Defense in Depth with Microsoft Technologies

April 2019

Agenda

X:00 am — Welcome and Intro: *Allen Jenkins & Josh Krodel*

Defense In Depth – Leveraging Microsoft Technology Solutions

- Security Fundamentals
- Defense in Depth Strategies
- Microsoft Solutions Review

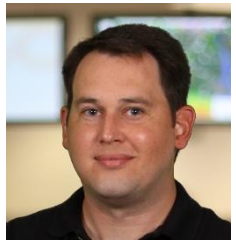
X:45 am — Wrap-Up

SyCom Connected.

Welcome and Introduction

- Allen Jenkins
  - 30+ years in IT / 20+ years at SyCom
  - CISA – Certified Information System Auditor
  - GSLC – GIAC Security Leadership Certification
  - GSEC – GIAC Security Essentials Certification
  - Dual Role at SyCom as CISO & VP of Consulting
    - Make us more secure
    - Make our customers more secure

Welcome and Introduction – Microsoft Info



- Josh Krodel
  - 20 years in IT / 7 years at SyCom
  - MCSE – Microsoft Certified Systems Engineer

Microsoft Partner
Microsoft
Gold Cloud Productivity
Gold ISV
Gold Windows and Devices
Gold Cloud Platform
Gold Datacenter

Microsoft System Center

Office 365

Cloud Services
Microsoft Partner

Microsoft Partner
Microsoft
Gold Small and Midmarket Cloud Solutions
Gold Enterprise Mobility Management
Gold Collaboration and Content
Silver Communications
Silver Messaging

Microsoft Azure

Security Fundamentals

Concerns over Confidentiality, Integrity and Availability of Critical Information Technology Assets

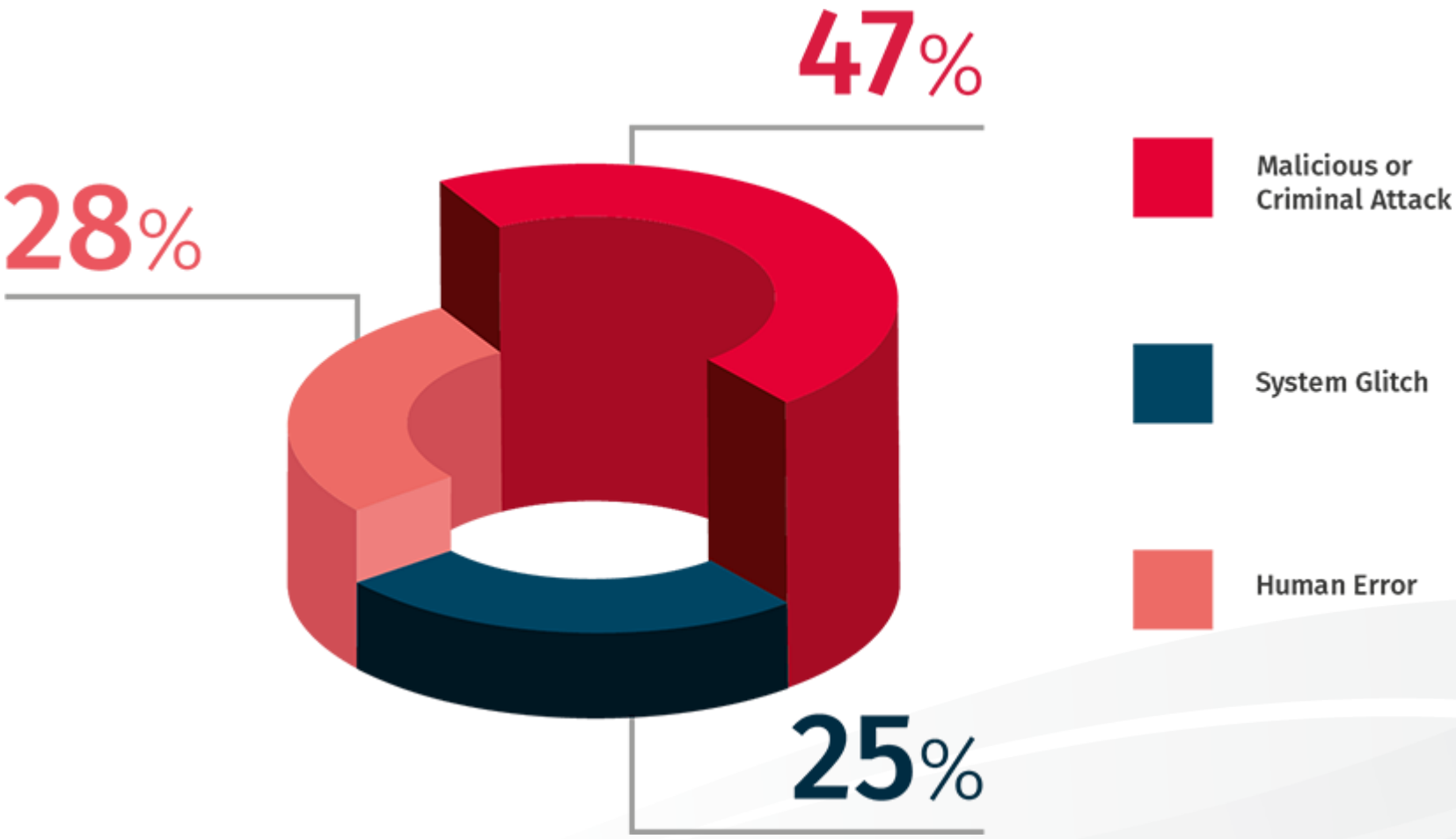
CIA Discussion – Prioritization & Alignment

ALL Important, but…which is most high priority???

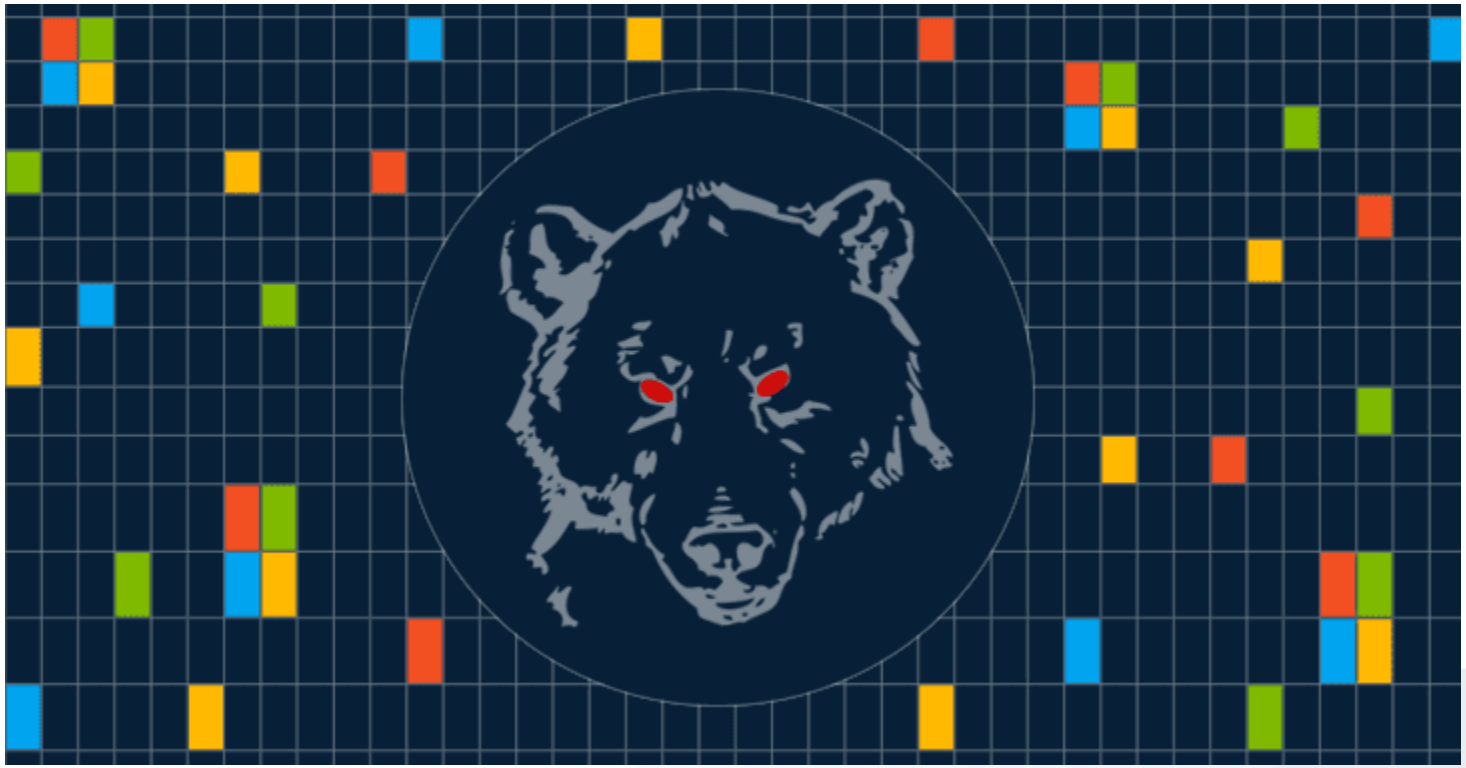
Prioritization of Approach based on what is important to organization – generally speaking…

- Confidentiality = Health Care, Gov
- Integrity = Finance
- Availability = E-commerce

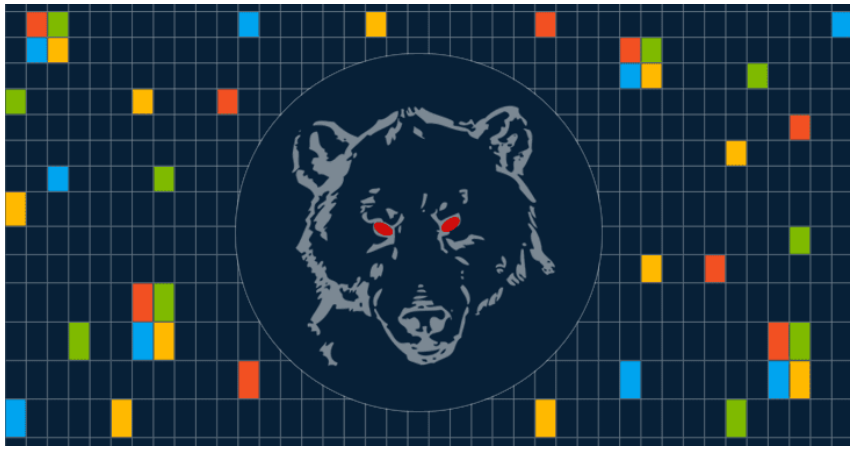
Security Fundamentals



Security Story – Chapter 1



Security Story – Chapter 2



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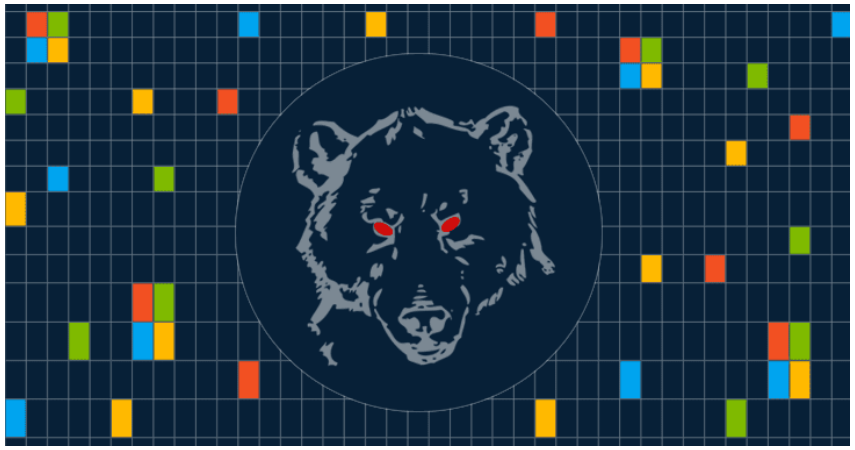

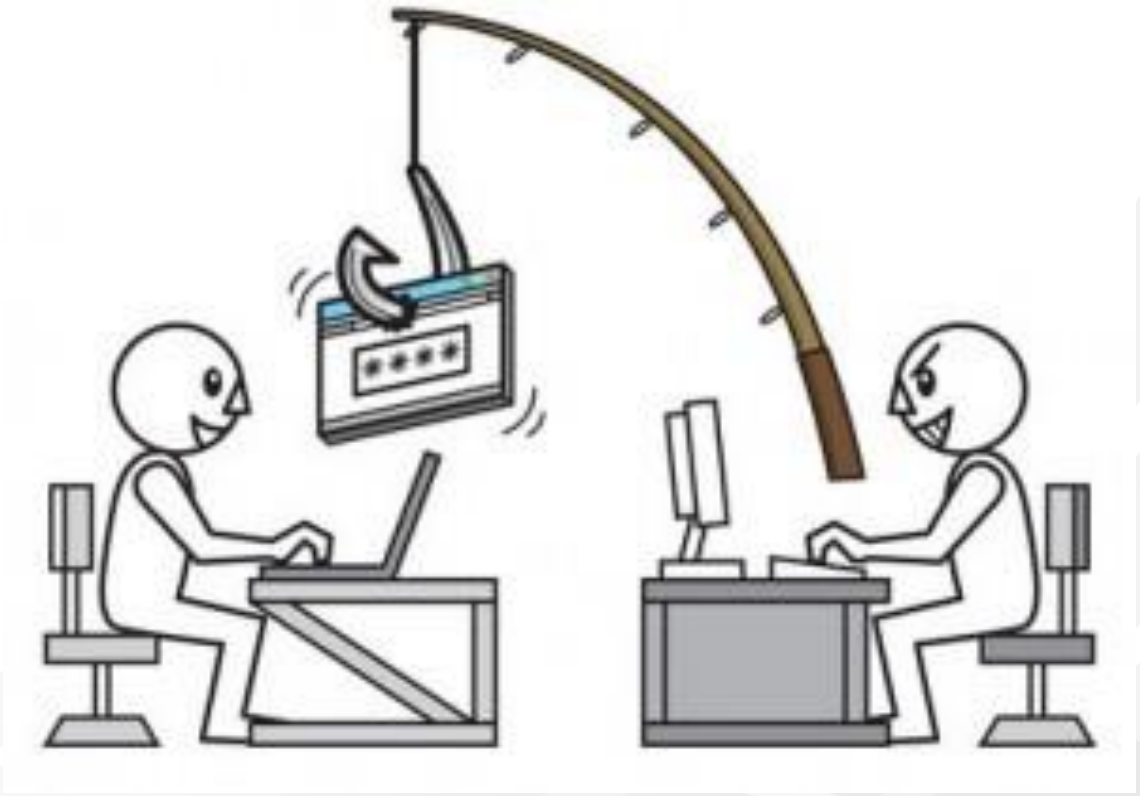

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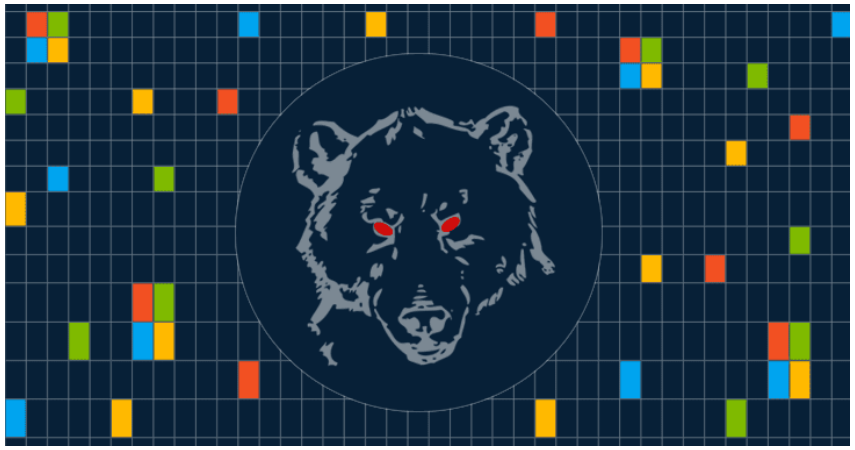
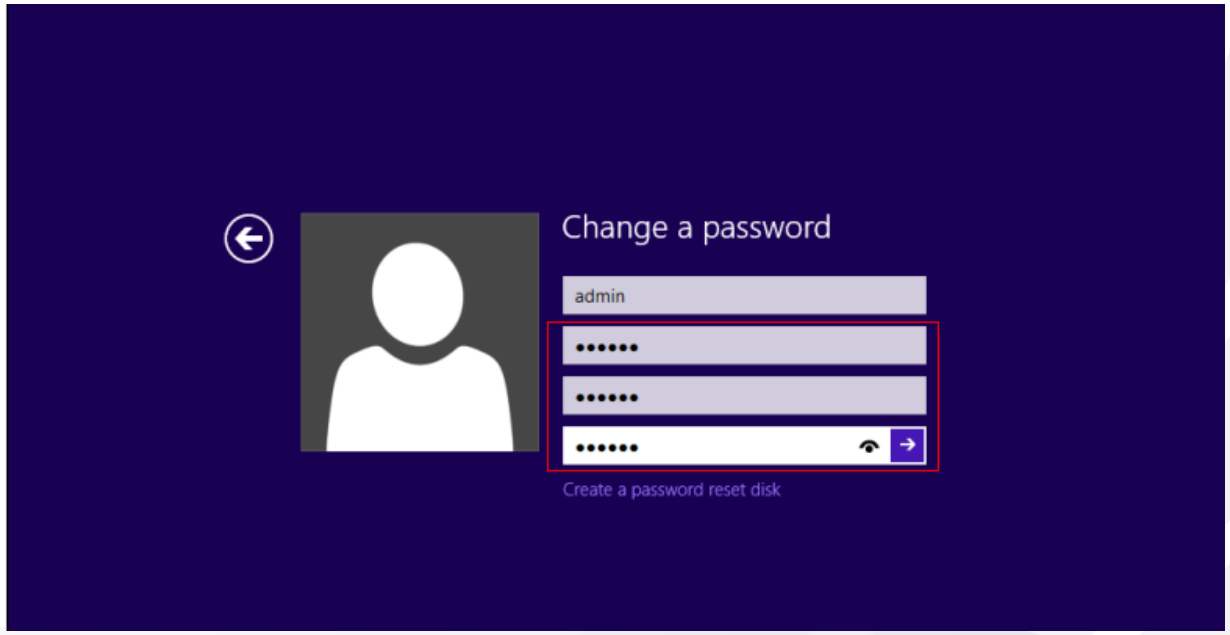
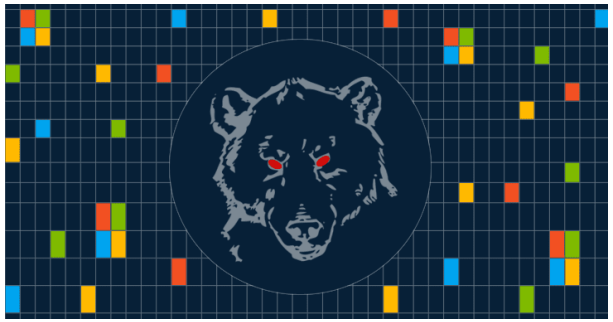
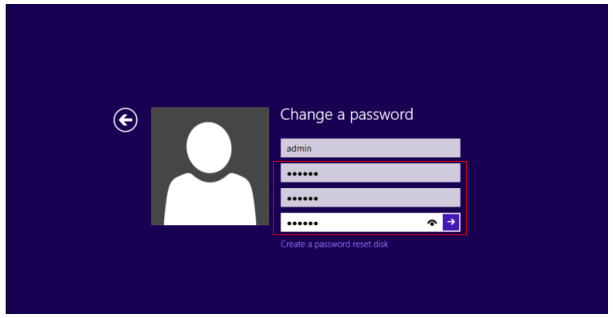


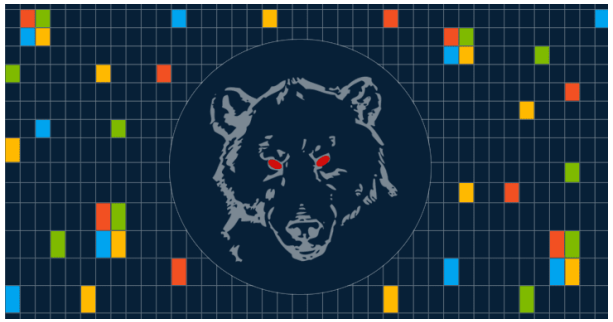


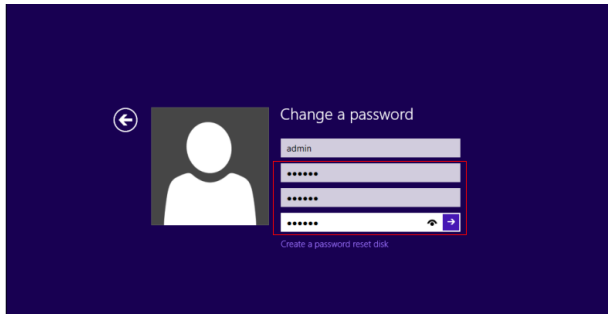
Security Story - Chapter 5



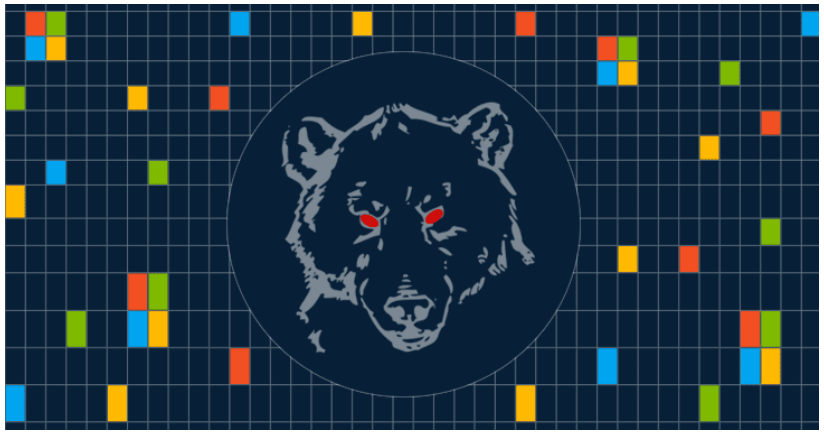


Security Story - Chapter 6





Security Story - Chapter 7



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Security Story - Notes

This was not fiction, this really has been reported and there are other stories, like the Russian Group Energy Bear that used similar attacks to take over MUCH of the electric grid of the US in 2018 by compromising small utility companies.

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Security Story - Notes

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- Some DLP tools to help find/thwart data ex-filtration
- Possibly some network segmentation/isolation to keep critical data assets more protected
- Possibly some better vendor controls in place (in the case of breaches like Energy Bear and the Target breach, vendor controls were weak)

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X:45 am Wrap-Up

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Defense in Depth Strategies

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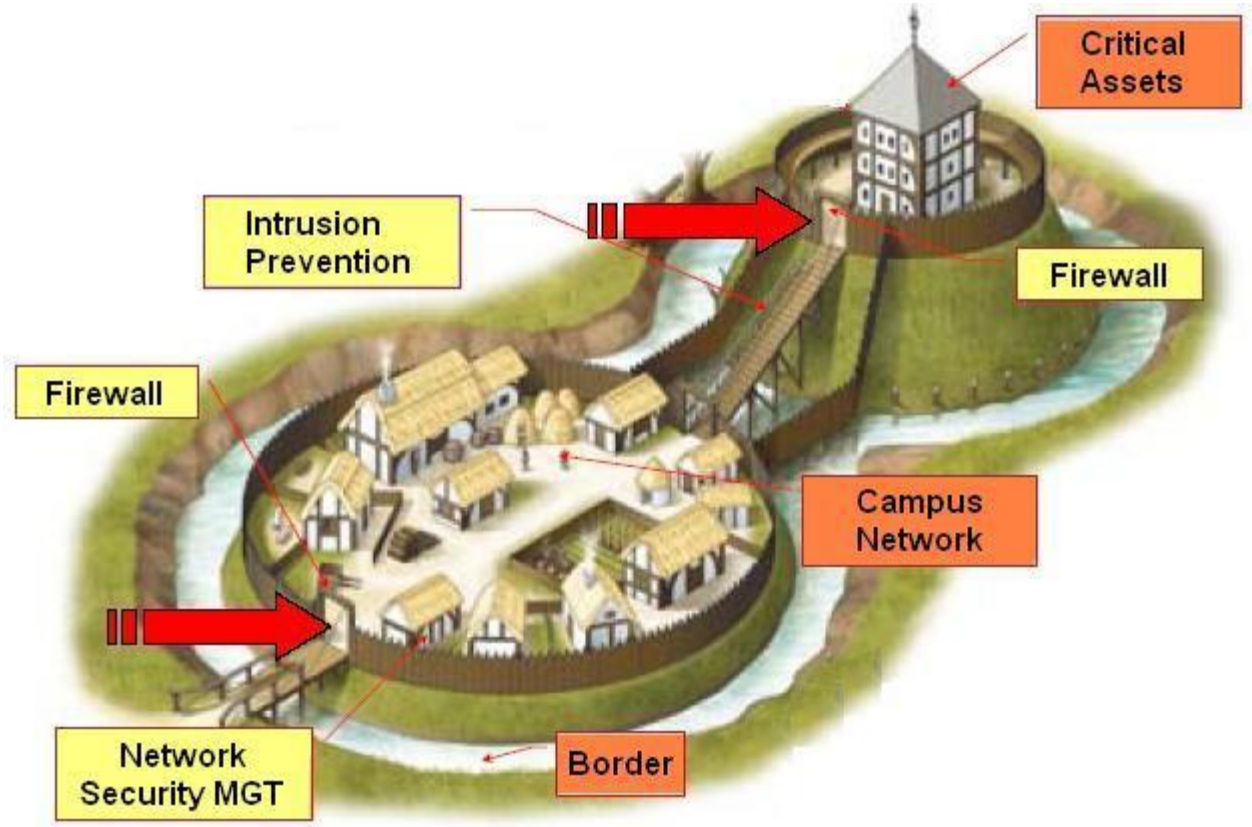


Defense in Depth Strategies

Uniform Protection

Defense in Depth Strategies

- Most common approach

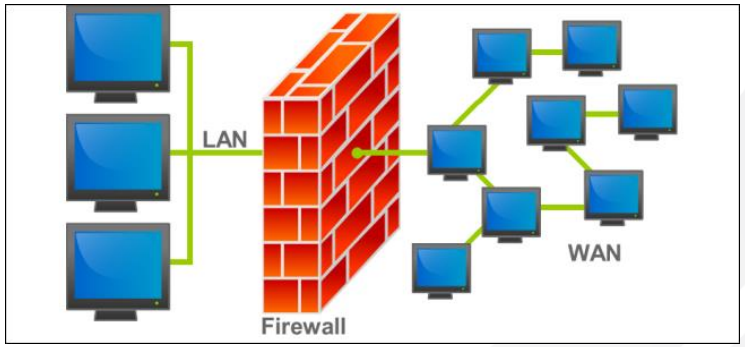
Defense in Depth Strategies

- Most common approach
- Equal security for all components of network

Defense in Depth Strategies

- Most common approach
- Equal security for all components of network
- Can be effective as a STARTING POINT, to deploy standard security protections as a baseline

Defense in Depth Strategies



Defense in Depth Strategies

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Protected Enclaves

Defense in Depth Strategies

- Consider building secure areas within your infrastructure to protect assets

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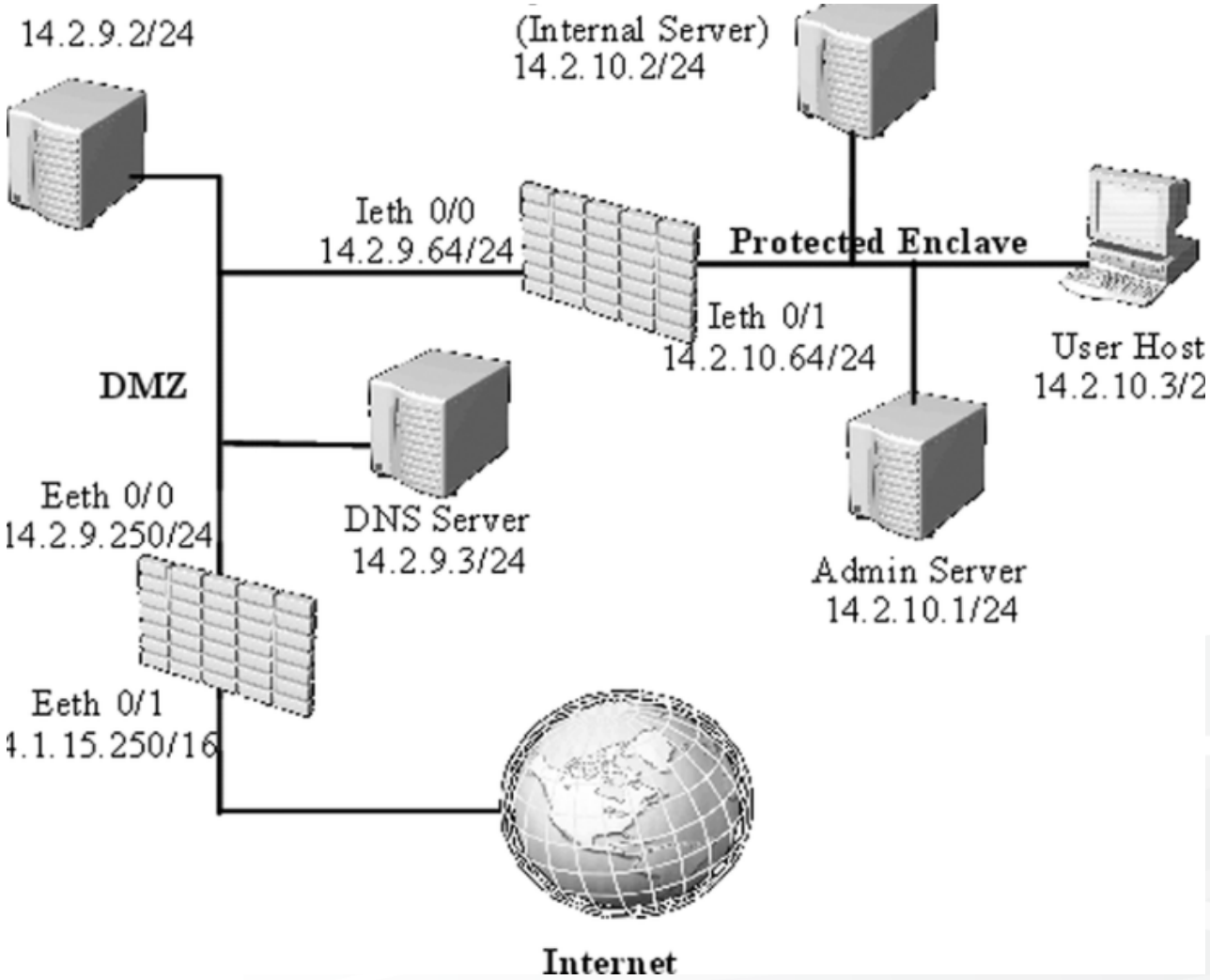
- Applies different levels of protection based on criticality of need

Defense in Depth Strategies

- Consider building secure areas within your infrastructure to protect assets
- Applies different levels of protection based on criticality of need
- Usually associated with network segmentation

Defense in Depth Strategies



Defense in Depth Strategies

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Information Centric

Defense in Depth Strategies

- Build an architecture that focuses on critical information

- Can come to life as
  - Disk encryption
  - Host based segmentation
  - Networking and access controls
  - Software Defined Networking
  - Multi-tiered applications
  - Logical access controls and using principle of least privilege
  - Network traffic encryption
  - Etc., etc.

Defense in Depth Strategies

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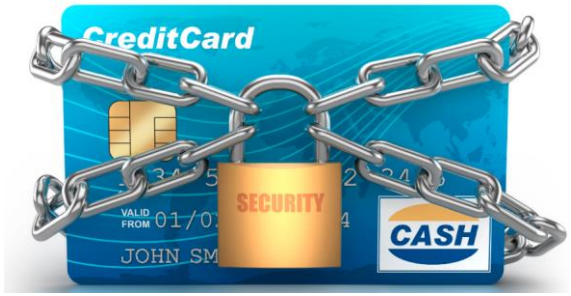
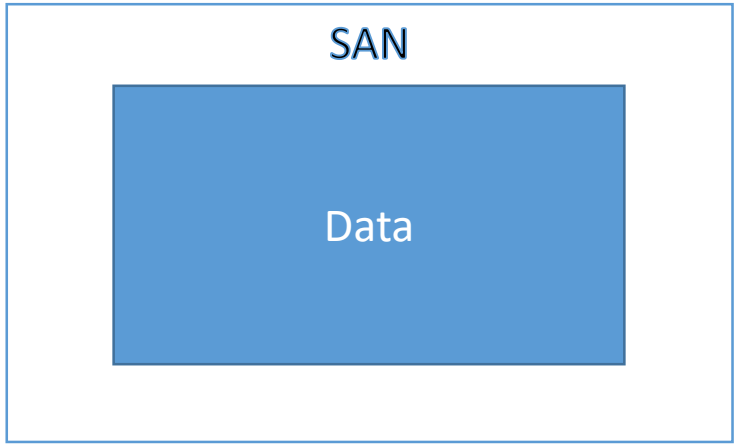


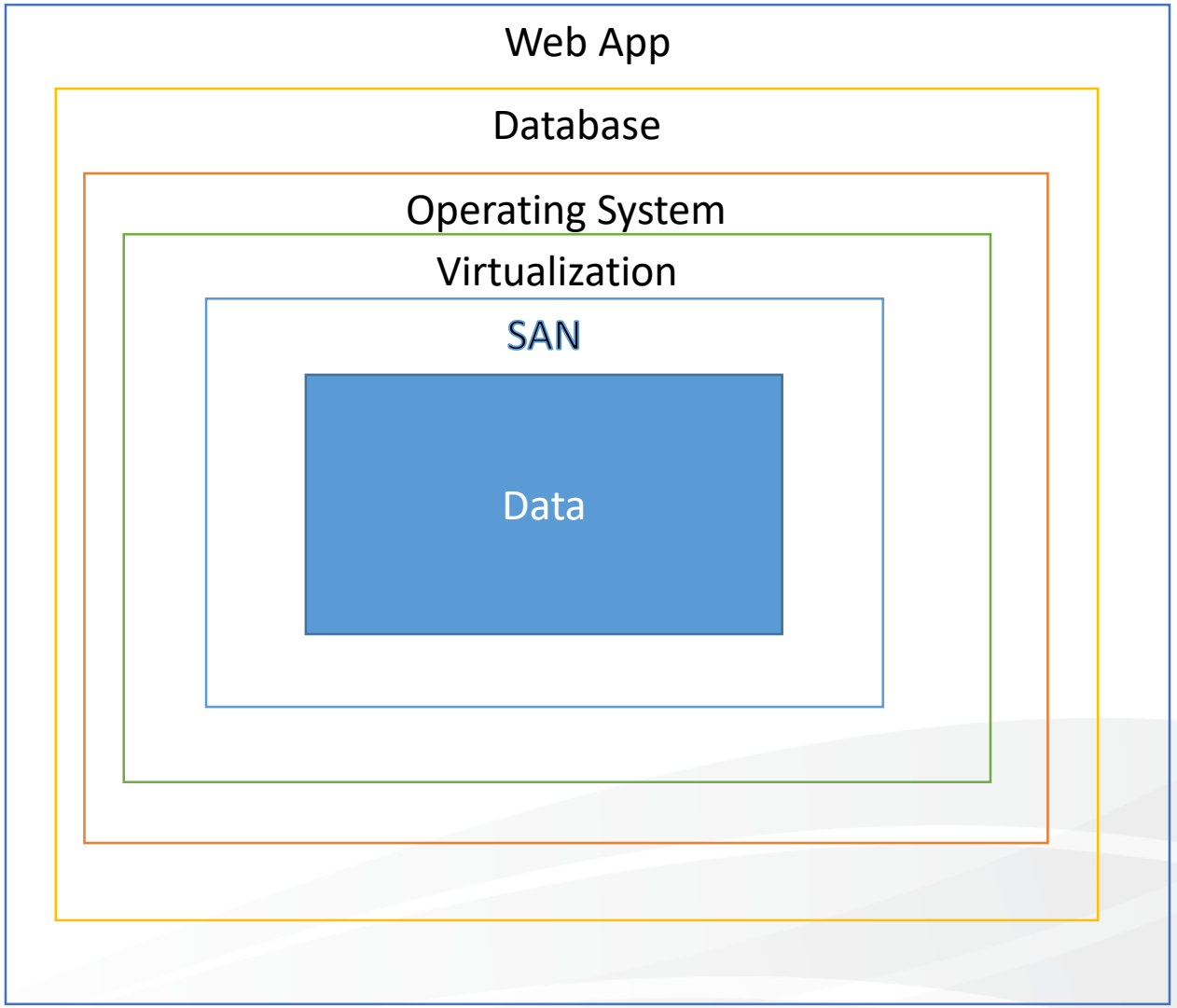
Defense in Depth Strategies

Data Classification

Defense in Depth Strategies



Defense in Depth Strategies



Defense in Depth Strategies

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Threat Vector Analysis

Defense in Depth Strategies

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Defense in Depth Strategies

- Build protections based on specific threat vectors

Defense in Depth Strategies

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- Things like
  - USB sticks
  - Email attachments
  - Hackers
  - Natural Disasters, like hurricanes, all present concerns

- Each has a different set of strategies for protection

Defense in Depth Strategies

- Build protections based on specific threat vectors

- Things like
  - USB sticks – GPO's/Data Loss Prevention
  - Email attachments
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Defense in Depth Strategies

- Build protections based on specific threat vectors

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  - Email attachments – Email threat protections – Office365 ATP
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Defense in Depth Strategies

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Defense in Depth Strategies

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- Things like
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  - Email attachments – Email threat protections – Office365 ATP
  - Hackers – Logical Access Controls (accounts/passwords)
  - Natural Disasters, like hurricanes, all present concerns – DR planning/Cloud solutions

- Each has a different set of strategies for protection

Defense in Depth Strategies - Summation

- Consider the specific environment and build the corresponding protections
- A combination of approaches is probably the best
- Use a Risk Based approach to assess Risks and then develop the appropriate Defense strategy to mitigate the Risks…

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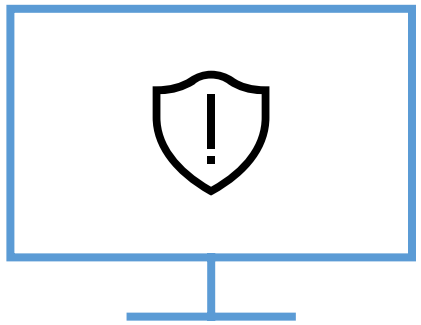
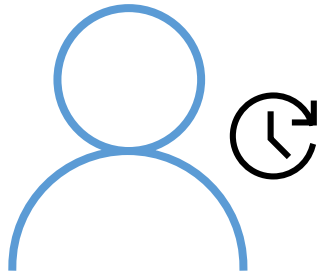
Traditional security management doesn't scale



5B unique threats per month*

Increasing # security solutions to manage



Only capacity for 10 alerts per day

*The Microsoft Intelligent Security Graph data

Deliver and manage enterprise-ready devices

Windows AutoPilot

Get new devices up and running fast without re-imaging, powered by the cloud

Automatically configure settings, security policies, and install apps like Office 365

Mobile Device Management with Microsoft Intune

Security policy enforcement for mobile devices and apps

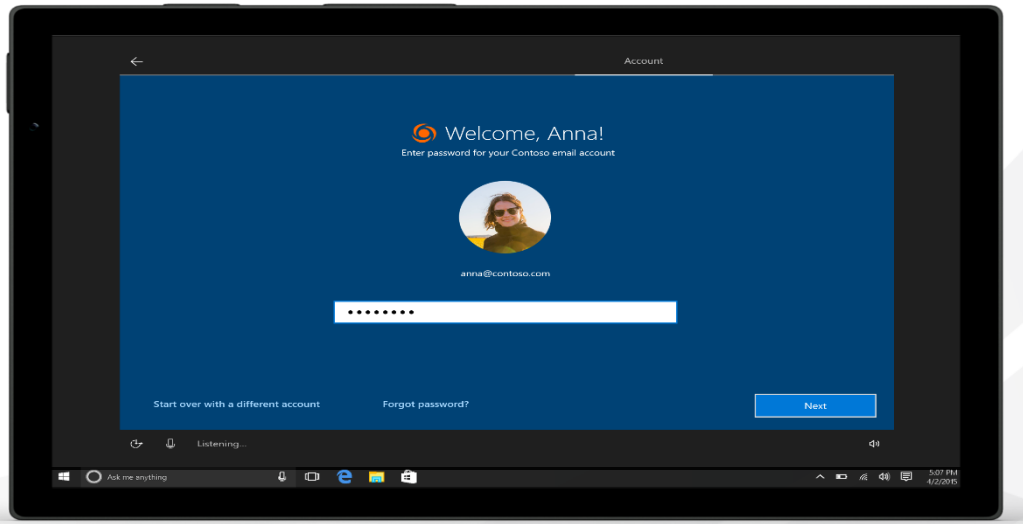
Selective wipe of corporate data such as apps, email, management policies, and networking profiles from user devices while leaving personal data intact

Windows Hello for Business

Get better protection when you unlock your device with a look or a touch, even on devices you've never signed in to before

Microsoft Store for Business

Find, acquire, manage, and distribute apps including custom line-of-business apps to Windows 10 devices



Intelligent threat protection built-in, not bolted-on

Windows Defender Antivirus

Detect fast-changing malware variations using behavior monitoring and cloud-powered protection

Windows Defender Credential Guard

Isolate and protect credentials from a full system compromise

Configure easily with existing management tools

Windows Defender System Guard

Maintain system integrity during boot time, runtime, and remote access to avoid compromised devices

Windows Defender Advanced Threat Protection

Protect endpoints from cyber threats, detects advanced attacks and automates security incidents to improve security posture

Secure and contain business information

Azure Information Protection

Persistent data classification and protection that ensures data is protected at all times, regardless of where it's stored or with whom it's shared

Safe sharing with people inside and outside of your organization

Simple, intuitive controls for data classification and protection

Deep visibility and control of shared data for users and IT

BitLocker

Encrypt sensitive information and protect against unauthorized access

Microsoft BitLocker Administration & Monitoring

Use tools to provision, enforce, report compliance and recover BitLocker-protected data

Office 365 Advanced Threat Protection

Help protect against unknown malware and viruses

Provide real-time, time-of-click protection against malicious URLs

Deliver rich reporting and URL trace capabilities with Click Tracing

Manage the on-going threat landscape

Azure Advanced Threat Protection

Monitor users, entity behaviour, and activities with learning-based analytics

Protect user identities and credentials stored in Active Directory

Identify and investigate suspicious user activities and advanced attacks throughout the kill chain

Provide clear incident information on a simple timeline for fast triage

Cloud App Security

Complete visibility into employee cloud app usage and Shadow IT

Ongoing risk detection, powerful reporting, and analytics on users, upload/download traffic, usage patterns, and transactions for discovered apps

Granular-level control and data policies for on-going data protection in cloud apps

Attack Simulator

Run realistic attack scenarios in your organization

Three kinds of attack simulations are currently available: display name spear-phishing attack, password-spray attack, brute-force password attack

Secure Score

Analyzes your organization's security based on regular activities and security settings in Office 365

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X:45 am Wrap-Up

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Wrap-Up

- Remember Security Fundamentals
  - Confidentiality, Integrity, and Availability
- Consider Defense In Depth Strategies
  - Uniform Protection, Secure Enclaves, Information Centric, Threat Vector
- Analyze and Deploy Appropriate Toolsets
  - AutoPilot, InTune, HELLO, Defender Suite, Azure Information Protection, Bitlocker, Office 365 Advanced Threat Protection (ATP), Azure ATP, Cloud App Security, Attack Simulator, Secure Score

Q&A

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Connecting More Than Technology

THANK YOU FOR JOINING US!