

Analytical Capabilities Development



Institute for Defense Analyses
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Outline

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- Programmatic
- Activities to date
- Roadmap Hypotheses
- Some Recurring Questions
- CBRN Info Wargame



Overview of Task Order

- Background: Last year's look at virtual prototyping revealed a number of M&S requirements that were not being aggressively pursued because they were collected under the rubric of “virtual prototyping system”
- Objective: Assist in the development of analytical capabilities to support the JSTO IS
 - System technical performance
 - CONOPS Development
 - Cost/Effectiveness Tradeoffs
 - Military Utility



Subtasks

- Reviews & Support when asked:
 - CBIAC Library,
 - University Strategic Partnership,
 - AFRL Maneuver Unit Modeling,
 - Proposal evaluation
- M&S Capability Roadmap
- Proposal for CBRN Information Wargame



Approach

- Interviews with key stakeholders: Services, COCOMS, JRO, JWC, DPG, Chem School, JPMIS
- Review requirements documents, FNA, FSA etc.
- Examination of M&S Programs of Record
- Review of M&S investment process
- Apply long-term experience as M&S users



Activities to Date

- Documentation collection and review, including:
 - JCIDS Products FAA, FNA, FSA, JWSTP
 - JEM/JOEF/JWARN Documentation
 - CBRN Data Model
 - CBRND Implementation Plan
 - M&S OIPT Products
- JSTO MS prioritization/selection panel
- Site Visits:
 - DATSD-CBD
 - Cubic for JOEF Prototype
 - JPMIS
 - JEM
 - JOEF
 - JRO
 - UNM
 - DPG
 - WME Battle Lab/CAPT Huffman (DTRA)
 - DMSO/COL Glasow
 - Alion for CBRN Data Model



Roadmap Hypotheses

- Transport and diffusion modeling has progressed to satisfactory level of performance
- Doctrine, training and requirements will require future IT tools
- Investment in training and education tools has a long term high rate of return for the force and the program
- M&S solutions and their requirements not as well understood as boots and gloves, but the concept of military value added should be the same
- M&S can augment physical testing, but cannot replace it



Recurring questions

- How to define the utility of an M&S product, and its defining requirements?
- What metric should be used to identify the solution that is “good enough?”
- How to evaluate competing solutions when there is no unique right answer?
- How to quickly identify M&S requirements for which no feasible technology solution exists so that alternate approaches can be sought?



CBRN Info Wargame(s)

- Purpose: Examine, ID and prioritize IS/IT contributions to military operations, combat and civil support
 - Demonstrate the utility of current and planned products
 - ID possible future requirements
 - Provide a basis or insight for prioritizing IT S and T
- Levels
 - Strategic
 - Operational
 - Tactical
- Design TBD
 - Major challenge to design game to show IT effect on operations
- Resource requirements
 - Significant cost
 - MOST IMPORTANT - NEED APPROPRIATE UNIFORMED PLAYERS
- Coordination
 - JSTO-JRO-JPEO-Services, COCOMS etc