

# 排除ASA防火墙阻止Umbrella虚拟设备的DNSCrypt功能故障

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## 简介

本文介绍如何排除ASA防火墙阻止DNSCrypt功能的故障。

## 概述

Cisco ASA防火墙可以阻止Umbrella虚拟设备提供的DNSCrypt功能。这会导致此Umbrella Dashboard警告：

DNS queries forwarded by this VA to OpenDNS are not encrypted. For more information, and steps to resolve, please visit: <https://support.opendns.com/entries/57607634#dnscrypt-disabled>

在ASA防火墙日志中也可以看到以下错误消息：

```
Dropped UDP DNS request from inside:192.168.1.1/53904 to outside-fiber:208.67.220.220/53; label length
```

DNSCrypt加密旨在保护DNS查询的内容，因此也可以阻止防火墙执行数据包检测。

## 原因

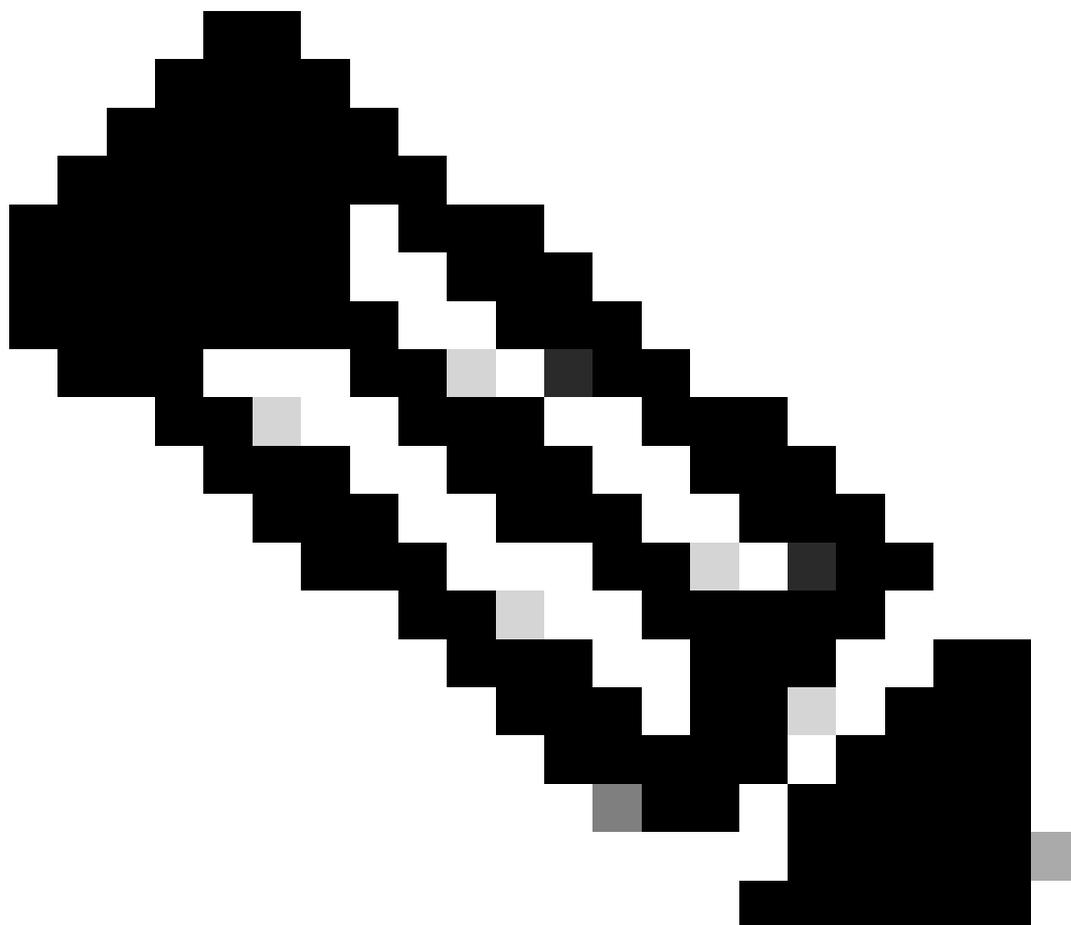
这些错误不能导致任何用户面临DNS解析的影响。

虚拟设备发送测试查询以确定DNSCrypt的可用性，而阻止的正是这些测试查询。但是，这些错误消息确实表明虚拟设备不会通过加密您公司的DNS流量来增加额外的安全性。

## 分辨率

我们建议对虚拟设备和Umbrella的DNS解析器之间的流量禁用DNS数据包检测。虽然这会禁用ASA上的日志记录和协议检查，但它通过允许DNS加密来增强安全性。

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注意：这些命令仅供参考，建议在对生产环境进行任何更改之前咨询思科专家。  
还要注意ASA上的此缺陷 可能会影响TCP上的DNS，这也会导致DNSCrypt出现问题：  
[CSCsm90809 DNS检测支持TCP上的DNS](#)

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## 数据包检测例外 — IOS命令

1. 创建名为“dns\_inspect”的新ACL，其中包含的规则用于拒绝发往208.67.222.222和208.67.220.220的流量。

```
<#root>
```

```
access-list dns_inspect extended deny udp host <Appliance IP> host 208.67.220.220 eq domain
access-list dns_inspect extended deny tcp host <Appliance IP> host 208.67.220.220 eq domain
access-list dns_inspect extended deny udp host <Appliance IP> host 208.67.222.222 eq domain
access-list dns_inspect extended deny tcp host <Appliance IP> host 208.67.222.222 eq domain
access-list dns_inspect extended permit udp any any eq domain
access-list dns_inspect extended permit tcp any any eq domain
```

For VA 2.2.0, please also add our 3rd and 4th resolver IPs which are also enabled for encrypt

```
access-list dns_inspect extended deny udp host <Appliance IP> host 208.67.220.222 eq domain
access-list dns_inspect extended deny tcp host <Appliance IP> host 208.67.220.222 eq domain
access-list dns_inspect extended deny udp host <Appliance IP> host 208.67.222.220 eq domain
access-list dns_inspect extended deny tcp host <Appliance IP> host 208.67.222.220 eq domain
```

## 2. 删除ASA上的当前DNS检测策略。例如：

```
ciscoasa(config)# policy-map global_policy
ciscoasa(config-pmap)# class inspection_default
ciscoasa(config-pmap-c)# no inspect dns
```

## 3. 创建与步骤1中创建的ACL匹配的类映#1:

```
class-map dns_inspect_cmap
match access-list dns_inspect
```

## 4. 在global\_policy下配置策略映射。这必须与步骤10中创建的类映射匹#3。启用DNS检测。

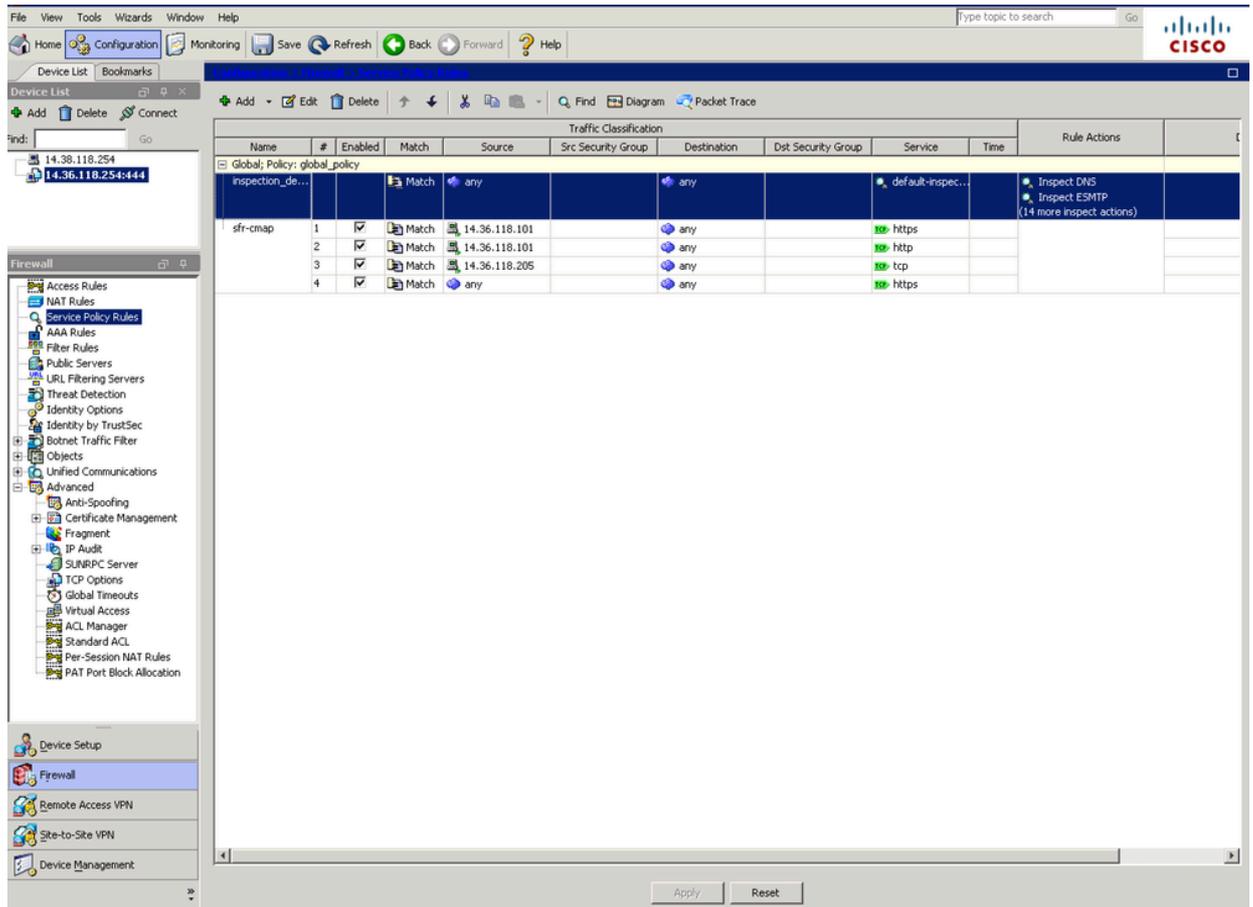
```
policy-map global_policy
class dns_inspect_cmap
inspect dns
```

## 5. 启用后，您可以通过运行以下命令来验证流量是否正在达到例外情况：

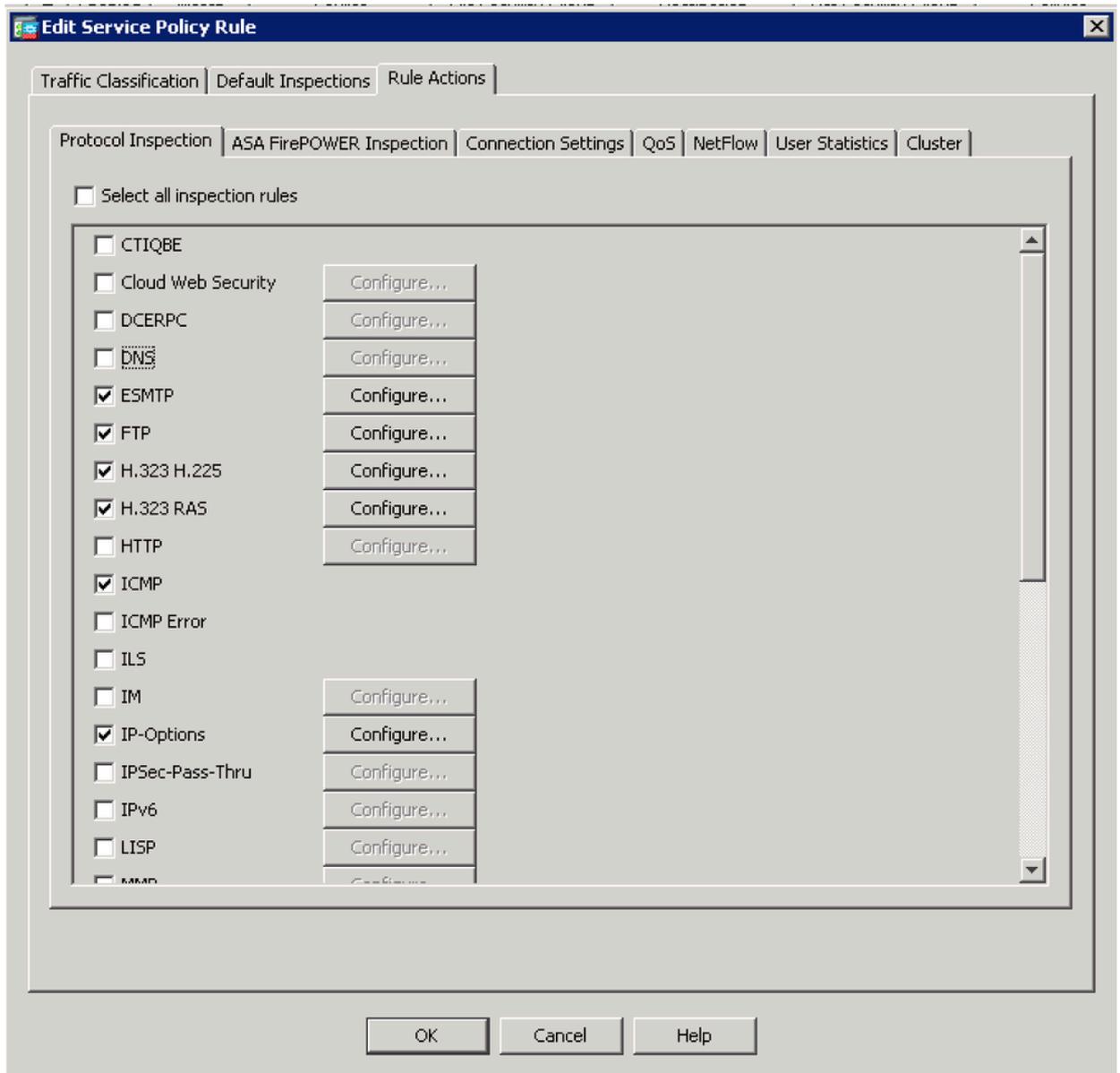
```
sh access-list dns_inspect
```

## 数据包检测例外 — ASDM接口

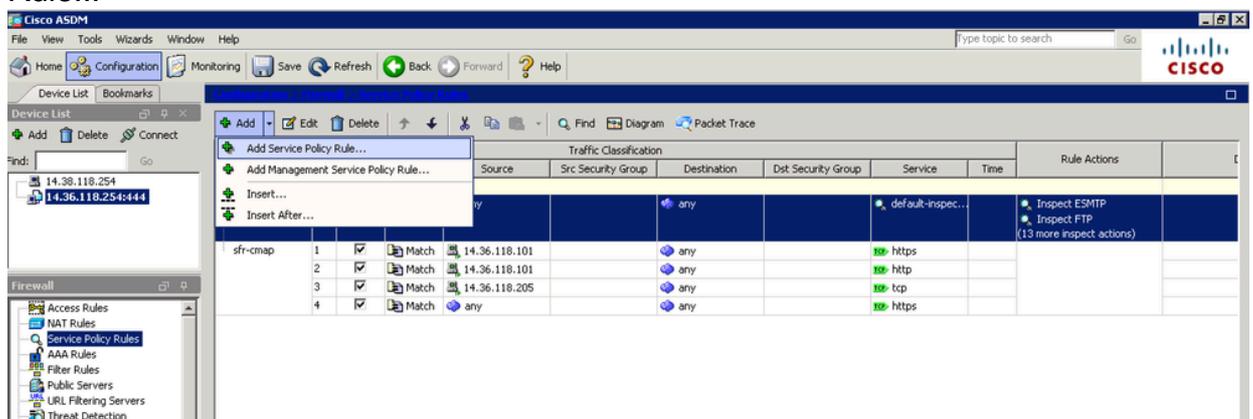
1. 首先禁用任何DNS数据包检测（如果适用）。此操作在Configuration > Firewall > Service Policy Rules中完成。



2. 在本示例中，DNS检测在Global Policy和“inspection\_default”类下启用。突出显示它并单击Edit。在新窗口中，取消选中“Rule Action”（规则操作）选项卡下的“DNS”(DNS)复选框。



3. 现在，您可以重新配置DNS检测，此次额外免除流量。单击Add > Add Service Policy Rule...



4. 选择“全局 — 应用于所有接口”，然后单击下一步（如果需要，您也可以将此功能应用于特定接口）。

**Add Service Policy Rule Wizard - Service Policy**

Adding a new service policy rule requires three steps:  
 Step 1: Configure a service policy.  
 Step 2: Configure the traffic classification criteria for the service policy rule.  
 Step 3: Configure actions on the traffic classified by the service policy rule.

Create a Service Policy and Apply To: \_\_\_\_\_

Only one service policy can be configured per interface or at global level. If a service policy already exists, then you can add a new rule into the existing service policy. Otherwise, you can create a new service policy.

**Interface:** inside - (create new service policy)

Policy Name:

Description:

Drop and log unsupported IPv6 to IPv6 traffic

**Global - applies to all interfaces**

Policy Name:  \*

Description:

Drop and log unsupported IPv6 to IPv6 traffic

\*Only one service policy is allowed. Existing service policy names cannot be changed.

< Back   Next >   Cancel   Help

5. 为类映射指定名称（例如“dns-cmap”），并选中选项“源和目标IP地址（使用ACL）”。单击“下一步”。

**Add Service Policy Rule Wizard - Traffic Classification Criteria**

**Create a new traffic class:**

Description (optional):

Traffic Match Criteria

Default Inspection Traffic

**Source and Destination IP Address (uses ACL)**

Tunnel Group

TCP or UDP Destination Port

RTP Range

IP DiffServ CodePoints (DSCP)

IP Precedence

Any traffic

Add rule to existing traffic class: sfr-cmap

Rule can be added to an existing class map if that class map uses access control list (ACL) as its traffic match criterion.

Use an existing traffic class: test

Use class-default as the traffic class.

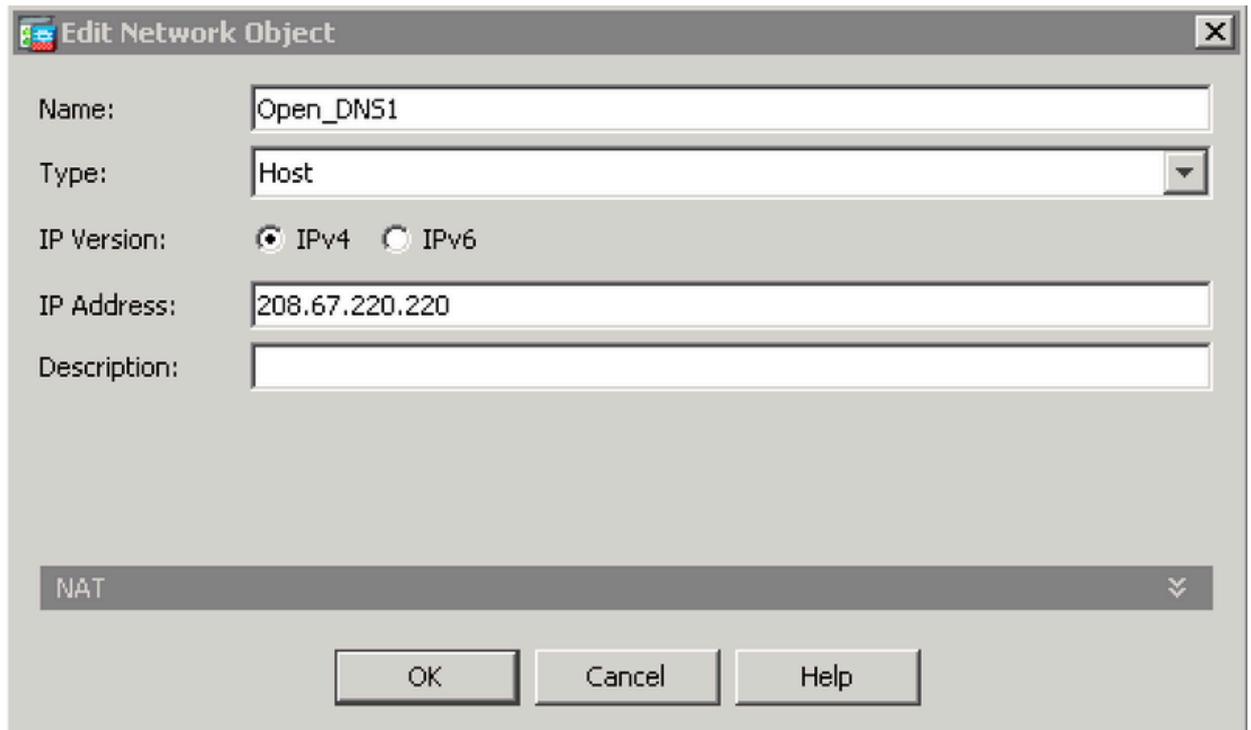
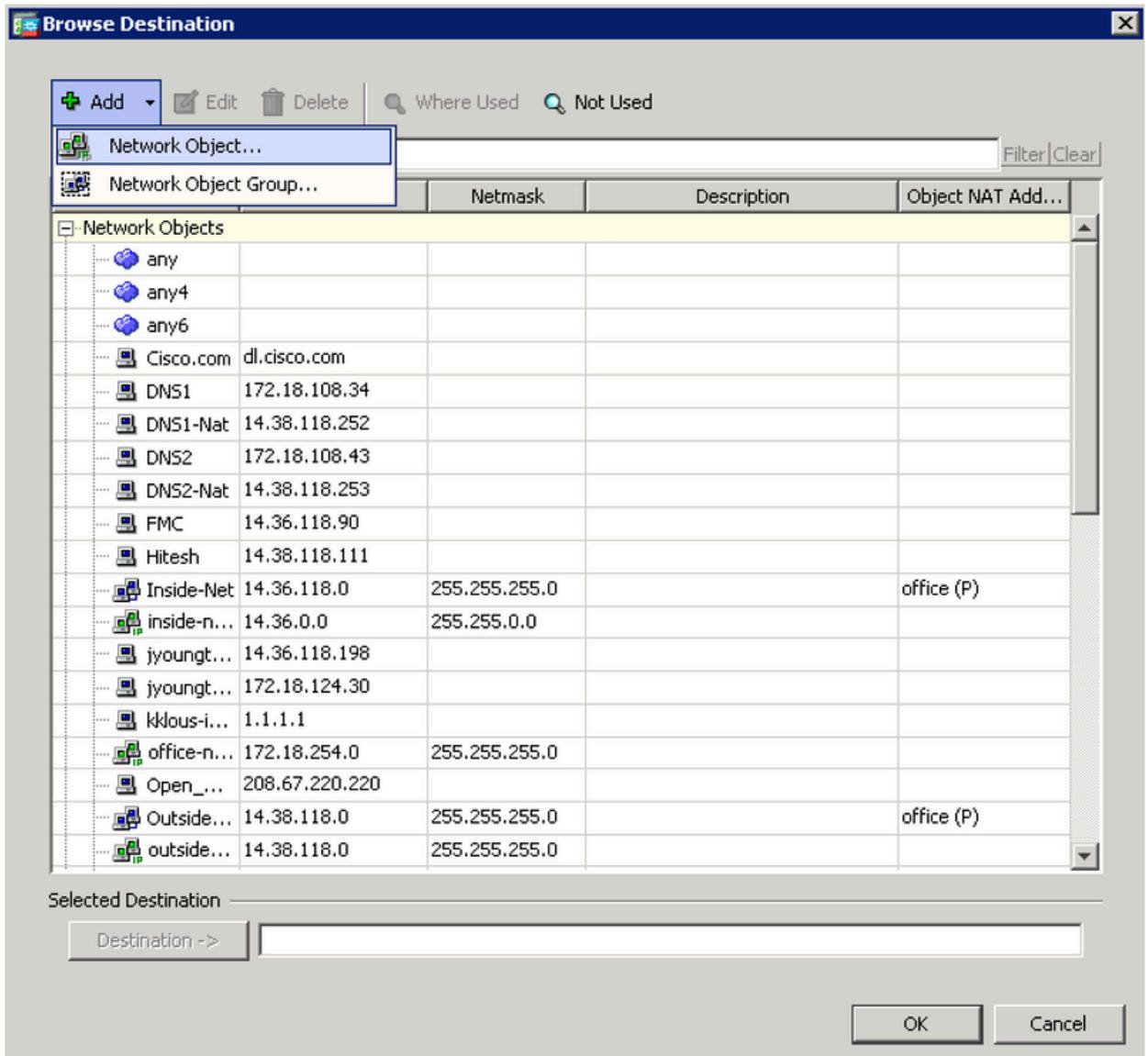
If traffic does not match a existing traffic class, then it will match the class-default traffic class. Class-default can be used in catch all situation.

< Back   Next >   Cancel   Help

6. 首先使用“不匹配”操作配置您不希望检查的流量。  
对于Source，您可以使用“any”选项免除发往Umbrella的DNS服务器的所有流量。或者，您可以在此处创建网络对象定义，以仅免除特定虚拟设备IP地址。

The screenshot shows a dialog box titled "Add Service Policy Rule Wizard - Traffic Match - Source and Destination Address". At the top, there are two radio buttons for "Action": "Match" (unselected) and "Do not match" (selected). Below this, the "Source Criteria" section contains three fields: "Source" (with "any" entered), "User", and "Security Group". The "Destination Criteria" section contains three fields: "Destination", "Security Group", and "Service" (with "ip" entered). A "Description" text area is located below the destination criteria. At the bottom of the dialog, there is a "More Options" section with a downward arrow. The bottom right corner features four buttons: "< Back", "Next >", "Cancel", and "Help".

7. 单击Destination字段上的.....。在下一个窗口中，单击Add > Network Object，并创建IP地址为“208.67.222.222”的对象。重复此步骤，创建IP地址为“208.67.220.220”的对象。
- o

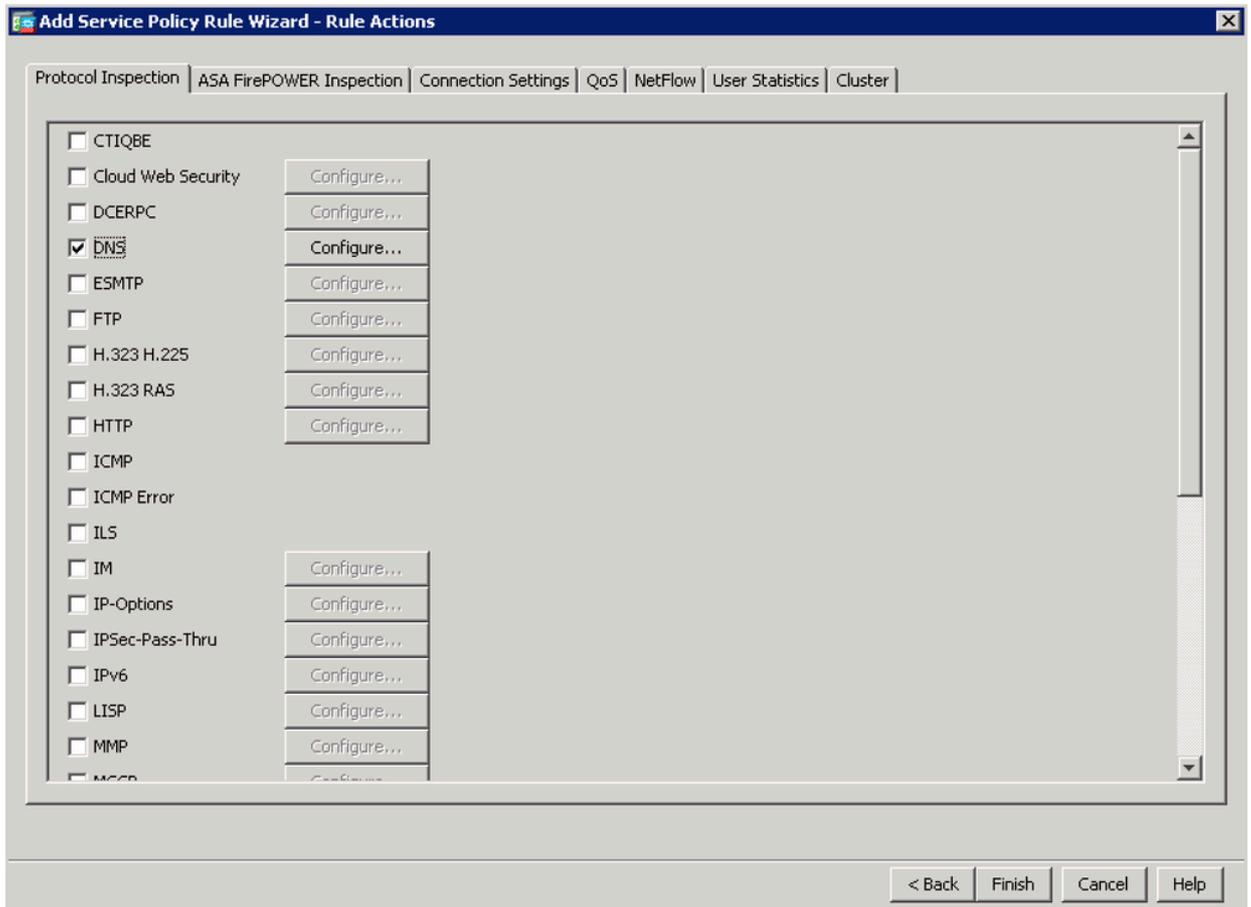


8. 将两个Umbrella网络对象添加到Destination字段，然后单击OK。

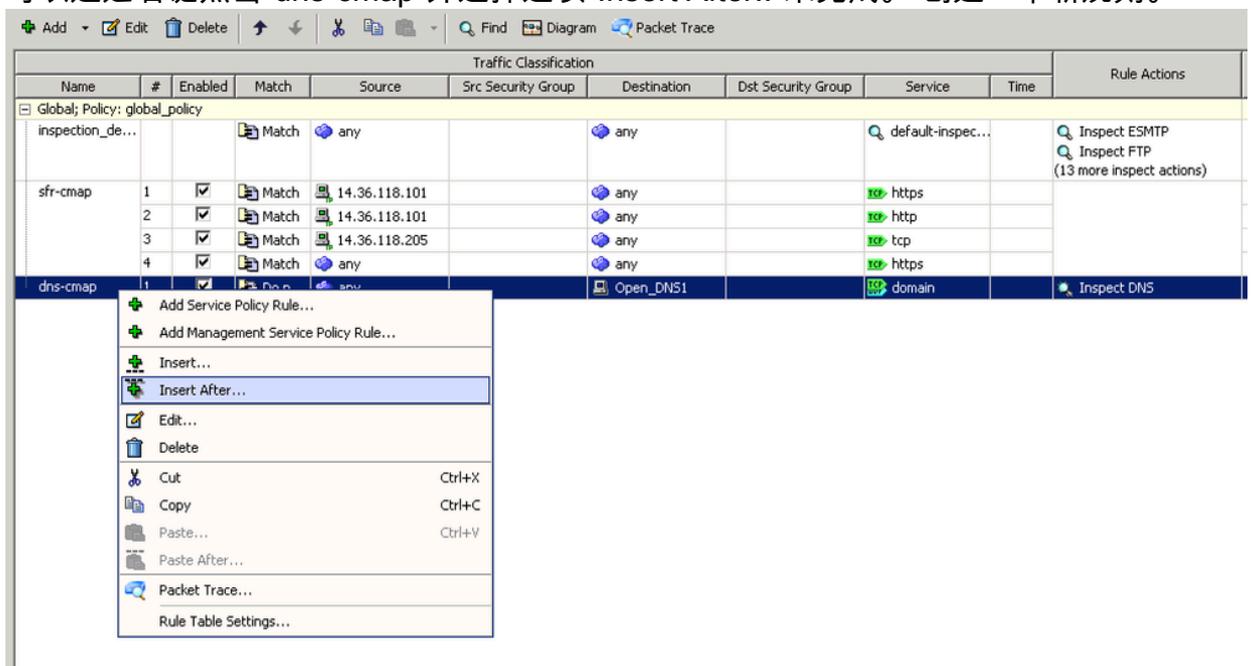
The screenshot shows a dialog box titled "Add Service Policy Rule Wizard - Traffic Match - Source and Destination Address". It contains the following fields and options:

- Action:**  Match  Do not match
- Source Criteria:**
  - Source: any
  - User: (empty)
  - Security Group: (empty)
- Destination Criteria:**
  - Destination: Open\_DNS1
  - Security Group: (empty)
  - Service: ip
- Description:** (empty text box)
- More Options:** (collapsed dropdown menu)
- Buttons:** < Back, Next >, Cancel, Help

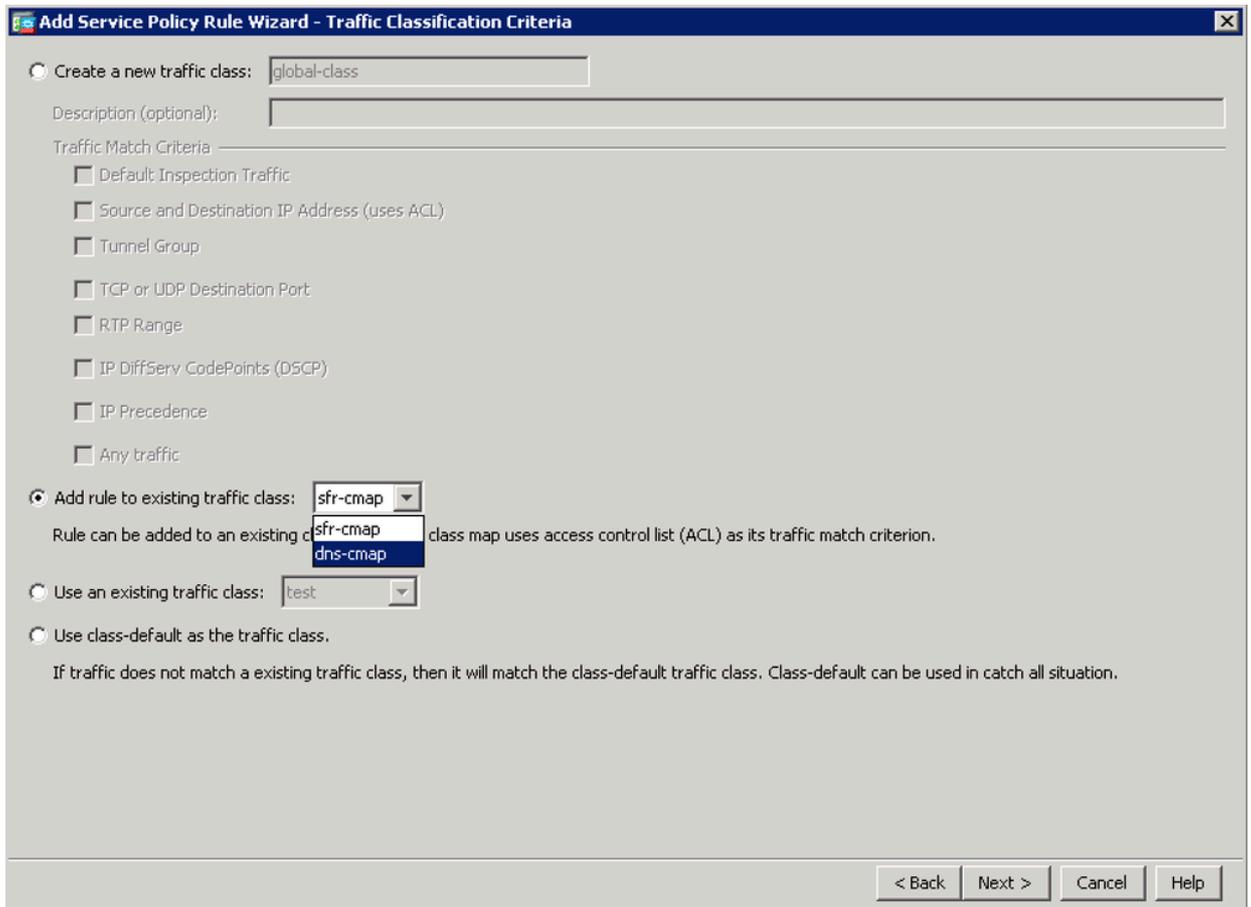
9. 在下一个窗口中，选中“DNS”复选框，然后单击Finish。



10. ASA现在显示“dns-cmap”的新全局策略。现在，您需要配置由ASA检查的剩余流量。这可以通过右键点击“dns-cmap”并选择选项“Insert After..”来完成。创建一个新规则。



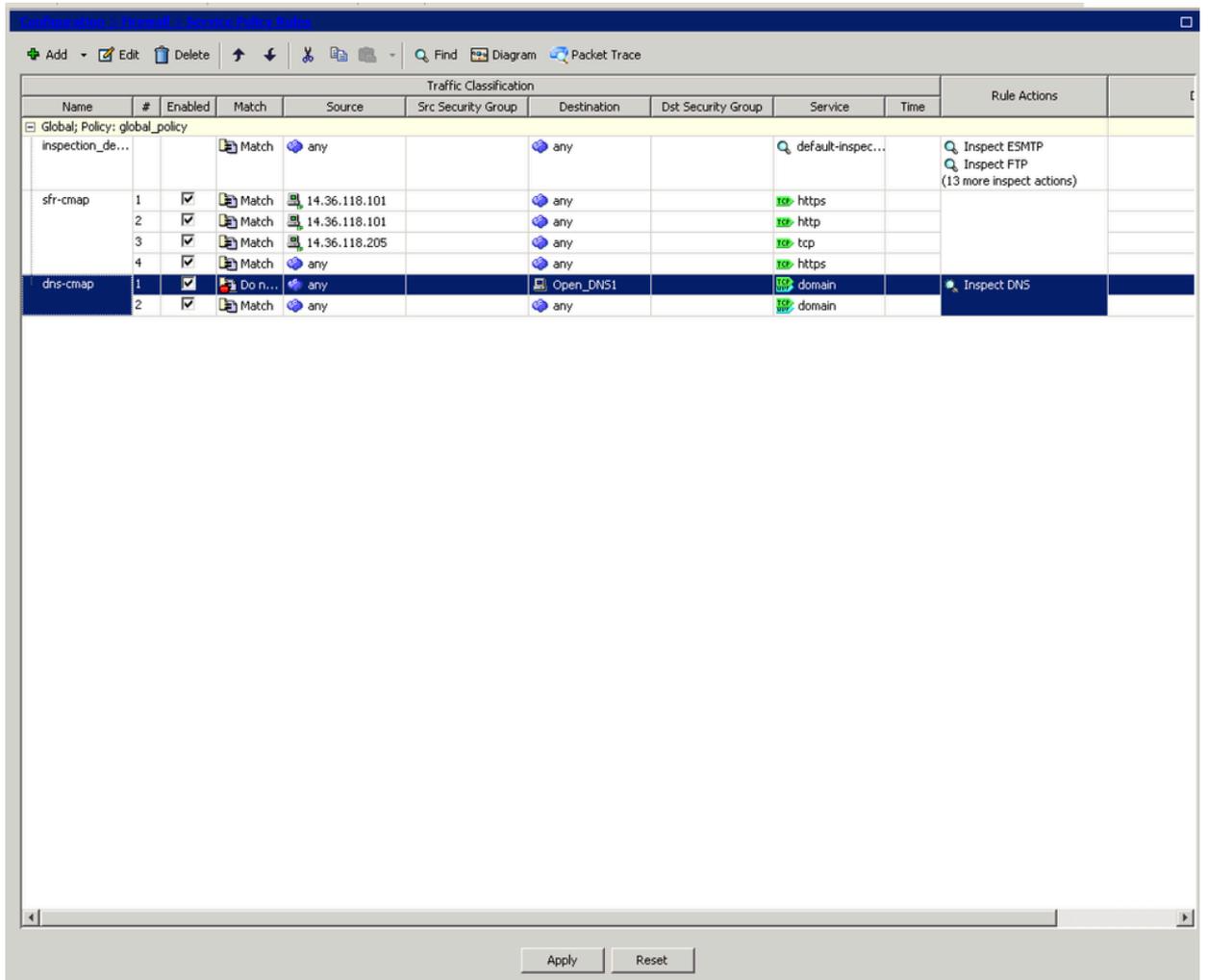
11. 在第一个窗口中单击Next，然后选中“Add rule to existing traffic class :”单选按钮。从下拉菜单中选择“dns-cmap”，然后单击Next。



12. 将Action保留为Match。选择接受DNS检查的流量的源、目标和服务。例如，在此处，我们将匹配来自任何客户端的流量传输到任何TCP或UDP DNS服务器。单击 Next。

13. 选中“DNS”选项，然后单击Finish。

14. 单击窗口底部的Apply。



## 更多信息

如果您希望禁用DNSScrypt而不是配置ASA免除，请联系Umbrella支持。

## 关于此翻译

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