FortiGate integration for input traffic blocking

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Use-case

Use case for this script integration is to block some input traffic by firewall rule or policy. To achieve it we have a script which does create an address object and add it to a predefined address group which is then used to block traffic. This is now designed to work only for IPv4 addresses.

As it's described in the https://kb.fortinet.com/kb/documentLink.do?externalID=FD45208 we can revert this to block certain traffic assigned to the group.

There is a limitation to this which would depend on a platform (https:/docs.fortinet.com/max-value-table) as it has a maximum of 600 members in the address group for the policy.

These scripts were tested on Flowmon 11 with ADS 11 and FortiOS 6.4.3 but they should work also on the older version. However, they might require some additional Python packages which aren't available on the older versions. It's recommended to use version 12.4 or newer.

FortiGate configuration

First, we need to create an address group

```
config firewall addrgrp
   edit "ads_detected"
        set member "none"
    next
end
```

This group has one member which special address 0.0.0.0/32 which doesn't block anything.

```
config firewall local-in-policy
    edit 1
        set intf "port1"
        set srcaddr "ads_detected"
        set dstaddr "WAN_IP"
        set service "ALL_ICMP"
       set action deny
        set schedule "always"
    next
end
```

So, in my example I created a local policy to drop all ICMP traffic incoming to my WAN interface (port1) with IP address WAN_IP, this is happening always when the source address is in a group of ads_detected.

This is all that we need to do at FortiGate firewall site. In a similar way you can set up this script to use this address group in some firewall policy.

Script and Flowmon ADS configuration

There are two scripts, first called **ag-mitigation.py** is to be imported to Flowmon ADS and is adding the IP address to the group used for blocking. The **ag-timeout.py** is the part responsible for removing after a certain time the record from the address group and thus from blocking.

The scripts are part of the ZIP file which can be extracted to /home/flowmon/fgt-mitigation/ directory and where it would by default place it's database and expects the configuration.

If you wish to use a different directory you would need to modify the scripts and specify the location.

Cron configuration for the ag-timeout.py

There is a script prepared for removal of blocked IP addresses to make sure the group would be able to handle a new request. On SSH console access you can run a command crontab -e to edit a cron table and add to the last line something like

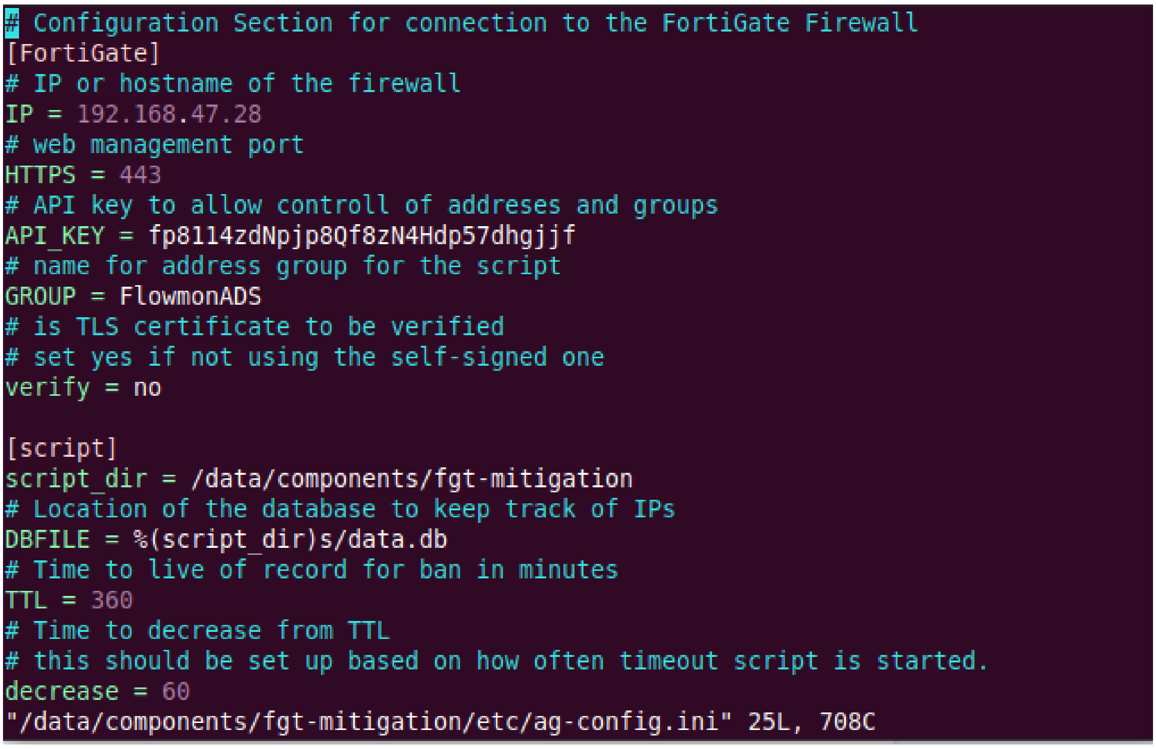
```
# Adress group address removal
0 * * * * /home/flowmon/fgt-mitigation/ag-timeout.py 2>&1
```

If you want to use a different schedule, then you can find some help on the first parameter https://cron.help/every-hour

Script configuration

The script configuration is placed in /home/flowmon/fgt-mitigation/etc where are two INI files. One for the script parameters and another for the logging.

You can modify them directly on the Flowmon appliance using vim i.e. **vim /home/flowmon/fgt-mitigation/etc/ag-config.ini**



```
# Configuration Section for connection to the FortiGate Firewall
[FortiGate]
# IP or hostname of the firewall
IP = 192.168.47.28
# web management port
HTTPS = 443
# API key to allow controll of addreses and groups
API_KEY = fp8114zdNpjp8Qf8zN4Hdp57dhgjjf
# name for address group for the script
GROUP = FlowmonADS
# is TLS certificate to be verified
# set yes if not using the self-signed one
verify = no

[script]
script_dir = /data/components/fgt-mitigation
# Location of the database to keep track of IPs
DBFILE = %(script_dir)s/data.db
# Time to live of record for ban in minutes
TTL = 360
# Time to decrease from TTL
# this should be set up based on how often timeout script is started.
decrease = 60
"/data/components/fgt-mitigation/etc/ag-config.ini" 25L, 708C
```

Script configuration open with vim

Where you can set up an IP address or hostname for the FortiGate device and its web interface port. Then API_KEY created in FortiGate with access to API to allow creation of address and modification of groups. Also, TTL and decrease could be changed if needed. Default is 6 hours and to be decreased by 60 minutes as the timeout script is to run every hour.

Those parameters may be also provided as script parameters.

Optional:

--fw	IP / hostname of FortiGate firewall
--port	HTTPS port on the FortiGate firewall
--group	Name of Address group
--key	FortiGate API key

To configure the ADS with a custom script you can find at ADS user guide or in the previous guide for mitigation with FortiGate.