Zero Trust Discussion

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Document Markings

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Agenda

Overview

Campus Zero Trust Security Interest

Challenges

SEI Zero Trust Journey

Next Steps

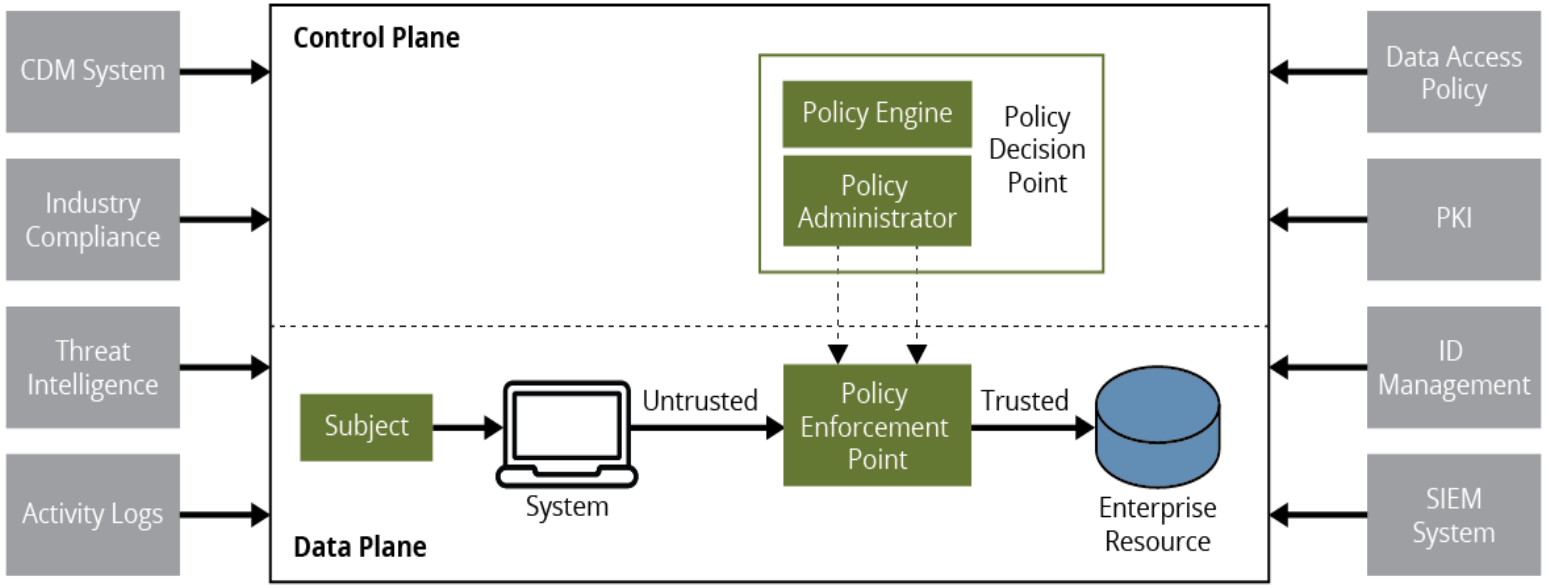
Zero Trust Tenets

Assume attacker presence.

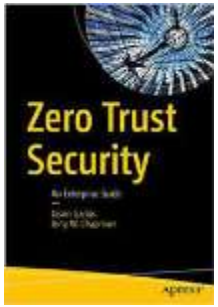
Remove implicit trust in design and implementation.

Move security from the network to users, applications, and workloads.

Components (NIST SP 800-207)



Guidance



Campus Zero Trust Security Interest

University appears to focus on Google's office products. Is BeyondCorp being considered for Zero Trust or are there other initiatives being pursued?

International campuses – Are all treated the same way from a security standpoint?

Curious as to how comfortable you are with how the university's is keeping track of its inventories of assets, subjects, data, data flows, and workflows?

What is the security strategy that your office is pursuing?

Common Challenges

Governance

- Asset inventory

Architecture

- Awareness and accuracy

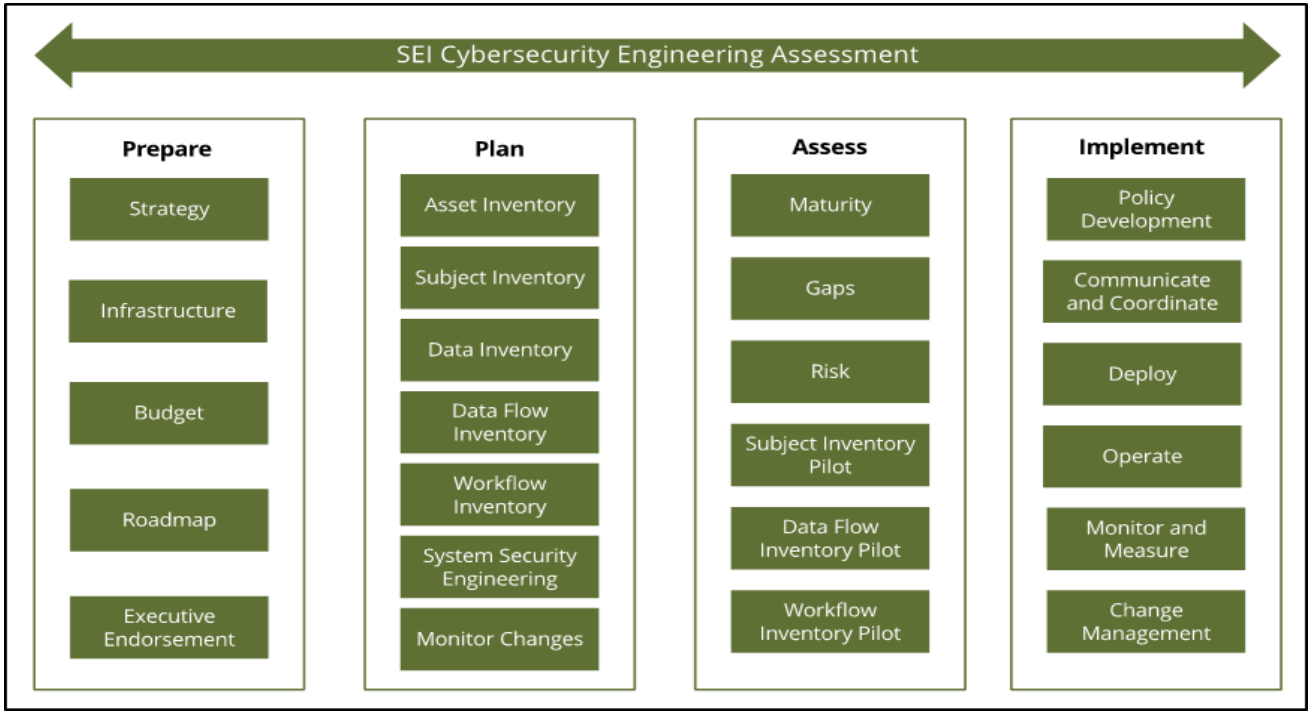
Cost

- Adoption cost

Measurement

- Success

Zero Trust Journey



Zero Trust Journey

SEI approach combines

- Mission/Business Threads
- Systems Security Engineering (SSE)
- Model-Based Systems Engineering (MBSE)
- Continuous Authorization (cATO) concepts
- Cybersecurity Engineering Assessments

Mission/Business Threads

Development of vignettes, mission/business threads, and associated architecture documentation that provide operational, lifecycle, and development context.

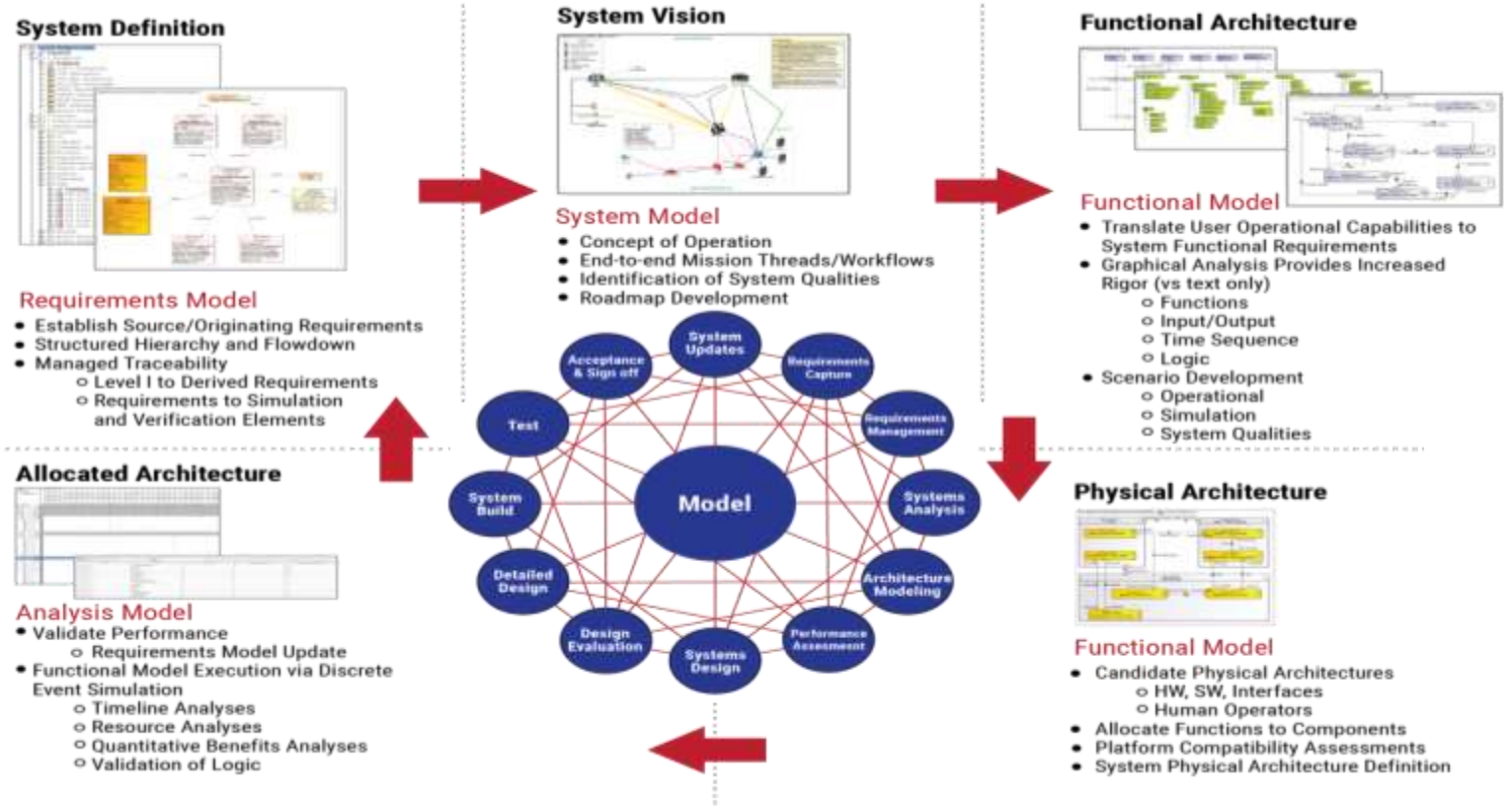
Systems Security Engineering

Process to achieve identified cybersecurity goals by building security in which supports analysis efforts.

Based on the following artifacts

- ISO/IEC/IEEE 15288:2015
- NIST Special Publication 800-160, Volume 1
- NIST Special Publication 800-160, Volume 2
- NIST Special Publication 800-37

Model Based Systems Engineering (MBSE)



Continuous Authorization to Operate (cATO)

Incorporates the NIST Risk Management Framework (RMF) and continuous monitoring with software engineering activities that leverage cloud computing and cyber-resilient systems engineering.

Key Conditions

1. Adoption and deliberate use of a secure software supply chain.
2. Complete understanding of activities inside system boundaries including robust continuous monitoring.
3. Ability to conduct active cyber defense in order to respond to cyber threats in real-time.

* *CrossTalk August 2021, "Exploring the Ingredients of a Continuous Authorization to Operate", Weiss, J. and Gesling, T.*

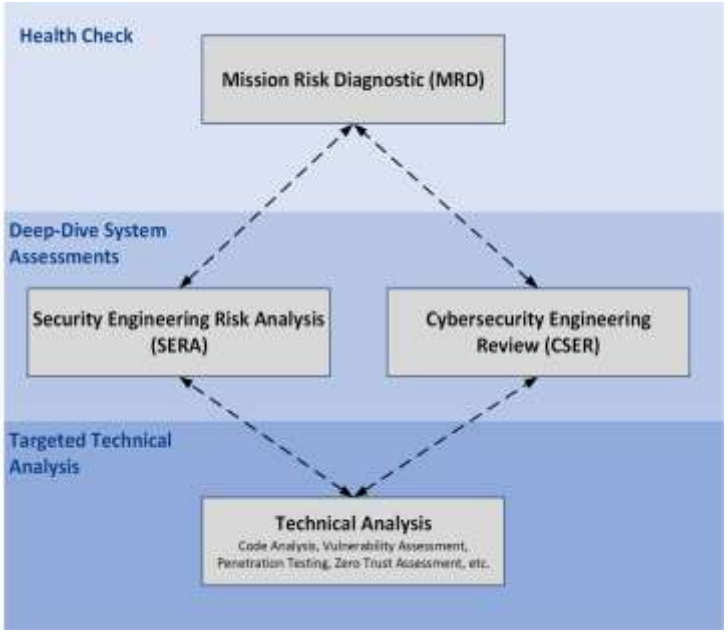
Cybersecurity Engineering Assessments

SEI is developing an integrated approach for assessing and managing security across the system lifecycle and supply chain.

Health check.

Deep-dive system assessments.

Targeted technical analysis.



Next Steps

Pilots.

ZT Journey paper.

Document CSE assessment application.

Example enterprise ZT Journey.

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