NINTH ANNUAL LEADERSHIP EVENT

CYBER SECURITY SUMMIT

Security solutions through collaboration.™

October 28–30, 2019 | Minneapolis Convention Center

cybersecuritysummit.org | #cybersummitmn

Yasir Liaqatullah | VP Products

Protecting Customer from Themselves

Cyber Crimes are on the Rise!

$3.92 M

Average cost of a Data Breach

650%

Increase in Trojan-based malware threats

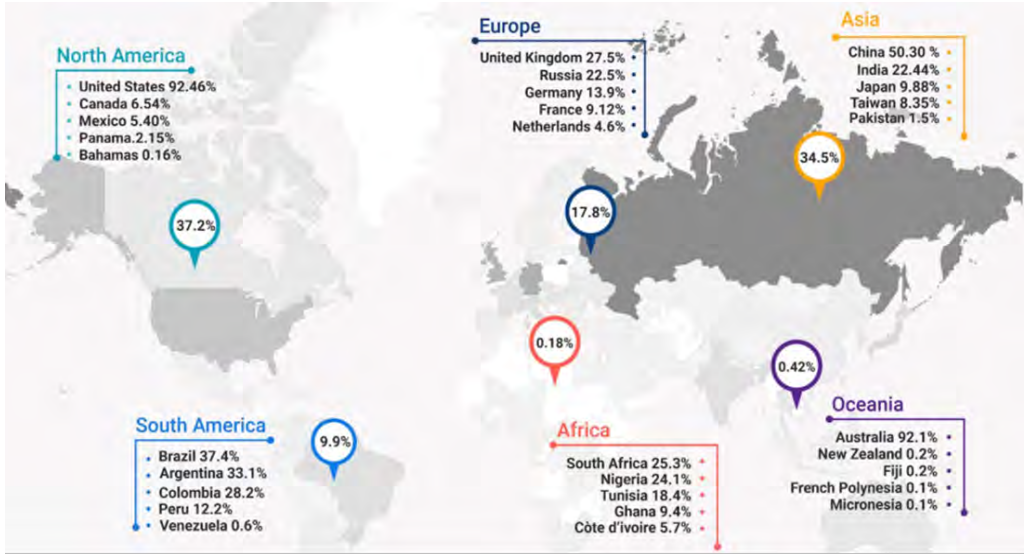
90%

Breaches caused by Phishing

Sources: Ponemon Institute | HIPAA Journal | Retruster

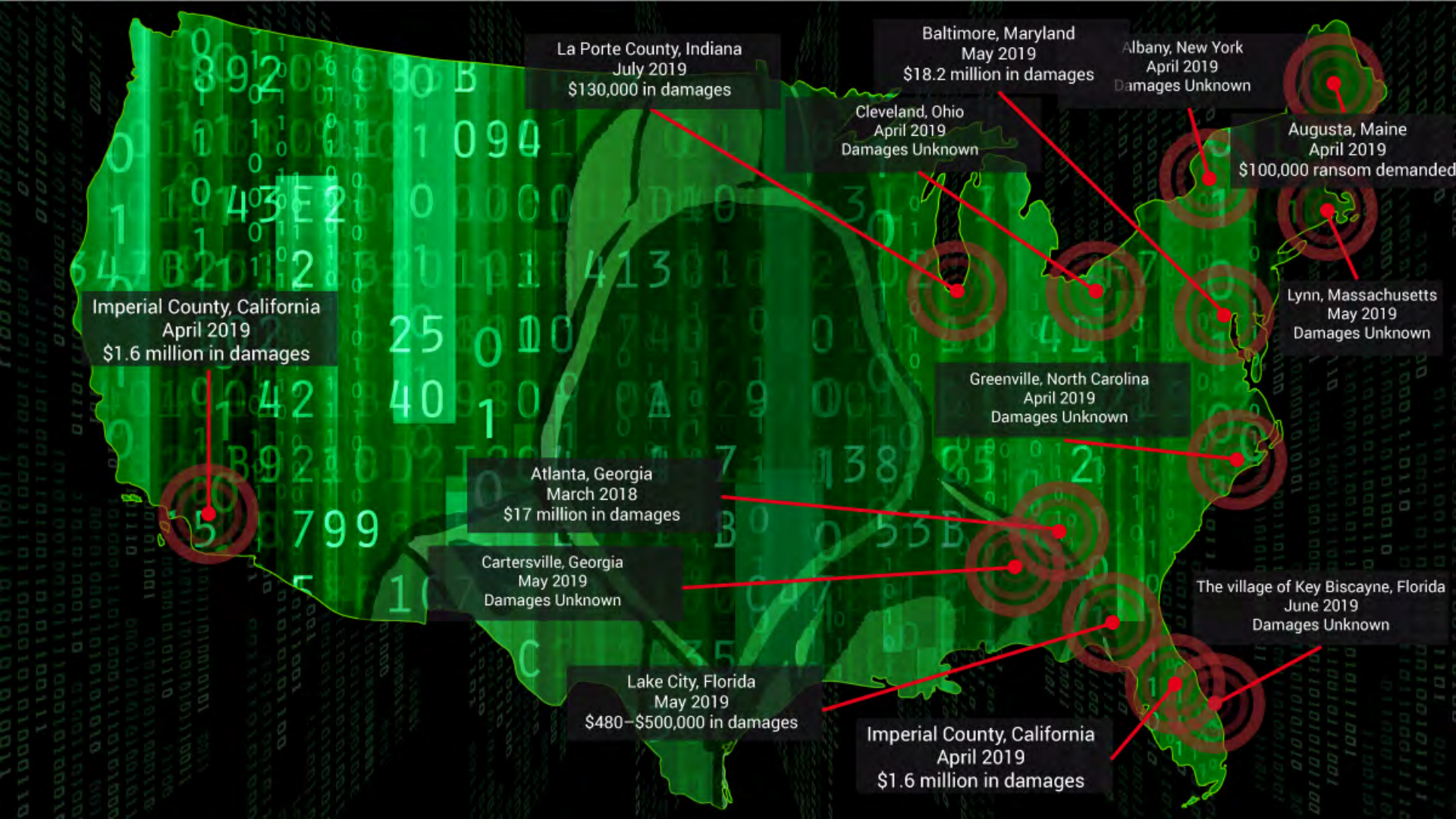
The Impact of Security Breaches

- Ransom
- Lost revenue
- Brand damage
- Regulatory fines
- Investigation costs
- Lawsuits



Data Breaches are a global problem

Source: Bleeping Computer


La Porte County, Indiana
July 2019
$130,000 in damages
Baltimore, Maryland
May 2019
$18.2 million in damages
Albany, New York
April 2019
Damages Unknown
Cleveland, Ohio
April 2019
Damages Unknown
Augusta, Maine
April 2019
$100,000 ransom demanded
Lynn, Massachusetts
May 2019
Damages Unknown
Imperial County, California
April 2019
$1.6 million in damages
Greenville, North Carolina
April 2019
Damages Unknown
Atlanta, Georgia
March 2018
$17 million in damages
Cartersville, Georgia
May 2019
Damages Unknown
The village of Key Biscayne, Florida
June 2019
Damages Unknown
Lake City, Florida
May 2019
$480–$500,000 in damages
Imperial County, California
April 2019
$1.6 million in damages

Internal Threat Actors

aren't always aware of the damage they're causing

What is an Internal Threat Actor?

Any User within the Trusted Internal Network who has legitimate access to resources

1. Has conscious intent to cause harm
   - Malicious insider or An imposter who technically is an outsider
2. Has no conscious intention of causing harm
   - Careless or negligent insider

Example – Malicious Insider

- Anthem's Data Breach - Employee Data Exfiltration
- Employee had been stealing and misusing Medicaid member data for almost a year
  - Emailed files containing Anthem member data to personal email account
  - Included information like Medicare ID, SSN, Health Plan ID, names, dates of enrollment etc.

Source: Observit

Example – Negligent Insider

- Lake City, Florida Ransomware Attack
  - City employee downloaded infected file via email
  - Multi-staged attack which included:
    - ***Emotet*** Trojan which started the attack & downloaded,
    - ***TrickBot*** Trojan which downloaded and installed,
    - ***Ryuk*** Ransomware which encrypted critical files
  - City paid a ransom of 42 bitcoins ($500,000)

Source: https://www.zdnet.com/article/second-florida-city-pays-giant-ransom-to-ransomware-gang-in-a-week/

Example – Phishing Attacks

- RSA's Breach
- Employees fell for a targeted phishing attack
- Multiple hacker groups involved
  - Pretended to be trusted co-workers and contacts
- Led to a successful Advanced Persistent Threat (APT) attack
  - 40 million employee records were compromised

Source: Observit

Example – Ransomware Attacks

- Riviera Beach, Florida Ransomware Attack
  - Employee of Police Department opened an infected email
  - Infected computers across the city's network
  - City government held a vote and paid a hefty ransom of 65 bitcoins ($600,000)

Source: https://www.palmbeachpost.com/news/20190607/how-riviera-beach-police-department-email-that-shouldnt-have-been-opened-turned-disastrous-for-city

Attackers are Challenging and Outsmarting **Traditional Security Practices**

Zero Trust Solves These Security Issues

- Conceptual model driving architectural changes
  - The concept has been around for long
  - Vendors and customers finally implementing the model
  - Demands major architectural changes
- Visibility is key
  - Visibility into users, data, workflows etc.

Zero Trust Solves These Security Issues

- "Trust Nobody"
  - Microsegment network perimeters
  - Limit excessive user privileges
  - Enable compliance
  - Avoid solutions that don't support diverse integrations
  - Improve security detection and response with centralized visibility & control
  - Avoid solutions that are too complex to deploy and use

Zero Trust Implementation Will Take Time

Meanwhile,
We Need a Solution for the Problems of Today

Encryption Introduces New Challenges

>80% *of Internet Traffic is* ***Encrypted***

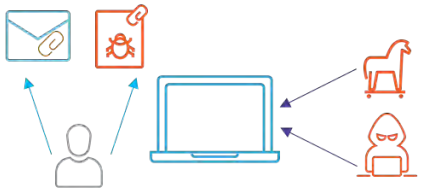
Encryption gives you **Privacy**

But it hurts your **Security**

You Cannot Defend Against
Threats You Cannot See

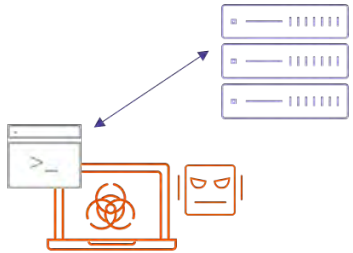
Encryption Makes Defenses Ineffective

Infiltration



Intrusion Prevention System (IPS)
Firewall
Secure Web Gateway (SWG)
Anti Virus System

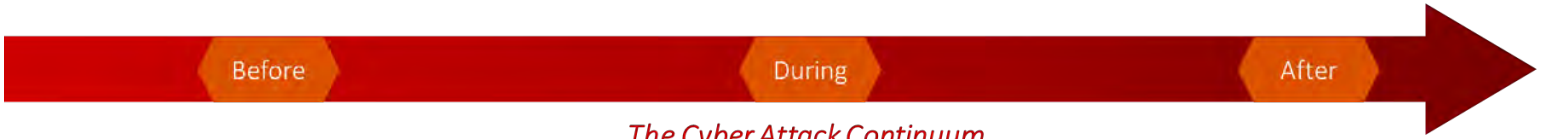
Command and Control



Advanced Threat Protection (ATP)
Anti Malware System
Sandbox

Exfiltration

Data Loss Prevention System (DLP)
Forensics



The Cyber Attack Continuum

The Zero Trust Model Will Fail Without Decryption Because

Visibility is Key

Decryption is operationally challenging And Expensive

The “DNS over HTTPS” Problem

- DNS used to be unencrypted
- Security via DNS Filtering was effective
- DNS inspection Created privacy concerns
  - Companies tracking/selling user data
- DNS over HTTPS (DoH) enables DNS traffic encryption
  - Users now susceptible to encrypted attacks hiding in DoH traffic
  - Security enforcement via DNS is no longer an option

Emerging TLS-1.3 Standard

- New Encryption Standard
- Aims to enhance efficiency, user privacy & user data security
- Requires costly upgrades to implement
- TLS 1.3 decryption may see a slow adoption rate

How do we solve the problems of **today**

While enabling the Zero Trust model
for a more secure **tomorrow?**

Dedicated and Centralized **Decryption**

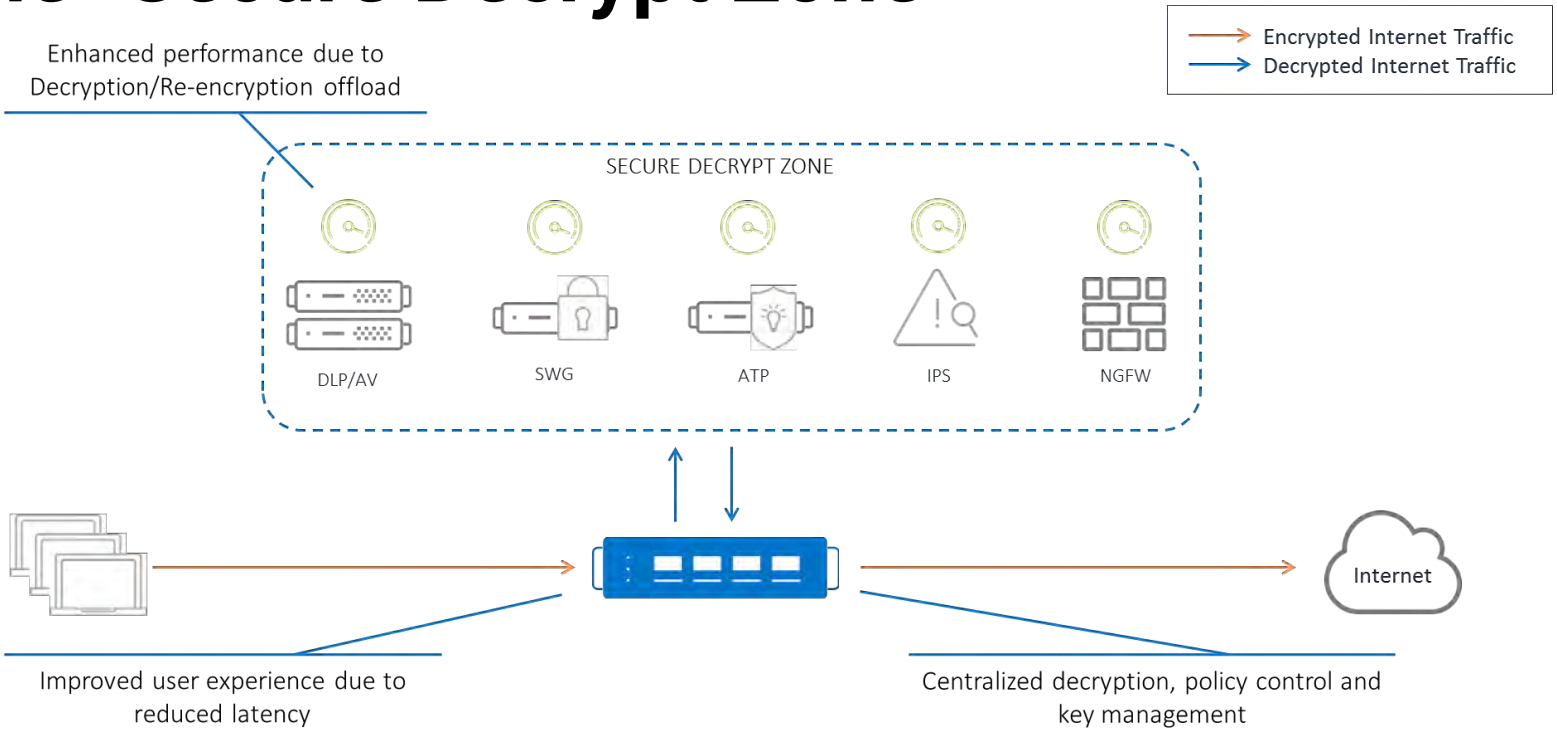
Dedicated and Centralized Decryption

- Simplified Operations
- Provides full visibility to the entire security infrastructure
- Enhances efficiency and efficacy of existing security infrastructure
- Enables the entire security infrastructure with the “Decrypt once, inspect many times” model
- Centralizes decryption, policy control, key management

Dedicated and Centralized Decryption

- Is vendor agnostic and provides flexible deployment options
- Is easy operationalize and to use
- Provides centralized visibility and analytics
- Provides centralized management capabilities

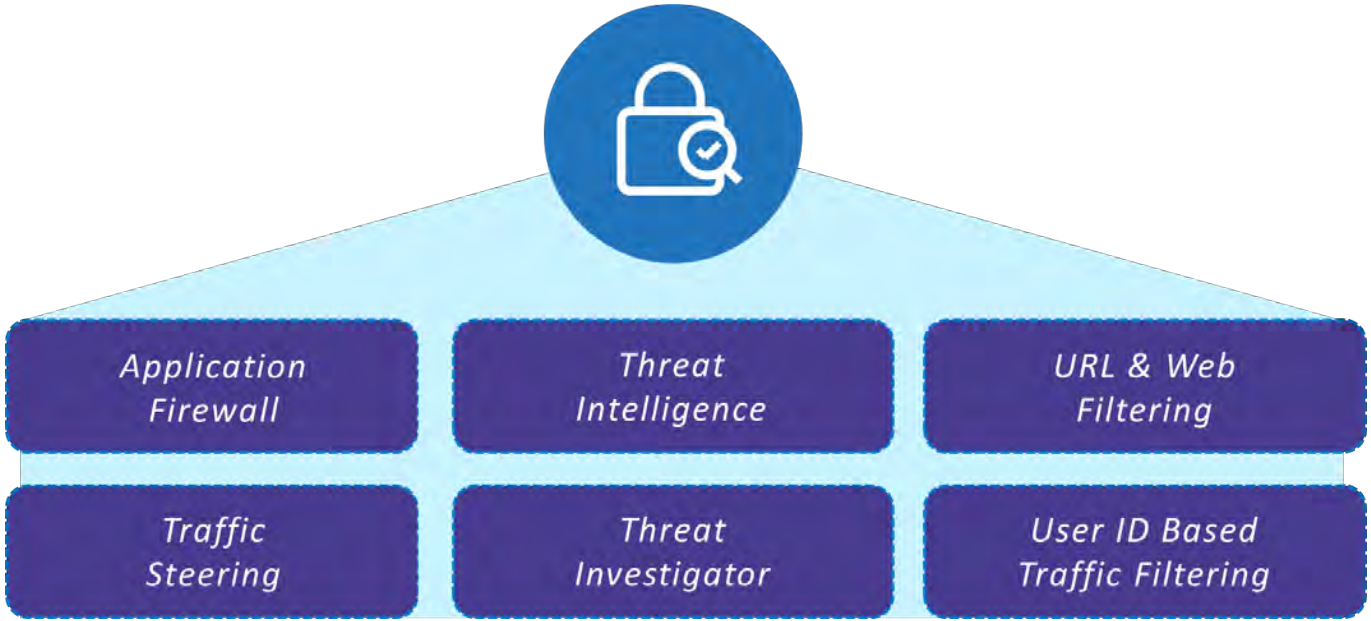
The “Secure Decrypt Zone”



A Dedicated and Centralized Decryption Solution

Sits at the core of the Zero Trust Model

Even Better Security with **Multi-Layered Security Services**



Thank You