# 为安全防火墙威胁防御和ASA配置控制平面访问 控制策略

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简介

本文档介绍为安全防火墙威胁防御和自适应安全设备(ASA)配置控制平面访问规则的过程。

# 先决条件

### 要求

Cisco 建议您了解以下主题:

- 安全防火墙威胁防御(FTD)
- 安全防火墙设备管理器(FDM)
- 安全防火墙管理中心(FMC)
- 安全防火墙ASA
- 访问控制列表(ACL)
- FlexConfig

### 使用的组件

本文档中的信息基于以下软件和硬件版本:

- 安全防火墙威胁防御版本7.2.5
- 安全防火墙管理器中心版本7.2.5
- 安全防火墙设备管理器7.2.5版

• 安全防火墙ASA 9.18.3版

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

流量通常通过防火墙并在数据接口之间路由;在某些情况下,拒绝发往"安全"防火墙的流量是有益 的。思科安全防火墙可以使用控制平面访问控制列表(ACL)来限制"流向设备"流量。控制平面ACL何 时有用的示例是控制哪些对等体可以建立到安全防火墙的VPN(站点到站点或远程访问VPN)隧道 。

保护防火墙"机箱内"流量

流量通常从一个接口(入站)通过防火墙到达另一个接口(出站),这称为"机箱中"流量,由访问 控制策略(ACP)和预过滤器规则共同管理。



图 1.直通式流量示例

保护防火墙的"设备间"流量

在其他情况下,流量直接发往FTD接口(站点到站点或远程访问VPN),这称为"到设备"流量,由 特定接口的控制平面进行管理。



图 2.流向设备的流量示例

#### 有关控制平面ACL的重要注意事项

- 从FMC/FTD版本7.0开始,必须使用FlexConfig配置控制平面ACL,其命令语法与ASA上相同
  - 0

- 关键字control-plane附加到访问组配置中,该配置会将流量强制到"安全防火墙"接口。如果没有在命令后附加控制平面字,ACL将限制通过安全防火墙的流量。
- 控制平面ACL不会将SSH、ICMP或TELNET限制为入站到安全防火墙接口。根据平台设置策略处理(允许/拒绝)这些策略,并且具有更高的优先级。
- 控制平面ACL将流量限制为"到"安全防火墙本身,而FTD的访问控制策略或ASA的正常ACL控制流量通过"到"安全防火墙。
- 与普通ACL不同, ACL的末尾没有隐式"deny"语句。
- 在创建本文档时,FTD地理位置功能不能用于限制"访问"FTD。

### 配置

在下一个示例中,来自某个国家/地区的一组IP地址尝试通过登录到FTD RAVPN来将VPN暴力强行 发送到网络。保护FTD免受这些VPN暴力攻击的最佳选项是配置控制平面ACL以阻止这些连接到外 部FTD接口。

#### 配置

为FMC管理的FTD配置控制平面ACL

在FMC中需要遵循以下步骤来配置控制平面ACL,以阻止传入VPN暴力攻击到外部FTD接口:

步骤1:通过HTTPS打开FMC图形用户界面(GUI)并使用您的凭证登录。

| cisco SECURE    |  |
|-----------------|--|
| Secure Firewall |  |
| Management      |  |
| Center          |  |
| Username        |  |
| Password        |  |
|                 |  |

图 3.FMC登录页面

第二步:您需要创建扩展ACL。为此,请导航到Objects > Object Management。

| Firewall Management Center<br>Overview / Dashboards / Dashboard                     | Overview Analy    | rsis Policies Devices         | Objects Integration                  | Deploy Q 🧬 🔅                 | ⑦ admin ▼ <sup>cloub</sup> SECURE |
|---|-------------------|-------------------------------|--------------------------------------|------------------------------|-----------------------------------|
| Summary Dashboard (witch dashboard) Provides a summary of activity on the appliance |                   |                               | Object Management<br>Intrusion Rules |                              | Reporting                         |
| Network × Threats Intrusion Events  | Status Geolocatio | on QoS +                      |                                      | Show the Last 1 hour         | • II                              |
|   |                   |                               |                                      |                              |                                   |
| Unique Applications over Time   |                   | Top Web Applications Seen     | - ×                                  | Yop Client Applications Seen |                                   |
| No Data<br>Last updated 2 minutes ago   |                   | Last undated 2 minutes ano    | No Data                              | No Data                      |                                   |
|   |                   | Cast updated 2 milliones alfo |                                      | Last obnator 5 millions allo |                                   |
| <ul> <li>Traffic by Application Risk</li> </ul>                                     |                   | Top Server Applications See   | n – ×                                | C For Operating Systems Seen |                                   |

图 4.对象管理

### 步骤 2.1在左侧面板中,导航到Access List > Extended以创建扩展ACL。

| Cobjects / Object Management                                     | Center <sub>Overview</sub>                                   | Analysis I                              | Policies I                      | Devices      | Objects       | Integration      |   | Deploy Q 🧬 🔅              | 🕜 admin <del>-</del>                       | cisco SECURE    |
|--|--|---|---------------------------------|--------------|---------------|------------------|---|---------------------------|--|-----------------|
| > AAA Server   | Network  |   |                                 |              |               |                  | Add Network                                   | ▼ Q Fi                    | lter                                       |                 |
| Access List     Extended     Standard                            | A network object represents<br>network discovery rules, ever | one or more IP ad<br>nt searches, repor | dresses. Netv<br>ts, and so on. | vork objects | are used in v | arious places, i | including access control policie              | s, network variables, int | how Unused Object<br>rusion rules, identit | ts<br>ly rules, |
| > Address Pools  | Name   |   |                                 |              |               |                  | Value   | Туре                      | Override                                   |                 |
| Application Filters<br>AS Path                                   | any  |   |                                 |              |               |                  | 0.0.0.0/0<br>::/0                             | Group                     |  | ୟ 🗑 👪           |
| Cipher Suite List  | any-ipv4   |   |                                 |              |               |                  | 0.0.0/0                                       | Network                   |  | Q 🗎 👪           |
| > Community List   | any-ipv6   |   |                                 |              |               |                  | ::/0  | Host                      |  | ۵ 🗑 👪           |
| <ul> <li>Distinguished Name</li> <li>DNS Server Group</li> </ul> | IPv4-Benchmark-Tests   |   |                                 |              |               |                  | 198.18.0.0/15                                 | Network                   |  | ଦ 🗎 👪           |
| > External Attributes  | IPv4-Link-Local  |   |                                 |              |               |                  | 169.254.0.0/16                                | Network                   |  | ଦ 🗎 🕅           |
| File List  | IPv4-Multicast   |   |                                 |              |               |                  | 224.0.0.0/4                                   | Network                   |  | ् 🗎 👪           |
| Geolocation  | IPv4-Private-10.0.0.0-8                                      |   |                                 |              |               |                  | 10.0.0/8                                      | Network                   |  | ۵ 🗑 🚯           |
| Interface  | IPv4-Private-172.16.0.0-12                                   |   |                                 |              |               |                  | 172.16.0.0/12                                 | Network                   |  | Q ≣ ₿           |
| Key Chain  | IPv4-Private-192.168.0.0-16                                  |   |                                 |              |               |                  | 192.168.0.0/16                                | Network                   |  | ۵ 🗑 👪           |
| > PKI  | IPv4-Private-All-RFC1918                                     |   |                                 |              |               |                  | 10.0.0.0/8<br>172.16.0.0/12<br>192.168.0.0/16 | Group                     |  | ଦ ≣ #           |
| Policy List<br>Port  |  |   |                                 |              |               |                  | Dis   | playing 1 - 14 of 14 rows | I< < Page 1                                | of 1 > >  C     |

图 5.扩展ACL菜单

步骤 2.2然后,选择Add Extended Access List。

| Firewall Managemen<br>Objects / Object Managemen | nt Center <sub>Overview</sub>                                | Analysis Policies  | Devices (                                      | Objects Integration  | Deploy Q 🗳 🌣 🕜   | admin 🕶 🔤 🕬 SECURE                        |
|--|--|--|--|--|--|---|
| > AAA Server                                     | Extended   |  |  |  | Add Extended Access List   |   |
| ✓ Access List                                    |  |  |  |  |  |   |
| Extended   | An access list object, also k<br>traffic based on source and | cnown as an access control<br>destination address and po | list (ACL), selects th<br>rts. Supports IPv4 a | e traffic to which a service will ap<br>nd IPv6 addresses. You use these | pply. Standard-Identifies traffic based on destination a<br>e objects when configuring particular features, such a | iddress only. Identifies<br>s route maps. |
| Standard   |  |  |  |  |  |   |
| > Address Pools                                  | Name   |  |  |  | Value  | Override                                  |
| Application Filters                              |  |  |  |  |  |   |
| AS Path  |  |  |  | No records to display  |  |   |
| Cipher Suite List                                |  |  |  |  |  |   |
| > Community List                                 |  |  |  |  |  |   |
| > Distinguished Name                             |  |  |  |  |  |   |
| DNS Server Group                                 |  |  |  |  |  |   |
| > External Attributes                            |  |  |  |  |  |   |
| File List  |  |  |  |  |  |   |
| > FlexConfig                                     |  |  |  |  |  |   |
| Geolocation                                      |  |  |  |  |  |   |
| Interface  |  |  |  |  |  |   |
| Key Chain  |  |  |  |  |  |   |
| Network  |  |  |  |  |  |   |
| > ркі  |  |  |  |  |  |   |
| Policy List                                      |  |  |  |  |  |   |
| Port   |  |  |  |  | No data to display   | Page 1 of 1 > >  C                        |
| > Prefix List                                    |  |  |  |  |  |   |

图 6.添加扩展ACL

### 步骤 2.3键入扩展ACL的名称,然后点击Add按钮以创建访问控制条目(ACE):

| Circle Contract Contr | agement Center          | Overview        | Analysis Policies | Devices Objects | Integration      | Deploy Q    | 🔮 🌣 🔞         | admin 🔻 🔤 📲 🕯 admin 🕈                |
|--|-------------------------|-----------------|-------------------|-----------------|------------------|-------------|---------------|--------------------------------------|
| > AAA Server<br>> Access List  | New Extended Ac         | ccess List Obje | ect               |                 |                  |             |               |                                      |
| Extended<br>Standard   | Name<br>ACL-UNWANTED-CO | OUNTRY          |                   |                 |                  |             |               | dress only. Identifies<br>oute maps. |
| Address Pools     Application Filters     AS Path  | Entries (0)             |                 |                   |                 |                  |             | Add           | Override                             |
| Cipher Suite List  | Sequence Action         | Source          | Source Port       | Destination     | Destination Port | Application |               |                                      |
| <ul> <li>Distinguished Name</li> <li>DNS Server Group</li> <li>External Attributes</li> </ul>  |                         |                 |                   |                 |                  |             |               |                                      |
| File List > FlexConfig   |                         |                 |                   |                 |                  |             |               |                                      |
| Geolocation<br>Interface<br>Key Chain  | Allow Overrides         |                 |                   |                 |                  |             |               |                                      |
| Network  |                         |                 |                   |                 |                  |             | Save          |                                      |
| Policy List<br>Port  |                         |                 |                   |                 |                  | No data t   | o display 🖂 < | Page 1 of $1 > > C$                  |

图 7.扩展ACL条目

步骤 2.4将ACE操作更改为Block,然后添加源网络以匹配需要拒绝到FTD的流量,将目标网络保留 为Any,然后点击Add按钮完成ACE条目:

— 在本示例中,配置的ACE条目将阻止来自192.168.1.0/24子网的VPN暴力攻击。

| <b>Firewa</b><br>Objects /                      | Action:<br>Block                                      |                         |                          | cisco SECURE     |
|---|---|-------------------------|--------------------------|------------------|
| > AAA Server<br><ul> <li>Access List</li> </ul> | Logging:<br>Default v                                 |                         |                          |                  |
| Extended  | Log Level:<br>Informational                           |                         |                          | Identifies<br>;. |
| > Address Pools                                 | Log Interval:   |                         |                          |                  |
| AS Path   | Network Port I Application                            |                         |                          | 1 1 6            |
| Cipher Suite Lit                                | Available Networks C +                                | Source Networks (1)     | Destination Networks (0) |                  |
| > Distinguished N<br>DNS Server Green           | Q Search by name or value Add to Source               | 192.168.1.0/24          | any                      |                  |
| > External Attribu                              | any-ipv4 Add to Destination                           |                         |                          |                  |
| > FlexConfig                                    | any-ipvo<br>IPv4-Benchmark-Tests                      |                         |                          |                  |
| Geolocation<br>Interface                        | IPv4-Link-Local<br>IPv4-Multicast                     |                         |                          |                  |
| Key Chain<br>Network                            | IPv4-Private-10.0.0.0-8<br>IPv4-Private-172.16.0.0-12 | Enter an IP address Add | Enter an IP address Add  |                  |
| > PKI   |   |                         |                          |                  |
| Port  |   |                         | Cancel                   | of 1 > >  C      |

图 8.拒绝的网络

步骤 2.5如果需要添加更多ACE条目,请再次点击Add按钮并重复步骤2.4。之后,点击Save按钮完成ACL配置。

| Firewall Managemen<br>Objects / Object Management | Edit Exter      | nded Acc | ess List Object |             |             |                  |                            | 0          | shahi SECURE   |
|---|-----------------|----------|-----------------|-------------|-------------|------------------|----------------------------|------------|----------------|
| > AAA Server                                      | Name<br>ACL-UNM | ANTED-CC | DUNTRY          |             |             |                  |                            |            | Identifies     |
| Extended<br>Standard                              | Entries (1)     | )        |                 |             |             |                  |                            | Add        |                |
| Application Filters                               | Sequence        | Action   | Source          | Source Port | Destination | Destination Port | Application                |            | 47.4           |
| AS Path   | 1               | Block    | 192.168.1.0/24  |             |             |                  |                            | 11         | <b>* * *</b>   |
| Cipher Suite List                                 |                 |          |                 |             |             |                  |                            |            |                |
| > Community List                                  |                 |          |                 |             |             |                  |                            |            |                |
| > Distinguished Name                              |                 |          |                 |             |             |                  |                            |            |                |
| DNS Server Group                                  |                 |          |                 |             |             |                  |                            |            |                |
| > External Attributes                             |                 |          |                 |             |             |                  |                            |            |                |
| File List   | Allow O         | verrides |                 |             |             |                  |                            |            |                |
| > FlexConfig                                      |                 |          |                 |             |             |                  |                            |            |                |
| Geolocation                                       |                 |          |                 |             |             |                  |                            |            |                |
| Interface   |                 |          |                 |             |             |                  |                            | Save       |                |
| Key Chain   |                 |          |                 |             |             |                  |                            |            |                |
| Network   |                 |          |                 |             |             |                  |                            |            |                |
| > ркі   |                 |          |                 |             |             |                  |                            |            |                |
| Policy List                                       |                 |          |                 |             |             |                  |                            |            |                |
| Port  |                 |          |                 |             |             |                  | Displaying 1 - 1 of 1 rows | K < Page 1 | of 1 $>$ $>$ C |
|   |                 |          |                 |             |             |                  |                            |            |                |

图 9.已完成的扩展ACL条目

第三步:然后,您需要配置Flex-Config对象以将控制平面ACL应用于外部FTD接口。为此,导航到 左侧面板,然后选择选项FlexConfig > FlexConfig Object。



图 10.FlexConfig对象菜单

#### 步骤 3.1点击Add FlexConfig Object。

| Firewall Manageme                                     | nt Center Overview Analysis Policies Devices Objects Integration  | Deploy Q 🤩 🏟 admin 🕇 🖓 secure  |
|---|---|--|
| > AAA Server<br>> Access List<br>Extended<br>Standard | FlexConfig Object FlexConfig Object include device configuration commands, variables, and scripting language instructions. It is us | Add FlexConfig Object Q. Filter  |
| > Address Pools                                       | Name  | Description  |
| Application Filters<br>AS Path                        | Default_DNS_Configure   | Configure Default DNS with the help of TextObj ${\bf P}_{\!$ |
| Cipher Suite List                                     | Default_Inspection_Protocol_Disable   | Disable Default Inspection.  |
| > Community List                                      | Default_Inspection_Protocol_Enable  | Enable Default Inspection. 😼 Q 🗎   |
| > Distinguished Name                                  | DHCPv6_Prefix_Delegation_Configure  | Configure one outside (PD client) and one insid 📲 Q 🥛  |
| External Attributes                                   | DHCPv6_Prefix_Delegation_UnConfigure  | Remove configuration of one outside (PD client 📲 Q 📄   |
| File List   | DNS_Configure   | Configure DNS with the help of TextObjects dn 📲 Q 🚆  |
| ✓ FlexConfig  | DNS_UnConfigure   | Remove the DNS configurations. 🛛 🖥 🔍 🍵   |
| FlexConfig Object<br>Text Object                      | Eigrp_Configure   | Configures eigrp. 1. Configures next hop. 2. co 🦉 Q 🍟  |
| Geolocation   | Eigrp_Interface_Configure   | Configures interface parameters for eigrp. 1. C 🐴 Q 🦷  |
| Key Chain   | Eigrp_UnConfigure   | Clears eigrp configuration for an AS $\mathbf{E}  \mathbf{Q}  \widehat{\mathbf{P}}$  |
| Network   | Eigrp_Unconfigure_All   | Clears eigrp configuration. 📲 Q 📄  |
| > ркі   |   | Displaying 1 - 20 of 48 rows $ \langle \langle Page   1 \rangle$ of 3 $\rangle >   C$  |

图 11.添加Flexconfig对象

步骤 3.2为FlexConfig对象添加名称,然后插入ACL策略对象。为此,请选择Insert > Insert Policy Object > Extended ACL Object。

| Firewall Manageme                      | Name:<br>OBJ-FC-CONTROL-PLANE                              |                              |                         |                         |                    |             | ⊁ 🎯 admin 🕶 🖓         | secure          |
|--|--|------------------------------|-------------------------|-------------------------|--------------------|-------------|-----------------------|-----------------|
| > AAA Server                           | Description:   |                              |                         |                         |                    |             | Filter                |                 |
| Extended                               | Copy-pasting any rich text might i                         | ntroduce line break:         | s while generating CLI. | Please verify the       | CLI before deployr | nent.       |                       |                 |
| > Address Pools<br>Application Filters | Insert V II Deploymen                                      | ect                          |                         | ▼ Type:                 | Append             |             |                       |                 |
| AS Path<br>Cipher Suite List           | Insert System Variable  Network Insert Secret Key Security | Zones                        |                         |                         |                    |             | the help of TextObj   | ₩a Q   <br>₩a Q |
| Community List     Distinguished Name  | Standar<br>Extende   | d ACL Object<br>d ACL Object |                         |                         |                    |             | tions) and one insid  | <b>⊑</b> q      |
| DNS Server Group > External Attributes | Koute N  | ар                           |                         |                         |                    |             | e outside (PD client  | ∎ α             |
| File List<br>Y FlexConfig              | ▼ Variables  |                              |                         |                         |                    |             | of TextObjects dn     | R Q T           |
| FlexConfig Object<br>Text Object       | Name   | Dimension                    | Default Value           | Property<br>(Type:Name) | Override           | Description | res next hop. 2. co   | Fi Q            |
| Geolocation                            |  |                              | No records to dis       | splay                   |                    |             | iters for eigrp. 1. C | ¶a q ≣          |
| Key Chain                              |  |                              |                         |                         |                    |             | ar an AS              | R o =           |
| > PKI<br>Policy List                   |  |                              |                         |                         |                    | Cancel      | s I< < Page 1         | of 3 > > C      |

### 步骤 3.3为ACL对象变量添加名称,然后选择在步骤2.3中创建的扩展ACL,然后点击Save按钮。

| Firewall Manageme  | Name:                 |  |                  |         |  |  |
|--|-----------------------|--|------------------|---------|--|--|
| Objects / Object Managemer   | OBJ-FC-CONTROL-PLANE  |  |                  |         | a terre admin v ∣ :  |  |
| > AAA Server<br>~ Access List  | Description:          | Insert Extended Access List Obj  | ect Variable 🛛 🔊 |         | Filter   |  |
| Extended<br>Standard<br>> Address Pools<br>Application Filters<br>AS Path<br>Cipher Suite List<br>> Community List                   | Copy-pasting any rich | Variable Name:<br>VAR-ACL-UNWANTED-COUNTRY<br>Description:<br>Available Objects C<br>Q, Search | Selected Object  |         | the help of TextObj  | i≣<br>4 i≣<br>1⊒<br>1⊒<br>1⊒   |
| <ul> <li>Distinguished Name</li> <li>DNS Server Group</li> <li>External Attributes</li> <li>File List</li> <li>FlexConfig</li> </ul> | ▼ Variables           |  | Add              |         | ilient) and one insid<br>• outside (PD client<br>• of TextObjects dn |  |
| FlexConfig Object<br>Text Object   | Name                  |  |                  | ription | ires next hop. 2. co   | <b>В</b> Q   |
| Geolocation<br>Interface<br>Key Chain<br>Network   |                       |  | Cancel           |         | ers for eigrp. 1. C  | 唱<br>唱<br>へ<br>二<br>唱<br>へ<br>二<br>二<br>二<br>二<br>二<br>二<br>二<br>二<br>二<br>二<br>二<br>二 |
| > PKI  |                       |  |                  |         | s I< < Page 1  | of 3 > >  C  |

图 13.FlexConfig对象变量ACL分配

### 步骤 3.4然后,将控制平面ACL配置为外部接口的入站流量,如下所示。

#### 命令行语法:

access-group "variable name starting with \$ symbol" in interface "interface-name" control-plane

图 12.FlexConfig对象变量

### 这转换为下一个命令示例,该示例使用上述步骤2.3"VAR-ACL-UNWANTED-COUNTRY"中创建的 ACL变量,如下所示:

access-group \$VAR-ACL-UNWANTED-COUNTRY in interface outside control-plane

### 这是在FlexConfig对象窗口中配置该对象的方法,之后,选择"保存"按钮以完成FlexConfig对象。

| Firewall Manageme             | Name:                          |                               |                         |                         |                   |             |                       | la da        |
|-------------------------------|--------------------------------|-------------------------------|-------------------------|-------------------------|-------------------|-------------|-----------------------|--------------|
| Umi Objects / Object Manageme | OBJ-FC-CONTROL-PLANE           |                               |                         |                         |                   |             | t to admin v   "      | ISCO SECURE  |
| > AAA Server                  | Description:                   |                               |                         |                         |                   |             | Filter                |              |
| ✓ Access List                 |                                |                               |                         |                         |                   |             |                       |              |
| Extended                      | Copy-pasting any rich text     | might introduce line break    | s while generating CLI. | Please verify the       | CLI before deploy | ment.       |                       |              |
| Standard                      | Insert - Dec                   | lormanti Osco                 |                         | - Tunet                 | Annand            |             |                       |              |
| > Address Pools               |                                | once                          |                         | • Type.                 | Append            |             |                       |              |
| Application Filters           | access-group \$VAR-ACL-UNWANTE | D-COUNTRY in interface outsid | le control-plane        |                         |                   |             | the help of TextObi   | El Q ⊒       |
| AS Path                       |                                |                               |                         |                         |                   |             |                       |              |
| Cipher Suite List             |                                |                               |                         |                         |                   |             |                       | <b>Б</b> (   |
| > Community List              |                                |                               |                         |                         |                   |             |                       | <b>팀</b> Q 📄 |
| > Distinguished Name          |                                |                               |                         |                         |                   |             | lient) and one insid  | Fa Q         |
| DNS Server Group              |                                |                               |                         |                         |                   |             |                       |              |
| > External Attributes         |                                |                               |                         |                         |                   |             | e outside (PD client  | ¶∎ <         |
| File List                     |                                |                               |                         |                         |                   |             | of TextObjects dn     | ¶a Q =       |
| ✓ FlexConfig                  | ▼ Variables                    |                               |                         |                         |                   |             | 008                   | Baa ⊒        |
| FlexConfig Object             | Name                           | Dimension                     | Default Value           | Property<br>(Type:Name) | Override          | Description | res pert hop 2 co     | B o F        |
| Coolect                       | VAR-ACL-UNWANTED-COUNTR        | Y SINGLE                      | ACL-UNWANTED            | EXD_ACL:A               | false             |             | 103 Hox Hop. 2. Co    |              |
| Geolocation                   |                                |                               |                         |                         |                   |             | iters for eigrp. 1. C | ¶a Q         |
| Key Chain                     |                                |                               |                         |                         |                   |             | or an AS              | Fi Q 📄       |
| Network                       |                                |                               |                         |                         |                   |             |                       | Bro E        |
|                               |                                |                               |                         |                         |                   |             | s K < Page 1          | of 3 >> C    |
| Policy List                   |                                |                               |                         |                         |                   | Cancel      | •                     |              |

图 14.Flexconfig对象完成命令行

#### 第四步:您需要将FlexConfig对象配置应用于FTD,为此,请转到Devices > FlexConfig。

| Firewall Managemen   | t Center Overview Analysis Policies  | Devices Objects   | Integration   | Deploy Q 🤩 🕻   | 🗴 🕜 admin 🕇 🏻               | SECURE   |  |
|--|--|---|---|--|-----------------------------|----------|--|
| <ul> <li>&gt; AAA Server</li> <li>&gt; Access List</li> <li>Extended</li> <li>Standard</li> <li>&gt; Address Pools</li> <li>Application Filters</li> <li>10 Start</li> </ul> | FlexConfig Object FlexConfig Object Include device configuration comma Name De | Device Management<br>Device Upgrade<br>nd: NAT<br>QoS<br>Platform Settings<br>FlexConfig<br>faul Certificates | VPN<br>Site To Site<br>Remote Access<br>Dynamic Access Policy<br>Troubleshooting<br>Site to Site Monitoring | Troubleshoot<br>File Download<br>Threat Defense CLI<br>Packet Tracer<br>Packet Capture | ilter<br>Ne help of TextObj | <b>ب</b> |  |
| AS Path<br>Cipher Suite List   | Default_I  | Default_Inspection_Protocol_Disable   |   |  |                             |          |  |
| <ul> <li>Distinguished Name</li> <li>DNS Server Group</li> </ul>   | DHRBUIL_   | Default_Inspection_Protocol_Enable<br>DHCPv6_Prefix_Delegation_Configure                                      |   |  |                             |          |  |
| > External Attributes  | DHCPv6_P   | refix_Delegation_UnConfigure  |   | Remove configuration of one  | <b>Β</b> α                  |          |  |
| File List<br>V FlexConfig  |  | DNS_Configure   |   | Configure DNS with the help  | of TextObjects dn           | R Q      |  |
| FlexConfig Object  |  | DNS_UnConfigure   |   | Remove the DNS configuration   | ons.                        | ¶∎ Q     |  |
| Text Object  |  | Configures eigrp. 1. Configu  | res next hop. 2. co   | Pa Q 🗎   |                             |          |  |
| Geolocation  | Eigr   | Configures interface parame   | ters for eigrp. 1. C  | <b>₽</b> Q   |                             |          |  |
| Key Chain  |  | Clears eigrp configuration fo   | r an AS   | Pa Q 🗎   |                             |          |  |
| Network  | Eigrp_Unconfigure_All Clears eigrp configuration.                              |   |   |  |                             |          |  |
| > PKI<br>Policy List   | Displaying 1 - 20 of 49 rows   < < Page 1 of 3 )                               |   |   |  |                             |          |  |

图 15.FlexConfig Policy菜单

步骤 4.1然后,如果尚未为FTD创建FlexConfig,请点击New Policy,或者编辑现有的FlexConfig策略。

| Firewall Management Center<br>Devices / FlexConfig | Overview | Analysis | Policies | Devices | Objects      | Integration  |               | Deploy | ۹ 🍨 : | 🔅 🕜 admin | cisco SECURE |
|--|----------|----------|----------|---------|--------------|--------------|---------------|--------|-------|-----------|--------------|
|  |          |          |          |         |              |              |               |        |       |           | New Policy   |
| FlexConfig Policy                                  |          |          | Status   |         |              |              | Last Modified |        |       |           |              |
|  |          |          |          |         | created. Add | a new policy |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |
|  |          |          |          |         |              |              |               |        |       |           |              |

图 16.FlexConfig策略创建

步骤 4.2为新的FlexConfig策略添加名称,然后选择要应用创建的控制平面ACL的FTD。

| Firewall Management Center | Overview Analysis Policies Devices Objects In  | integration                      | Deploy Q 🧬 🌣 🍘 admin 🔻 🔤 |
|----------------------------|--|----------------------------------|--------------------------|
|                            |  |                                  |                          |
| FlexConfig Policy          | New Policy   |                                  |                          |
|                            | Name:          FLEXCONFIG-POLICY         Description:         Targeted Devices         Select devices to which you want to apply this policy.         Available Devices         Q. Search by name or value         FTD-CONTROL-PLANE | cted Devices<br>TD-CONTROL-PLANE |                          |
|                            |  | Cancel                           |                          |

图 17.FlexConfig策略设备分配

步骤 4.3在左侧面板中,搜索在上面的步骤3.2中创建的FlexConfig对象,然后通过单击位于窗口中间的右箭头将其添加到FlexConfig策略中,然后点击Save按钮。

| Firewall Management Center<br>Devices / Flexconfig Policy Editor | Overview  | Analysis    | Policies   | Devices | Objects     | Integration | Deploy Q 🥩 🌣 🕢 admin 🛛 🖓 🚓 ECUR         | E |
|--|-----------|-------------|------------|---------|-------------|-------------|---|---|
| FLEXCONFIG-POLICY  |           |             |            |         |             |             | You have unsaved changes Preview Config |   |
|  |           |             |            |         |             |             | Policy Assignments (1                   | ) |
|  | 3 Selecte | d Prenend F | levConfigs |         |             |             |   |   |
| Available FlexConfig C FlexConfig Object                         | # Nam     | 18          | ic.comigs  |         | Description |             |   |   |
|  |           |             |            |         |             |             |   |   |
| Vuser Defined  |           |             |            |         |             |             |   |   |
| BOBJ-FC-CONTROL-PLANE  |           |             |            |         |             |             |   |   |
| System Defined   |           |             |            |         |             |             |   |   |
| Default_DNS_Configure  |           |             |            |         |             |             |   |   |
| Default_Inspection_Protocol_Disable                              |           |             |            |         |             |             |   |   |
| Protocol_Enable  | Selecte   | d Append Fl | exConfigs  |         |             |             |   |   |
| ☐ DHCPv6_Prefix_Delegation_Configure                             |           |             |            |         |             |             |   |   |
| DHCPv6_Prefix_Delegation_UnConfigure                             | # Nam     | 10          |            |         | Description |             |   |   |
| DNS_Configure  | 1 OBJ     | -FC-CONTROL | -PLANE     |         |             |             | ٩ 🖬                                     |   |
| DNS_UnConfigure  | Ч         |             |            |         |             |             |   |   |
| B Eigrp_Configure  |           |             |            |         |             |             |   |   |
| Bigrp_Interface_Configure  |           |             |            |         |             |             |   |   |
| _9 Eigrp_UnConfigure   |           |             |            |         |             |             |   |   |
| .9 Eigrp_Unconfigure_All   |           |             |            |         |             |             |   |   |

图 18.FlexConfig策略对象分配

### 第五步:继续将配置更改部署到FTD,为此,请导航到Deploy > Advanced Deploy。

| Firewall Management Center<br>Devices / Flexconfig Policy Editor | Overview      | Analysis    | Policies   | Devices | Objects     | Integration                          | Deploy Q | 🔮 🌣 📀         | admin - diada   | SECURE   |
|--|---------------|-------------|------------|---------|-------------|--------------------------------------|----------|---------------|-----------------|----------|
| FLEXCONFIG-POLICY  |               |             |            |         |             |                                      |          | Advanced De   | ploy Deploy All | ncel     |
| Enter Description  |               |             |            |         |             | FTD-CONTROL-PLANE                    |          | Ready for Dep | loyment         | 📥 :s (1) |
| Available FlexConfig C FlexConfig Object                         | Selecte # Nan | d Prepend F | lexConfigs |         | Description |                                      |          |               |                 |          |
| × _  |               |             |            |         |             |                                      |          |               |                 |          |
| V User Defined   |               |             |            |         |             |                                      |          |               |                 |          |
| B OBJ-FC-CONTROL-PLANE   |               |             |            |         |             |                                      |          |               |                 |          |
| ✓ System Defined   |               |             |            |         |             |                                      |          |               |                 |          |
| "? Default_DNS_Configure   |               |             |            |         |             | 1 device is sublished for deployment |          |               |                 |          |
| Default_Inspection_Protocol_Disable                              |               |             |            |         |             |                                      |          |               |                 | ´        |
| Default_Inspection_Protocol_Enable                               | Selecte       | d Append F  | lexConfigs |         |             |                                      |          |               |                 |          |
| DHCPv6_Prefix_Delegation_Configure                               | # Nan         | ne          |            |         | Description |                                      |          |               |                 |          |
| DHCPv6_Prefix_Delegation_UnConfigure                             |               |             |            |         |             |                                      |          |               |                 |          |
| DNS_Configure  | 1 OBJ         | -FC-CONTROL | L-PLANE    |         |             |                                      |          |               |                 | ٩.       |
| DNS_UnConfigure  |               |             |            |         |             |                                      |          |               |                 |          |
| "i Eigrp_Configure   |               |             |            |         |             |                                      |          |               |                 |          |
|  |               |             |            |         |             |                                      |          |               |                 |          |
|  |               |             |            |         |             |                                      |          |               |                 |          |
|  |               |             |            |         |             |                                      |          |               |                 |          |

图 19.FTD高级部署

步骤 5.1然后,选择要应用FlexConfig策略的FTD。如果一切正确,则点击Deploy。

| þ,             | Firewall Management Center  | Overview          | Analysis | Policies     | Devices   | Objects | Integration |                  | Deploy | ۹ 🇳     | 🔅 🕜 admin 🔻        | eisco SECURE |
|----------------|---|-------------------|----------|--------------|-----------|---------|-------------|------------------|--------|---------|--------------------|--------------|
| 1 device s     | elected<br>Search using device name, user name, typ                           | e, group or statu | 15       |              |           |         |             |                  |        |         | Deploy time: Estin | nate Deploy  |
|                | Device  | Modified by       |          | Inspect Inte | erruption | Туре    | Group       | Last Deploy Time |        | Preview | Status             |              |
| ~ <b>.</b>     | FTD-CONTROL-PLANE   | admin             |          |              |           | FTD     |             | Sep 5, 2023 12:0 | 05 PM  | B       | Ready for Deployr  | nent         |
| *<br>•         | <ul> <li>Flex Configuration<br/>Template Policy: FLEXCONFIG-POLICY</li> </ul> |                   |          |              |           |         |             |                  |        |         |                    |              |
|                |   |                   |          |              |           |         |             |                  |        |         |                    |              |
|                |   |                   |          |              |           |         |             |                  |        |         |                    |              |
|                |   |                   |          |              |           |         |             |                  |        |         |                    |              |
|                |   |                   |          |              |           |         |             |                  |        |         |                    |              |
|                |   |                   |          |              |           |         |             |                  |        |         |                    |              |
| https://10.88. | 243 SR43013/Hdd/#ContextEvolution   |                   |          |              |           |         |             |                  |        |         |                    |              |

图 20.FTD部署验证

步骤 5.2之后,系统将弹出"部署确认"(Deployment Confirmation)窗口,添加注释以跟踪部署并继续 部署。

| Firewall Management Center  | Overview    | Analysis Policies Device        | es Objects        | Integration   |        | Deplo         | w q 🧬 | 🔅 🥝 admin <del>v</del> 🔡 | secure |
|---|-------------|---------------------------------|-------------------|---------------|--------|---------------|-------|--------------------------|--------|
| 1 device selected           Y         Q         Search using device name, user name, type |             |                                 |                   |               |        |               |       |                          |        |
|   | Modified by |                                 |                   |               |        |               |       |                          |        |
| V STD-CONTROL-PLANE   | admin       |                                 |                   |               | Sep 5, | 2023 12:05 PM |       | Ready for Deployment     |        |
| √ Flex Configuration<br>Template Policy: FLEXCONFIG-POLICY                                |             | Deployment Confirmation         | ı                 |               | ×      |               |       |                          |        |
|   |             | You have selected 1 device to d | leploy            |               |        |               |       |                          |        |
|   |             | Deployment Notes:               |                   |               |        |               |       |                          |        |
|   |             | You can optionally add notes a  | bout the configur | ation changes |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               | Deploy |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |
|   |             |                                 |                   |               |        |               |       |                          |        |

图 21.FTD部署注释

步骤 5.3部署FlexConfig更改时可能会出现警告消息。只有当您完全确定策略配置正确时,才点击 Deploy。



图 22.FTD部署Flexconfig警告

#### 步骤 5.4确认FTD的策略部署成功。

| Firewall Management Center<br>Deploy / Deployment         | Overview Analysis    | Policies Devices Objects Integration | Deploy Q 🤩 🏟 🕜 admin 🗸 🥵 SECURE  |
|---|----------------------|--------------------------------------|----------------------------------|
| Q Search using device name, user name, ty                 | rpe, group or status |                                      | Deploy                           |
| Z Device  | Modified by          | Inspect Interruption Type Group      | Last Deploy Time Preview Status  |
| V FTD-CONTROL-PLANE                                       | admin                | FTD                                  | Sep 5, 2023 12:05 PM 🛛 Completed |
| Flex Configuration     Template Policy: FLEXCONFIG-POLICY |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |
|   |                      |                                      |                                  |

图 23.FTD部署成功

第六步:如果为FTD创建新的控制平面ACL,或者编辑了正在使用的现有控制平面ACL,则必须强 调所做的配置更改不适用于已建立的FTD连接,因此,您需要手动清除对FTD的活动连接尝试。为 此,请连接到FTD的CLI并清除活动连接,如下所示。

要清除特定主机IP地址的活动连接,请执行以下操作:

#### 要清除整个子网网络的活动连接,请执行以下操作:

> clear conn address 192.168.1.0 netmask 255.255.255.0 all

要清除IP地址范围的活动连接,请执行以下操作:

> clear conn address 192.168.1.1-192.168.1.10 all

注意:强烈建议在clear conn address命令末尾使用关键字"all"强制清除对安全防火墙的活动 VPN暴力连接尝试,主要当VPN暴力攻击的性质是不断发起大量连接尝试时。

为FDM管理的FTD配置控制平面ACL

在FDM中,您需要遵循以下步骤配置控制平面ACL以阻止传入VPN暴力攻击到外部FTD接口: 步骤1:通过HTTPS打开FDM GUI并使用您的凭据登录。



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图 24."FDM登录"页

第二步:您需要创建对象网络。为此,请导航至Objects:



```
图 25.FDM主仪表板
```

步骤 2.1从左侧面板中选择Networks,然后单击"+"按钮以创建新的网络对象。

| Firewall Device Manager | Monitoring Policies Objects Device: firepow | wer  | cisco SECURE |
|-------------------------|---|--|--------------|
| Object Types ←          | Network Objects and Groups                  |  |              |
| C Networks              | 6 objects                                   | <b>Y</b> Filter  | + 🔍          |
| S Ports                 |   | Preset filters: System defined, User defined   |              |
| 🔒 Security Zones        | # NAME                                      | TYPE VALUE   | ACTIONS      |
| 🐬 Application Filters   | 1 IPv4-Private-10.0.0-8                     | NETWORK 10.0.0/8   |              |
| 2 URLs                  | 2 IPv4-Private-172.16.0.0-12                | NETWORK 172.16.0.0/12  |              |
|                         | 3 IPv4-Private-192.168.0.0-16               | NETWORK 192.168.0.0/16   |              |
| Geolocations            | 4 any-ipv4                                  | NETWORK 0.0.0.0/0  |              |
| Syslog Servers          | 5 any-ipv6                                  | NETWORK ::/0   |              |
| 🔏 IKE Policies          | 6 IPv4-Private-All-RFC1918                  | Group IPv4-Private-10.0.0.0-8, IPv4-Private-172.16.0.0-12, IPv4-Private-<br>192 168.0.0-16 |              |
| 🐴 IPSec Proposals       |   | 102.100.0.0 10   |              |
| Secure Client Profiles  |   |  |              |
| 🚉 Identity Sources      |   |  |              |
| 1 Users                 |   |  |              |
| Q Certificates          |   |  |              |
| 🔒 Secret Keys           |   |  |              |

图 26.创建对象

步骤 2.2为网络对象添加名称,选择对象的Network类型,添加IP地址、网络地址或IP范围以匹配需 要拒绝到FTD的流量。然后,单击"确定"(Ok)按钮完成对象网络。

— 在本示例中,配置的对象网络旨在阻止来自192.168.1.0/24子网的VPN暴力攻击。

| Firewall Device Manager                | Monitoring Polici | Add Network Object                          | $\sim$  |     | ? : admin<br>Administrator      | <ul> <li>cisco SECURE</li> </ul> |
|--|-------------------|---|---------|-----|---------------------------------|----------------------------------|
| Object Types 🔶                         | Network Obje      |   |         |     |                                 |                                  |
| C Networks                             | 6 objects         | Name<br>OBJ-NET-UNWANTED-COUNTRY            |         |     |                                 | + 🕫                              |
| S Ports                                | II NAME           | Description                                 |         |     | defined. User defined           | ACTIONS                          |
| Security Zones     Application Filters | 1 IPv4-Private-Al |   |         | 16. | :e-172.16.0.0-12, IPv4-Private- |                                  |
| C <sup>9</sup> URLs                    | 2 IPv4-Private-10 | Type  | 0.0     |     |                                 |                                  |
| Geolocations                           | 3 IPv4-Private-1  | Network                                     | U Range |     |                                 |                                  |
| Syslog Servers                         | 5 any-ipv4        | 192.168.1.0/24                              |         |     |                                 |                                  |
| INE POlicies                           | 6 any-ipv6        | e.g. 192.168.2.0/24 or 2001:088:030030::/60 |         |     |                                 |                                  |
| Secure Client Profiles                 |                   |   | CANCEL  | ОК  |                                 |                                  |
| E Identity Sources                     |                   |   |         |     |                                 |                                  |
| L Users                                |                   |   |         |     |                                 |                                  |
| Secret Keys                            |                   |   |         |     |                                 |                                  |

图 27.添加网络对象

# 第三步:然后,您需要创建一个扩展ACL,为此,请导航到顶部菜单中的Device选项卡。

| Firewall Device Manage | Monitoring Policies Objects Device: fireport | wwer   | diada SECURE |
|------------------------|--|--|--------------|
| Object Types ←         | Network Objects and Groups                   |  |              |
| C Networks             | 7 objects                                    | <b>T</b> Filter  | + 🙉          |
| S Ports                |  | Preset filters: System.defined, User.defined   |              |
| 🔒 Security Zones       | # NAME                                       | TYPE VALUE   | ACTIONS      |
| 📅 Application Filters  | 1 IPv4-Private-All-RFC1918                   | Group IPv4-Private-10.0.0-8, IPv4-Private-172.16.0.0-12, IPv4-Private-<br>192.168.0.0-16 |              |
| 🖉 URLs                 | 2 IPv4-Private-10.0.0-8                      | NETWORK 10.0.0/8   |              |
| Geolocations           | 3 IPv4-Private-172.16.0.0-12                 | NETWORK 172.16.0.0/12  |              |
| Syslog Servers         | 4 IPv4-Private-192.168.0.0-16                | NETWORK 192.168.0.0/16   |              |
|                        | 5 any-ipv4                                   | NETWORK 0.0.0.0/0  |              |
|                        | 6 any-ipv6                                   | NETWORK ::/0   |              |
| eg IPSec Proposais     | 7 OBJ-NET-UNWANTED-COUNTRY                   | NETWORK 192.168.1.0/24   |              |
| Secure Client Profiles |  |  |              |
| Sea Identity Sources   |  |  |              |
| 1 Users                |  |  |              |
| <b>Q</b> Certificates  |  |  |              |
| 🔒 Secret Keys          |  |  |              |

图 28.设备设置页面

步骤 3.1向下滚动并从高级配置方块中选择查看配置,如下所示。

| Firewall Device Manager Monitoring  | Image: Second | > 🚔 🙆 ?   | admin<br>Administrator   |
|---|--|---|--|
|   | 00   |   |  |
| Interfaces<br>Connected<br>Enabled 3 of 3<br>View All Interfaces  | Routing There are no static routes yet View Configuration  | Updates<br>Geolocation, Rule, VDB, System Upgrade,<br>Security Intelligence Feeds<br>View Configuration | System Settings<br>Management Access<br>Logging Settings<br>DHCP Server / Relay<br>DDNS Service<br>DNS Service |
| Smart License<br>Evaluation expires in 89 days<br>Tier: Not selected (Threat Defense Virtual<br>- Variable)<br>View Configuration | Backup and Restore View Configuration  | Troubleshoot<br>No files created yet<br>REQUEST FILE TO BE CREATED                                      | Management Interface<br>Hostname<br>Time Services<br>See more  |
| Site-to-Site VPN There are no connections yet View Configuration  | Remote Access VPN<br>Requires RA VPN license<br>No connections   1 Group Policy<br>Configure   | Advanced Configuration<br>Includes: FlexConfig, Smart CLI<br>View Configuration                         | Device Administration<br>Audit Events, Deployment History,<br>Download Configuration<br>View Configuration     |

图 29.FDM高级配置

步骤 3.2然后,从左侧面板导航到Smart CLI > Objects,然后点击CREATE SMART CLI OBJECT。

| Firewall Device Manage      | r Monitoring           | Ø<br>Policies | Objects | Device: firepower | $(\Sigma)$   |                          |     | 0<br>0<br>0 | admin<br>Administrator | √ di | SECURE |  |
|-----------------------------|------------------------|---------------|---------|-------------------|--|--------------------------|-----|-------------|------------------------|------|--------|--|
| Advanced ←<br>Configuration | Device Summ<br>Objects | ary           |         |                   |  |                          |     |             |                        |      |        |  |
| Smart CLI                   |                        |               |         |                   |  |                          |     |             |                        |      | +      |  |
| Objects                     |                        | NAME          |         | TYPE              | DESCRIPTION  |                          |     |             | ACTIONS                |      |        |  |
| FlexConfig                  |                        |               |         |                   | There are no Smart CLI obj<br>Start by creating the first Smar | ects yet.<br>t CLI objec | ct. |             |                        |      |        |  |
| FlexConfig Policy           |                        |               |         |                   | CREATE SMART CLI OBJI  | ECT                      |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |
|                             |                        |               |         |                   |  |                          |     |             |                        |      |        |  |

图 30.Smart CLI对象

步骤 3.3为要创建的扩展ACL添加名称,从CLI模板下拉菜单中选择Extended Access List,使用上述步骤2.2中创建的网络对象配置所需的ACE,然后点击OK按钮完成ACL。

| Firewall Devic            | Edit Smort OLL Object  | admin districe SECURE                        |
|---------------------------|--|--|
| Advanced<br>Configuration | Name   | Description                                  |
| Smart CLI                 | ACL-UNWANTED-COUNTRY   | +  |
| Objects                   | CLI Template Extended Access List ~  | ACTIONS                                      |
| FlexConfig                | Template   | Show disabled<br>↓ Reset                     |
| FlexConfig Objects        | 1       access-list ACL-UMAMATED-COUNTRY extended         2       configure access-list-entry deny v         3       deny network source ['00]-MET-UMAMTED-COUNTRY v ] desti         4       configure deny port any v         5       deny port source NNY destination NNY         6       configure logging default v         O       7         default log set log-level INFORMATIONAL log-interval | nation [ any spect > ]<br>1 300<br>CANCEL OK |
|                           |  |  |

图 31.创建扩展ACL

✤ 注意:如果需要为ACL添加更多ACE,可以通过将鼠标悬停在当前ACE的左侧来执行此操作 ;然后将显示三个可点击的点。点击它们并选择复制(Duplicate)以添加更多ACE。

第四步:然后,您需要创建FlexConfig对象,为此,请导航到左侧面板并选择FlexConfig > FlexConfig Objects,然后点击CREATE FLEXCONFIG OBJECT。

| Firewall Device Manag                                 | er Monitoring Policie           | s Objects Device: firepower | $(\Sigma)$   | admin admin                   | strator V cisco SECURE |
|---|---------------------------------|-----------------------------|--|-------------------------------|------------------------|
| Advanced ←<br>Configuration                           | Device Summary<br>FlexConfig Ob | jects                       |  |                               |                        |
| Smart CLI   |                                 |                             |  | <b>Filter</b>                 | +                      |
| Objects   | H NAME                          | DESCRIPTION                 |  | ACTIONS                       |                        |
| FlexConfig<br>FlexConfig Objects<br>FlexConfig Policy |                                 | s                           | There are no FlexConfig ob<br>tart by creating the first FlexC<br>CREATE FLEXCONFIG OB | bjøcts vet.<br>Config object. |                        |
|   |                                 |                             |  |                               |                        |

图 32.FlexConfig对象

步骤 4.1为FlexConfig对象添加名称,以创建控制平面ACL并将其配置为外部接口的入站流量,如下 所示。

命令行语法:

这转换为下一个命令示例,该示例使用上述步骤3.3"ACL-UNWANTED-COUNTRY"中创建的扩展 ACL,如下所示:

access-group ACL-UNWANTED-COUNTRY in interface outside control-plane

这是在FlexConfig对象窗口中配置该对象的方法,之后,选择"确定"(OK)按钮完成FlexConfig对象。

| Firewall Device Mana        | ager Monitoring | Ø #=   |                                 |                   | <u></u> | admin<br>Administrator |  |
|-----------------------------|-----------------|--|---------------------------------|-------------------|---------|------------------------|--|
|                             | Deuice Sur      | Create FlexConfig Obje   | ect                             |                   |         |                        |  |
| Advanced ←<br>Configuration | FlexCo          | Name   |                                 |                   |         |                        |  |
|                             |                 | OBJ-FC-CONTROL-PLANE   |                                 |                   |         | +                      |  |
| Smart CLI                   |                 | Description  |                                 |                   |         | CTIONS                 |  |
| Objects                     |                 |  |                                 |                   | lic     |                        |  |
| FlexConfig                  |                 | Variables  |                                 |                   |         |                        |  |
| FlexConfig Objects          |                 | There are no variables yet.<br>Start with adding a new variable. |                                 |                   |         |                        |  |
| FlexConfig Policy           |                 | + ADD VARIABLE   |                                 |                   |         |                        |  |
|                             |                 | Template   |                                 | 🗘 Expand          | C Reset |                        |  |
|                             |                 | 1 access-group ACL-UNWANTE                                       | ED-COUNTRY in interface outside | control-plane     |         |                        |  |
|                             |                 | Negate Template 🔔  |                                 | C Expand          | C Reset |                        |  |
|                             |                 | 1 no access-group ACL-UNMA                                       | WITED-COUNTRY in interface outs | ide control-plane |         |                        |  |
|                             |                 |  |                                 |                   |         |                        |  |
|                             |                 |  |                                 | CANCEL            | ОК      |                        |  |
|                             |                 |  |                                 |                   |         |                        |  |

图 33.FlexConfig对象创建

第五步:继续创建FlexConfig策略,为此,请导航到Flexconfig > FlexConfig Policy,点击"+"按钮 ,并选择在上面的步骤4.1中创建的FlexConfig对象。



图 34.FlexConfig策略

#### 步骤 5.1验证FlexConfig预览显示已创建的控制平面ACL的正确配置,然后点击Save按钮。

| Firewall Device Ma          | nager Monitoring Policies Objects Device: firepower | (>) (*) (*) (*) (*) (*) (*) (*) (*) (*) (*                                |
|-----------------------------|---|---|
| Advanced ←<br>Configuration | Device Summary<br>FlexConfig Policy                 |   |
| Smart CLI                   | Group List  | Preview (> Expand   |
| Objects                     | + OBJ-FC-CONTROL-PLANE                              | 1 access-group ACL-UNMANTED-COUNTRY in interface outside<br>control-plane |
| FlexConfig                  |   |   |
| FlexConfig Objects          |   |   |
| FlexConfig Policy           |   |   |
|                             |   |   |
|                             |   |   |
|                             | SAVE  |   |
|                             |   |   |
|                             |   |   |
|                             |   |   |

图 35.FlexConfig策略预览

第六步:将配置更改部署到要防御VPN暴力攻击的FTD,为此,请点击顶部菜单中的Deployment按钮,验证要部署的配置更改是否正确,然后点击DEPLOY NOW。



图 36.待定部署

#### 步骤 6.1验证策略部署是否成功。

| Firewall Device Ma                                    | nager Danding Changes  | admin<br>istrator v vilueli SECURE      |
|---|--|---|
| Advanced<br>Configuration<br>Smart CLI<br>Objects     | There are no Pending Changes yet   | t.                                      |
| FlexConfig<br>FlexConfig Objects<br>FlexConfig Policy | Last successful deployment was on 05 Sep 2023 11:09 AN<br>You can see what was deployed in previous jobs in the Deployment | in interface outside<br>n.<br>htHistory |
|   | SAVE   |   |

图 37.部署成功

步骤 7. 如果为FTD创建新的控制平面ACL,或者编辑了正在使用的现有控制平面ACL,则必须强调 所做的配置更改不适用于已建立的FTD连接,因此,您需要手动清除对FTD的活动连接尝试。为此 ,请连接到FTD的CLI并清除活动连接,如下所示。

要清除特定主机IP地址的活动连接,请执行以下操作:

#### 要清除整个子网网络的活动连接,请执行以下操作:

> clear conn address 192.168.1.0 netmask 255.255.255.0 all

要清除IP地址范围的活动连接,请执行以下操作:

> clear conn address 192.168.1.1-192.168.1.10 all

注意:强烈建议在clear conn address命令末尾使用关键字"all"强制清除对安全防火墙的活动 VPN暴力连接尝试,主要当VPN暴力攻击的性质是不断发起大量连接尝试时。

使用CLI为ASA配置控制平面ACL

您需要在ASA CLI中按照以下步骤配置控制平面ACL以阻止传入VPN暴力攻击到外部接口:

步骤1:通过CLI登录安全防火墙ASA,然后按如下方式访问"configure terminal"。

asa# configure terminal

第二步:使用next命令配置扩展ACL,以阻止需要阻止到ASA的流量的主机IP地址或网络地址。

— 在本示例中,您将创建一个名为"ACL-UNWANTED-COUNTRY"的新ACL,并且配置的ACE条目 将阻止来自192.168.1.0/24子网的VPN暴力攻击。

asa(config)# access-list ACL-UNWANTED-COUNTRY extended deny ip 192.168.1.0 255.255.255.0 any

第三步:使用next access-group命令将"ACL-UNWANTED-COUNTRY"ACL配置为外部ASA接口的 控制平面ACL。

asa(config)# access-group ACL-UNWANTED-COUNTRY in interface outside control-plane

第四步: 如果创建新的控制平面ACL或编辑了正在使用的现有控制平面ACL,则必须强调所做的配

置更改不适用于已建立的与ASA的连接,因此,您需要手动清除对ASA的活动连接尝试。为此,请 清除活动连接,如下所示。

要清除特定主机IP地址的活动连接,请执行以下操作:

asa# clear conn address 192.168.1.10 all

要清除整个子网网络的活动连接,请执行以下操作:

asa# clear conn address 192.168.1.0 netmask 255.255.255.0 all

要清除IP地址范围的活动连接,请执行以下操作:

asa# clear conn address 192.168.1.1-192.168.1.10 all

注意:强烈建议在clear conn address命令末尾使用关键字"all"强制清除对安全防火墙的活动 VPN暴力连接尝试,主要当VPN暴力攻击的性质是不断发起大量连接尝试时。

使用"shun"命令阻止安全防火墙攻击的备用配置

如果立即选择阻止安全防火墙的攻击,则可以使用"shun"命令。通过thhuncommand,可以阻止来 自攻击主机的连接。

— 一旦您避开了IP地址,来自源IP地址的所有未来连接都会被丢弃并记录,直到手动删除阻止功能 为止。

- theshuncommand的阻止功能适用于具有指定主机地址的连接当前是否处于活动状态。

— 如果指定目标地址、源端口和目标端口以及协议,则丢弃匹配的连接,并对来自源IP的所有未来 连接设置一个避开值

地址;避免将来的所有连接,而不仅仅是那些匹配这些特定连接参数的连接。

— 每个源IP地址只能使用oneshuncommand。

— 由于theshuncommand用于动态阻止攻击,因此它不会显示在威胁防御设备配置中。

— 每次删除接口配置时,也会删除连接到该接口的所有分路。

- shun命令语法:

shun source\_ip [ dest\_ip source\_port dest\_port [ protocol]] [ vlan vlan\_id]

— 要禁用回避,请使用此命令的no形式:

no shun source\_ip [ vlan vlan\_id]

要避开主机IP地址,请按照以下步骤操作安全防火墙。 在本示例中,"shun"命令用于阻止来自源 IP地址192.168.1.10的VPN暴力攻击。

FTD的配置示例。

步骤1:通过CLI登录FTD并应用shun命令,如下所示。

<#root>

>

```
shun 192.168.1.10
```

Shun 192.168.1.10 added in context: single\_vf

Shun 192.168.1.10 successful

第二步: 您可以使用以下show命令确认FTD中的shun IP地址并监控每个IP地址的shun命中数:

<#root>

>

```
show shun
```

shun (outside) 192.168.1.10 0.0.0.0 0 0

>

show shun statistics

diagnostic=OFF, cnt=0
outside=ON, cnt=0

Shun 192.168.1.10 cnt=0, time=(0:00:28)

#### ASA配置示例

步骤1:通过CLI登录到ASA并应用shun命令,如下所示。

#### <#root>

asa#

```
shun 192.168.1.10
```

Shun 192.168.1.10 added in context: single\_vf

Shun 192.168.1.10 successful

第二步: 您可以使用以下show命令确认ASA中的shun IP地址并监控每个IP地址的shun命中数:

#### <#root>

asa#

show shun

shun (outside) 192.168.1.10 0.0.0.0 0 0

asa#

show shun statistics

outside=ON, cnt=0
inside=OFF, cnt=0
dmz=OFF, cnt=0
outside1=OFF, cnt=0
mgmt=OFF, cnt=0

Shun 192.168.1.10 cnt=0, time=(0:01:39)

◆ 注意:有关secure firewall shun命令的详细信息,请查看<u>Cisco Secure Firewall Threat</u> <u>Defense Command Reference</u>

## 验证

要确认安全防火墙的控制平面ACL配置已就绪,请继续操作:

步骤1:通过CLI登录到安全防火墙并运行以下命令以确认控制平面ACL配置已应用。

FMC管理的FTD的输出示例:

#### <#root>

>

show running-config access-list ACL-UNWANTED-COUNTRY

access-list ACL-UNWANTED-COUNTRY extended deny ip 192.168.1.0 255.255.255.0 any

>

show running-config access-group

\*\*\*OUTPUT OMITTED FOR BREVITY\*\*\* access-group ACL-UNWANTED-COUNTRY in interface outside control-plane

FDM管理的FTD的输出示例:

<#root>

> show running-config object id OBJ-NET-UNWANTED-COUNTRY

object network OBJ-NET-UNWANTED-COUNTRY subnet 192.168.1.0 255.255.255.0

>

show running-config access-list ACL-UNWANTED-COUNTRY

access-list ACL-UNWANTED-COUNTRY extended deny ip 192.168.1.0 255.255.255.0 any4 log default

> show running-config access-group

\*\*\*OUTPUT OMITTED FOR BREVITY\*\*\* access-group ACL-UNWANTED-COUNTRY in interface outside control-plane

ASA的输出示例:

<#root>

asa#

show running-config access-list ACL-UNWANTED-COUNTRY

access-list ACL-UNWANTED-COUNTRY extended deny ip 192.168.1.0 255.255.255.0 any

asa#

show running-config access-group

第二步: 要确认控制平面ACL阻止了所需的流量,请使用packet-tracer命令模拟到安全防火墙外部 接口的传入TCP 443连接,然后使用show access-list <acl-name> 命令,每次控制平面ACL阻止到 安全防火墙的VPN暴力连接时,ACL命中计数都会增加:

— 在本示例中,packet-tracer命令模拟从主机192.168.1.10发往安全防火墙外部IP地址的传入TCP 443连接。"packet-tracer"输出确认流量被丢弃,而"show access-list"输出显示已设置的控制平面 ACL的命中计数增量:

FTD的输出示例

<#root>

>

packet-tracer input outside tcp 192.168.1.10 1234 10.3.3.251 443

Phase: 1 Type:

ACCESS-LIST

Subtype: log

Result: DROP

Elapsed time: 21700 ns Config: Additional Information:

Result: input-interface: outside(vrfid:0) input-status: up input-line-status: up

Action: drop

Time Taken: 21700 ns

Drop-reason: (acl-drop) Flow is denied by configured rule

, Drop-location: frame 0x00005623c7f324e7 flow (NA)/NA

>

show access-list ACL-UNWANTED-COUNTRY

access-list ACL-UNWANTED-COUNTRY; 1 elements; name hash: 0x42732b1f access-list ACL-UNWANTED-COUNTRY line 1 extended deny ip 192.168.1.0 255.255.255.0 any (

hitcnt=1

) 0x142f69bf

<#root>

asa# packet-tracer input outside tcp 192.168.1.10 1234 10.3.3.5 443 Phase: 1 Type: ACCESS-LIST Subtype: Result: ALLOW Elapsed time: 19688 ns Config: Implicit Rule Additional Information: MAC Access list Phase: 2 Type: ACCESS-LIST Subtype: log Result: DROP Elapsed time: 17833 ns Config: Additional Information: Result: input-interface: outside input-status: up input-line-status: up Action: drop Time Taken: 37521 ns Drop-reason: (acl-drop) Flow is denied by configured rule , Drop-location: frame 0x0000556e6808cac8 flow (NA)/NA asa# show access-list ACL-UNWANTED-COUNTRY access-list ACL-UNWANTED-COUNTRY; 1 elements; name hash: 0x42732b1f access-list ACL-UNWANTED-COUNTRY line 1 extended deny ip 192.168.1.0 255.255.255.0 any (hitcnt=1) 0x9b4d26ac

✤ 注意:如果在安全防火墙中实施类似Cisco安全客户端VPN的RAVPN解决方案,则可能会执行 到安全防火墙的真实连接尝试,以确认控制平面ACL是否如预期一样工作,从而阻止所需的流 量。

# 相关 Bug

• 增强版 | 基于地理位置的AnyConnect客户端连接:Cisco Bug ID CSCvs65322

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