

# Inside Intelligence 2016

A SAS CONFERENCE FOR INDUSTRY ANALYSTS

**SAS<sup>®</sup> CYBERSECURITY**  
STU BRADLEY





# CORRUPTION

# THE CHALLENGE MALWARE-AS-A-SERVICE



# THE CHALLENGE WORLD WITHOUT GOVERNANCE



...Conventions,  
Policies, Agreements,  
Treaties...



# THE CHALLENGE ENLARGING THREAT SURFACE



**\$170B Annual  
Spend**



**10B Events**

**80.5 Days**

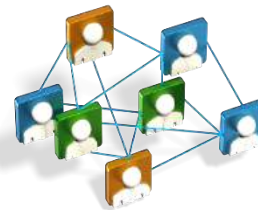


**\$154 per Record**



**59% Detected by  
3rd Party**

**\$450B Lost**



**200% increase  
in cost**

**\$133M  
OPM**

Enterprises unable to detect attackers'  
presence on their network due to  
excessive volume of security alerts and  
lack of visibility into network behaviors



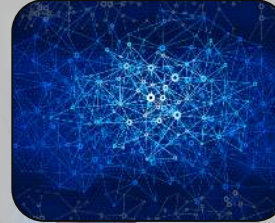
## KEY CHALLENGES THAT MUST BE ADDRESSED



Detection  
Avoidance



Limits of  
Signatures &  
Rules



Economics  
of Data  
Scale



Analyst  
Fatigue



# THE CYBER ECOSYSTEM

IDENTIFY – PROTECT – DETECT – RESPOND – RECOVER

## Protect & Detect

Firewalls & Intrusion Protection



Identity Management



Data Loss Prevention



Web & Email Gateways



Vulnerability Scanning



Endpoint Detection



Malware Sandboxing



Threat Hunting



## Respond



**10,000** Alerts Daily

**250** Reviewed by Analysts

**30** Fully Investigated

# THE CYBER ECOSYSTEM

## THE DETECTION MARKET IS CHANGING

### Protect & Detect

Firewalls & Intrusion Protection



Identity Management



Data Loss Prevention



Web & Email Gateways



Vulnerability Scanning



Endpoint Detection



Malware Sandboxing



Threat Hunting



SIEM  
(Aggregation)



UBA  
(Endpoints)

NAV  
(Network)

**In-Memory** Anomalous Behavior

Data Visualization

**Rules/Thresholds**

# **Security Analytics**

**Statistical Modeling** In-Stream

Machine Learning **Behavioral Analytics**



# Value of Results



## THE ANALYTIC PILLARS



### Analytic Driven Triage

Analytic insight and triage guidance served to security analysts to drive focus and efficiency.

### Predictive Cyberanalytics

Additive machine learning layer based upon feedback loop highlighting & categorizing malicious behaviors.

### Anomaly Detection

Understand normal & abnormal network activity. Leverage device peer groups to identify subtle threats.

In-stream  
&  
In-memory

## IN SUMMARY

# What you Need to Know

## THERE IS HOPE FOR SECURITY ANALYTICS...

- Can provide network visibility
- You should investigate data, timing & analytic approaches used
- You should understand impact of scale





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**QUESTIONS?** | The SAS logo, featuring a stylized 'S' icon followed by the lowercase letters 'sas'.

“There are two types of big companies in the U.S., those that have been hacked... and those who don't know they've been hacked.”

- James Comey, Director of the FBI

# THE CHALLENGE NETWORK UNKNOWN: DEPTH & SCOPE



## How it Works...

