**SOPHOS - Soluzioni** di deep learning ed EDR, utilizzate per creare report in ambito forense

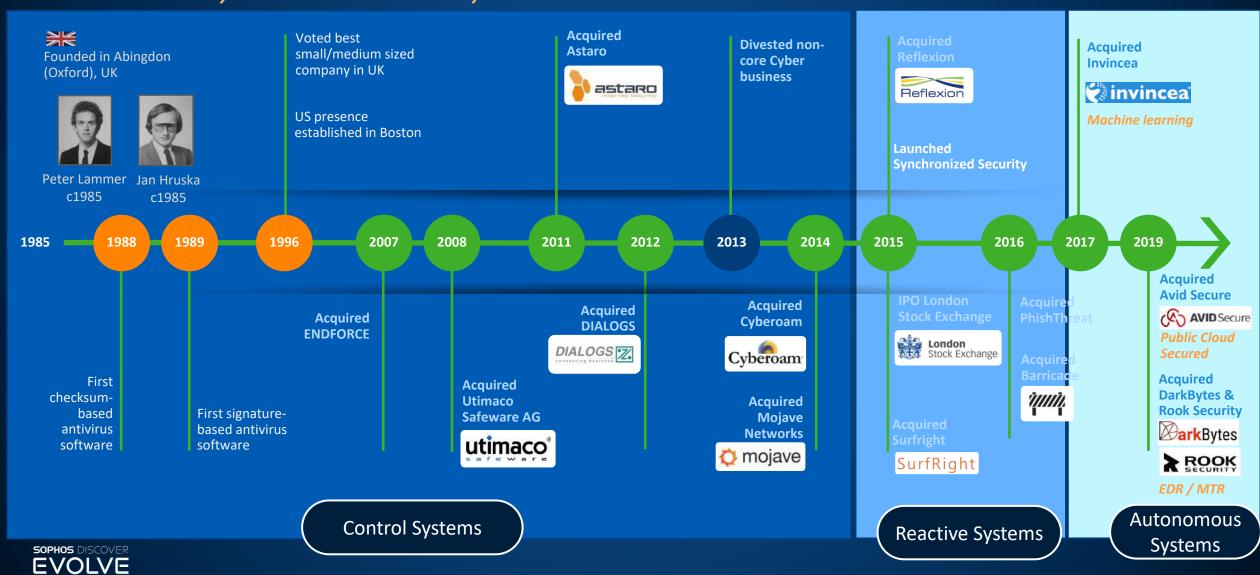
Giovanni Giovannelli Senior Sales Engineer

Amelia, 18 Ottobre 2019



#### **Sophos History**

#### Evolution to Synchronized Security Evolved





THE BEST JUST GOT BETTER

# **Endpoint Technologies**

**BANK** \$£€



**Synchronized Security** 



Anti Virus

Deep Learning

WANTED!









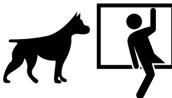
**Pre-Execution** 

**Exploit Prevention** 

Techniques!







**Behavior Monitoring** 

**Actions!** 



**Post-Execution** 





## Anatomy of an Attack – The Cyber Kill Chain

03 02 04 05 01 06 DEVELOP ACTIONS DELIVER EXPLOIT INSTALL RECON



#### **Layered Defense**

Intercept X Advanced with EDR

SYNCHRONIZED SECURITY
Heartbeat

INVESTIGATE & REMOVE
Threat Cases
Sophos Clean M with SafeStore

DETECT & RESPOND

Al Expert Insights

Cross-Estate Hunting

SophosLabs Threat Intelligence

**RUNTIME BEHAVIOR ANALYSIS** PRE-EXECUTION BEHAVIOR ANALYSIS LOCAL PRIVILEGE MITIGATION **MACHINE LEARNING ANTI-RANSOMWARE WEB CONTROL APPLICATION LOCKDOWN** LIVE PROTECTION **CREDENTIAL THEFT PROTECTION WEB PROTECTION MEMORY MITIGATIONS ANTI-MALWARE DATA LOSS PREVENTION Exploit** C&C **Delivery** Install **Actions PERIPHERAL CONTROL CODE MITIGATIONS PROCESS PROTECTIONS SAFE BROWSING APC MITIGATION** DOWNLOAD REPUTATION POTENTIALLY UNWANTED APPS **MALICIOUS TRAFFIC DETECTION APPLICATION CONTROL** 



#### **Power of the Plus**

Delivery and Instruction

Exploit and Execution

3.

BOOM!

\$\$\$



**Phishing** 



Malicious URL



Command & Control



Credential Theft



Privilege **Escalation** 



Malicious Executable



Data **Exfiltration** 



Ransomware



Server Attack









Exploit

Anti-**Exploit** 

Web **Control**  Malicious **Traffic** 

Anti-**Exploit** 

Deep Learning

Hashes

**DLP** 

**EDR** 

Server

**Phishing Training** 

**Behavior** 

Anti-Ransomware



#### Sophos Deep Learning Malware Detection Features

Prevents both known and never-seen-before malware

Blocks malware before it executes

Does not rely on signatures

 Classifies files as malicious, potentially unwanted apps (PUA), or benign

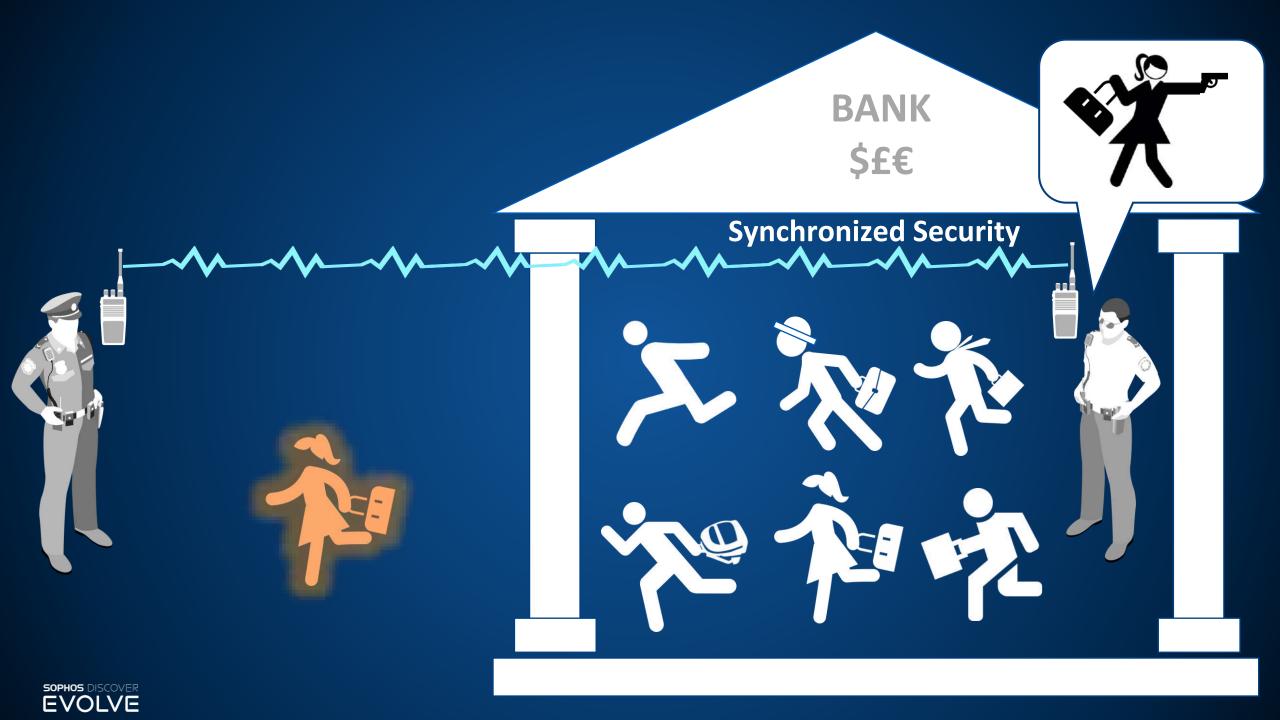
 Extremely small footprint (under 20MB) with infrequent updates

Detects malware in approximately 20 milliseconds

Protects even when the host is offline

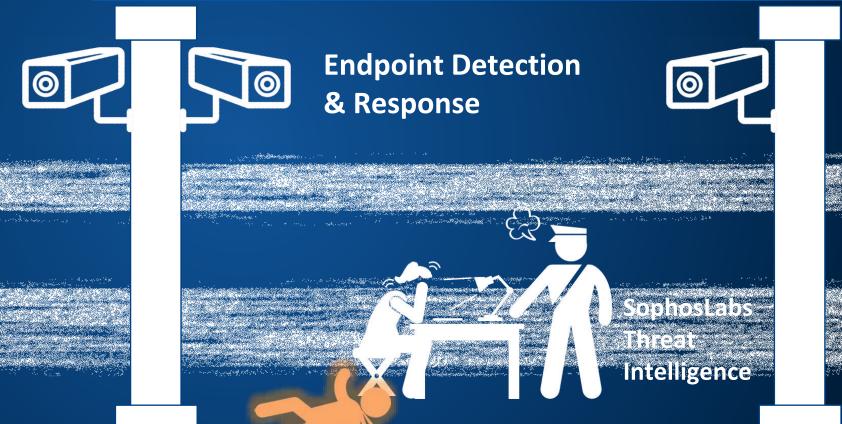
Works out of the box, no additional training needed



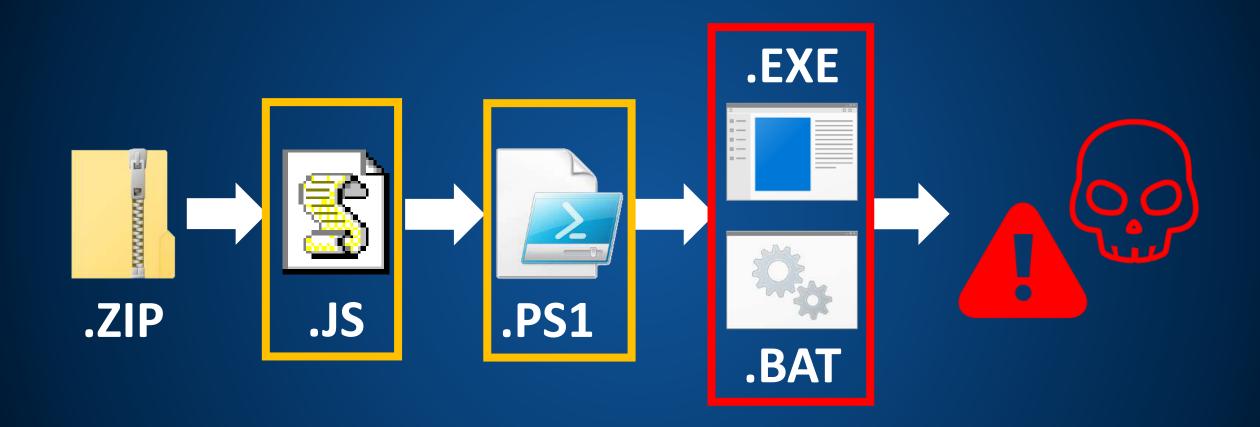




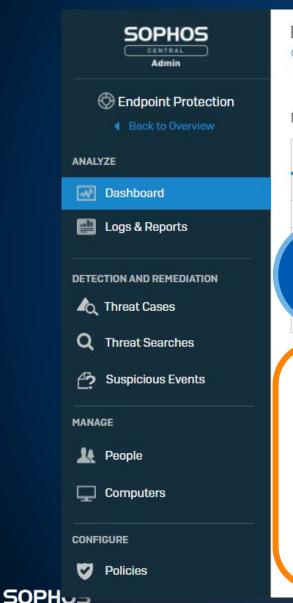
BANK \$£€

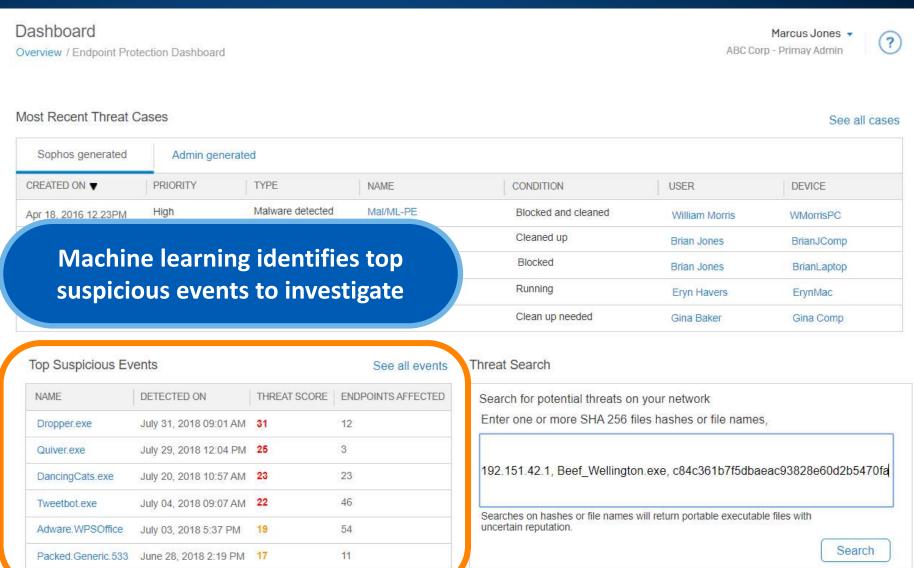


#### Infection chain

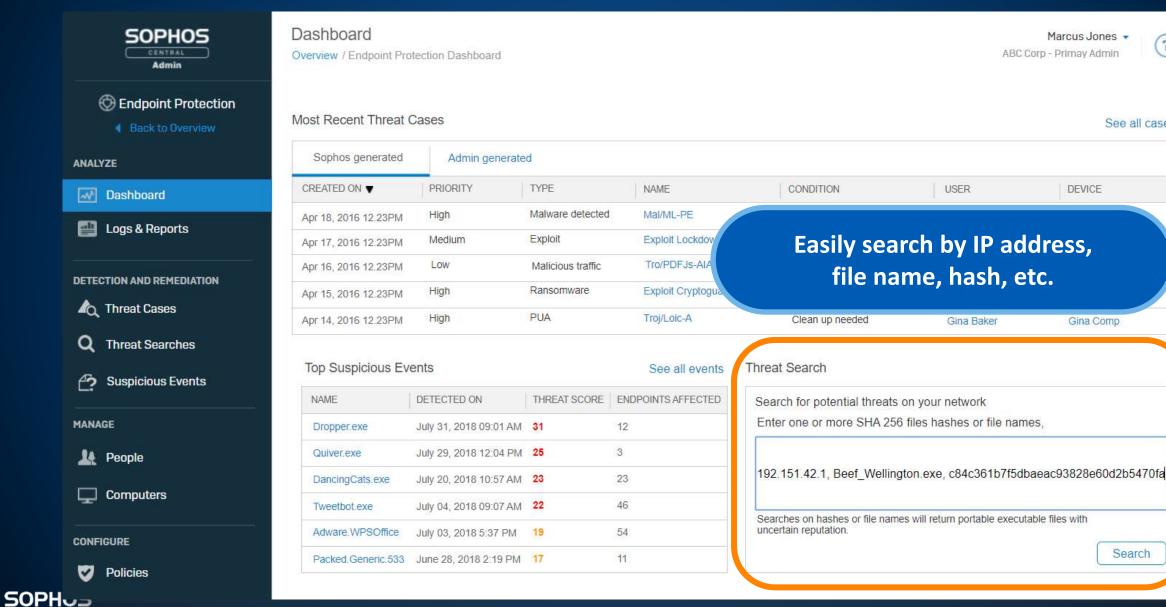


#### Intercept X w/ EDR: Detect





#### Intercept X w/ EDR: Detect



Marcus Jones

DEVICE

Gina Comp

Search

ABC Corp - Primay Admin

USER

Gina Baker

?

See all cases

#### Threat Search

#### Campagna Ransomware FTCODE veicolata in Italia

02/10/2019

powershell

ransomware

Osservato in Italia a partire da settembre 2019, il ransomware denominato FTCODE ha lo scopo di cifrare i file e, rinominarli con estensione .FTCODE, al fine di ottenere un riscatto dalle potenziali vittime.

Il CERT-PA ha avuto evidenza della campagna odierna grazie alle segnalazioni pervenute da parte di comuni e di PA centrali. Nel caso specifico il malware viene veicolato attraverso l'invio di mail, sia PEO che PEC precedentemente compromesse, contenenti in allegato un archivio compresso all'interno del quale è presente un file .doc con macro malevola. Di seguito uno screenshot della mail utilizzata per la campagna in oggetto.

Da responsabilesettorellpp.comune.cassanoalloionio.cs@asmepec.it 🕸

Oggetto Fatture scadute 2019 2644199

A pec@pec.comune.madignano.cr.it 🏠

In allegato trova la fattura. 611608

Cordiali saluti

#### DOMAIN

connect.simplebutmatters.com home.southerntransitions.net connect.southerntransitions.com home.selltokengarff.com home.ktxhome.com home.goteamrob.com twitter.crtcostruzionisrl.com my.mylifeamongthewomen.com

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home.mmaut.com

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cofee.theshotboard.net

home.tith.in

donald.tilmonday.com

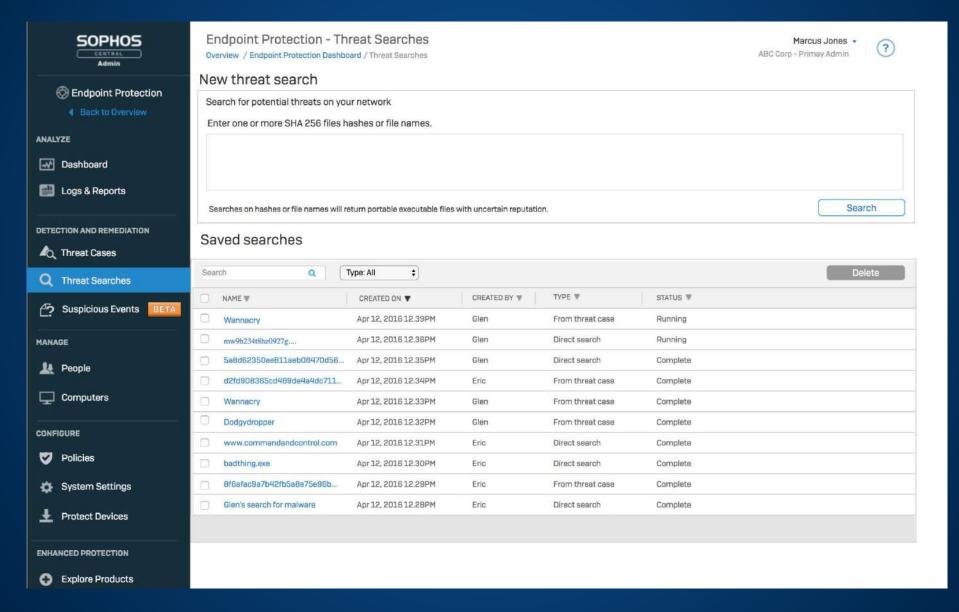
#### SHA256

7E458B1FB5CD1D6AA33663FD6E749C8C3FBEC152AC279B22C5FE4461FD2CBD13 EBFC3CF4A57981B84F6E651D3A5DC145EB1B54D41D75BD94F15ECB0E5826D56C 1D59F58777358E769E8C943BDF27801B77D5FC43057D2C02DEFCCC8A4730128C 0E88623431DA59C1A953D025A37E9737C1F256FF523189FE5CB20974B4125284 5995d9e63de7336713cfd5d6aad4955f0f0700835e9a3def625a880f6b62c08e 417f0316d938f659d91049d8f0985ef41dca140f712be51b44b131a9fe96e74b 1222299c4796779f3b29ddd8e28d6515e85ba42935c74c94e63c571e3e80d246 636aef37fb54cc2d979079a4d30aaf3a6e2865359486a98dea65def695e25839 7f870083a645d47078484ee78a9f6f65c9b426e595f4d9a5af6ed839e283c086 24d6087d2f32e88bedde34e81bad584dfb54643557e8134d341514949c5eae95 e02a49ad6b6dfcfbd33ddb53725421700e6fe2acd4205c46b42409df9d58473d

# **Guided Incident Response**

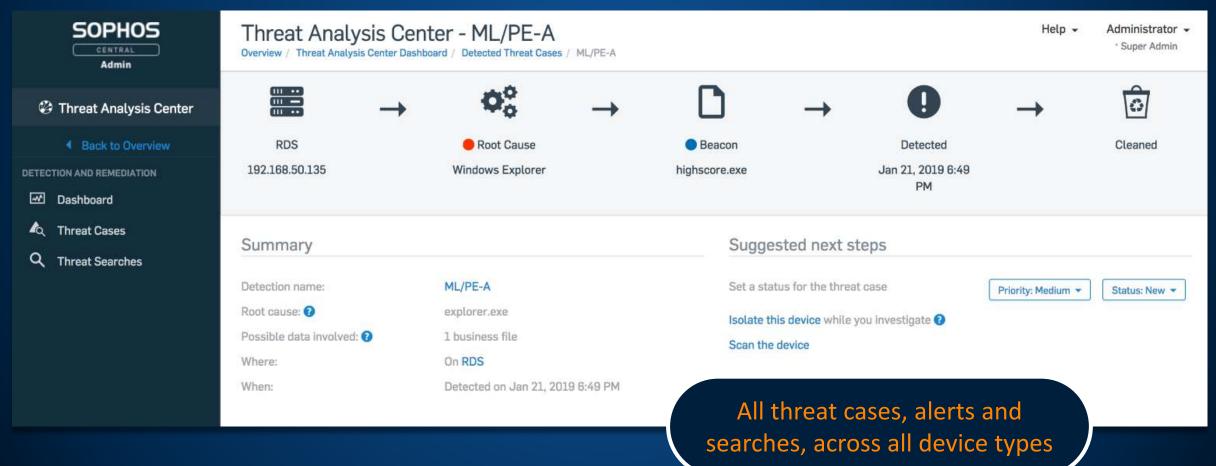


#### Security analysis: Cross-estate threat hunting



#### **Threat Analysis Center**

EDR Across Endpoint and Server



#### Hardest part of EDR: Knowing where to start

#1

Desired EDR feature

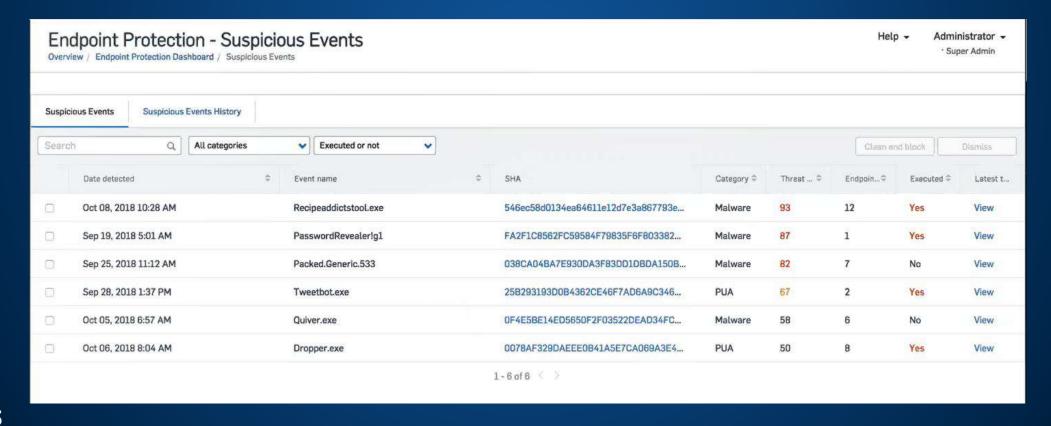
# Identification of **Suspicious Events**

#### **AI Driven Threat Hunting**

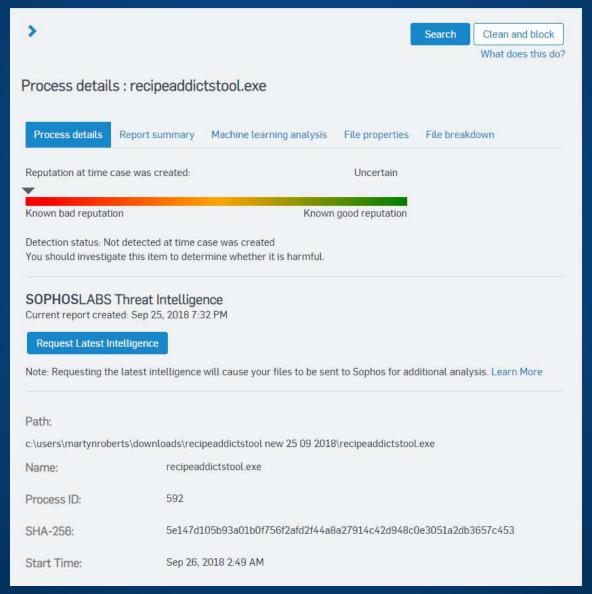
Groundbreaking machine learning from SophosLabs data science team (coming soon)

**Automated Hunting** 

**Prioritized Cases** 

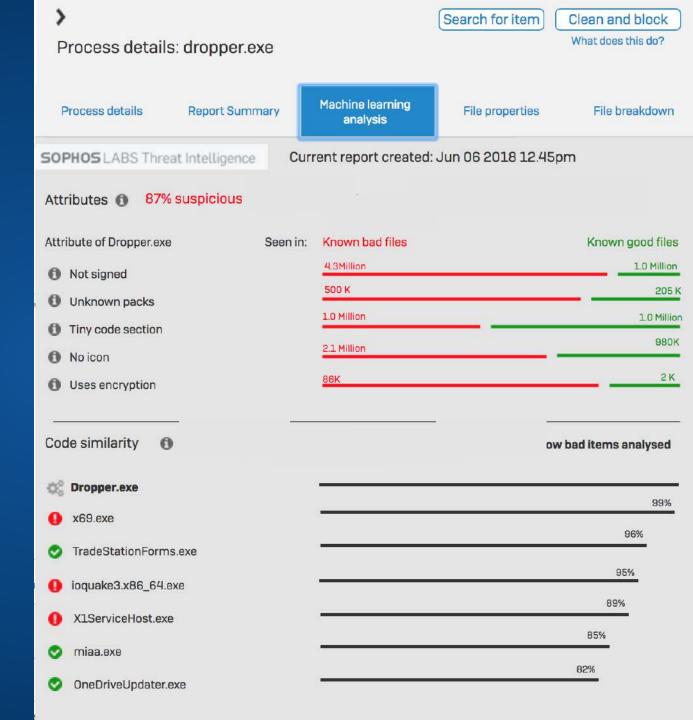


# Threat intelligence analysis: Access on-demand threat intelligence curated by SophosLabs

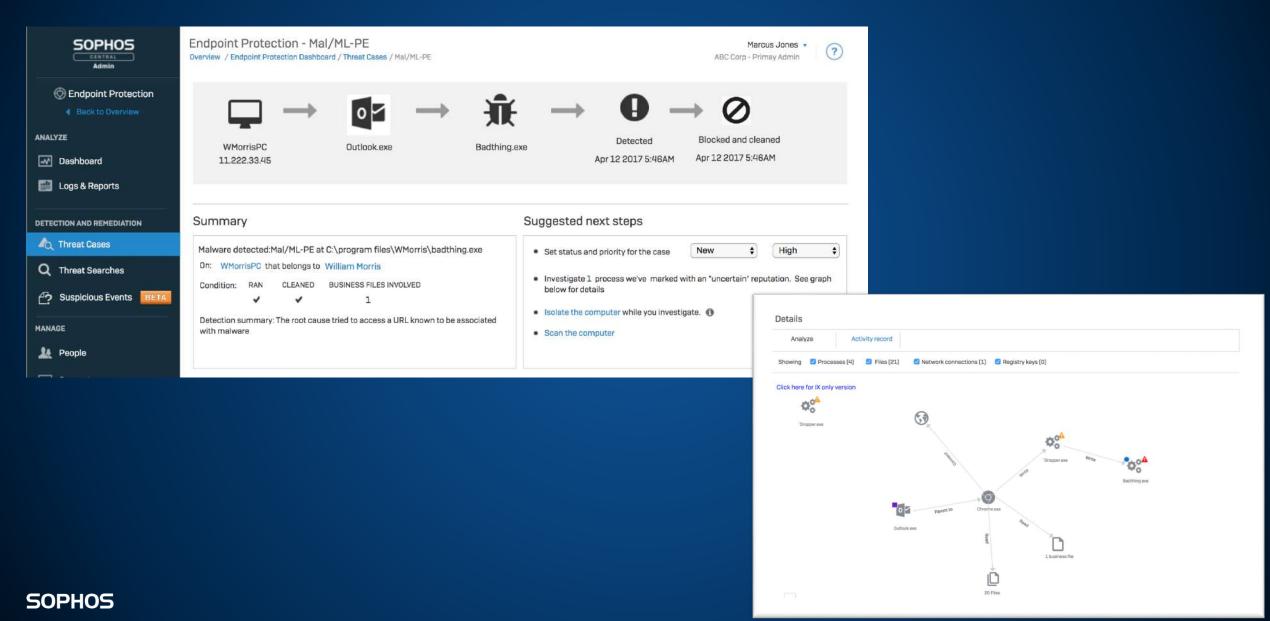


#### **Malware Analysis**

Analyze files using deep learning



#### Understand your security posture with guided investigations



#### Respond with the click of a button Clean and block You're about to clean up this item on any computer where we've found it and block it on all your computers. Why are you blocking this item? Clean and remove this suspicious file and black list it **Endpoint Protection - Search Details** Marcus Jones . CENTRAL ABC Corp - Primay Admin Overview / Endpoint Protection Dashboard / Threat Searches / Threat Search Results / Search Details Note: You can see the items you've blocked or unblock them again in your Blocked Items 3 of 3 items found on Athomson Mac belonging to Anna Thomson Endpoint Protection 4 Back to Overview Create forensic snapshot Confirm ANALYZE Type T Cleaned W | Path Actions SHA256 Hash V Name V Reputation > **■** Dashboard e92e02dff752778c13c1d78 Installer exe Actions Uncertain Process c:\program files\a path name Logs & Reports 8ac0781a335b86fc0f4158b Actions be8f9810623a390c12 Clean and block Generate threat case Request threat intelligence report **DETECTION AND REMEDIATION** 2bf24dba5fb0a30e26e83b2a Updater.exe Uncertain Process No c:\program files\a path name c5b9e29e1b161e5c1fa7425 e73043362938b9824 Threat Cases c:\program files\a second path name Actions

c:\program files\a third path name c:\program files\a fourthpath name

c:\program files\a path name which

is long and will wrap in the table row

Actions

Actions

Actions

Q Threat Searches

Suspicious Events

MANAGE

A People

Computers

3cf24dba5fb0a30e26e83b2a

c5b9e29e1b161e5c1fa7425

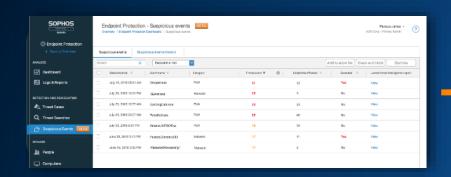
e73043362938b9824

Keylogger.exe

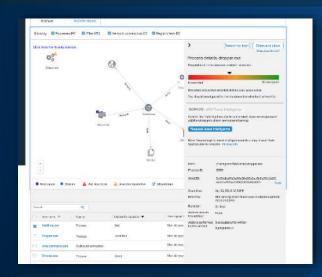
Process

Bad: Malware

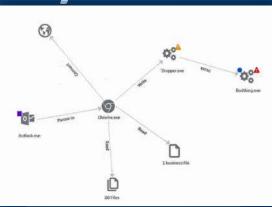
#### Day in the Life of an Analyst



Identifies top incident as Dropper.exe via
Threat Indicators



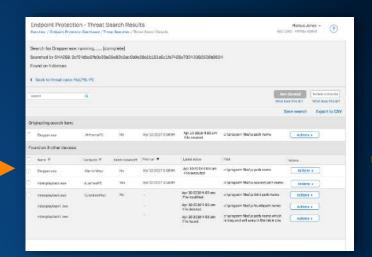
Requests more details from SophosLabs



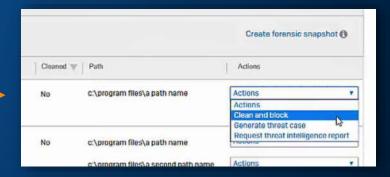
Sees Dropper.exe distributed malware (which was blocked)



Uses Deep Learning to determine file is malicious

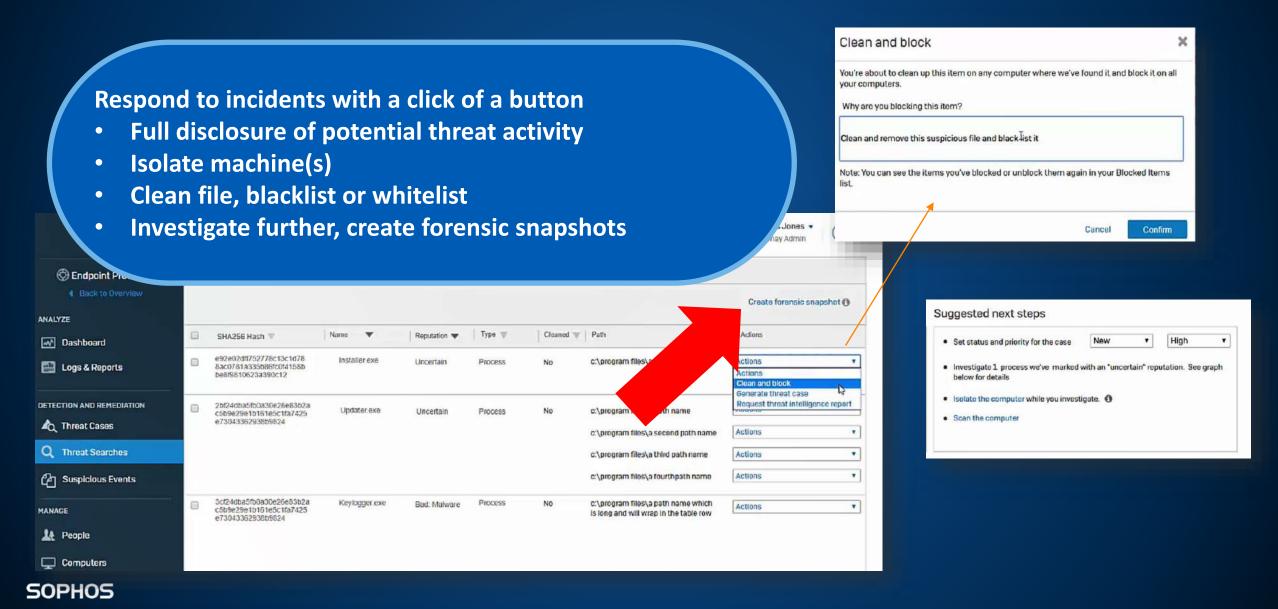


Determines where else Dropper.exe exists

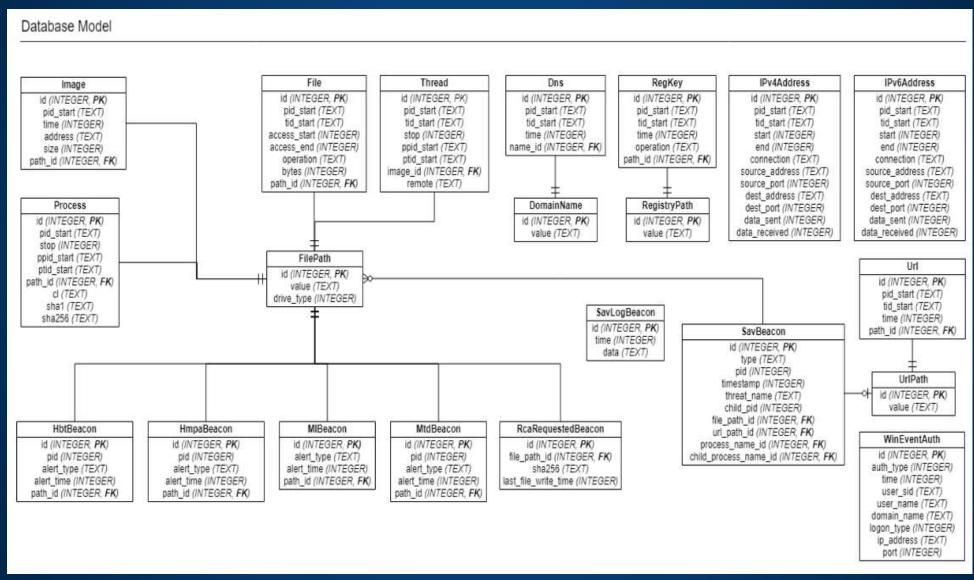


Remediates threat "Clean and block"

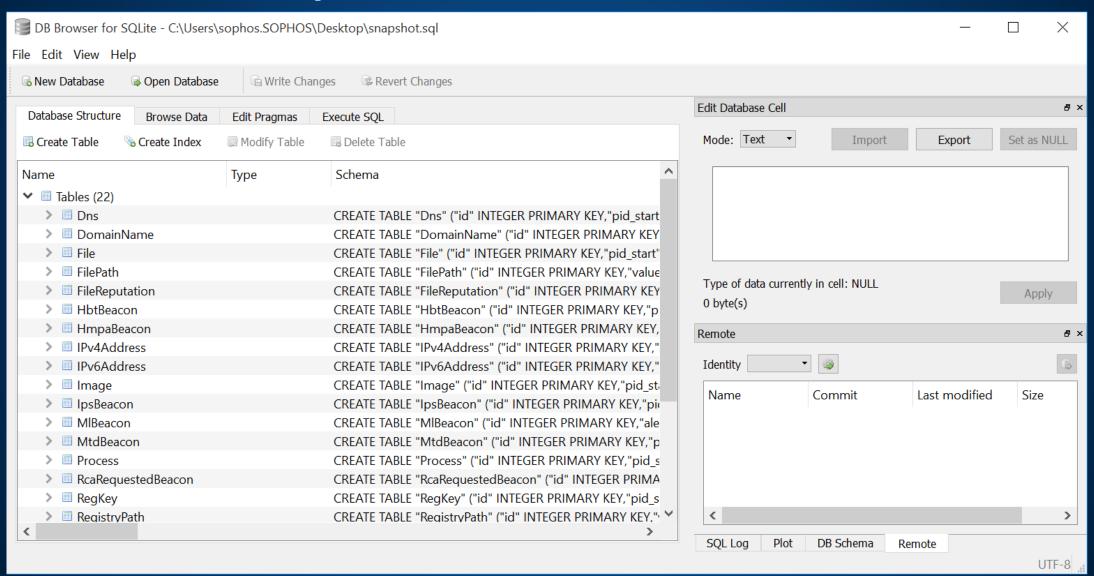
#### Intercept X w/ EDR: Respond



#### The Forensic Snapshot



#### The Forensic Snapshot



## Core Security Capabilities



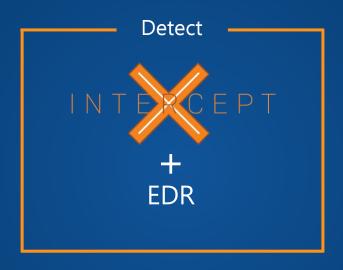






## Core Security Capabilities









#### Response Modes

# You choose the best way for our MTR team to work alongside you

#### Notify

We notify you about the detection and provide detail to help you in prioritization and response

#### Collaborate

We work with your internal team or external point(s) of contact to respond to the detection

#### **Entrust**

We handle containment and neutralization actions and will inform you of the action(s) taken



### PARTNER SOPHOS: S.O.S. COMPUTER 2000

www.soscomputer2000.eu/?page\_id=155

#### Intercept X + EDR

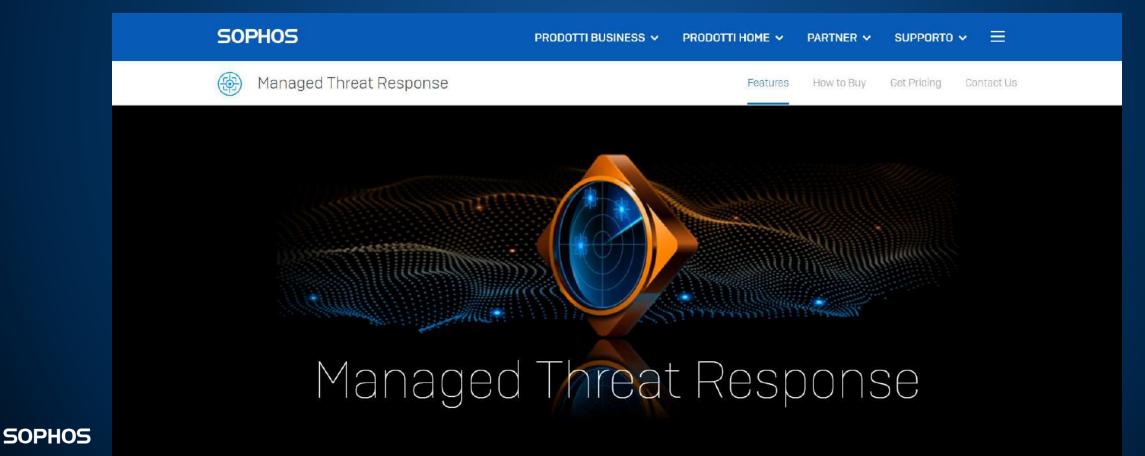


**SOPHOS** 

#### PARTNER SOPHOS: S.O.S. COMPUTER 2000

www.soscomputer2000.eu/?page\_id=155

## **Sophos MTR**



# SOPHOS Cybersecurity made simple.