THE ROAD TO SUCCESSFUL JOINT EXPERIMENTATION STARTS AT THE DATA COLLECTION TRAIL

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Joint Forces Command has made great strides formulating the roadmap for conducting joint experiments. However, success for the Command will be measured by its ability to present quantifiable results to support transformational findings. The Services have considerable experience documenting requirements and articulating needs based on quantifiable results. Weapons systems, sensors and related procurement developments lend themselves to statistical testing (primarily through repetitive constructive simulation runs and live tests). The nature of joint experimentation relies on a discovery-type of approach when dealing with 2015 (or later) weapons, decision support systems and identifying the best methods for their utilization. The strengths in using human in the loop (HITL) immersion within distributed virtual simulations (e.g., Joint Semi-Automated Forces (JSAF)), requires innovative approaches to data collection and analysis. The correct approach will provide creditable and quantifiable results to strengthen the Commander, Joint Forces Command's rationale for transformation within DOD. This paper addresses methods for achieving more creditable and quantifiable data support. The first section provides a short description of the spiral development and data integration processes. The second section describes the flexible data collection toolkit used in the initial verification of entity behaviors and performance and then used to extract and display the data generated from the simulations. Finally, the third section describes a distributed framework for scaling the logger and analysis tools to handle very large data sets--in the terabyte range--for meeting the Joint Forces Command, Joint Experimentation Directorate's need for a Distributed Continuous Experimentation Environment capable of providing quantifiable results.

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