

Clarifying the Firepower Threat Defense LINA process CPU utilization

Contents

[Introduction](#)

[Analysis](#)

[Recommendations](#)

Introduction

Q: Why the lina process on Firepower Threat Defense consumes 100% (or more) CPU?

A: This is normal because the lina process is constantly polling the Network Interface Cards (NICs) for input traffic. In short, the lina process utilization can be safely ignored.

Contributed by Mikis Zafeiroudīs, Ignacio Penalva, Haitham Jaradat and David Torres Rivas, Cisco TAC Engineers.

Analysis

Firepower Threat Defense is a unified operating system consisting of 2 engines (ASA and Snort).

The FTD CLI shows that 'lina' process (ASA engine) consumes a lot of CPU cycles. Here is an example from an FTD running on ASA5506-X appliance:

```
> system support utilization
top - 01:26:40 up 12 days, 16:00,  1 user,  load average: 22.08, 22.10, 22.10
Tasks: 161 total,  1 running, 159 sleeping,  0 stopped,  1 zombie
Cpu(s):  22.6%us,  4.1%sy,  0.0%ni,  73.2%id,  0.1%wa,  0.0%hi,  0.0%si,  0.0%st
Mem:   3927684k total,  2793860k used,  120904k free,  181548k buffers
Swap:  3996668k total,  257632k used,  3739036k free,  831372k cached
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND	
23000	root		0	-20	1138m	513m	91m	S	99	13.4	18205:20	lina <--
2952	admin		20	0	15240	1156	848	R	2	0.0	0:00.02	top
22941	root		20	0	266m	2316	2108	S	2	0.1	47:16.70	ndmain.bin
1	root		20	0	4232	652	620	S	0	0.0	0:12.40	init

In the above output you should actually take into consideration the us (user) + sy (system) CPU utilization along with the id (idle - not used) value.

Here is from an FTD running on FPR-9300 appliance:

```
> system support utilization top - 04:30:22 up 40 days, 5:22, 0 users, load average: 26.12,
26.10, 26.13 Tasks: 568 total, 1 running, 566 sleeping, 0 stopped, 1 zombie Cpu(s): 22.1%us,
0.2%sy, 0.0%ni, 77.6%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st Mem: 264374828k total, 28976700k used,
234868048k free, 268k buffers Swap: 0k total, 0k used, 0k free, 529812k cached PID USER PR NI
VIRT RES SHR S %CPU %MEM TIME+ COMMAND 12772 root 0 -20 24.8g 541m 88m S 1593 0.2 927288:05 lina
<-- 12594 mysql 20 0 3063m 150m 9140 S 4 0.1 56:28.39 mysqld 12608 root 20 0 24696 2848 1192 S 2
0.0 422:45.07 pdts_proc 43145 admin 20 0 15648 1484 844 R 2 0.0 0:00.01 top 1 root 20 0 4232 632
552 S 0 0.0 0:15.43 init
```

Recommendations

- In the 'system support utilization' ignore the 'lina' process utilization.
- To monitor the FTD CPU utilization check the 'us' + 'sys' + 'id' values
- Regarding the monitoring of the ASA engine you should check the following outputs:

Output 1

```
> show cpu usage CPU utilization for 5 seconds = 0%; 1 minute: 0%; 5 minutes: 0%
```

Output 2

```
> show processes cpu-usage sorted non-zero PC Thread 5Sec 1Min 5Min Process 0x00007f42428f1fd9
0x00007f42290b9ea0 0.2% 0.0% 0.0% ci/console
```