Enable Access Control on File Policy with Malware

Contents

Introduction

This document describes how to allocate to snort with the SFDataCorrelator process to perform SHA lookups on the detected files.

Prerequisites

- Protect and Malware license
- File policy using malware

Requirements

- 5.3.0 and higher
- ASA (all models)
- 7000 and 8000 series (with the exception of the "AMP" appliances)
- FTD running on ASA
- FTD running on FXOS chassis

Components Used

- Malware

The information in this document was created from the devices 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.

Background Information

When enabling a Access Control policy with a File policy that uses either a Malware action or "Store Files" option, a CPU (or two on larger models) can be taken away from snort.

Performance Impact

Note: When enabling malware on lower resource appliances, the performance impact is greater.

- Latency
- Drops
- High CPU
- Lower throuhgput

Troubleshoot

Remove the file policy from the AC Policy or disable the AC Rule using the file policy. Then reapply the AC Policy to assign snort to all avialable CPU cores.

ASA

```
root@Sourcefire3D:~# grep "SW\|MODEL" /etc/sf/ims.conf
```

```
SWVERSION=5.3.1
SWBUILD=152
MODEL_CLASS="3D Sensor"
MODELNUMBER=72
MODEL="ASA5545"
MODEL_TYPE=Sensor
MODELID=H

root@Sourcefire3D:~# pmtool show affinity
Received status (0):
Affinity Status
System CPU Affinity: 08 (desired: 08)
Process CPU Affinity:
Node 0:
CPU 0:
CPU 1:
SFDataCorrelator (/usr/local/sf/bin/SFDataCorrelator) (2, desired: 2)
CPU 2:
d54fff2a-37f7-11e4-a1bd-d47ac274f5bf-d01 (/var/sf/detection_engines/d54fff2a-37f7-11e4-a1bd-d47ac274f5b
CPU 3:
CPU 4:
d54fff2a-37f7-11e4-a1bd-d47ac274f5bf-d02 (/var/sf/detection_engines/d54fff2a-37f7-11e4-a1bd-d47ac274f5b
CPU 5:
d54fff2a-37f7-11e4-a1bd-d47ac274f5bf-d03 (/var/sf/detection_engines/d54fff2a-37f7-11e4-a1bd-d47ac274f5b
Device Affinity (0 PENDING):
kvm_ivshmem (desired: 01):
10: kvm_ivshmem (01)
Process Affinity:
SFDataCorrelator (desired: 02, actual: 02)
```

7000 and 8000 Series

```
root@8250a-sftac:~# grep "SW\|MODEL" /etc/sf/ims.conf
SWVERSION=5.3.0
SWBUILD=571
MODEL_CLASS="3D Sensor"
MODELNUMBER=63
MODEL="3D8250"
MODEL_TYPE=Sensor
MODELID=C
root@8250a-sftac:~# pmtool show affinity
Received status (0):
Affinity Status
System CPU Affinity: fffff0 (desired: fffff0)
Process CPU Affinity:
Node 0:
CPU 0:
CPU 2:
SFDataCorrelator (/usr/local/sf/bin/SFDataCorrelator) (c, desired: c)
CPU 4:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d01 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 6:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d03 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 8:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d05 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 10:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d07 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 12:
```

```
3a3b8424-c8d3-11e4-98f5-1d2068538813-d09 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 14:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d10 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 16:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d02 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 18:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d04 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 20:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d06 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 22:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d08 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
Node 1:
CPU 1:
CPU 3:
SFDataCorrelator (/usr/local/sf/bin/SFDataCorrelator) (c, desired: c)
CPU 5:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d11 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 7:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d12 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 9:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d13 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 11:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d14 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 13:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d15 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 15:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d16 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 17:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d17 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 19:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d18 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 21:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d19 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
CPU 23:
3a3b8424-c8d3-11e4-98f5-1d2068538813-d20 (/var/sf/detection_engines/3a3b8424-c8d3-11e4-98f5-1d206853881
Endpoint CPUs:
c0e1: 0 (desired: -1)
c1e1: 1 (desired: -1)
Process Affinity:
SFDataCorrelator (desired: 0c, actual: 0c)
```

FTD

On any of the FTD platforms, the previous `pmtool show affnity` command can run from the initial '>' prompt after SSH access. For example:

```
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Cisco Fire Linux OS v6.2.1 (build 6)
Cisco Firepower 2110 Threat Defense v6.2.1 (build 327)


> pmtool show affinity
Received status (0):
```

```
Affinity Status

System CPU Affinity: 0 (desired: 0)

Process CPU Affinity:
 CPU 0:
 CPU 1:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d01 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
 CPU 2:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d02 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
 CPU 3:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d03 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
 CPU 4:
 CPU 5:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d01 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
 CPU 6:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d02 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
 CPU 7:
 65a99306-360b-11e7-a8f4-5671cccf5a71-d03 (/ngfw/var/sf/detection_engines/65a99306-360b-11e7-a8f4-5671cc
```

In troubleshoot files, the pmtool show affnity command output is in the command-outputs directory. The name of the file is: **usr-local-sf-bin-pmtool show affinity.output**

The output can be quite long if run on a troubleshoot from a larger appliance. Here are some grep commands to give you a clear indication of how many CPU's are allocated to the snort and SFDataCorrelator processes.

```
[user@tex command-outputs]$ grep snort usr-local-sf-bin-pmtool\ show\ affinity.output |wc -l
46
```

```
[user@tex command-outputs]$ grep "/SFDataC" usr-local-sf-bin-pmtool\ show\ affinity.output |wc -l
2
```

The previous output is from the current largest device (FPR-9300 SM-44). As you can see, there are 46 CPU's allocated to snort and two allocated to SFDataCorrelator (since Malware Policy is enabled).

Note: TS Analysis cannot correctly display the entire DE performance graphs in these scenarios