SEI Bulletin

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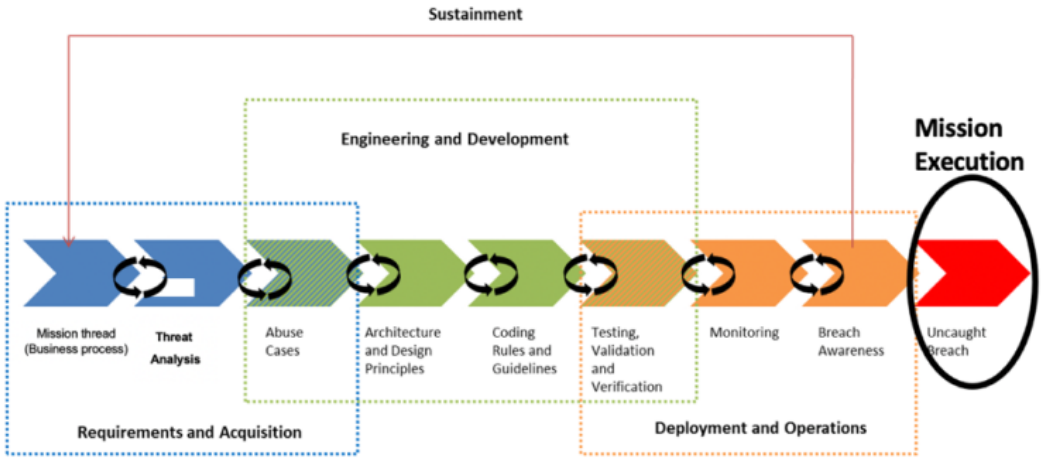

Six Key Cybersecurity Engineering Activities for Building a Cybersecurity Strategy

February 3, 2021 — A new blog post by the SEI's Carol Woody and Rita Creel describes how cybersecurity engineering can help build an organization's cybersecurity strategy. Today's integrated, complex technology operates in a dynamic, contested environment in which operational security controls are no longer sufficient to protect missions.

Woody and Creel, of the SEI's CERT Division, write in the post, "Cybersecurity engineering applies the rigor of engineering with the knowledge of operational security into all aspects of the lifecycle to build, configure, operate, and maintain systems for secure and resilient operation." They discuss how six important areas of cybersecurity engineering enhance a cybersecurity strategy:

- determining risk
- defining and monitoring system and component interactions

- evaluating trusted dependencies
- anticipating and planning responses to attacks
- coordinating security throughout the lifecycle
- measuring to improve cybersecurity

Woody and Creel's blog post, *Six Key Cybersecurity Engineering Activities for Building a Cybersecurity Strategy*, augments their November 2020 webcast, *What Is Cybersecurity Engineering and Why Do I Need It?* A forthcoming podcast will feature the two experts further discussing cybersecurity engineering.

Read the blog post *Six Key Cybersecurity Engineering Activities for Building a Cybersecurity Strategy.*

Watch the webcast *What Is Cybersecurity Engineering and Why Do I Need It?*

SEI News

Accenture Automation Leader to Receive IEEE/SEI Software Process Achievement Award
The recipient of the 2020 IEEE Computer Society/SEI Watts S. Humphrey Software Process Achievement Award is Rajendra "RP" Prasad, global automation lead at Accenture.

SEI Releases OCTAVE FORTE Model for Enterprise Risk Management
The OCTAVE FORTE (OCTAVE For the Enterprise) model for enterprise risk management helps executives and other decision makers understand and prioritize the complex risks affecting their organizations.

AI Engineering Report Highlights Needs and Challenges to Focus Emerging Discipline
The conclusions of a 2019 SEI workshop describe nine areas of need for the defense and national security AI systems of the future.

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Latest Blogs

Six Key Cybersecurity Engineering Activities for Building a Cybersecurity Strategy
Carol Woody and Rita Creel describe the cybersecurity engineering areas that help ensure mission success.

Pandemic Home Security for Your Enterprise
Phil Groce and Harry Caskey advise how to mitigate the enterprise risk of remote workers on home networks.

Remote Work: Vulnerabilities and Threats to the Enterprise
Phil Groce explores how working from home has changed enterprise cybersecurity.

See more blogs »

Latest Podcasts

VINCE: A Software Vulnerability Coordination Platform
Emily Sarneso and Art Manion discuss the rollout of VINCE, how to use it, and future work in vulnerability coordination.

Work From Home: Threats, Vulnerabilities, and Strategies for Protecting Your Network
Phil Groce discusses the security implications of remote work.

An Introduction to CMMC Assessment Guides
Andrew Hoover and Katie Stewart, CMMC model architects, discuss the CMMC assessment guides, how they were developed, and how they can be used.

See more podcasts »

Latest Publications

On Managing Vulnerabilities in AI/ML Systems

This paper explores how the current paradigm of vulnerability management might adapt to include machine learning systems.

Security Engineering Risk Analysis (SERA) Threat Archetypes
This white paper examines the concept of threat archetypes and how analysts can use them during scenario development.

Loss Magnitude Estimation in Support of Business Impact Analysis
This technical report describes the development of a method to improve estimated con dence in and ranges of potential cyber loss magnitude.

See more publications »

Latest Videos

Webcast - Software Engineering for Machine Learning
Grace Lewis and Ipek Ozkaya provide perspectives on the development and operation of ML systems.

CMU SEI Research Review 2020 Presentation Videos
This collection contains 21 video presentations from the SEI Research Review 2020.

Webcast - Busting the Myths of Programmer Productivity
Bill Nichols asks if the great programmers really are 10 times faster than the rest and what that productivity difference means.

Webcast - What Is Cybersecurity Engineering and Why Do I Need It?
Carol Woody and Rita Creel discuss how cybersecurity engineering knowledge, methods, and tools throughout the lifecycle of software-intensive systems will reduce their inherent cyber risk and increase their operational cyber resilience.

Upcoming Events

SolarWinds Hack: Fallout, Recovery, and Prevention, February 10
Art Manion and Matthew Butkovic will explore the lifecycle of the

SolarWinds activity and discuss both technical and risk assessments to prepare organizations to defend against this type of incident.

AADL/ACVIP User Days 2021, February 3-4
This free, two-day virtual forum presents the latest on the Architecture Analysis and Design Language (AADL), the Architecture-Centric Virtual Integration Process (ACVIP), and associated tools.

Note: The SEI is evaluating all upcoming courses, conferences, and events case-by-case in light of COVID-19 developments. Check individual event pages for the latest information.

See more events »

Upcoming Training

Cybersecurity Oversight for the Business Executive
February 23-24, 2021 (SEI, Live Online)

Software Architecture Design and Analysis
March 9-12, 2021 (SEI, Live Online)

Insider Threat Program Manager: Implementation and Operation
March 23-25, 2021 (SEI, Live Online)

Note: The SEI is evaluating all upcoming courses, conferences, and events case-by-case in light of COVID-19 developments. Check individual training pages for the latest information. You may also contact us at courseregistration@sei.cmu.edu or +1-412-268-7388.

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