瞭解使用Snort功能設定的Lina規則的處理方式

目錄

簡介

本檔案介紹Lina規則如何部署到FTD以及Lina和Snort的處理。此資訊對機內(FDM)和機外(FMC)管理都很有用。

必要條件

需求

思科建議瞭解以下主題：

- Firepower Management Center (FMC)
- Firepower裝置管理器(FDM)
- Firepower威脅防禦虛擬(FTDv)

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- FTDv 7.0.4

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

背景資訊

FMC是威脅防禦裝置的機**箱管理**程式。

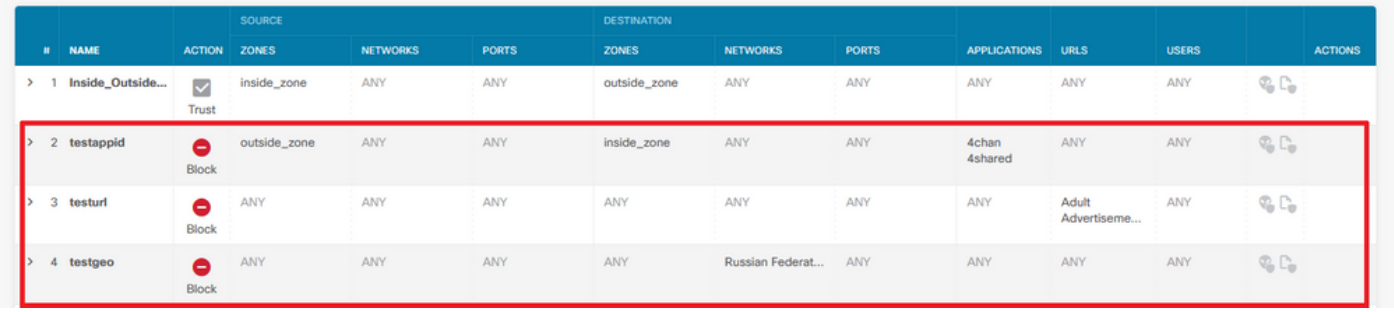
FDM是威脅防禦裝置的機**箱管理**器。

具有Snort功能的規則部署為Permit Any

當您使用由Snort端執行的功能(例如地理定位、URL（通用資源定位器）過濾器、應用檢測等)建立規則時，它們將作為允許任何規則部署在Lina端。

乍一看，這會使您感到困惑，並使您認為FTD允許該規則上的所有流量，並停止對後續規則的規則匹配驗證。

在本示例中，有應用檢測器、URL過濾器和地理位置塊規則：



#	NAME	ACTION	SOURCE ZONES	SOURCE NETWORKS	SOURCE PORTS	DESTINATION ZONES	DESTINATION NETWORKS	DESTINATION PORTS	APPLICATIONS	URLS	USERS	ACTIONS
1	Inside_Outside...	Trust	inside_zone	ANY	ANY	outside_zone	ANY	ANY	ANY	ANY	ANY	
2	testappid	Block	outside_zone	ANY	ANY	inside_zone	ANY	ANY	4chan 4shared	ANY	ANY	
3	testurl	Block	ANY	ANY	ANY	ANY	ANY	ANY	ANY	Adult Advertiseme...	ANY	
4	testgeo	Block	ANY	ANY	ANY	ANY	Russian Federat...	ANY	ANY	ANY	ANY	

在這裡，您可以看到在GUI上配置的引數的正確規則語句，如Snort所示：

```
access-list NGFW_ONBOX_ACL remark rule-id 268435458: ACCESS POLICY: NGFW_Access_Policy
access-list NGFW_ONBOX_ACL remark rule-id 268435458: L7 RULE: testappid
access-list NGFW_ONBOX_ACL advanced permit object-group |acSvcg-268435458 ifc outside any ifc
inside any rule-id 268435458
access-list NGFW_ONBOX_ACL remark rule-id 268435459: ACCESS POLICY: NGFW_Access_Policy
access-list NGFW_ONBOX_ACL remark rule-id 268435459: L7 RULE: testurl
access-list NGFW_ONBOX_ACL advanced permit object-group |acSvcg-268435459 any any rule-id
268435459
access-list NGFW_ONBOX_ACL remark rule-id 268435461: ACCESS POLICY: NGFW_Access_Policy
access-list NGFW_ONBOX_ACL remark rule-id 268435461: L5 RULE: testgeo
access-list NGFW_ONBOX_ACL advanced permit object-group |acSvcg-268435461 any any rule-id
268435461
```

在Snort端看到規則的方式如下：

```
268435458 deny 1 any any 2 any any any any (appid 948:5, 1079:5) (ip_protos 6)
# End rule 268435458
268435459 deny any any any any any any any any (urlcat 2027) (urlrep le 0) (urlrep_unknown 1)
268435459 deny any any any any any any any any (urlcat 2006) (urlrep le 0) (urlrep_unknown 1)
# End rule 268435459
268435461 deny 1 any any any any any any any (dstgeo 643)
# End rule 268435461
```

驗證Lina和Snort端如何處理規則

由於Packet Tracer命令不能正確處理此類規則，因此需要使用**system support trace**或**system support firewall-engine-debug**測試此大量即時流量。

以下是按地理位置阻止規則的示例：

```
> system support trace

Enable firewall-engine-debug too? [n]: y
Please specify an IP protocol:
Please specify a client IP address:
```

```
Please specify a client port:
Please specify a server IP address:
Please specify a server port:
Monitoring packet tracer and firewall debug messages

10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Packet 7: TCP
12****S*, 09/21-17:17:13.483709, seq 957225459, dsize 0
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Session: new snort
session
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 AppID: service:
(0), client: (0), payload: (0), misc: (0)
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Firewall: starting
rule matching, zone 1 -> 1, geo 0(0) -> 643, vlan 0, src sgt: 0, src sgt type: unknown, dst sgt:
0, dst sgt type: unknown, user 9999997, no url or host, no xff
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Firewall: block
rule, 'testgeo', force_block
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Stream: pending
block, drop
10.130.65.192 52459 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Policies: Network
0, Inspection 0, Detection 3
10.130.65.192 52459 -> <Geolocation block IP address>
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 New firewall
session
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 app event with app
id no change, url no change, tls host no change, bits 0x1
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Starting with
minimum 3, 'testurl', and SrcZone first with zones 1 -> 1, geo 0 -> 643, vlan 0, src sgt: 0, src
sgt type: unknown, dst sgt: 0, dst sgt type: unknown, svc 0, payload 0, client 0, misc 0, user
9999997
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 pending rule order
3, 'testurl', AppID for URL
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 rule order 3,
'testurl', action Block continue eval of pending deny
10.130.65.192 52460 ->



10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 MidRecovery data
sent for rule id: 268435461, rule_action:4, rev id:1095042657, rule_match flag:0x0
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 deny action
10.130.65.192 52460 -> <Geolocation block IP address> 443 6 AS=0 ID=1 GR=1-1 Deleting Firewall
session
```

正如您在以上輸出中所看到的，Snort根據規則檢查資料包引數並與地理定位塊規則匹配，然後拒絕該流，並刪除該流的會話。

在Lina擷取追蹤軌跡上，您可以在ACCESS-LIST階段看到您抵達第一個允許任何規則，而不是您預期要抵達的地理定位規則，但是在SNORT階段上，我們看到判定是Snort到達規則**268435461**，這是地理定位封鎖規則：

```
testftd# show cap test trace packet 1

9 packets captured

1: 17:36:52.082011 10.130.65.192.53336 > <Geolocation block IP address>.443: SWE
316839441:316839441(0) win 8192 <mss 1460,nop,wscale 8,nop,nop,sackOK>
```

Phase: 1
Type: CAPTURE
Subtype:
Result: ALLOW
Config:
Additional Information:
MAC Access list

Phase: 2
Type: ACCESS-LIST
Subtype:
Result: ALLOW
Config:
Implicit Rule
Additional Information:
MAC Access list

Phase: 3
Type: INPUT-ROUTE-LOOKUP
Subtype: Resolve Egress Interface
Result: ALLOW
Config:
Additional Information:
Found next-hop 10.130.65.188 using egress ifc outside(vrfid:0)

Phase: 4
Type: ACCESS-LIST
Subtype: log
Result: ALLOW
Config:
access-group NGFW_ONBOX_ACL global
access-list NGFW_ONBOX_ACL advanced permit object-group |acSvcg-268435459 any any rule-id 268435459
access-list NGFW_ONBOX_ACL remark rule-id 268435459: ACCESS POLICY: NGFW_Access_Policy
access-list NGFW_ONBOX_ACL remark rule-id 268435459: L7 RULE: testurl
object-group service |acSvcg-268435459
service-object ip
Additional Information:
This packet will be sent to snort for additional processing where a verdict will be reached

Phase: 5
Type: NAT
Subtype: per-session
Result: ALLOW
Config:
Additional Information:

Phase: 6
Type: IP-OPTIONS
Subtype:
Result: ALLOW
Config:
Additional Information:

Phase: 7
Type: NAT
Subtype: per-session
Result: ALLOW
Config:
Additional Information:

Phase: 8
Type: IP-OPTIONS
Subtype:

```
Result: ALLOW
Config:
Additional Information:

Phase: 9
Type: FLOW-CREATION
Subtype:
Result: ALLOW
Config:
Additional Information:
New flow created with id 6902, packet dispatched to next module

Phase: 10
Type: EXTERNAL-INSPECT
Subtype:
Result: ALLOW
Config:
Additional Information:
Application: 'SNORT Inspect'

Phase: 11
Type: SNORT
Subtype:
Result: DROP
Config:
Additional Information:
Snort Trace:
00:50:56:96:D0:48 -> 00:50:56:B3:8C:E3 0800
10.130.65.192:53336 -> <Geolocation block IP address>:443 proto 6 AS=0 ID=1 GR=1-1
Packet 22: TCP 12****S*, 09/21-17:36:52.073696, seq 316839441, dsize 0
Session: new snort session
AppID: service: (0), client: (0), payload: (0), misc: (0)
Firewall: starting rule matching, zone 1 -> 1, geo 0(0) -> 643, vlan 0, src sgt: 0, src sgt
type: unknown, dst sgt: 0, dst sgt type: unknown, user 9999997, no url or host, no xff
Firewall: block rule, id 268435461, force_block
Stream: pending block, drop
Policies: Network 0, Inspection 0, Detection 3
Verdict: blacklist
Snort Verdict: (black-list) black list this flow

Result:
input-interface: outside(vrfid:0)
input-status: up
input-line-status: up
output-interface: outside(vrfid:0)
output-status: up
output-line-status: up
Action: drop
Drop-reason: (firewall) Blocked or blacklisted by the firewall preprocessor, Drop-location:
frame 0x000055b8a176d7b2 flow (NA)/NA
```

結論

如配置和即時流量日誌所示，即使Lina將這些規則顯示為Permit any any，且我們在Lina端達到該規則，資料包也會傳送到Snort進行深入檢查。

然後，您可以驗證Snort是否繼續通過規則，直到其流量與預期規則相匹配。

相關資訊

Firepower管理中心配置指南，訪問控制規則

適用於Firepower裝置管理器、訪問控制的思科Firepower威脅防禦配置指南

思科錯誤ID CSCwd00446 — 增強型：Packet Tracer不會在ACL階段顯示實際的規則命中，而不是地理定位規則

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。