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Happy Aloha Friday!

Workshop #2

Cyber Strategies for Securing Data

May 22, 2020

Agenda



1:00 PM Welcome

REMINDERS: 1) Workshop is being recorded
2) Presentation will be available and sent to the email you used to register for the workshop

Presentation: Vincent Hoang, State Chief Information Security Officer, State of Hawaii Office of Enterprise Technology Service

Topic: State Cyber Strategies Overview

Q&A

Cort Chambers, Ph.D., Security Analyst Hawaii State Fusion Center, Information Technology Instructor at PCATT

Topic: Techniques on Identifying Security Threats & how to help you to protect both yours and your client's data

Q&A

2:30 PM Mahalo & Stay Connected: hacc.Hawaii.gov

Cyber Security Team



Protects all branches of government that today share a common access point to the Internet — where most cyber threats originate!

Enables the State to shift a majority of security work previously done by contractors to skilled State personnel.

Allows ETS to pursue cost-effective solutions for cybersecurity by providing additional training to State employees.

“Hacker” defined

1. A person who enjoys **exploring** the details of programmable systems and how to **stretch** their **capabilities**, as opposed to most users, who prefer to learn only the minimum necessary.
2. One who programs **enthusiastically** (even **obsessively**) or who enjoys programming rather than just theorizing about programming.

NIST Cyber Security Framework Risk Management Framework

Tier / Function	1	2	3	4
Identify	Dark Blue	Light Blue	Light Gray	Light Gray
Protect	Dark Purple	Dark Purple	Light Purple	Light Purple
Detect	Yellow	Yellow	Light Yellow	Light Purple
Respond	Red	Light Pink	Light Purple	Light Purple
Recover	Green	Light Green	Light Purple	Light Purple

Current Profile	Dark Blue	Dark Purple	Yellow	Red	Green
Target Profile	Light Blue	Light Purple	Light Yellow	Light Pink	Light Green

CIS Controls

Technical Controls Framework

Basic

- 1 Inventory and Control of Hardware Assets
- 2 Inventory and Control of Software Assets
- 3 Continuous Vulnerability Management
- 4 Controlled Use of Administrative Privileges
- 5 Secure Configuration for Hardware and Software on Mobile Devices, Laptops, Workstations and Servers
- 6 Maintenance, Monitoring and Analysis of Audit Logs

Foundational

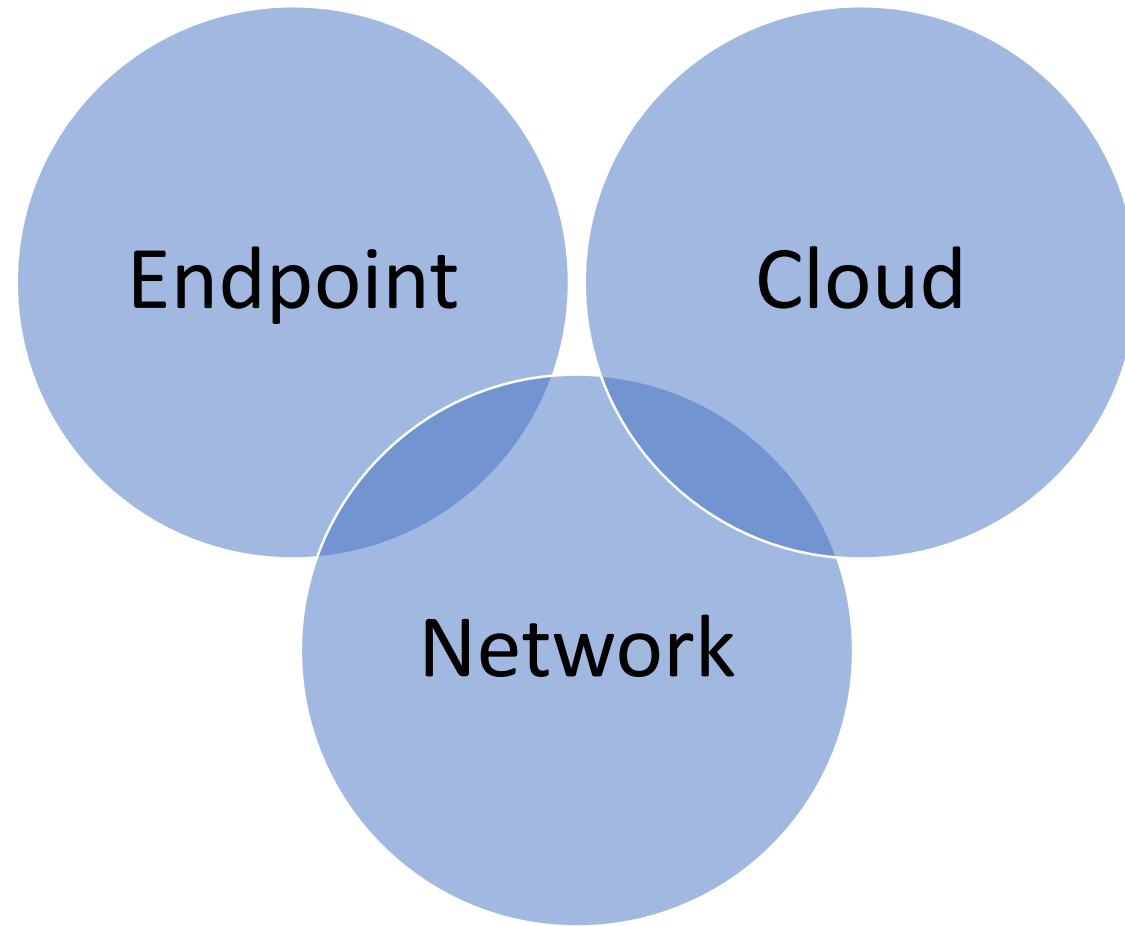
- 7 Email and Web Browser Protections
- 8 Malware Defenses
- 9 Limitation and Control of Network Ports, Protocols, and Services
- 10 Data Recovery Capabilities
- 11 Secure Configuration for Network Devices, such as Firewalls, Routers and Switches
- 12 Boundary Defense
- 13 Data Protection
- 14 Controlled Access Based on the Need to Know
- 15 Wireless Access Control
- 16 Account Monitoring and Control

Organizational

- 17 Implement a Security Awareness and Training Program
- 18 Application Software Security
- 19 Incident Response and Management
- 20 Penetration Tests and Red Team Exercises



Budget Priorities





David Hogue, Technical Director
NSA Cybersecurity Threat Operations Center
RSA Conference 2018

“The vulnerability that took down Equifax last year when it was released in March, we had a nation-state actor within 24 hours scanning looking for unpatched servers within the DoD,”

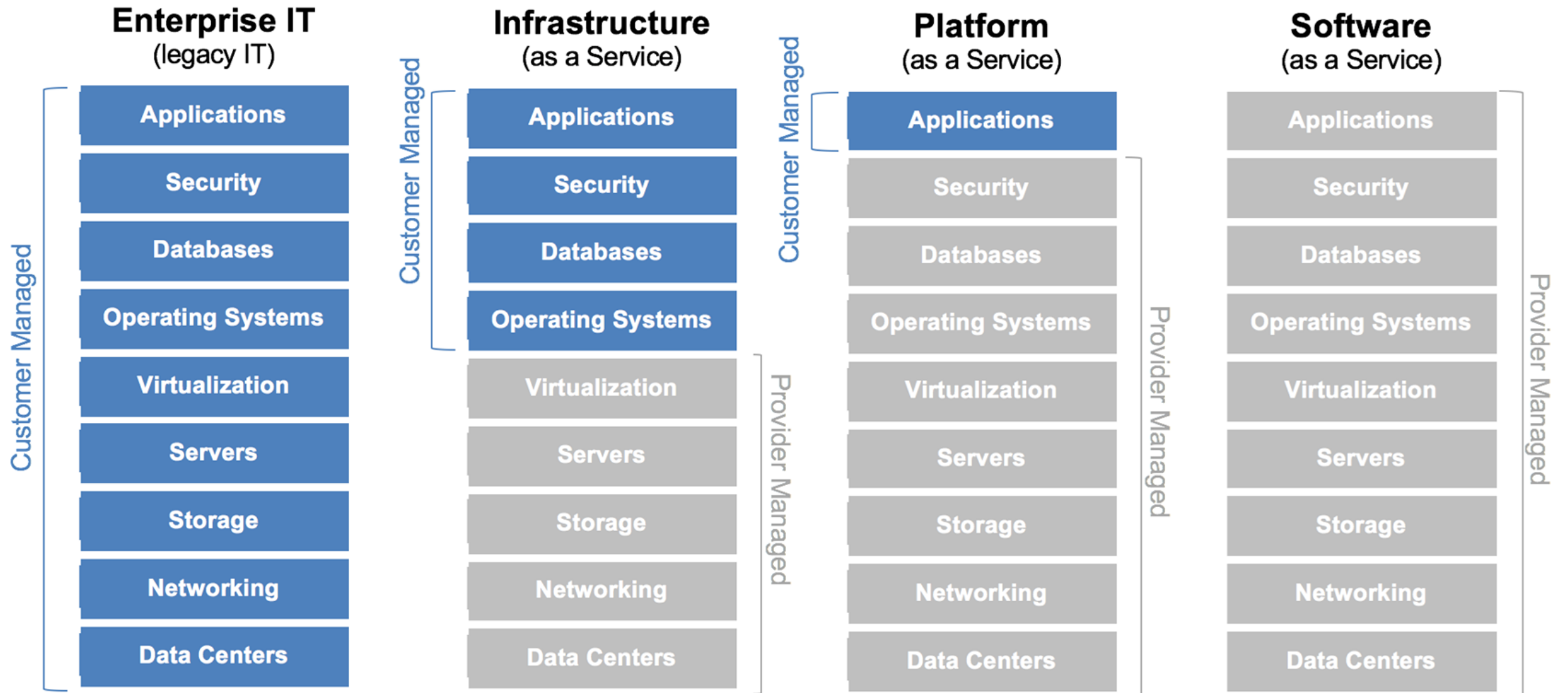
“At NSA we have not responded to an intrusion response that’s used a zero day vulnerability in over 24 months,” Hogue said.

“The majority of incidents we see are a result of hardware and software updates that are not applying.”



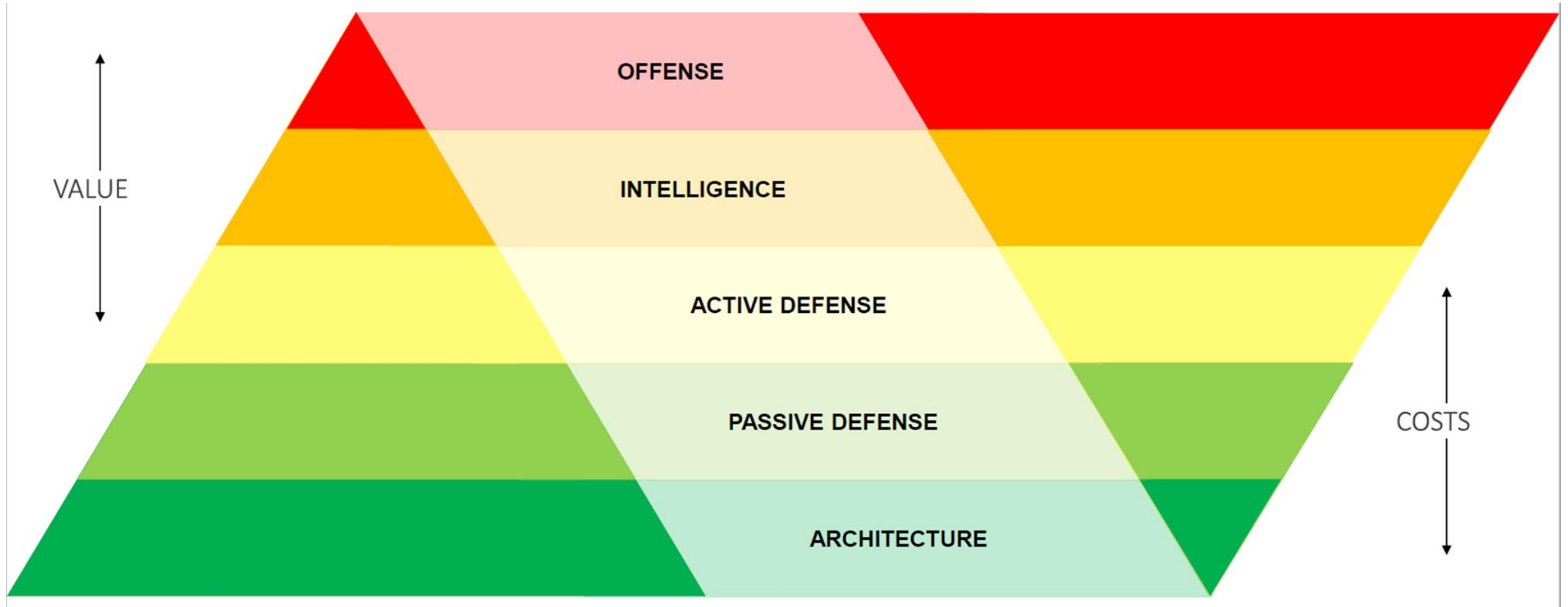
Cloud Services

Tying it together



Sliding Scale of Cyber Security

Improve ROI by Building Solid Foundations



Build a Solid Base to Support Higher Order Programs

OWASP Top 10

OWASP Top 10 - 2013	→	OWASP Top 10 - 2017
A1 – Injection	→	A1:2017-Injection
A2 – Broken Authentication and Session Management	→	A2:2017-Broken Authentication
A3 – Cross-Site Scripting (XSS)	↘	A3:2017-Sensitive Data Exposure
A4 – Insecure Direct Object References [Merged+A7]	U	A4:2017-XML External Entities (XXE) [NEW]
A5 – Security Misconfiguration	↘	A5:2017-Broken Access Control [Merged]
A6 – Sensitive Data Exposure	↗	A6:2017-Security Misconfiguration
A7 – Missing Function Level Access Contr [Merged+A4]	U	A7:2017-Cross-Site Scripting (XSS)
A8 – Cross-Site Request Forgery (CSRF)	⊗	A8:2017-Insecure Deserialization [NEW, Community]
A9 – Using Components with Known Vulnerabilities	→	A9:2017-Using Components with Known Vulnerabilities
A10 – Unvalidated Redirects and Forwards	⊗	A10:2017-Insufficient Logging&Monitoring [NEW,Comm.]

Questions?

Next..