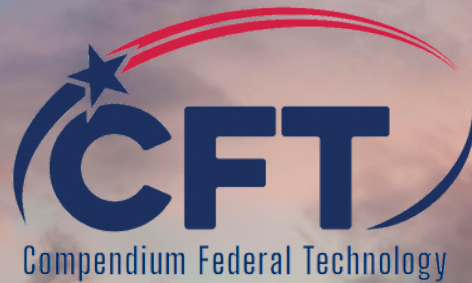


Optimizing Operational and Engineering Models with Dynamic Visualizations for today's Warfighter



Mr. Herb Honaker, CDR USN (Ret)
Federal Technology Compendium
Chesapeake, Virginia
herbert.honaker@cft-llc.com

Mr. Logan Rash, CPT (USA)
Compendium Federal Technology
Chesapeake, Virginia
Logan.Rash@CFT-LLC.com

OPTIMIZING OPERATIONAL AND ENGINEERING MODELS WITH DYNAMIC VISUALIZATIONS FOR TODAY'S WARFIGHTER



The communications complexities in today's battlespace continue to increase at an exponential rate. The demand for fielding new technologies that operate as intended is critical to mission success. Our Joint Force is anticipating and entering an era where our tactical and operational dominance is in question and considers the environment where the potential enemy can interrupt and impede our military operations. So often, the warfighter is left out of the initial planning phase for new technology and capabilities, ultimately leading to mission failure. A common theme found between the acquisition and operational communities centers on the lack of an actionable dynamic visualization capabilities that provides systems, data, requirements and operational factors in a cohesive and dynamic format. The core focus of this paper will be examining how through utilizing dynamic visualizations and dashboarding systems developers, acquisition decision makers and operational users can produce results that set forth the foundational requirements for any organization. We have quantitative evidence that this process provides needed results and demonstrates the ability to streamline the developmental production with a critical ability in closing operational imperative gaps. The differentiator between our approach and other similar efforts hinges on the success we have had in utilizing a suite of tools that fully integrate the analytical rigor and warfighters with detailed dynamic visualizations that pave the way for the two to "co-exist" within technological development. By operationalizing Microsoft's Power Bi Dashboarding into a wholistic, system engineering, testing, and warfighting integration we have been able to integrate old, new, and future capabilities that identify the operational "so what" providing end users with a clear operational picture and increased systems engineering and operational efficiency. This paper will explore our methodology that modernizes the way decision makers, warfighters, and engineers see the battlefield through detailed analysis, graphics, and the powerful capability of dynamic data visualizations that build an optimal Course of Action within multiple Joint Mission threads. Augmenting such software combines Mean Operating Scores (Data & Modeling), Quality of Service (Operator Expertise), and an operationally informed Model Based Systems Engineering process to enhance new technology turnaround times and product leveraging across the community of interest. Additionally, it will also save considerable funding through the creation of a more streamlined and accurate systems acquisition process in support of Testing & Evaluation, Simulation Exercises and optimized Platform-System configurations. Finally, the paper presents a full operational picture with detailed proven analytics, dynamic mission threads, and operational benefit for Warfighters & Engineers. The overarching components outlined in the paper will offer the community an essential and effective approach in bridging engineering solutions to successful operational outcomes.