

通过FTD中的路由协议通告远程访问VPN子网

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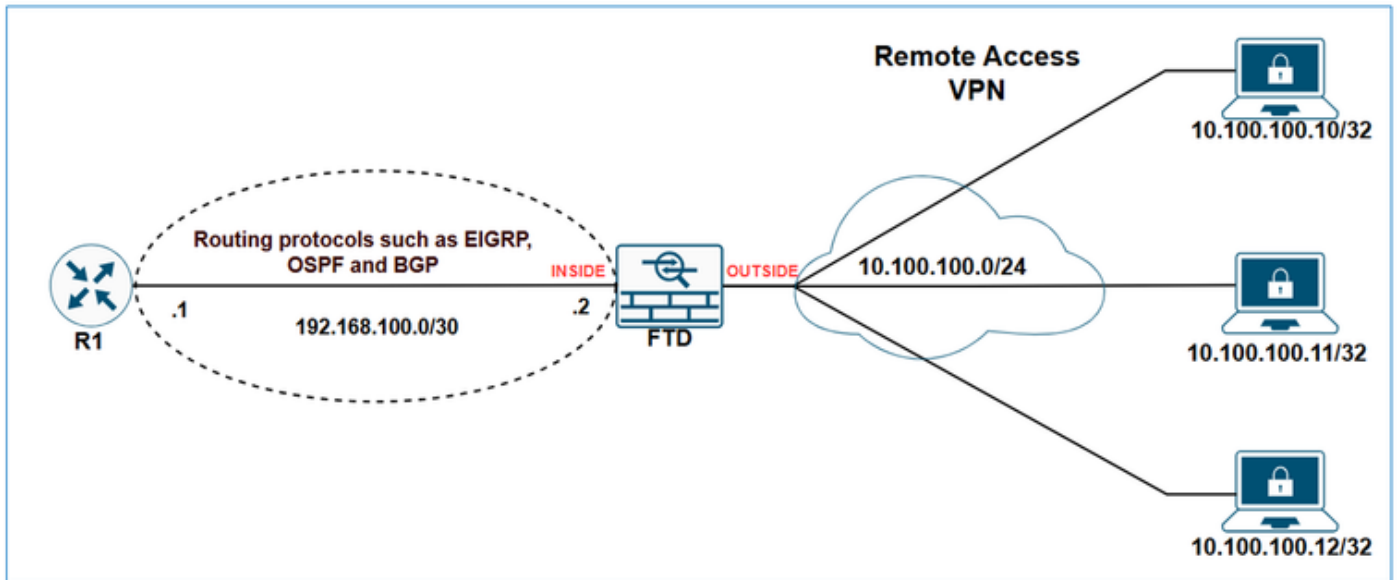
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简介

本文档介绍使用路由协议EIGRP、OSPF和BGP通告VPN相关子网的可用选项。



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。

本文档中的信息基于以下软件和硬件版本：

- 思科安全防火墙管理中心7.6.0
- 思科安全防火墙7.6.0

 注意：本文档概述使用FMC通过EIGRP、OSPF和BGP重新分配远程访问VPN子网的配置。有关使用FDM重新分发路由的指南，请参阅FDM配置[指南](#)。

背景信息

首先要了解的是FTD如何在其路由表中对VPN子网进行分类。虽然这些子网看起来像通过VPN连接，但是它们不被视为直接连接的子网；相反，它们被视为静态路由。

show输出显示了这一点。

FTD show route输出：

<#root>

FTD-1#

show route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, V - VPN
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route, + - replicated route
SI - Static InterVRF, BI - BGP InterVRF
Gateway of last resort is not set

```
C      10.10.20.0 255.255.255.0 is directly connected, outside
L      10.10.20.1 255.255.255.255 is directly connected, outside
C      192.168.100.0 255.255.255.252 is directly connected, inside
L      192.168.100.2 255.255.255.255 is directly connected, inside

V      10.100.100.10 255.255.255.255 connected by VPN (advertised), outside
```

FTD show route connected输出：

<#root>

FTD-1#

show route connected

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, V - VPN
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route, + - replicated route
SI - Static InterVRF, BI - BGP InterVRF

Gateway of last resort is not set

```
C      10.10.20.0 255.255.255.0 is directly connected, outside
L      10.10.20.1 255.255.255.255 is directly connected, outside
C      192.168.100.0 255.255.255.252 is directly connected, inside
L      192.168.100.2 255.255.255.255 is directly connected, inside
```

FTD show route static输出：

<#root>

FTD-HQ-1#

show route static

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, V - VPN
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route, + - replicated route
SI - Static InterVRF, BI - BGP InterVRF

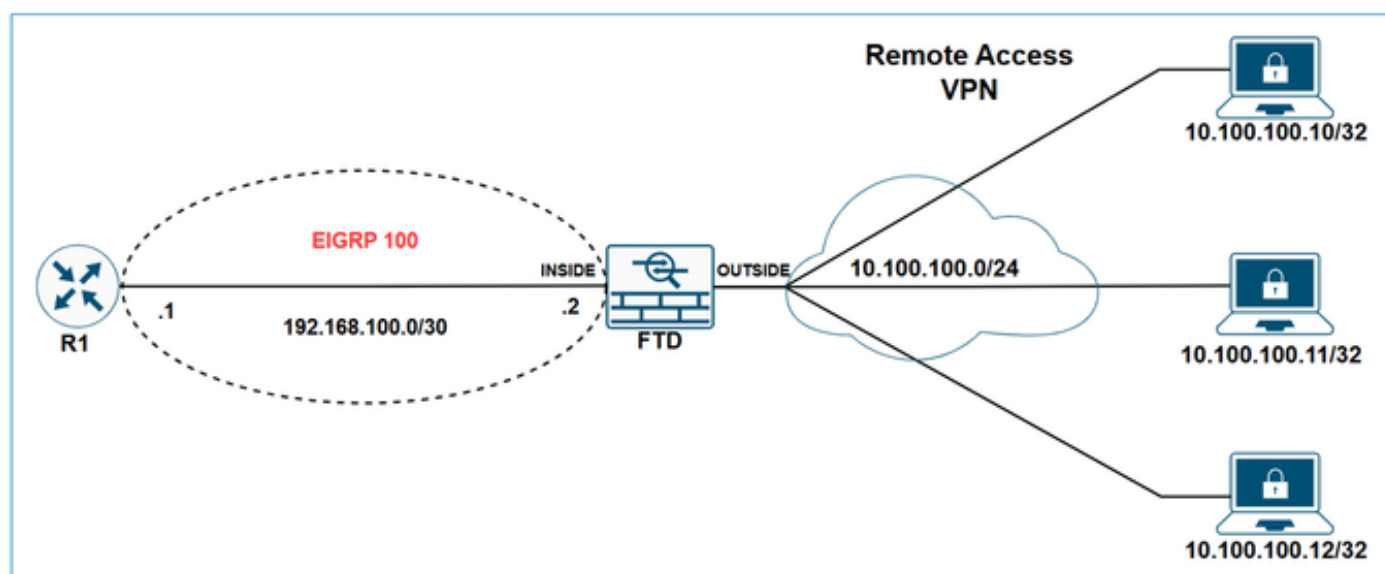
Gateway of last resort is not set

V 10.100.100.10 255.255.255.255 connected by VPN (advertised), outside

现在我们已经清楚如何在防火墙的路由表中处理VPN子网，下一步是探索如何使用各种路由协议通告这些子网。

通过FTD上的EIGRP重新分发远程访问VPN子网

网络图



属于network语句范围的静态路由会自动重分发到EIGRP;您不需要为其定义重分发规则。但是，在重分发指向EIGRP中的VTI接口的静态路由时，必须指定度量。对于指向其他类型接口的静态路由，不需要指定度量。

由于EIGRP自动重分发属于network语句范围内的静态路由的行为，因此在FTD上通过EIGRP通告VPN子网有两个选项：

1. 使用network语句
2. 使用redistribute static方法。

在本示例中，目标是让R1通过EIGRP学习VPN子网10.100.100.0/24。

FTD初始配置：

<#root>

hostname FTD-1

!

ip local pool VPN-POOL1 10.100.100.10-10.100.100.254 mask 255.255.255.0

!

webvpn

...

group-policy LAB_GROUP1 internal

group-policy LAB_GROUP1 attributes

...

address-pools value VPN-POOL1

!

router eigrp 100

no default-information in

no default-information out

no eigrp log-neighbor-warnings

no eigrp log-neighbor-changes

network 192.168.100.0 255.255.255.252

FTD初始路由表：

<#root>

FTD-1#

show route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, V - VPN
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route, + - replicated route
SI - Static InterVRF, BI - BGP InterVRF

Gateway of last resort is not set

C	10.10.20.0 255.255.255.0 is directly connected, outside
L	10.10.20.1 255.255.255.255 is directly connected, outside
C	192.168.100.0 255.255.255.252 is directly connected, inside
L	192.168.100.2 255.255.255.255 is directly connected, inside
V	10.100.100.10 255.255.255.255 connected by VPN (advertised), outside

FTD初始EIGRP拓扑表：

<#root>

FTD-1#

show eigrp topology

EIGRP-IPv4 Topology Table for AS(100)/ID(192.168.100.2)

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
r - reply Status, s - sia Status

P 192.168.100.0 255.255.255.252, 1 successors, FD is 512 via Connected, inside

R1初始路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1

L 192.168.100.1/32 is directly connected, GigabitEthernet1

使用network语句通过FTD上的EIGRP重分布远程访问VPN子网

配置

步骤1.为VPN子网创建网络对象。

Edit Network Object

Name

VPN-SUBNET

Description

Network

☐ Host

☐ Range

☒ Network

☐ FQDN

10.100.100.0/24

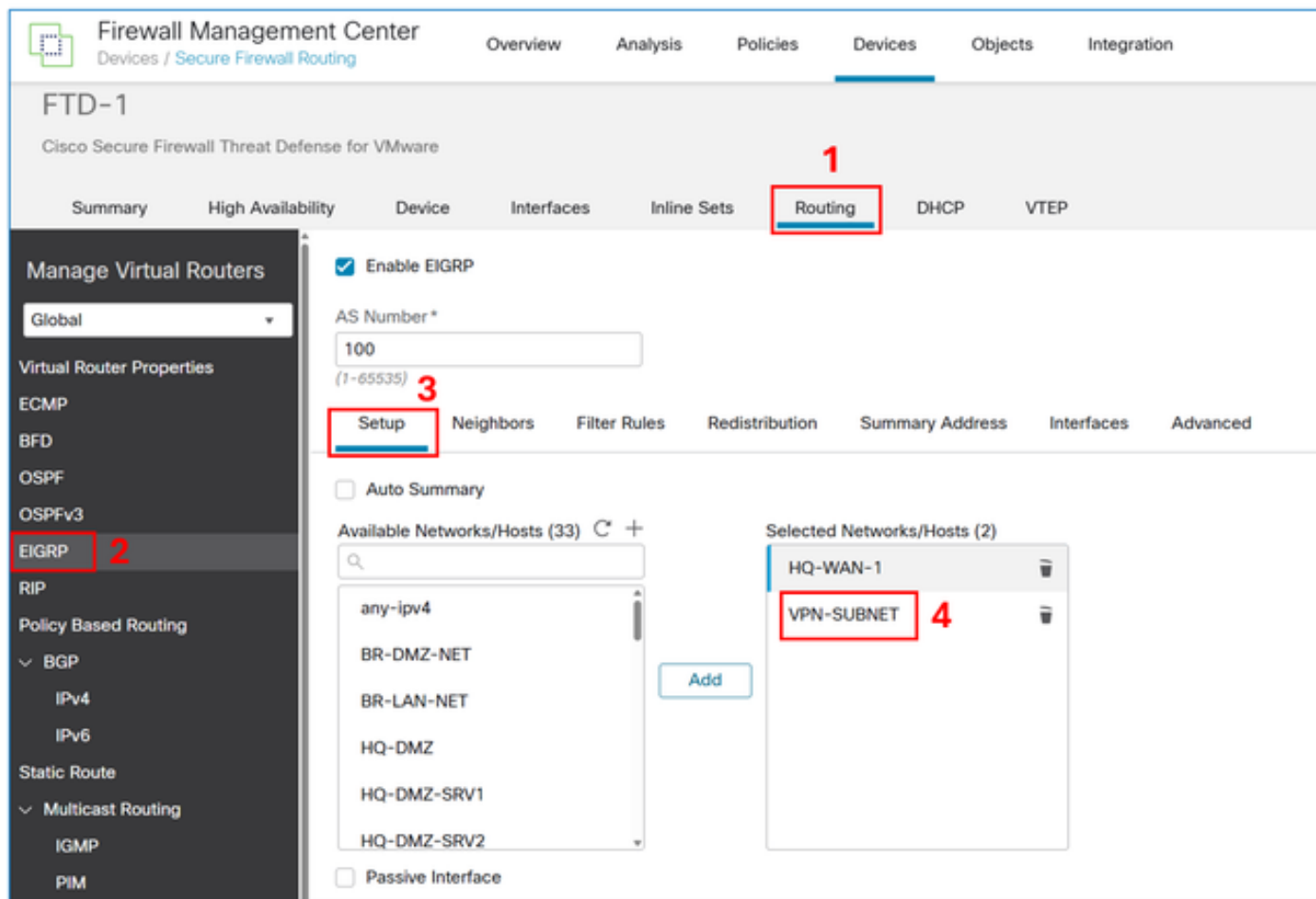
☐ Allow Overrides

Cancel

Save

步骤2.在network语句中包含VPN子网对象。

在FMC设备管理UI中，导航到路由> EIGRP >设置，并在选定的网络/主机中包含VPN子网。



保存并部署FTD上的配置。

验证

FTD EIGRP配置：

<#root>

FTD-1#

show run router

```
router eigrp 100
  no default-information in
  no default-information out
  no eigrp log-neighbor-warnings
  no eigrp log-neighbor-changes

  network 10.100.100.0 255.255.255.0

  network 192.168.100.0 255.255.255.252
```

FTD EIGRP拓扑表：

<#root>

FTD-1#

show eigrp topology

EIGRP-IPv4 Topology Table for AS(100)/ID(192.168.100.2)

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
r - reply Status, s - sia Status

P 10.100.100.10 255.255.255.255, 1 successors, FD is 512

via Rstatic (512/0)

P 192.168.100.0 255.255.255.252, 1 successors, FD is 512

via Connected, inside

R1路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP

n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA

i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2

ia - IS-IS inter area, * - candidate default, U - per-user static route

H - NHRP, G - NHRP registered, g - NHRP registration summary

o - ODR, P - periodic downloaded static route, l - LISP

a - application route

+ - replicated route, % - next hop override, p - overrides from PfR

& - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1

L 192.168.100.1/32 is directly connected, GigabitEthernet1
10.0.0.0/32 is subnetted, 1 subnets

D 10.100.100.10

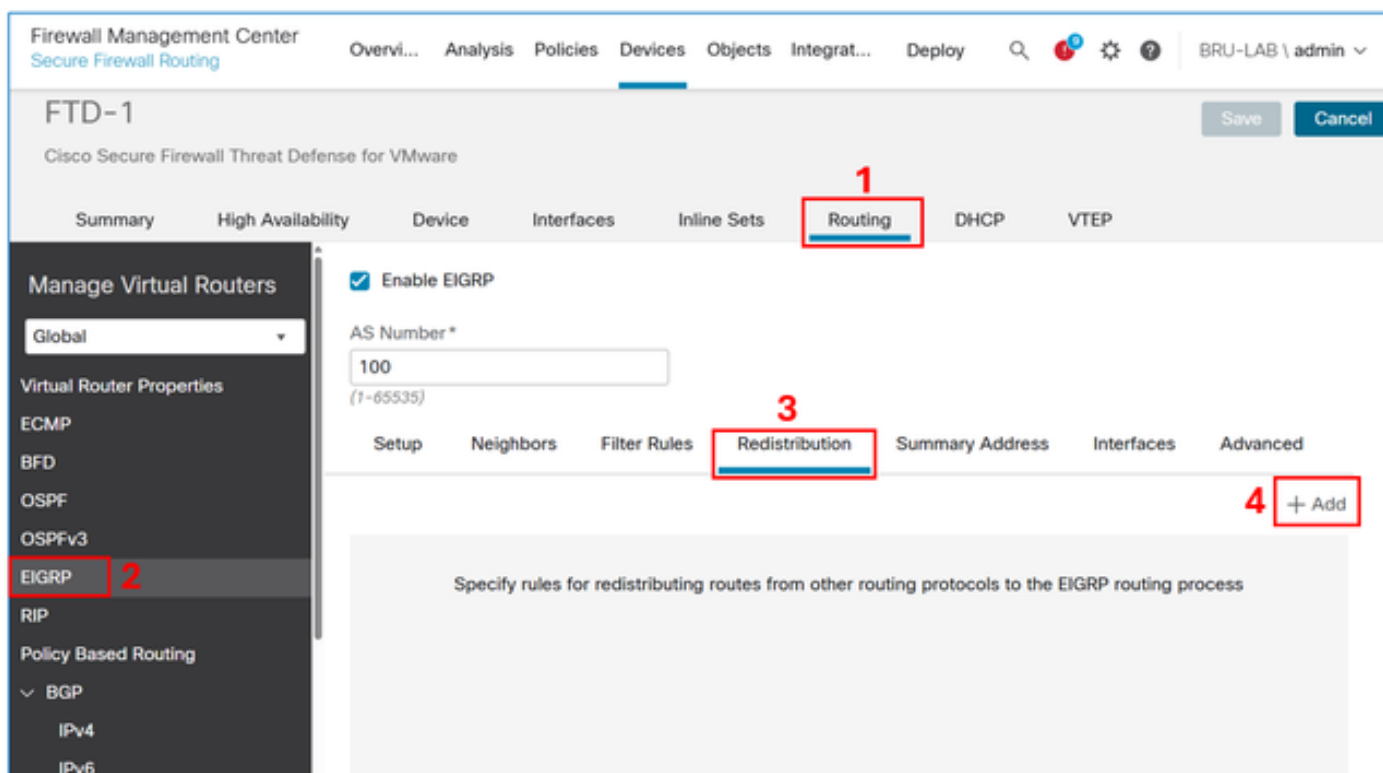
[90/3072] via 192.168.100.2, 00:02:17, GigabitEthernet1

 注意：请注意，虽然network语句是10.100.100.0/24，但FTD通过EIGRP重新分配/32子网。发生这种情况的原因是FTD为每个远程访问VPN会话创建一个带有/32前缀的静态路由。要优化此配置，您可以使用EIGRP汇总地址功能。

使用redistribute static方法通过FTD上的EIGRP重分布远程访问VPN子网

配置

在FMC设备管理UI中，导航到路由> EIGRP >重分发，然后选择添加按钮。



在协议字段中，选择Static，然后选择OK按钮。

Add Redistribution?

Protocol

Protocol *

Static

Optional OSPF Redistribution

☐ Internal

☐ External1

☐ External2

☐ Nssa-External1

☐ Nssa-External2

Optional Metrics

Bandwidth

(1-4294967295 in kbps)

Delay Time

(0-4294967295 in 10µs)

Reliability

(0-255)

Loading

(1-255)

MTU

(1-65535 in bytes)

Route Map

Select...

+

Cancel

OK

 注意：这会将所有静态路由重分发到EIGRP。如果需要只通告VPN子网，可以使用network语句方法或应用路由映射来过滤它们。

结果：

☒ Enable EIGRP

AS Number *

100
(1-65535)

Setup Neighbors Filter Rules **Redistribution** Summary Address Interfaces Advanced

+ Add

Protocol	ID	Bandwidth	Delay Time	Reliability	Loading	MTU	Route Map
STATIC							

保存并部署FTD上的配置。

验证

FTD EIGRP配置：

<#root>

FTD-HQ-1#

show run router

```
router eigrp 100
no default-information in
no default-information out
no eigrp log-neighbor-warnings
no eigrp log-neighbor-changes
network 192.168.100.0 255.255.255.252

redistribute static
```

FTD EIGRP拓扑表：

<#root>

FTD-1#

show eigrp topology

```
EIGRP-IPv4 Topology Table for AS(100)/ID(192.168.100.2)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status
```

```
P 10.100.100.10 255.255.255.255, 1 successors, FD is 512
```

```
    via Rstatic (512/0)
```

```
P 192.168.100.0 255.255.255.252, 1 successors, FD is 512
    via Connected, inside
```

R1路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1

L 192.168.100.1/32 is directly connected, GigabitEthernet1

D EX 10.100.100.10

[170/3072] via 192.168.100.2, 00:03:52, GigabitEthernet1



提示：或者，您可以使用FTD上的EIGRP汇总地址功能优化路由表的大小。

EIGRP汇总地址配置

配置

如果尚未创建，请为VPN子网创建网络对象。

Edit Network Object ?

Name

VPN-SUBNET

Description

Network

☐ Host ☐ Range ☒ Network ☐ FQDN

10.100.100.0/24

☐ Allow Overrides

Cancel Save

在FMC设备管理UI中，导航到路由> EIGRP >摘要地址，然后选择添加按钮。

Firewall Management Center
Devices / Secure Firewall Routing

Overview Analysis Policies **Devices** Objects Integration

Deploy 🔍 ⚙️ ⓘ BRU-LAB1 admin 🔒 **SECURE**

FTD-1 Save Cancel

Cisco Secure Firewall Threat Defense for VMware

Summary High Availability Device Interfaces Inline Sets **Routing** DHCP VTEP

Manage Virtual Routers

Global

Virtual Router Properties

ECMP
BFD
OSPF
OSPFv3
EIGRP
RP
Policy Based Routing

☒ Enable EIGRP

AS Number*
100
(1-65535)

Setup Neighbors Filter Rules Redistribution **Summary Address** Interfaces Advanced

+ Add

Configure summary addresses for each interface through which EIGRP advertises routes

在interface字段中，输入面向EIGRP邻居的对象，在network字段中，输入为VPN子网创建的对象。

Add Summary Address ?

Interface *

inside ▼

Network *

VPN-SUBNET ▼ +

Administrative Distance

(1-255)

Cancel

OK

结果：

☒ Enable EIGRP

AS Number*

 (1-65535)

Setup Neighbors Filter Rules Redistribution **Summary Address** Interfaces Advanced

+ Add

Interface	Network	Administrative Distance
inside	VPN-SUBNET	

验证

FTD EIGRP汇总地址配置：

<#root>

FTD-1#

sh run interface

```
interface GigabitEthernet0/0
 nameif inside
 security-level 0
 zone-member inside
 ip address 192.168.100.2 255.255.255.252

summary-address eigrp 100 10.100.100.0 255.255.255.0
```

FTD EIGRP拓扑表：

<#root>

FTD-1#

show eigrp topology

```
EIGRP-IPv4 Topology Table for AS(100)/ID(192.168.100.2)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 10.100.100.10 255.255.255.255, 1 successors, FD is 512
   via Rstatic (512/0)

P 10.100.100.0 255.255.255.0, 1 successors, FD is 512
```

via Summary (512/0), Null0

P 192.168.100.0 255.255.255.0, 1 successors, FD is 512
via Connected, inside

R1路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

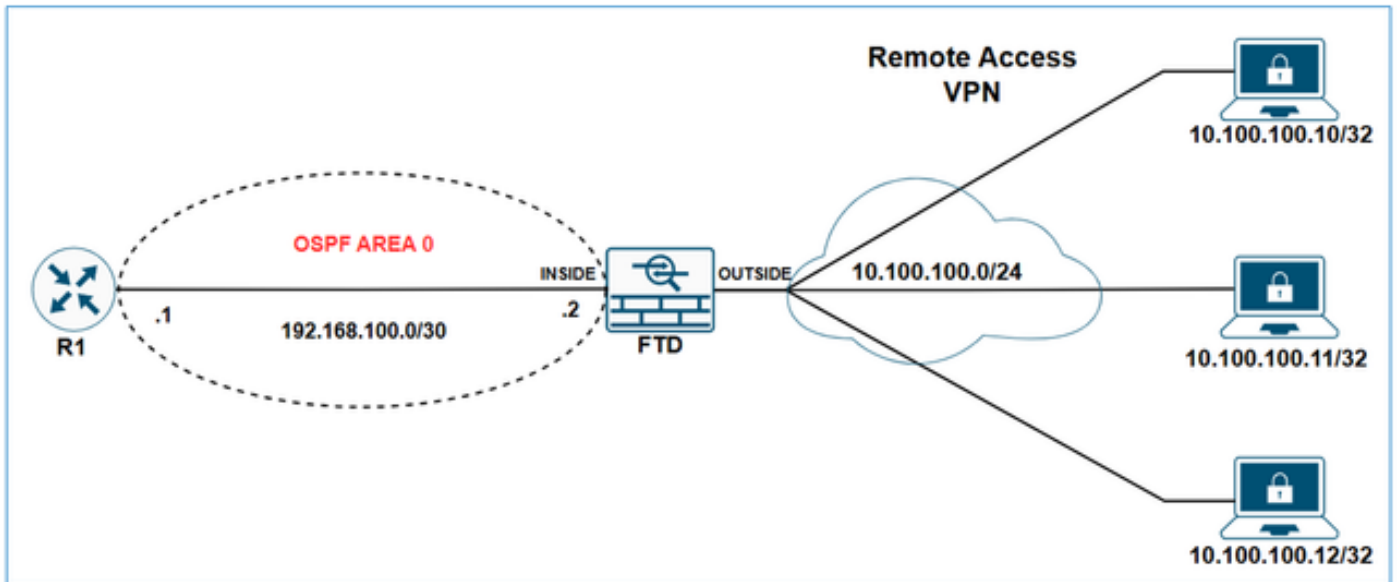
C 192.168.100.0/30 is directly connected, GigabitEthernet1

L 192.168.100.1/32 is directly connected, GigabitEthernet1
10.0.0.0/24 is subnetted, 1 subnets

D 10.100.100.0 [90/3072] via 192.168.100.2, 00:01:54, GigabitEthernet1

通过FTD上的OSPF重分布远程访问VPN子网

网络图



初始配置

<#root>

```
ip local pool VPN-POOL1 10.100.100.10-10.100.100.254 mask 255.255.255.0
```

```
!
webvpn
  group-policy LAB_GROUP1 internal
  ...
group-policy LAB_GROUP1 attributes
  ...
```

```
address-pools value VPN-POOL1
```

```
!
router ospf 1
network 192.168.100.0 255.255.255.252 area 0
```

FTD show ospf neighbor输出：

<#root>

FTD-1#

```
show ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.100.1	1	FULL/DR	0:00:39	192.168.100.1	inside

R1 show ip ospf neighbor输出：

<#root>

R1#

show ip ospf neighbor

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.100.2	1	FULL/BDR	00:00:37	192.168.100.2	GigabitEthernet1

R1路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1
L 192.168.100.1/32 is directly connected, GigabitEthernet1

配置

在FMC设备管理UI中，导航到路由> OSPF >重分发，然后选择添加按钮。

Firewall Management Center
Secure Firewall Routing

Over...Ana...Poli...Dev...Obj...Integ...Deploy

BRU-LAB \ admin

FTD-1

SaveCancel

Cisco Secure Firewall Threat Defense for VMware

SummaryHigh AvailabilityDeviceInterfacesInline SetsRoutingDHCPVTEP

Manage Virtual Routers

Global

Virtual Router Properties

ECMP

BFD

OSPF

OSPFv3

EIGRP

RIP

Policy Based Routing

BGP

IPv4

IPv6

☒ Process 1

ID: 1

OSPF Role:

ASBR

Enter Description here

Advanced

☐ Process 2

ID:

OSPF Role:

Internal Router

Enter Description here

Advanced

Area

Redistribution

InterArea

Filter Rule

Summary Address

Interface

+ Add

OSPF P...	Route T...	Match	Subnets	Metric ...	Metric ...	Tag Value	Route ...
No records to display							



注意：OSPF角色必须设置为ASBR或ABR和ASBR才能启用重分发。

在Route Type字段中，选择Static，然后选中Use Subnets框。

Add Redistribution



OSPF Process*: 1

Route Type: Static

Optional

- ☐ Internal
- ☐ External1
- ☐ External2
- ☐ NSSA External1
- ☐ NSSA External2
- ☒ Use Subnets

Metric Value:

Metric Type: 2

Tag Value:

RouteMap: +

Cancel

OK

 注意：这会将所有静态路由重分发到OSPF。如果需要仅通告VPN子网，可以应用路由映射来过滤它们。

结果：

☒ Process 1

ID: 1

OSPF Role:

ASBR

Enter Description here

Advanced

☐ Process 2

ID:

OSPF Role:

Internal Router

Enter Description here

Advanced

Area

Redistribution

InterArea

Filter Rule

Summary Address

Interface

+ Add

OSPF Process	Route Type	Match	Subnets	Metric Value	Metric Type	Tag Value	Route Map
1	static	false	true		2		

验证

FTD OSPF重分发配置：

<#root>

FTD-1#

sh run router

```
router ospf 1
network 192.168.100.0 255.255.255.252 area 0

redistribute static subnets
```

R1路由表：

<#root>

R1#

show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

```
C      192.168.100.0/30 is directly connected, GigabitEthernet1
L      192.168.100.1/32 is directly connected, GigabitEthernet1
      10.0.0.0/32 is subnetted, 1 subnets

O E2    10.100.100.10 [110/20] via 192.168.100.2, 00:08:01, GigabitEthernet1
```



提示：请注意，虽然VPN池是10.100.100.0/24，但FTD通过OSPF重新分配/32子网。发生这种情况的原因是FTD为每个远程访问VPN会话创建一个带有/32前缀的静态路由。要优化此功能，您可以使用OSPF汇总地址功能。

OSPF摘要地址配置

配置

如果尚未创建，请为VPN子网创建网络对象。

Edit Network Object

Name

VPN-SUBNET

Description

Network

☐ Host

☐ Range

☒ Network

☐ FQDN

10.100.100.0/24

☐ Allow Overrides

Cancel

Save

在FMC设备管理UI中，导航到Routing > OSPF> Summary Address，然后选择Add按钮。

Firewall Management Center
Secure Firewall Routing

Over... Ana... Poli... Dev... Obj... Integ... Deploy 🔍 10 ⚙️ ? BRU-LAB \ admin

FTD-1

Cisco Secure Firewall Threat Defense for VMware

Summary High Availability Device Interfaces Inline Sets **1 Routing** DHCP VTEP

Manage Virtual Routers
Global
Virtual Router Properties
ECMP
BFD
2 OSPF
OSPFv3
EIGRP
RIP
Policy Based Routing
BGP
IPv4
IPv6

☒ Process 1 ID: 1
OSPF Role: ASBR Enter Description here Advanced
☐ Process 2 ID:
OSPF Role: Internal Router Enter Description here Advanced

Area Redistribution InterArea Filter Rule **3 Summary Address** Interface **4 + Add**

OSPF Process	Networks	Tag	Advertise	
No records to display				

添加VPN子网对象并选中Advertise复选框。

Edit Summary Address

?

OSPF Process:

1

Available Network

+

Q VPN

X

VPN-SUBNET

1

2

Add

Selected Network

VPN-SUBNET

Tag:

3

☒ Advertise (allow routes that match specified address/mask pair)

4

Cancel

OK

结果：

☒ Process 1
 ID: 1

OSPF Role:
 ASBR

☐ Process 2
 ID:

OSPF Role:
 Internal Router

Area Redistribution InterArea Filter Rule **Summary Address** Interface

+ Add

OSPF Process	Networks	Tag	Advertise	
1	VPN-SUBNET		true	 

验证

FTD OSPF配置：

<#root>

FTD-1#

sh run router

```
router ospf 1
 network 192.168.100.0 255.255.255.252 area 0
 redistribute static subnets
```

```
summary-address 10.100.100.0 255.255.255.0
```

R1路由表：

<#root>

R1#

sh ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
 N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
 E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
 n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
 i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
 ia - IS-IS inter area, * - candidate default, U - per-user static route
 H - NHRP, G - NHRP registered, g - NHRP registration summary
 o - ODR, P - periodic downloaded static route, l - LISP
 a - application route
 + - replicated route, % - next hop override, p - overrides from PfR
 & - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1

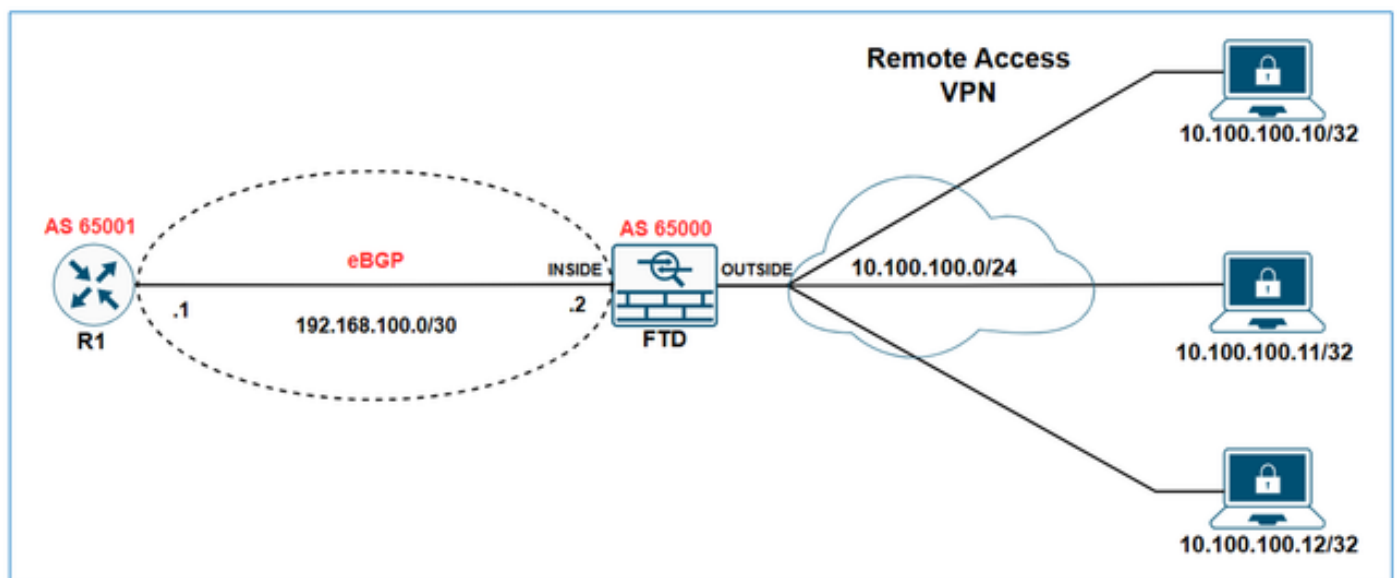
L 192.168.100.1/32 is directly connected, GigabitEthernet1

10.0.0.0/24 is subnetted, 1 subnets

O E2 10.100.100.0 [110/20] via 192.168.100.2, 00:00:26, GigabitEthernet1

通过FTD上的eBGP重新分发远程访问VPN子网

网络图



在本示例中，目标是使R1通过eBGP学习VPN子网10.100.100.0/24。

初始配置

FTD初始配置：

```
<#root>
```

```
hostname FTD-1
```

```
!
```

```
ip local pool VPN-POOL1 10.100.100.10-10.100.100.254 mask 255.255.255.0
```

```
!
```

```
webvpn
...
group-policy LAB_GROUP1 internal
group-policy LAB_GROUP1 attributes
...
```

```
address-pools value VPN-POOL1
```

```
!
router bgp 65000
bgp log-neighbor-changes
bgp router-id vrf auto-assign
address-family ipv4 unicast
neighbor 192.168.100.1 remote-as 65001
neighbor 192.168.100.1 transport path-mtu-discovery disable
neighbor 192.168.100.1 activate
no auto-summary
no synchronization
exit-address-family
```

FTD bgp表输出：

```
<#root>
```

```
FTD-1#
```

```
show bgp
```

```
BGP table version is 25, local router ID is 192.168.100.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath
Origin codes: i - IGP, e - EGP, ? - incomplete
```

Network	Next Hop	Metric	LocPrf	Weight	Path
r> 192.168.100.0/30	192.168.100.1	1		0	65001 ?

FTD show bgp summary输出：

```
<#root>
```

```
FTD-1#
```

```
show bgp summary
```

```
BGP router identifier 192.168.100.2, local AS number 65000
BGP table version is 25, main routing table version 25
1 network entries using 2000 bytes of memory
17 path entries using 1360 bytes of memory
3/3 BGP path/bestpath attribute entries using 624 bytes of memory
2 BGP AS-PATH entries using 48 bytes of memory
```

0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 4032 total bytes of memory
BGP activity 176/166 prefixes, 257/240 paths, scan interval 60 secs

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
192.168.100.1	4	65001	4589	3769	25	0	0	2d21h 8	

R1 show ip bgp summary输出：

<#root>

R1#

sh ip bgp summary

BGP router identifier 192.168.100.1, local AS number 65001
BGP table version is 258, main routing table version 258
1 network entries using 2480 bytes of memory
1 path entries using 2312 bytes of memory
1/1 BGP path/bestpath attribute entries using 864 bytes of memory
1 BGP AS-PATH entries using 64 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 5720 total bytes of memory
BGP activity 85/75 prefixes, 244/227 paths, scan interval 60 secs
12 networks peaked at 11:10:00 Apr 17 2025 UTC (00:06:27.485 ago)

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
192.168.100.2	4	65000	3770	4590	258	0	0	2d21h	9

R1 bgp表输出：

<#root>

R1#

show ip bgp

BGP table version is 258, local router ID is 192.168.100.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
x best-external, a additional-path, c RIB-compressed,
t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

Network	Next Hop	Metric	LocPrf	Weight	Path
*> 192.168.100.0/30		0.0.0.0		1	32768 ?

R1路由表：

<#root>

R1#

show ip route

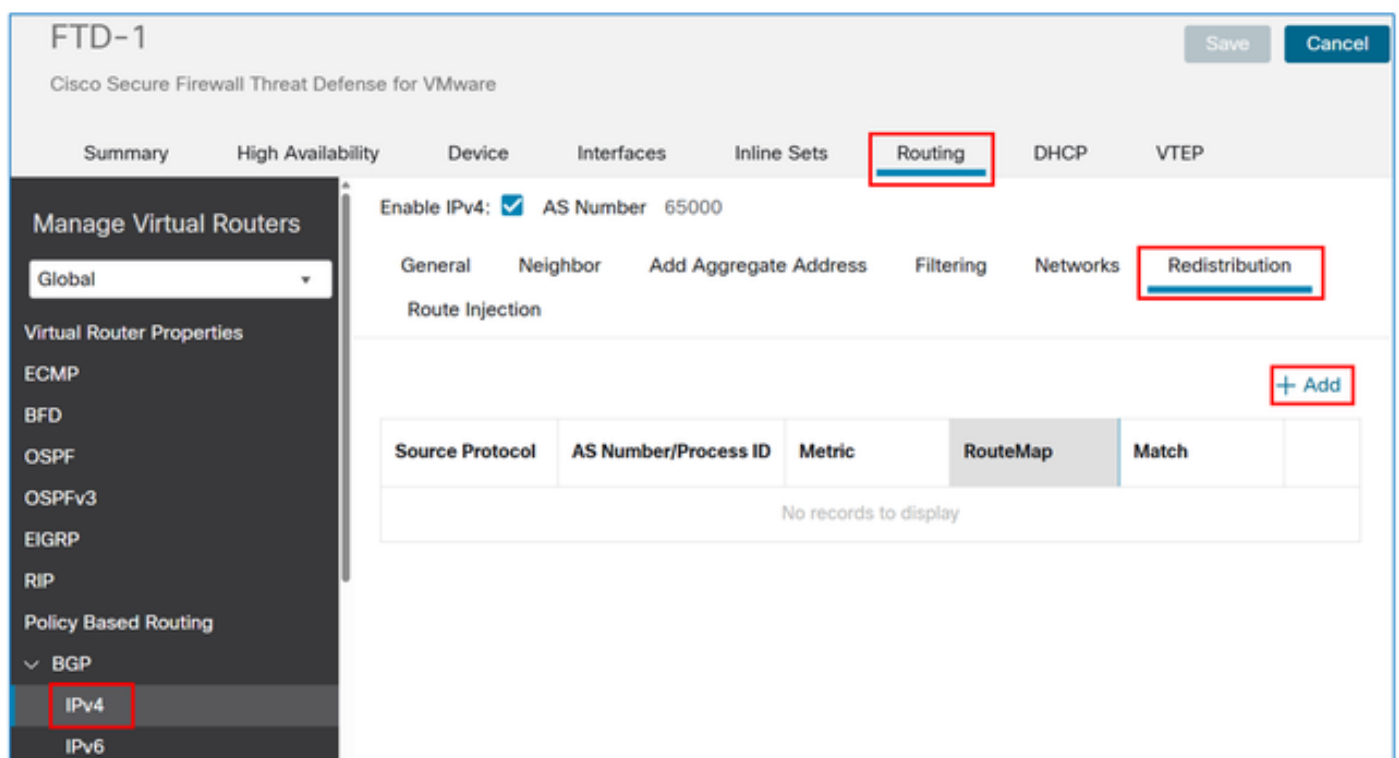
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR
& - replicated local route overrides by connected

Gateway of last resort is not set

C 192.168.100.0/30 is directly connected, GigabitEthernet1
L 192.168.100.1/32 is directly connected, GigabitEthernet1

配置

在FMC设备管理UI中，导航到Routing > BGP > IPv4 > Redistribution，然后选择Add按钮。



在源协议字段中，选择静态，然后选择确定按钮。

Add Redistribution



Source Protocol

Static



Process ID*



Metric

(0-4294967295)

Route Map



Match

☐

Internal

☐

External 1

☐

External 2

☐

NSSAExternal 1

☐

NSSAExternal 2

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