

## **Model Verification in a Digital Engineering Environment – An Operational Test Perspective**

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### **Abstract:**

As the Department of Defense adopts digital engineering strategies for acquisition systems in development, programs are embracing the use of highly federated models to assess the end-to-end performance of weapon systems, to include the threat environment. Often, due to resource limitations or other constraints, there is limited live data with which to validate the end-to-end performance of these models. In these cases, careful verification of the model, including from an operational factor-space perspective, early in model development can assist testers in prioritizing resources for model validation in later system development. When the verification and validation planning processes are decoupled, verification data can help testers can prioritize validation test resources to those parts of the model or operational space where validation is key. This ensures that verification efforts will provide data enabling model validation focused on the end-to-end performance of the system. This presentation will discuss how statistically-informed test design processes can be used to assess the operational factor space and shape model validation efforts when performed as part of model verification.