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Lampros Katsonis

Let me tell you a story …

The main character
Greek Oil Tanker company

Situation
Malware-less attacks to capture confidential information

Target
Corporate customers´ information and credentials

Challenge

Detect attacks from apparently legitimate activity

Scenario
Data leak and compliance investigation

Let me tell you a story …

The main character
Hotel Chain in Greece

Situation
Access to the network through a compromised remote access tool.

Target
Infect with a ransomware 500 endpoints + 60 servers

Challenge
Detect the lateral movements and use of legitimate tools

Scenario
External attack + lateral movements using administrator account

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Panda Threats Intelligence Platform <ADThreatEmailAlert@pandasecurity.com>

[Adaptive Defense 360] **] malicious program Ale** **:4:06 AM UTC**

To

Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Dear administrator,

Adaptive Defense 360 has detected activity by the malicious program **"Trj/Genetic.gen"** on computer **" -MAILSERVER"**, o 34:06 AM UTC.

Please contact our Technical Support team if you have any questions.

malicious program details

Computer: -MAILSERVER
malicious program name: Trj/Genetic.gen
malicious program path: SYSTEMDRIVE|\ MAILSERVER.exe
malicious program hash: 24481E81232380C97CEC890F5FA31B19

malicious program life cycle

Action	Path/URL/Registry/Key	File/Hash/Registry Value	Trusted
Is run by	WINDOWS|\PSEXESVC.EXE	a283e768fa12ef33087f07b01f82d6dd	Yes

Occurrences on the network

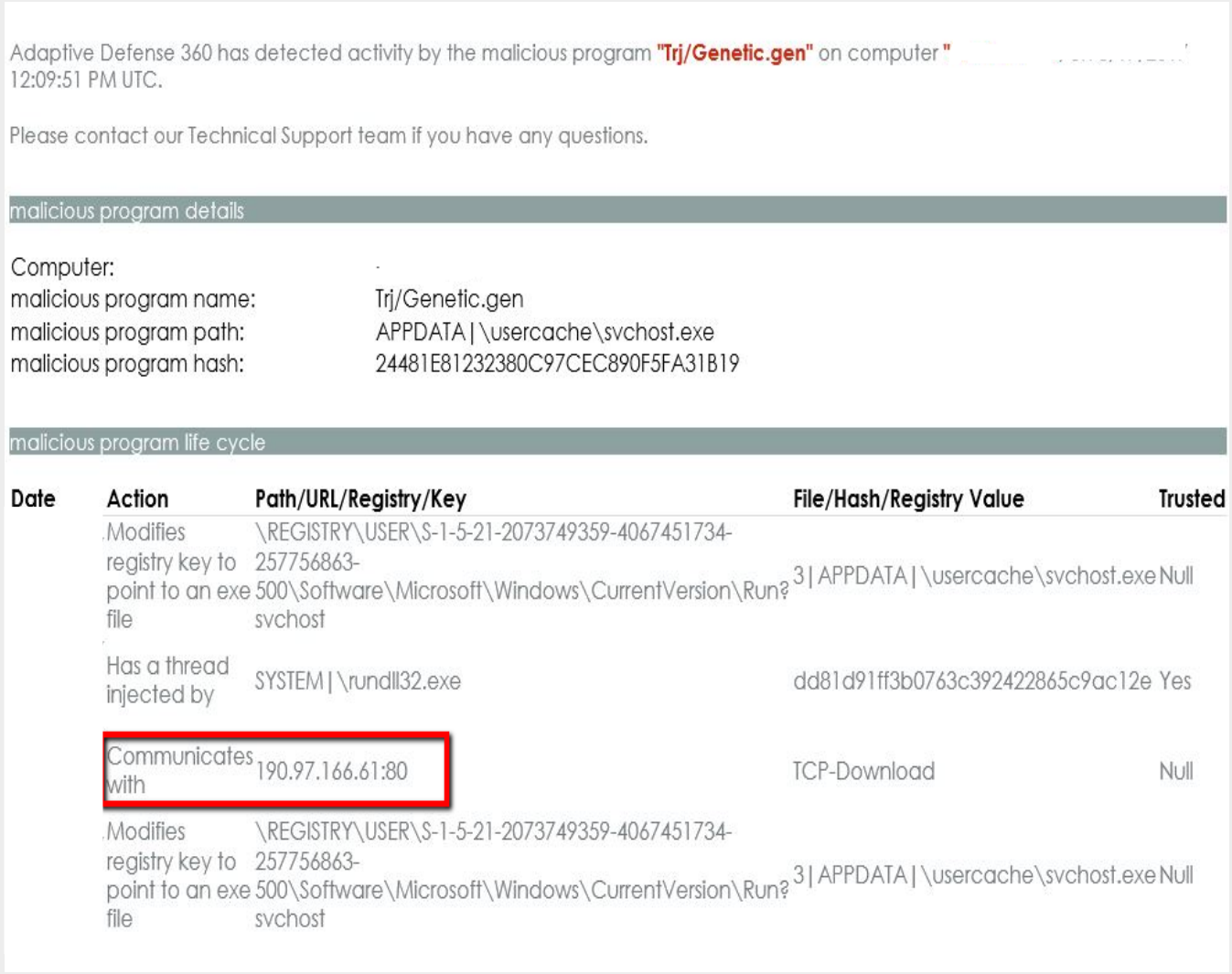
Computer	First seen	File path
-MATERIAL-C	:55:59 AM UTC	3|SYSTEMDRIVE|\ -MATERIAL-C.exe
-SERVER	:56:37 AM UTC	3|SYSTEMDRIVE|\ SERVER.exe
MGR1	:01:42 AM UTC	3|SYSTEMDRIVE|\ -CR-MGR1.exe
-REC2	:54:40 AM UTC	3|SYSTEMDRIVE|\ REC2.exe
-MGR2	:55:32 AM UTC	3|SYSTEMDRIVE|\ -MGR2.exe
-DIRECTOR-2	:55:41 AM UTC	3|SYSTEMDRIVE|\ DIRECTOR-2.exe
-MAILSERVER	:55:57 AM UTC	3|SYSTEMDRIVE|\ -MAILSERVER.exe
PIO-CHEF	:01:40 AM UTC	3|SYSTEMDRIVE|\ -CHEF.exe
-FBASS	:54:47 AM UTC	3|SYSTEMDRIVE|\ -FBASS.exe

The purpose of this malware

At first sight the malware seems that it did not perform any malicious activities on the machine.

But the malware managed to configure a Registry entry that will load malware in the startup of the machine

This malware will encrypt the machine in the next startup.



Adaptive Defense 360 has detected activity by the malicious program **"Trj/Genetic.gen"** on computer " 12:09:51 PM UTC.

Please contact our Technical Support team if you have any questions.

malicious program details

Computer:	
malicious program name:	Trj/Genetic.gen
malicious program path:	APPDATA|\usercache\svchost.exe
malicious program hash:	24481E81232380C97CEC890F5FA31B19

malicious program life cycle

Date	Action	Path/URL/Registry/Key	File/Hash/Registry Value	Trusted
	Modifies registry key to point to an exe file	\REGISTRY\USER\S-1-5-21-2073749359-4067451734-257756863-500\Software\Microsoft\Windows\CurrentVersion\Run?svchost	3|APPDATA|\usercache\svchost.exe	Null
	Has a thread injected by	SYSTEM|\rundll32.exe	dd81d91ff3b0763c392422865c9ac12e	Yes
	Communicates with	190.97.166.61:80	TCP-Download	Null
	Modifies registry key to point to an exe file	\REGISTRY\USER\S-1-5-21-2073749359-4067451734-257756863-500\Software\Microsoft\Windows\CurrentVersion\Run?svchost	3|APPDATA|\usercache\svchost.exe	Null

Let me tell you a story …

The main character
Supermarket chains in Greece.

Situation
Compromised Remote desktop that was exposed on the internet.

Target
Encrypt customer data and request ransom

Challenge
Detect the origin of the attack

Scenario
Incident investigation + Threat Hunting

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Every organization, regardless of size, has the same security aspirations.

“Attackers can’t be stopped”

Dedicated nation-state attacks are persistent

Adversaries and malware can be stopped

Using basic defensive steps that are already available

“All attackers are geniuses”

Attackers are average (Electricians, not Einstein)

Use tools passed on from others

Brilliant hackers are few and far between

“IT Security knows what to do”

IT Security teams are full of intelligent, hardworking people

Lacking real data to back up beliefs about problems

Individuals driven by preference, not organizational priority

“Patching is under control”

100,000s of programs with undiscovered bugs

10 to 20 unpatched programs represent the majority of risk

Hardware, firmware, and drivers are frequently missed

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In most cases, “successful” attacks are on the endpoint or user.

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BUT - It is no longer just about “bad file” v “good file” decisions.

Infections are Dwindling

- **Only hackers represent a challenge**
- **When they are on the network with admin credentials**

Hackers are the new problem

- Trained by governments, security companies, and criminal organizations
- Create targeted attacks with proprietary malware
- Using applications and goodware to fly under the radar
- An equivalent response to this is needed

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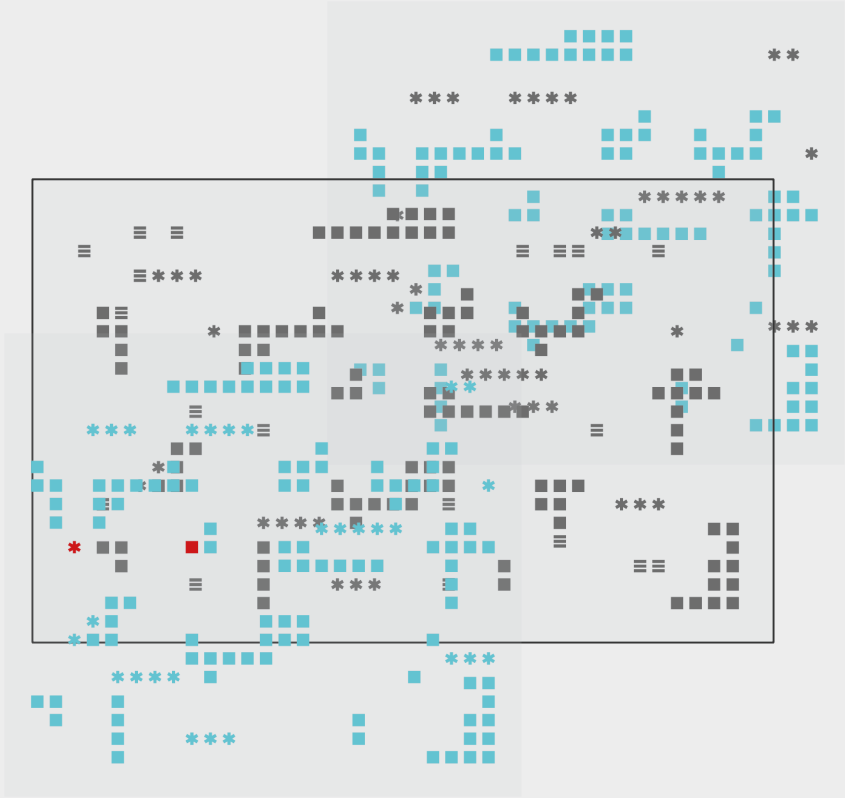
Aside from using EPP, EDR to detect the known knowns or unknown we need to change our way of thinking …

What is Threat Hunting

"…the process of ***proactively*** and iteratively searching through networks to detect and isolate advanced threats that evade existing security solutions."

This is in contrast to traditional threat management measures, such as firewalls, intrusion detection systems (IDS), malware sandbox (computer security) and SIEM systems, which typically involve an investigation

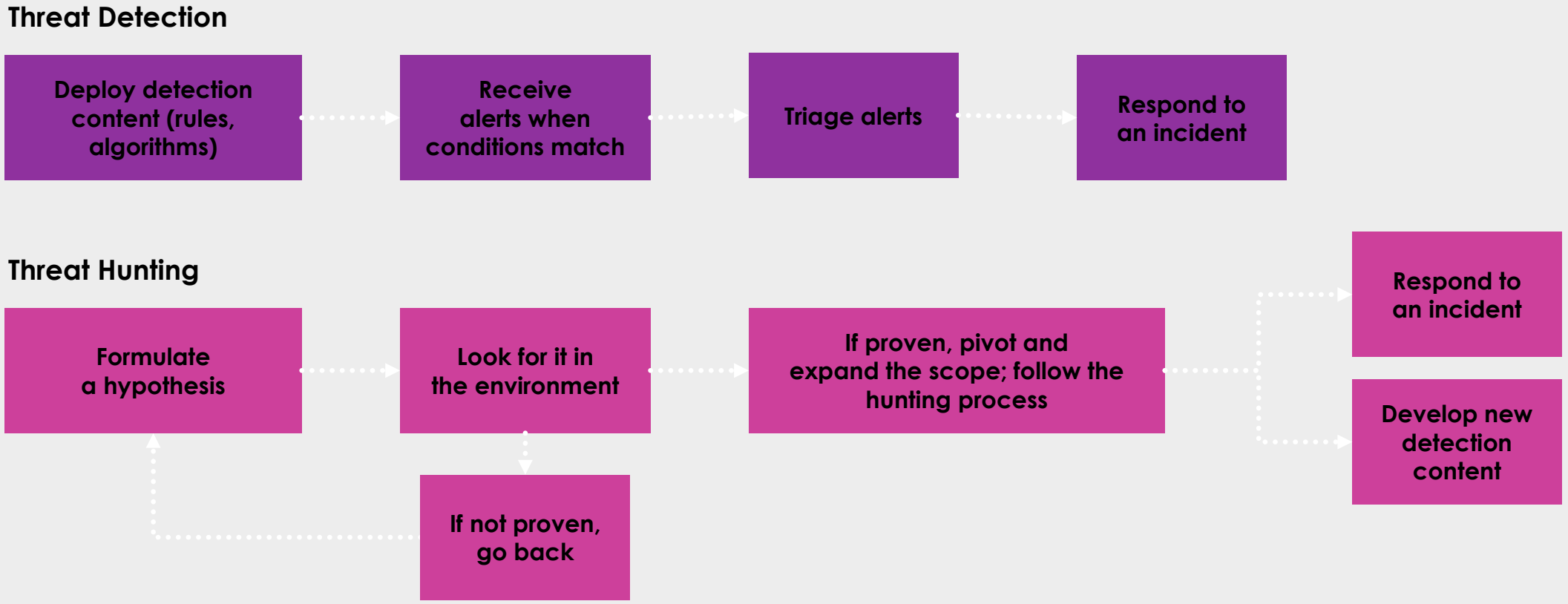
After there has been a warning of a potential threat or an incident has occurred."



What Is NOT Threat Hunting

- **It is not better alert triage (very much still "gathering!"):**
    - ... and neither is “much better/faster alert triage”
- **It is not using endpoint detection and response (EDR) to match threat intel/indicators in your systems:**
    - This may form part of the hunt, this is IoC search and should be automated.
- **It is not searching for things in a security data lake:**
    - Again, you may search data during the hunt, but this is still IoC searching.
- **It is not a replacement for threat detection.**

Threat Detection vs. Threat Hunting



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Threat Hunting Prerequisites

People — since Threat Hunting is analyst-centric, need strong threat analysts and "tribal" knowledge

Process — Threat Hunting is ad hoc, but there is a method to this madness

Technology — naturally, you need the [data] "pond" to hunt with; visibility tools are essential!

Limited staffing, limited expertise, and the number of threats, attacks and breaches continue to grow…

So what can we do?

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Mainstream organizations start to look for these Features-as-a-Service to address threat detection and response.

.. AND ...

Mainstream organizations start to streamline their security and IT operations workflow.

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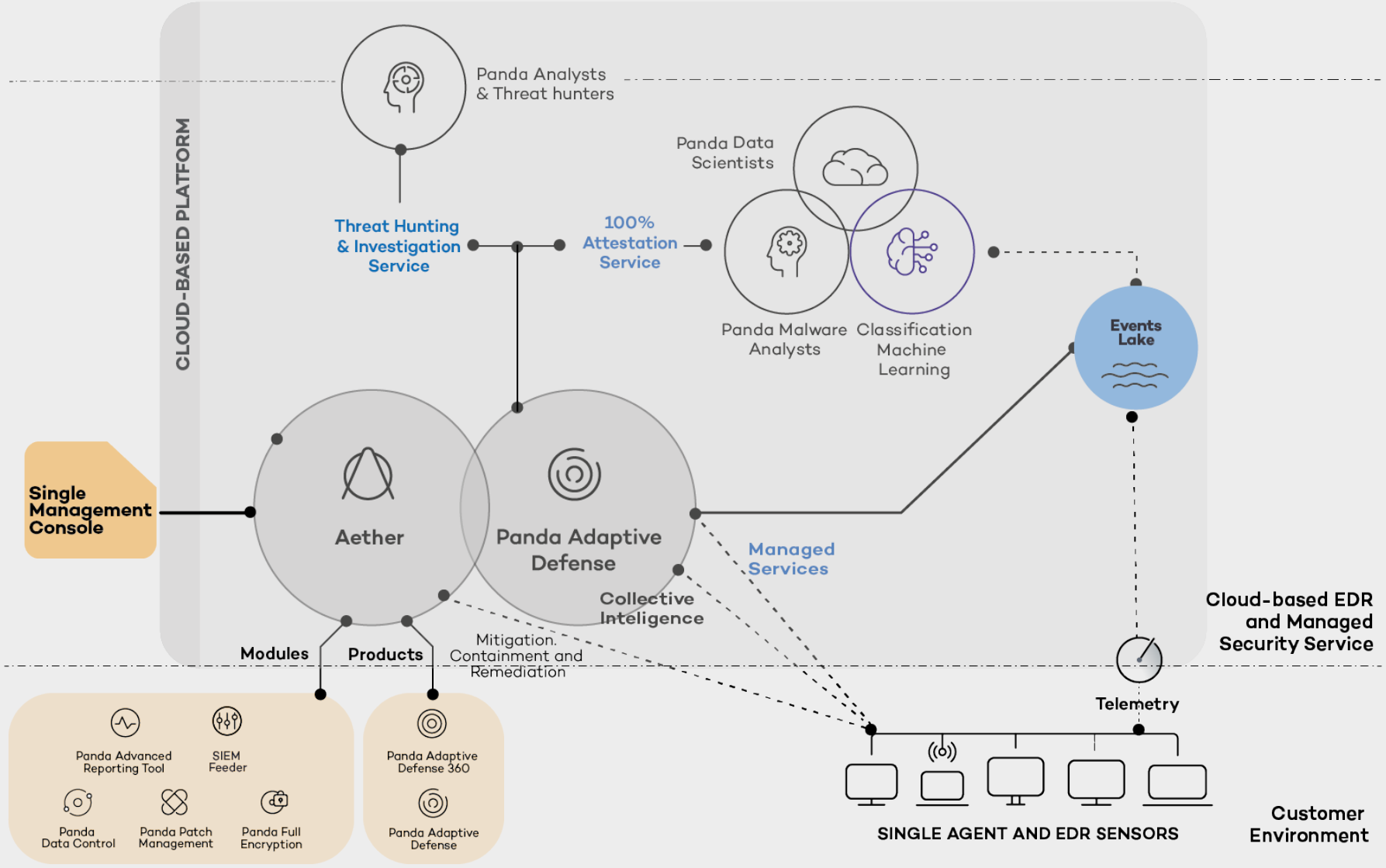

Visit out booth, to discuss further!

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Thank You !

Lampros Katsonis