

Session 2
March 7, 2006

**- DT&E's Perspectives -
“Making M&S and T&E Better Partners”**



Panel Chair: Chris DiPetto
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for Acquisition, Technology, and Logistics



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Panel:

- **Dr George Ka'iliiwai**
Technical Advisor, USAF Flight Test Center, Edwards AFB
- **Mr Tom Berard**
Director, USA White Sands Missile Range
- **Mr Steve Cameron**
Sr Manager, M&S Infrastructure, The Boeing Corporation
- **Mr James A. Hazlett**
Director, Mission Profiling, Raytheon Corporation



Acquisition Challenges Today

- **Capabilities**
 - Warfighters want better capability, now, versus ideal capability, later
 - Capability-acquisition management versus platform-acquisition management
- **Mission & System Complexity**
 - Broad spectrum of missions; Joint and Network-Centric Operations
 - Many cross-platform interactions and dependencies; IT intensive systems
- **USD(AT&L) imperative:**

“Help drive good systems engineering practices back into the way we do business.”



Relevant Acquisition Policy

DoDI 5000.2 May 12, 2003

E5.1 The PM...shall coordinate DT&E, OT&E, LFT&E, family-of-systems interoperability testing, information assurance testing, and M&S activities, into an **efficient continuum, closely integrated with requirements definition and systems design and development.**

E5.4.7 Appropriate use of **accredited models and simulation shall support DT&E, IOT&E, and LFT&E.**



Defense Acquisition Guidebook

9.3.4. Modeling and Simulation in DT&E

- **M&S is integral to and inseparable from T&E**
 - Test to confirm system performance & validate M&S
 - Better understanding of interaction of system & environment than with either M&S or testing, alone
- **PM's M&S WIPT develop M&S strategy; T&E manager assist**
 - Plan and start M&S early in program; evolve utility (update) across program's life
 - System M&S used in system test should be the same as, or traceable to, M&S used for concept development, analysis-of-alternatives, system design, and production
 - Synthetic test environments may also be reused for training, operations planning and rehearsal, and subsequent concept developments



Issues facing M&S in Test

- **Planning program life cycle strategy for M&S**
 - Knowledgeable staff; experienced, skilled help
 - Integrated approach, with industry prime
 - Leveraging reuse opportunities (despite contractor proprietary concerns and self-interest)
 - Contract language, data rights
- **Considering and getting needed representations from others**
 - Discovering and understanding other representations
 - Access problems of proprietary considerations, misuse concerns
 - Compensation to representation providers
- **VV&A**
- **Security accreditation of distributed environments**
- **Improving M&S with empirical data, when no one has \$**
- **Maintaining and improving broadly-needed M&S**



Resolving the M&S Issues

- **27 actions in draft Acquisition M&S Master Plan**
 - **Five goals**
 - Provide necessary policy and guidance
 - Enhance the technical framework for M&S
 - Improve model and simulation capabilities
 - Improve model and simulation use
 - Shape the workforce
 - **Details: see Fred Myers' paper, Thursday March 9, 1PM**
 - **1st step; a long way to go**
- **Acquisition M&S Working Group**
 - **Voice of the Acquisition M&S community**
 - **Review and assess execution of Master Plan's 27 actions**
 - **Identify & submit needs for central funding**



Summary

Making M&S and DT&E Better Partners

- **Testers need to assist PMs to develop M&S strategies**
- **M&S must support testing and SE**
- **M&S is only practical means of SoS capability testing**
- **Many cross-cutting issues exist that are beyond the reach of PMs & testers; OSD is addressing**