



# Rethinking Cybersecurity for Healthcare

Overview Healthcare Cybersecurity  
Summit

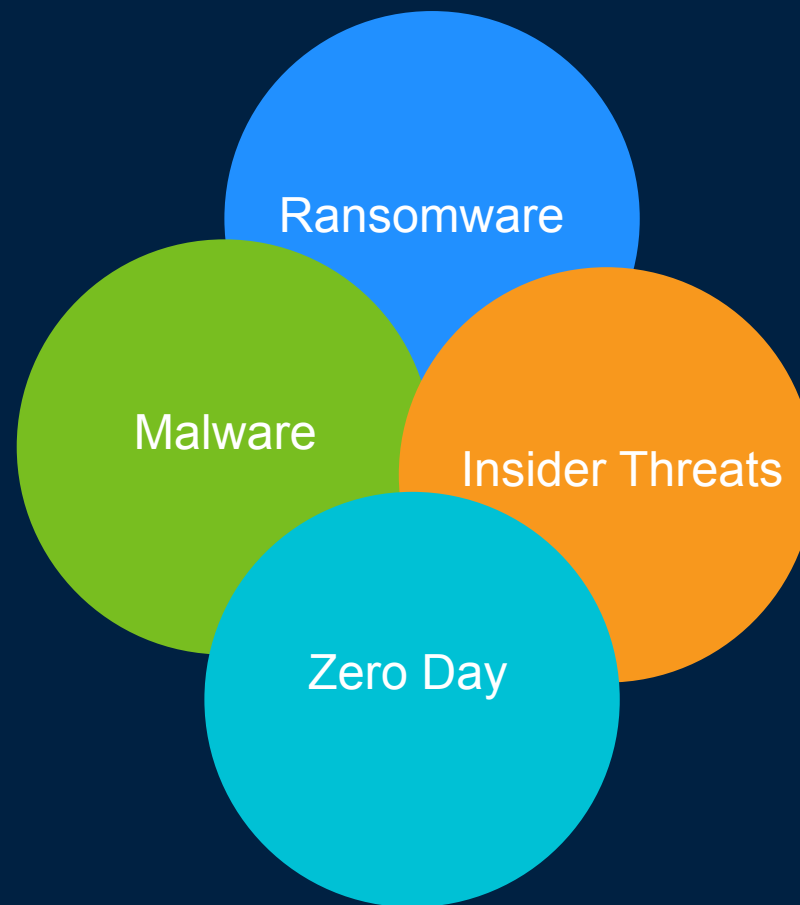
Chris Logan, MBA, CISSP  
Director Healthcare Industry  
Strategy, VMware

Digital Transformation is creating new opportunities not only for improved patient outcomes, but also the *business* of healthcare



## Target on Healthcare

Highly valuable data  
Complex environments  
Increasingly distributed  
Increasingly open  
Availability is priority



# Current State

Growth in  
Yearly Breaches



7%

Over 360 in 2017

Source: <https://www.hipaajournal.com/healthcare-data-breach-statistics> January 2019

Growth in  
Security Spend



10.2%  
(since 2017)

\$91.4 Billion in 2018

Source: IDC, Worldwide Semiannual Security Spending Guide, #US42570018, March 2018

Increase in  
Security Losses



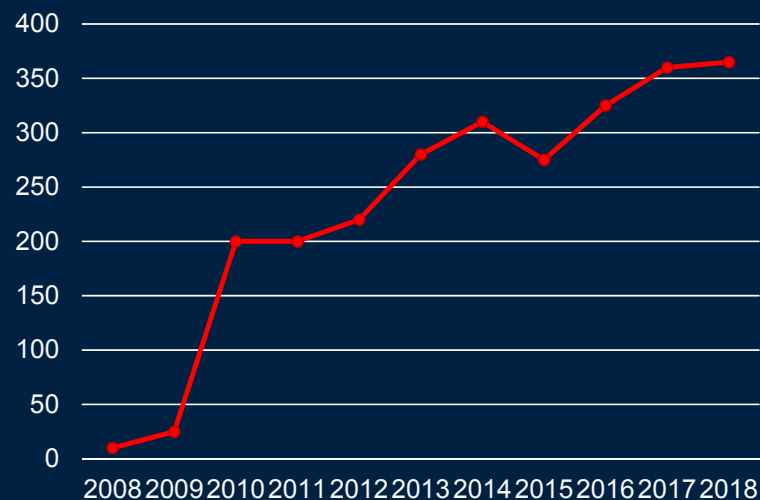
26%  
(since 2014)

\$600 Billion in 2017

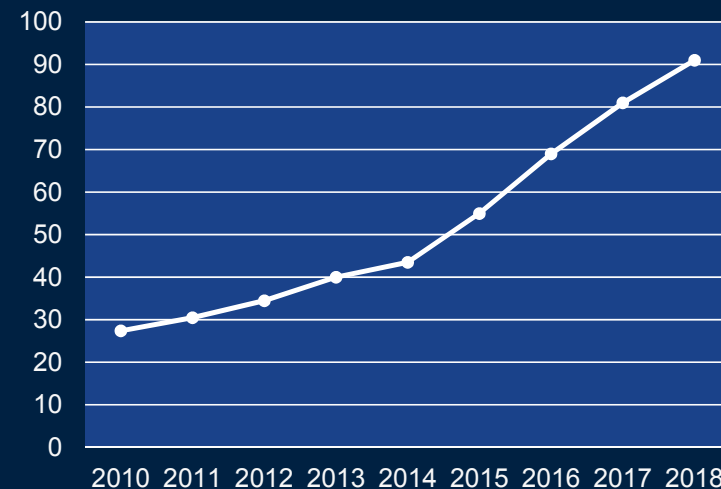
Source: Center for Strategic and Int'l Studies, Economic Impact of Cybercrime, February, 2018

## Number of Healthcare Data Breaches by Year

Between 2009 and 2018 there have been 2,546 healthcare data breaches involving more than 500 records. Those breaches have resulted in the theft/exposure of 189,945,874 healthcare records. That equates to more than 59% of the population of the United States. Healthcare data breaches are now being reported at a rate of more than one per day.



## Cybersecurity Spending

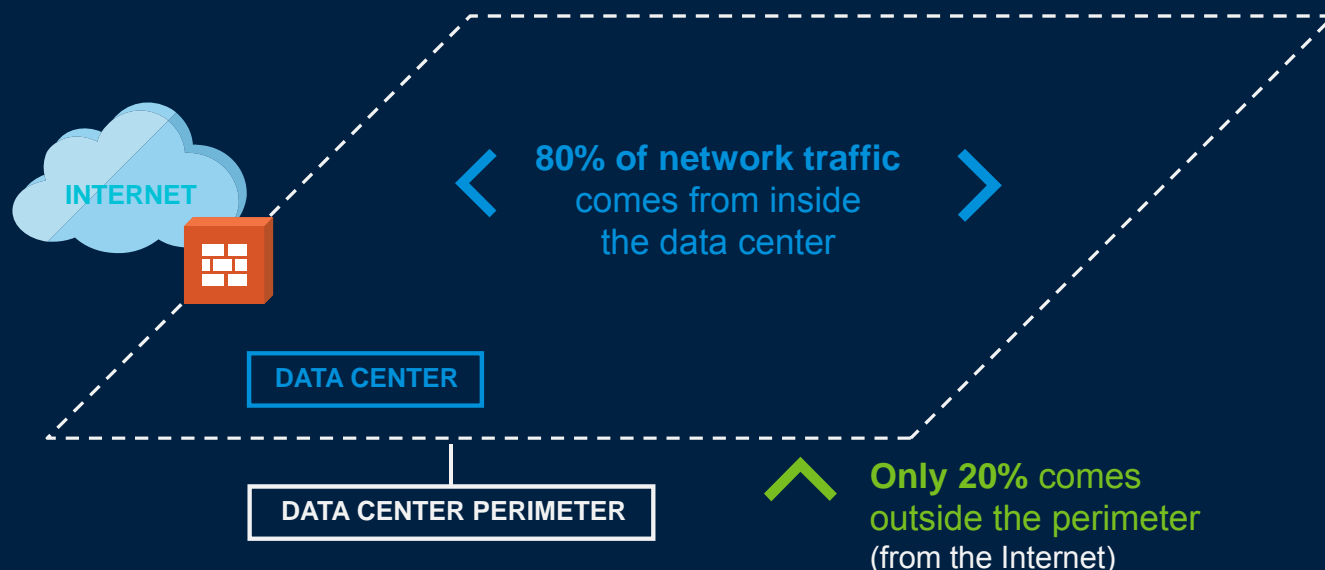


Source: <https://www.hipaajournal.com/healthcare-data-breach-statistics/>

# Our Security Realities

- Security is a top priority, but investments are not aligned for success

TODAY



YET MOST INVESTMENT STRATEGIES  
FOCUS ON THE REVERSE

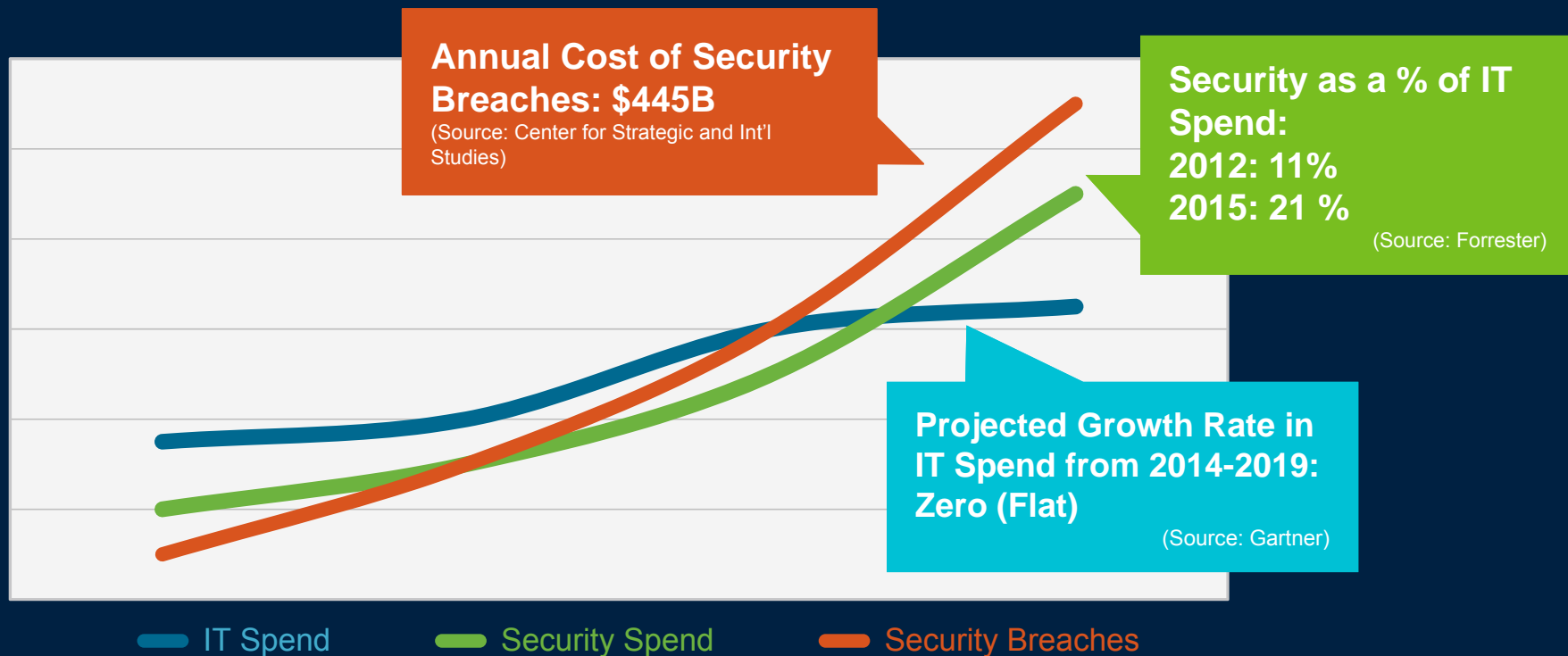
**20% of investment**  
focused on internal controls,  
resulting in lack of visibility and control

**80% of investment**  
focused on preventing perimeter  
intrusion

**We need a new strategy for security**

# Digital Makes Reliance on Data Lucrative for Thieves

- Security investments are increasing, yet the costs of breaches are rising faster



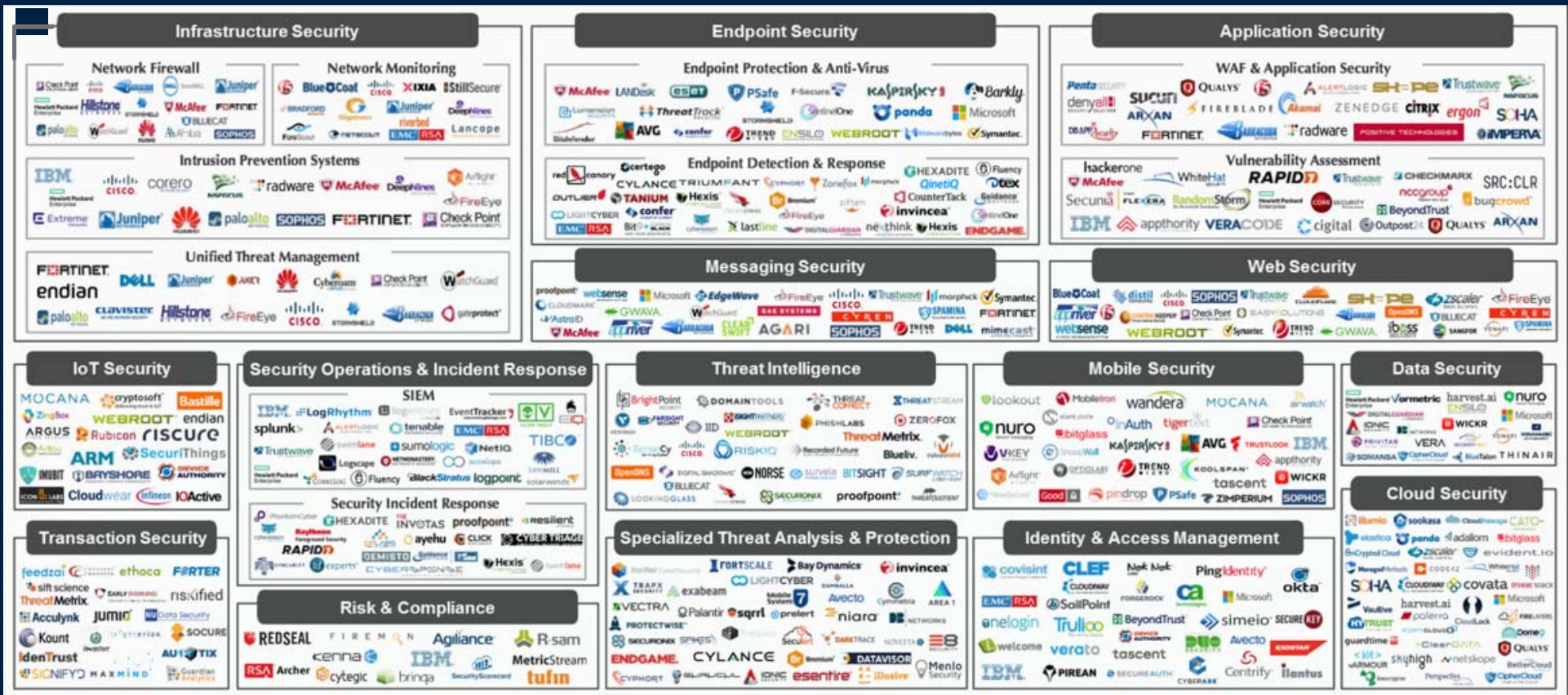
## Digital Makes Reliance on Data Lucrative for Thieves

- Security investments are increasing, yet the cost of breaches are rising faster




Underfunding security  
isn't the problem.

# Transforming Cyber Security?



Without context, our  
security strategies risk  
always being a step  
behind



The biggest threat  
to security is the  
hyper-focus on  
security threats.

## Reactive Vs. Preventive

Reactive:  
Chasing Threats

Preventive:  
Reduce Attack Surface

# Where Do We Currently Focus our Time, Investment and Innovation?

80%

of Enterprise IT's investment in security\*

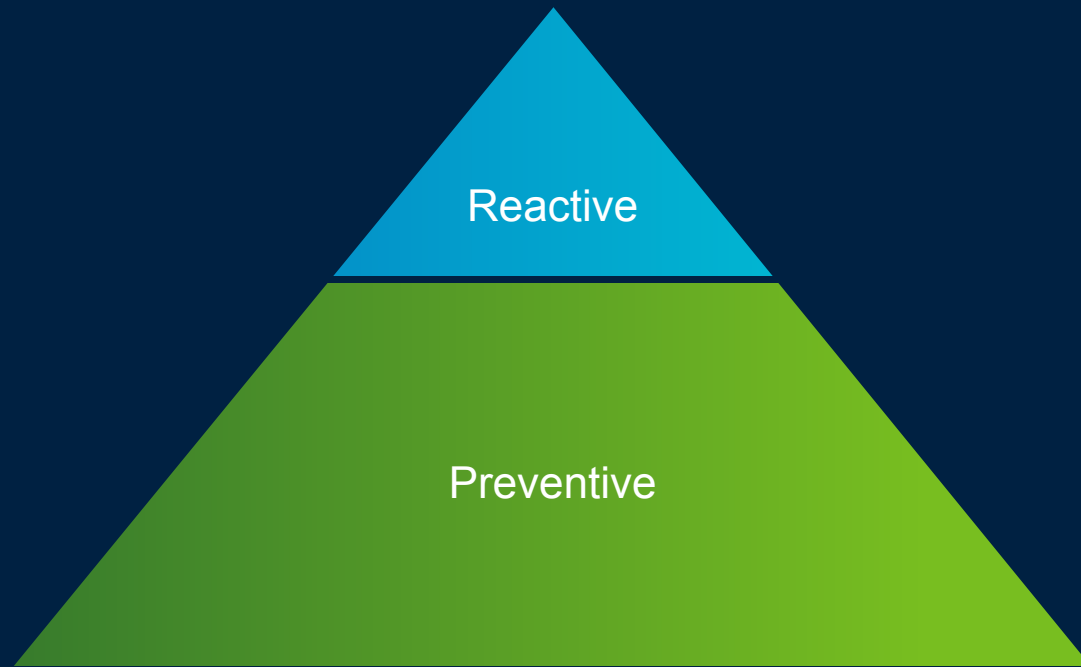
72%

of Venture Capital investment in security start-ups\*\*

Reactive

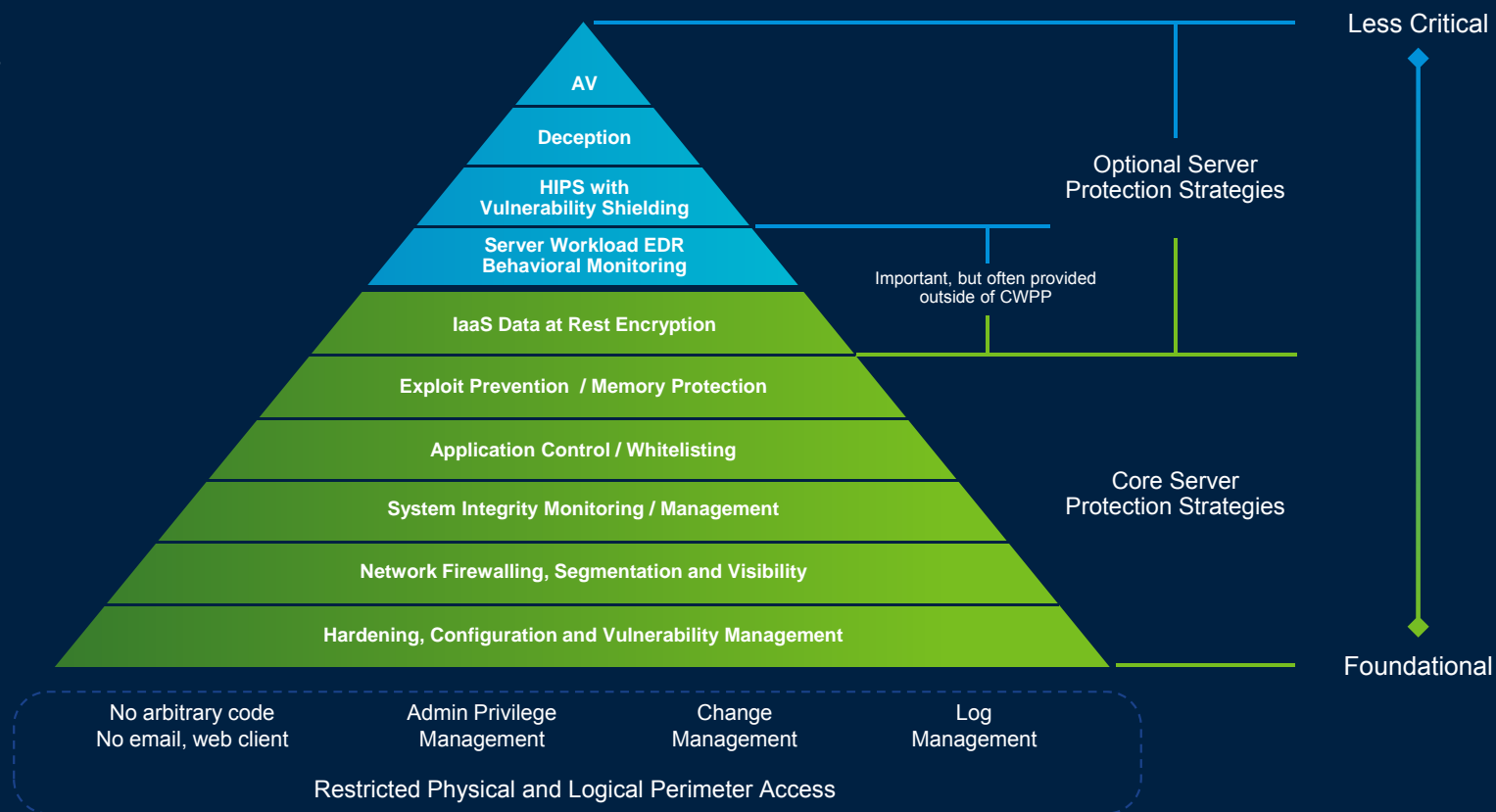
Preventive

# What Has the Biggest Impact on Reducing Risk?



# Gartner: Cloud Workload Protection Controls Hierarchy

Cloud Workload Protection Controls Hierarchy, © 2018 Gartner, Inc.



‘Application Awareness’  
lacks awareness of  
applications.



vmware®





Your most important  
security product won't  
be a security product.

# Transforming Security As We Know It



## Our Focus at VMware

1


**REDUCE  
THE ATTACK  
SURFACE**

2

**SECURE  
APPLICATIONS  
AND DATA**

3

**MAKE  
SECURITY  
INTRINSIC**

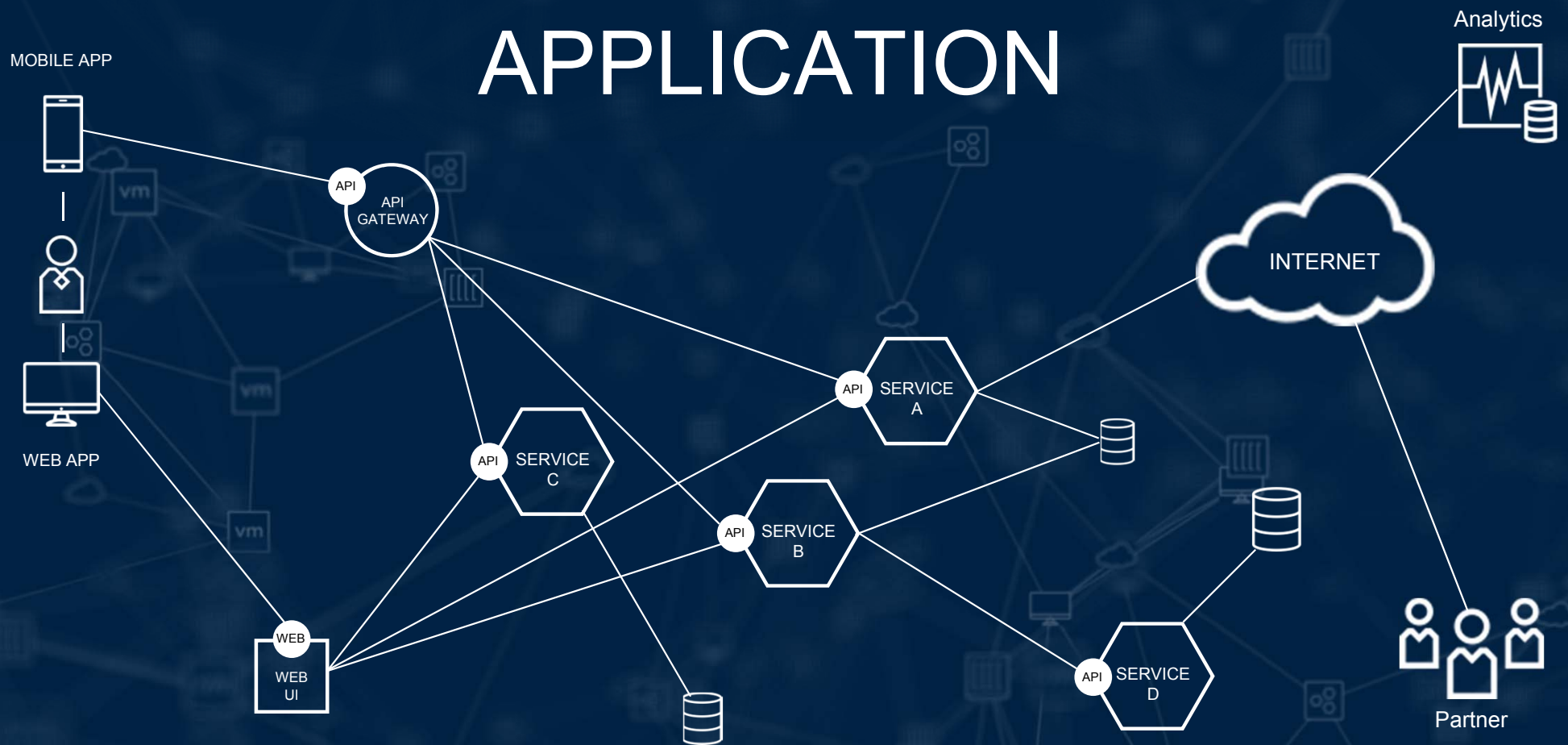


What does this shift in  
thinking look like?

A dark blue background featuring a complex network diagram. The diagram consists of numerous small icons connected by thin white lines. The icons include various shapes: some are squares with 'vm' text, others are circles with three dots, and some are rectangles with vertical lines. The connections form a dense, interconnected web across the entire slide.

Consider how this would change  
something as basic as a firewall.

# APPLICATION



# KNOWN-GOOD

MOBILE APP



# KNOWN-GOOD



# KNOWN-GOOD



## IT LEARNS FROM ALL HOSTS

[GLOBAL MACHINE LEARNING]



### IT KNOWS THE HOST

[IT BOOTED IT]



### IT IS OUTSIDE THE HOST

[SUPER ROOT]



### IT IS EVERYWHERE

[DISTRIBUTED SERVICES]

## IT LEARNS FROM ALL HOSTS

[GLOBAL MACHINE LEARNING]



Service-Defined



## IT KNOWS THE HOST

[IT BOOTED IT]

## IT IS OUTSIDE THE HOST

[SUPER ROOT]



## IT IS EVERYWHERE

[DISTRIBUTED SERVICES]

A complex network diagram with numerous nodes and connecting lines, rendered in a light blue color against a dark blue background. The nodes are represented by small squares and circles, and the lines are thin and light blue.

It dramatically reduces the attack  
surface

1,000,000,000,000,000

## Future Security Considerations for Healthcare - Actions You Can Take Immediately



**Invest in Prevention**

**Focus on Applications**

**Make Security Intrinsic**



# Thank You