MAP12

Platform-as-a-Service: When COTS, SaaS, and Customizations Collide

BJ Kelly, Jeffery Weir, Shweta Kumar
RGBSI Aerospace & Defense, Fairborn, Ohio, USA

Abstract

The adoption of Platform-as-a-Service (PaaS) is transforming enterprise level technology enabling ecosystems by integrating Commercial Off-The-Shelf (COTS) software and Software-as-a-Service (SaaS) models with customizations. This research explores the challenges and opportunities that arise when PaaS platforms are used to unify these elements, particularly in industries with requirements as complex as those associated with the U.S. Department of Defense (DoD). This research highlights the risks of over-customizing COTS solutions, which can lead to increased technical debt and system complexity and examines the benefits of low-code/no-code platforms in mitigating risk complexities. Finally, the research addresses the balance between rapid innovation cycles (e.g., 'agile sprints') and the need to maintain structured, compliant code management, especially in highly regulated environments. Through the use of industry examples and case study methods, the research provides representative best practices for maximizing the benefits of PaaS while maintaining flexibility, scalability, and compliance.

Conference Track

Military Applications