Implementing the Acquisition M&S Master Plan

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Chairman, DoD Acquisition M&S Working Group
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DoD M&S Management Structure

- Senior level: M&S Steering Committee
  - Working level: M&S IPT
- 6 user “Communities” (may add others)
- Cross-user integration

$B Goals: Interoperability, Reuse, Efficiency
Acq M&S Management Structure

- **SE Forum**: “...to collaborate and leverage activities...and institutionalize SE discipline across DoD.” [USD(AT&L), Feb 20, 2004]

- **Acquisition M&S Working Group**: “...assist PMs by improving the utility of M&S in acquisition of defense capabilities and products delivered to the warfighters.” [Chair SE Forum, Apr 12, 2006]
Acquisition M&S Master Plan

• USD(AT&L) goal: Strategic & tactical acquisition excellence

• Purpose of plan:
  – Foster widely-needed M&S capabilities beyond the reach of individual programs;
  – Better enable acquisition of joint capabilities and systems-of-systems;
  – Empower program managers by removing systemic M&S obstacles, identifying new options for approaching tasks, and helping support widely-shared needs;
  – Promote coordination and interface with M&S activities of DoD Components.

• Development process:
  – Lessons from decade of studies & reports (including NDIA N&S Cmte)
  – Input from current programs (govt and industry)
  – Vetted with industry (NDIA, INCOSE)
  – Coordinated across SE Forum members

• Approval: Chairman, SE Forum (April 17, 2006)
Acquisition M&S Master Plan

- 27 specific actions
  - Rationale for action
  - Discussion of approach
  - Lead & supporting organizations
  - Products
  - Completion goal (year)

Content of the Plan

**Objective 1**
Provide necessary policy and guidance

1-1 M&S management
1-2 Model-based systems engineering & collaborative environments
1-3 M&S in testing
1-4 M&S planning documentation
1-5 RFP & contract language
1-6 Security certification

**Objective 2**
Enhance the technical framework for M&S

2-1 Product development metamodel
2-2 Commercial SE standards
2-3 Distributed simulation standards
2-4 DoDAF utility
   a) DoDAF 2.0 Acqn Overlay
   b) Standards for depiction & interchange
2-5 Metadata template for reusable resources

**Objective 3**
Improve model and simulation capabilities

3-1 Acquisition inputs to DoD M&S priorities
3-2 Best practices for model/sim development
3-3 Distributed LVC environments
   a) Standards
   b) Sim/lab/range compliance
   c) Event services
3-4 Central funding of high-priority, broadly-needed models & sims
   a) Prioritize needs
   b) Pilot projects
   c) Expansion as warranted

**Objective 4**
Improve model and simulation use

4-1 Help defining M&S strategy
4-2 M&S planning & employment best practices
4-3 Foster reuse
   a) Business model
   b) Responsibilities
   c) Resource discovery
4-4 Info availability
   a) Scenarios
   b) Systems
   c) Threats
   d) Environment
4-5 VV&A
   a) Documentation
   b) Risk-based
   c) Examination
4-6 COTS SE tools
4-7 M&S metrics

**Objective 5**
Shape the workforce

5-1 Definition of required M&S competencies
5-2 Harvesting of commercial M&S lessons
5-3 Assemble Body of Knowledge for Acqn M&S
5-4 M&S education & training
   a) DAU, DAG & on-line CLMs
   b) Conferences, workshops & assist visits
5-5 MSIAC utility

**Key**
Broader than Acqn
Implementation Process

• Prioritize actions (completed)
• For actions “broader than acquisition,” interface with DoD M&S management (in work)
• Acq M&S Working Group:
  – Review plans by leads (in work)
  – Monitor progress
  – Assist, redirect, revise as appropriate
  – Report progress & issues to SE Forum
Prioritization – Top 10 Actions

1. M&S education & training: DAU, DAG & on-line CLMs (5-4a)
2. Foster reuse: Business model (4-3a)
3. Metadata template for reusable resources (2-5)
4. Central funding of high-priority, broadly needed models & sims: Prioritize needs (3-4a)
5. Foster reuse: Resource discovery (4-3c)
6. Foster reuse: Responsibilities (4-3b)
7. Info availability: Environment (4-4d)
8. Distributed LVC environments: Standards (3-3a)
9. M&S education & training: Conferences, workshops & assist visits (5-4b)
10. Distributed LVC environments: Event services (3-3c)
Progress – Example 1

☑ DAU Continuous Learning Module “M&S for SE”
   – DAU course available on-line: May 24, 2006
   – Oct 9 stats: 266 completed, 30 now taking, 23 dropped
   – More detail: see presentation Thursday, Oct 26

☑ Tutorial for Assessments & Support (AS) Staff
   – Sep 26 tutorial for OSD staff that interfaces with MDAPS for SE technical planning (OUSD AT&L/SSE/AS)
   – 2-hour class: practical checklist based upon policy, guidance, best practices for PM planning and use of M&S in SE and test; offer technical “assist visits”
Progress – Example 2

• Live Virtual & Constructive (LVC) Environment Architecture Roadmap
  – Issue: lack LVC interoperability due to different methods (HLA, TENA, CTIA, DIS, ALSP, etc)
  – DoD SC M&S funding recently approved
  – User communities to define roadmap for LVC architectures, including standards and policy changes required
  – JFCOM J-7 led team (Training, Acquisition, Testing, Experimentation M&S communities)
Progress – Example 3

• Educating the Workforce
  – Issue: Define M&S competencies
  – Ongoing Navy-led activity (initial spiral)
    • Determine user acquisition M&S KSAs, desired proficiency and knowledge elements
    • Develop mappings between these
    • Identify Instructional Delivery Technologies and Course accreditation
  – Subsequent spirals: development of course content, integration, assessment
  – Candidate for DoD SC M&S funding - extend scope to all DoD M&S community’s users

KSA = Knowledge, Skills and Abilities
Near Term Progress

• Activity on these actions:
  – Update Defense acquisition policy: program M&S planning integrated with SE planning
  – MDA understand VV&A when M&S supports acquisition decision
  – Best practices for PM M&S planning

• Acquisition M&S Working Group
  – Focus of monthly sessions: plans and progress across all actions in Acq M&S Master Plan
  – Provide forum for creating and sustaining the Acquisition Work Force Community of Interest on M&S
## Content of the Plan

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1</strong></td>
<td>Enhance the technical framework for M&amp;S</td>
</tr>
<tr>
<td><strong>Objective 2</strong></td>
<td>Improve model and simulation capabilities</td>
</tr>
<tr>
<td><strong>Objective 3</strong></td>
<td>Improve model and simulation use</td>
</tr>
<tr>
<td><strong>Objective 4</strong></td>
<td>Define M&amp;S strategy &amp; employment best practices</td>
</tr>
<tr>
<td><strong>Objective 5</strong></td>
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</tr>
</tbody>
</table>

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5 Acquisition M&S Objectives
27 Actions with Equal Relevance to Training, Testing

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Gaps Cross Community Support

DOT&E Roles
- Support
- Co-lead
- DOT&E Hi 3
Conclusion

• Acq M&S Master Plan is a model for other M&S COI Master Plans still under development

• Acq M&S Master Plan set the pace for addressing common DoD M&S gaps

• Acq M&S Community making progress on several actions in the plan, collectively, through Acquisition M&S management structure

• Industry partnership is important; must sustain interface through Industry association activity