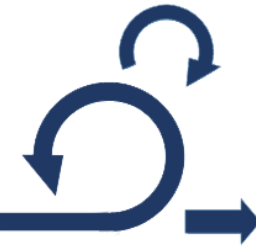


DAU



MBSE DevSecOps Integration – T&E Challenges

MBSE and DevSecOps Integration - T&E Challenges

- What are the challenges to integrate Model-Based System Engineering acquisition practice with DevSecOps acquisition practice (tools, methodologies/frameworks, and languages)?
- MBSE [relies on models as first-class abstractions of a system under study](#). Automated code generation results in both increased confidence in produced software and fast delivery. Yet, this is usually a one-way process with challenges in debugging generated software or informing model updates.
- [Simulation capabilities](#) are important to perform early validation of [cyber-physical systems](#). Co-simulation supports model execution as a federation of executable models. Some standards, such as the [Functional Mockup Interface \(FMI\)](#), provide a standardized interface to interconnect models and the associated simulation environments.
- Digital twins consist “[of three components, a physical product, a virtual representation of that product, and the bi-directional data connections that feed data from the physical to the virtual representation, and information and processes from the virtual representation to the physical.](#)” These links support continuous improvement and maintenance of the system through the analysis of runtime logs and their comparison to the system’s optimal performance.
- Reference: Click, T., Research Review, 2022
https://resources.sei.cmu.edu/asset_files/Presentation/2022_017_001_889451.pdf