用于已解密流量的旁路访问控制策略(`sysopt permit-vpn`影响。这是一个可选命令，如果 `sysopt permit-vpn` 未选择。必须创建访问控制策略，以允许来自Anyconnect客户端的流量访问内部网络，如图所示：

Global Settings

These settings control the basic functioning of the connection. Changes to any of these options apply to all connection profiles; you cannot configure different settings in different profiles.

Certificate of Device Identity

Anyconnect_Certificate ▼

Outside Interface

outside (GigabitEthernet0/0) ▼

Fully-qualified Domain Name for the Outside Interface

e.g. `ravpn.example.com`

Access Control for VPN Traffic

Decrypted VPN traffic is subjected to access control policy inspection by default. Enabling the Bypass Access Control policy for decrypted traffic option bypasses the access control policy, but for remote access VPN, the VPN Filter ACL and the authorization ACL downloaded from the AAA server are still applied to VPN traffic

Bypass Access Control policy for decrypted traffic (`sysopt permit-vpn`)

NAT免除可以手动配置在 `Policies > NAT` 也可以由向导自动配置。如图所示，选择Anyconnect客户端访问所需的内部接口和网络。

NAT Exempt



Inside Interfaces

The interfaces through which remote access VPN users can connect to the internal networks



inside (GigabitEthernet0/1)

Inside Networks

The internal networks remote access VPN users are allowed to use. The IP versions of the internal networks and address pools must match, either IPv4, IPv6, or both.



FDM_Local_Network

为用户可以连接的每个操作系统(Windows/Mac/Linux)选择Anyconnect软件包，如图所示。

AnyConnect Package

If a user does not already have the right AnyConnect package installed, the system will launch the AnyConnect installer when the client authenticates for the first time. The user can then install the package from the system.

You can download AnyConnect packages from software.cisco.com.

You must have the necessary AnyConnect software license.

Packages

UPLOAD PACKAGE



Windows: anyconnect-win-4.7.04056-webdeploy-k9.pkg

BACK

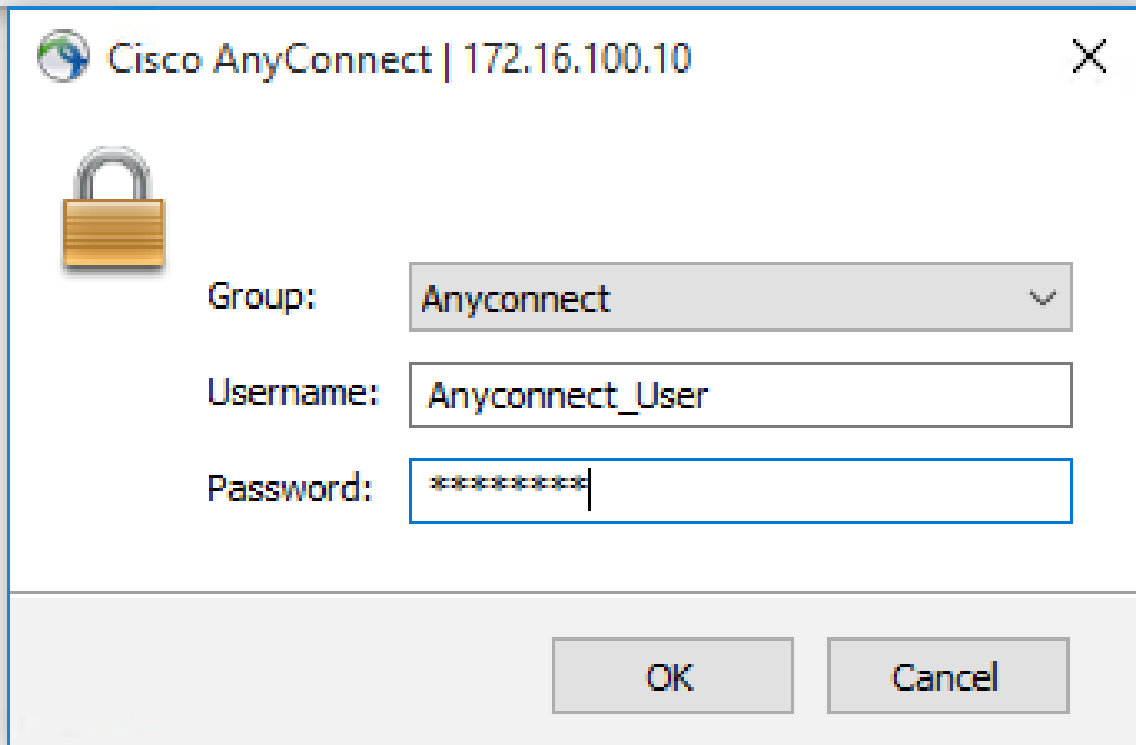
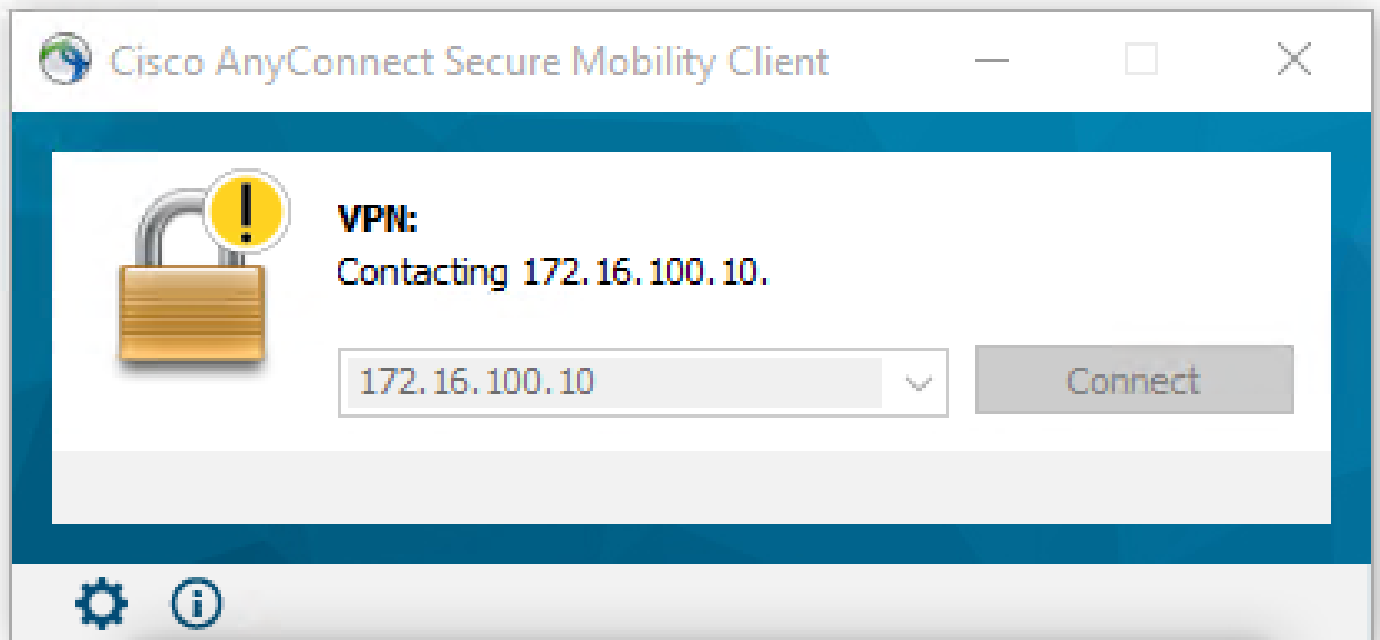
NEXT

最后一页提供了整个配置的摘要。确认已设置正确的参数，然后点击Finish (完成) 按钮并部署新配置。

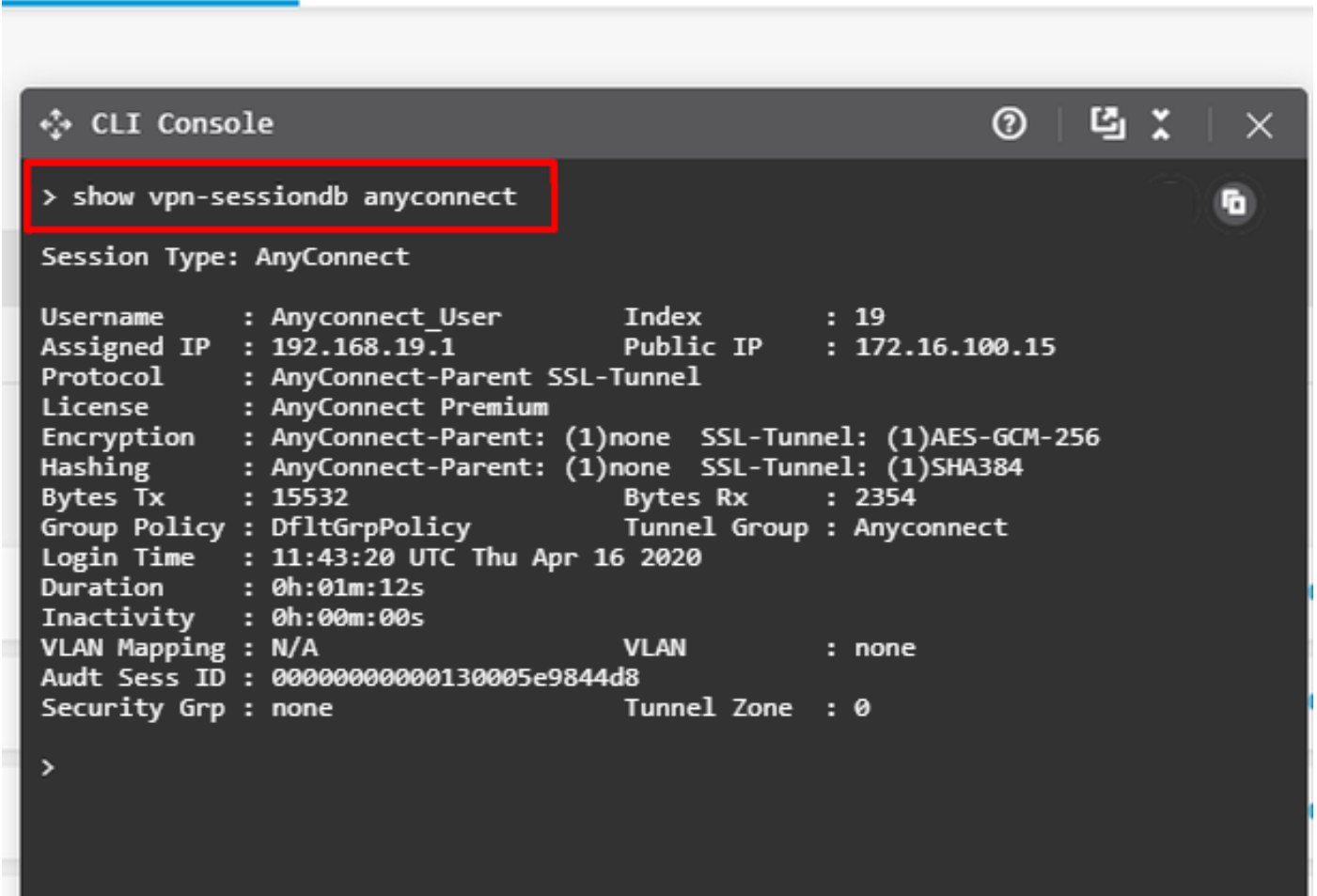
验证

使用本部分可确认配置能否正常运行。

部署配置后，尝试连接。如果您有一个解析为FTD的外部IP的FQDN，请在Anyconnect连接框中输入该FQDN。在本示例中，使用FTD的外部IP地址。使用在FDM的对象部分中创建的用户名/密码，如图所示。



从FDM 6.5.0开始，无法通过FDM GUI监视Anyconnect用户。唯一的选项是通过CLI监控Anyconnect用户。FDM GUI的CLI控制台也可用于验证用户是否已连接。使用此命令， Show vpn-sessiondb anyconnect.



同一命令可以直接从CLI运行。

```
> show vpn-sessiondb anyconnect
```

```
Session Type: AnyConnect
```

```
Username      : Anyconnect_User      Index      : 15
Assigned IP   : 192.168.19.1        Public IP  : 172.16.100.15
Protocol      : AnyConnect-Parent SSL-Tunnel
License       : AnyConnect Premium
Encryption    : AnyConnect-Parent: (1)none SSL-Tunnel: (1)AES-GCM-256
Hashing       : AnyConnect-Parent: (1)none SSL-Tunnel: (1)SHA384
Bytes Tx      : 38830              Bytes Rx   : 172
Group Policy  : DfltGrpPolicy      Tunnel Group : Anyconnect
Login Time    : 01:08:10 UTC Thu Apr 9 2020
Duration      : 0h:00m:53s
Inactivity    : 0h:00m:00s
VLAN Mapping  : N/A                VLAN       : none
Audt Sess ID  : 000000000000f0005e8e757a
Security Grp  : none                Tunnel Zone : 0
```


故障排除

本节提供可用于对配置进行故障排除的信息。

如果用户无法通过SSL连接到FTD，请执行以下步骤以隔离SSL协商问题：

1. 验证可以通过用户的计算机ping FTD以外的IP地址。
2. 使用外部嗅探器验证TCP三次握手是否成功。

AnyConnect客户端问题

本部分提供了对两个最常见的AnyConnect VPN客户端问题进行故障排除的指南。有关AnyConnect客户端的故障排除指南，请参阅[AnyConnect VPN客户端故障排除指南](#)。

初始连接问题

如果用户存在初始连接问题，请启用调试 `webvpn` FTD上的AnyConnect并分析调试消息。调试必须在FTD的CLI上运行。使用命令 `debug webvpn anyconnect 255`。

从客户端计算机收集DART捆绑包以从AnyConnect获取日志。有关如何收集DART捆绑包的说明，请参阅[收集DART捆绑包](#)。

特定流量问题

如果连接成功，但流量在SSL VPN隧道上失败，请查看客户端上的流量统计信息，以验证客户端正在接收和传输流量。详细的客户端统计信息在AnyConnect的所有版本中均可用。如果客户端显示正在发送和接收流量，请检查FTD中是否有已接收和已传输的流量。如果FTD应用过滤器，则会显示过滤器名称，您可以查看ACL条目以检查您的流量是否被丢弃。用户遇到的常见流量问题包括：

- FTD后的路由问题 — 内部网络无法将数据包路由回分配的IP地址和VPN客户端
- 访问控制列表阻止流量
- VPN流量未绕过网络地址转换

有关由FDM管理的FTD上的远程访问VPN的详细信息，请在此找到完整配置指南：[由FDM管理的远程访问FTD](#)。

关于此翻译

思科采用人工翻译与机器翻译相结合的方式将此文档翻译成不同语言，希望全球的用户都能通过各自的语言得到支持性的内容。

请注意：即使是最好的机器翻译，其准确度也不及专业翻译人员的水平。

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