解释Firepower威胁防御TCP连接标志（连接建立和拆卸）

目录

简介

本文档介绍如何通过Firepower威胁防御(FTD)排除TCP连接故障。

先决条件

要求

Cisco 建议您了解以下主题：

- TCP通信协议基础知识。
- FTD CLI的基本知识。

使用的组件

本文档不限于特定的软件和硬件版本。

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。

排除TCP连接故障

对通过FTD的TCP连接进行故障排除时，为每个连接显示的连接标志提供了大量有关通过FTD的TCP连接状态的信息。此信息可用于对FTD的问题以及网络中其他位置的问题进行故障排除。

```
Disclaimer: The information in this document was created based on FTD devices on version 7.0 in
a specific lab environment. All of the devices used in this document started with a cleared
(default) configuration. If your network is live, ensure that you understand the potential
impact of any command.
```

由于所有FTD接口的安全级别均为0，因此接口在 show conn 输出基于接口编号。具体而言，首先显示虚拟平台接口编号(VPIF)较高的接口。

```
Disclaimer : The show conn output can be too long, hence it is recommended to use 'terminal
pager' or write into a file saved in disk0: such as 'show conn | redirect filename.txt'

firepower# show conn
3 in use, 22 most used
Inspect Snort:
preserve-connection: 3 enabled, 0 in effect, 22 most enabled, 0 most in effect

TCP ISP2 192.168.50.14:35518 Inside 192.168.45.130:22, idle 0:10:00, bytes 7164, flags UIO N1
TCP ISP2 192.168.50.14:80 Inside 192.168.45.130:54554, idle 0:00:13, bytes 0, flags U N1
TCP Inside 192.168.45.130:34070 ISP1 10.31.104.78:3128, idle 0:00:02, bytes 1187822, flags UIO
N1
```

您可以从的输出中看到接口VPIF值 show interface detail 命令。

```
firepower# show interface detail | i Interface number is|Interface
Interface GigabitEthernet0/0 "ISP1", is up, line protocol is up
Control Point Interface States:
 Interface number is 3
Interface config status is active
Interface state is active
Interface GigabitEthernet0/1 "Inside", is up, line protocol is up
Control Point Interface States:
 Interface number is 4
Interface config status is active
Interface state is active
Interface GigabitEthernet0/2 "DMZ", is up, line protocol is up
Control Point Interface States:
 Interface number is 5
Interface config status is active
Interface state is active
Interface GigabitEthernet0/3 "ISP2", is up, line protocol is up
Control Point Interface States:
 Interface number is 6
Interface config status is active
Interface state is active
```

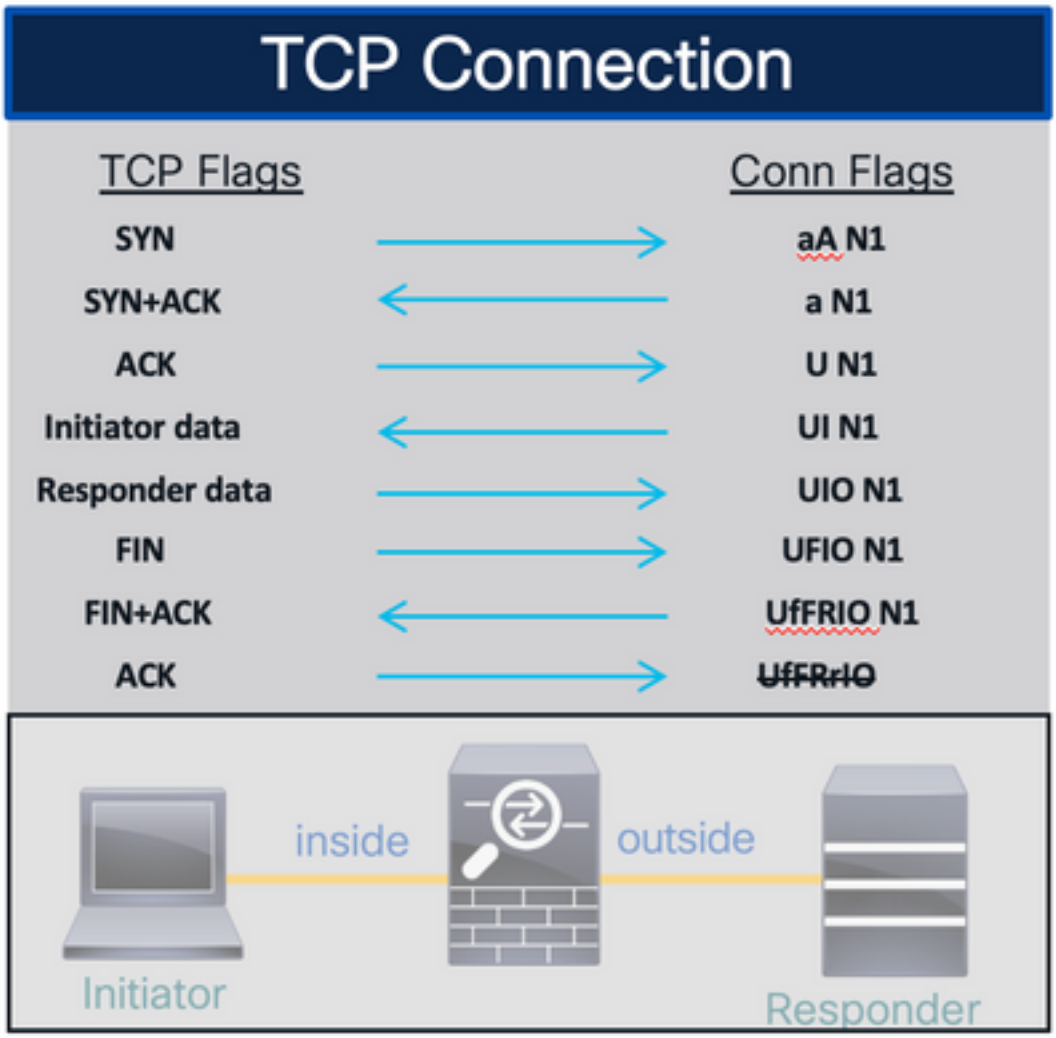
此 show conn long和 show conn detail命令提供有关连接的发起方和响应方的详细信息。

```
firepower# show conn long
3 in use, 22 most used
Inspect Snort:
preserve-connection: 3 enabled, 0 in effect, 22 most enabled, 0 most in effect
Flags: A - awaiting responder ACK to SYN, a - awaiting initiator ACK to SYN,
B - TCP probe for server certificate,
b - TCP state-bypass or nailed,
C - CTIQBE media, c - cluster centralized,
D - DNS, d - dump, E - outside back connection, e - semi-distributed,
F - initiator FIN, f - responder FIN,
G - group, g - MGCP, H - H.323, h - H.225.0, I - initiator data,
i - incomplete, J - GTP, j - GTP data, K - GTP t3-response
k - Skinny media, L - decap tunnel, M - SMTP data, m - SIP media
N - inspected by Snort (1 - preserve-connection enabled, 2 - preserve-connection in effect)
n - GUP, O - responder data, o - offloaded,
P - inside back connection, p - passenger flow
q - SQL*Net data, R - initiator acknowledged FIN,
R - UDP SUNRPC, r - responder acknowledged FIN,
T - SIP, t - SIP transient, U - up,
V - VPN orphan, v - M3UA W - WAAS,
w - secondary domain backup,
```

```
X - inspected by service module,
x - per session, Y - director stub flow, y - backup stub flow,
Z - Scansafe redirection, z - forwarding stub flow

TCP ISP2: 192.168.50.14/35518 (192.168.50.14/35518) Inside: 192.168.45.130/22
(192.168.45.130/22), flags UIO N1, idle 9m13s, uptime 9m17s, timeout 1h0m, bytes 7164
Initiator: 192.168.50.14, Responder: 192.168.45.130
Connection lookup keyid: 168317598

TCP ISP2: 192.168.50.14/80 (192.168.50.14/80) Inside: 192.168.45.130/54554
(192.168.45.130/54554), flags U N1, idle 0s, uptime 10s, timeout 1h0m, bytes 0
Initiator: 192.168.45.130, Responder: 192.168.50.14
Connection lookup keyid: 168367034

TCP Inside: 192.168.45.130/34070 (192.168.45.130/34070) ISP1: 10.31.104.78/3128
(10.31.104.78/3128), flags UIO N1, idle 0s, uptime 46s, timeout 1h0m, bytes 617331
Initiator: 192.168.45.130, Responder: 10.31.104.78
Connection lookup keyid: 168227654
```

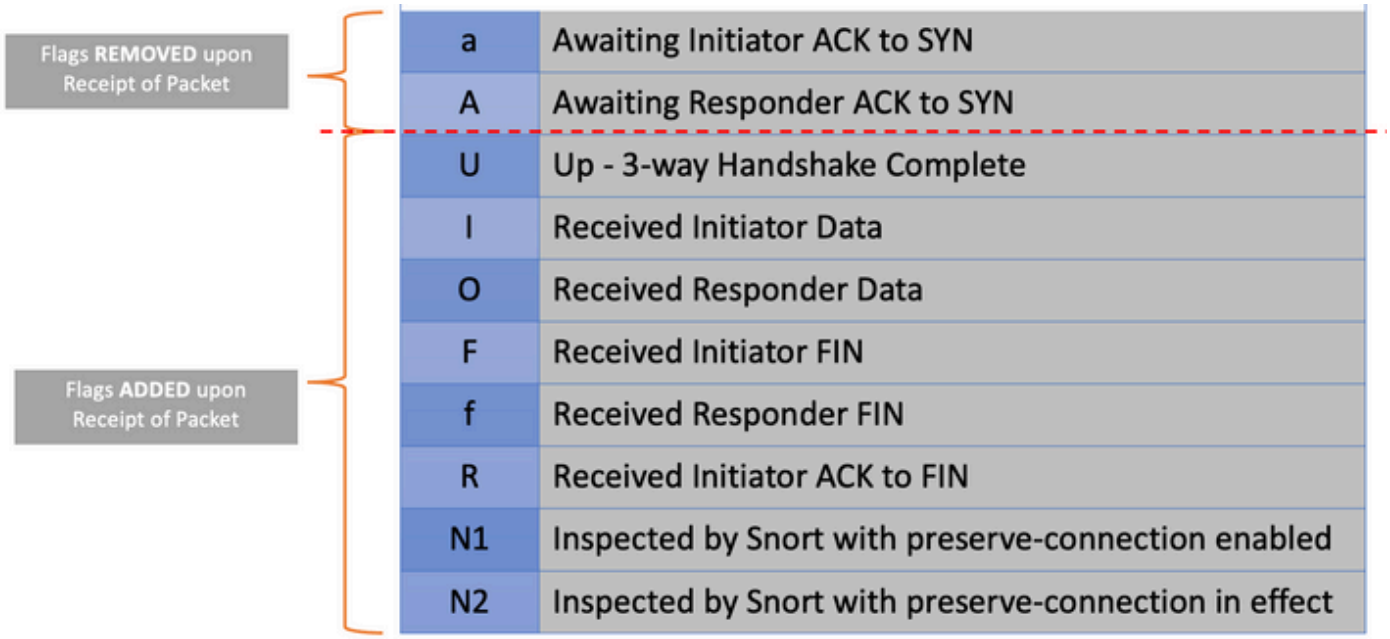
FTD TCP连接标志

此表显示了TCP状态机不同阶段的FTD TCP连接标志。在FTD中，入站和出站连接的连接标志相同，因为安全级别始终为“0”。 在FTD上使用 **show conn**命令可以查看这些标志。



TCP连接标志值

此表显示接收数据包时删除和添加的TCP连接标志。



要查看连接中所有可能的标志，请使用 **show conn detail**命令。

```
firepower# show conn detail
1 in use, 22 most used
Inspect Snort:
preserve-connection: 1 enabled, 0 in effect, 22 most enabled, 0 most in effect
Flags: A - awaiting responder ACK to SYN, a - awaiting initiator ACK to SYN,
B - TCP probe for server certificate,
b - TCP state-bypass or nailed,
C - CTIQBE media, c - cluster centralized,
D - DNS, d - dump, E - outside back connection, e - semi-distributed,
F - initiator FIN, f - responder FIN,
G - group, g - MGCP, H - H.323, h - H.225.0, I - initiator data,
i - incomplete, J - GTP, j - GTP data, K - GTP t3-response
k - Skinny media, L - decap tunnel, M - SMTP data, m - SIP media
N - inspected by Snort (1 - preserve-connection enabled, 2 - preserve-connection in effect)
n - GUP, O - responder data, o - offloaded,
P - inside back connection, p - passenger flow
q - SQL*Net data, R - initiator acknowledged FIN,
R - UDP SUNRPC, r - responder acknowledged FIN,
T - SIP, t - SIP transient, U - up,
V - VPN orphan, v - M3UA W - WAAS,
w - secondary domain backup,
X - inspected by service module,
x - per session, Y - director stub flow, y - backup stub flow,
Z - Scansafe redirection, z - forwarding stub flow
```

关于此翻译
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