

ITEA LVC Special Session on VV&A



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VV&A Special Session Purpose

- **Leverage existing Government and Industry VV&A knowledge to improve MDA VV&A for T&E M&S**
- **Topics for Today's Session:**
 - **(1) The Referent; building the body of knowledge about the system under study to increase confidence in the validity of the M&S**
 - **(2) Acceptability Criteria; formulating the comparison points and M&S accuracy requirements**
 - **(3) Documentation; rolling up the right amount of historical and newly formulated information**
- **Additional discussion topic, time permitting: Validation Process Maturity Model (VPMM)**



MDA Referent Challenges

- **Testing of the BMDS is costly and highly constrained**
 - **Catch 22: not enough test data drives need for M&S**
 - **Not enough test data inhibits extensive validation**
- **How to leverage Ground Testing to the fullest extent to provide referent data**
 - **Ground tests are valuable analysis venues making it difficult to align configurations for M&S validation**
 - **Ground Tests are also expensive, requiring HWIL, planners, operators, etc.**



Acceptability Criteria Issues

- **Building appropriate acceptability criteria requires extensive knowledge about the system**
 - **Another Catch 22: lack of confidence in system M&S makes sensitivity analysis unreliable**



Documentation Issues

- Documenting is time consuming, not in development critical path
 - Tends to be the first item cut with budget cuts
- Too much documentation, not focused on critical information, inhibits the amount of knowledge that can be conveyed
- Inconsistent document formats limits the ability to easily archive and retrieve historical knowledge



Establish MDA Validation Evaluation Framework Like the Validation Process Maturity Model (VPMM)

*Derived from
Carnegie Mellon
University Software
Engineering
Institute's (SEI's)
Software & System
Acquisition Capability
Maturity Model*

