Vision

“Create a common framework for M&S applications in support of acquisition and test across the Navy and greater DoD/Industry Enterprise that influences upfront and early application of processes to reduce cost and risk across the life-cycle of the program.”

Goals

1. Demonstrate development of an enterprise framework (business and technical processes) for MS&A based upon experience of selected NAVAIR-NAVSEA programs
2. Link M&S Guidelines to Systems Engineering Processes
3. Utilize a NAVAIR Board of Directors (BOD) to review and validate the MS&A framework for inclusion within the Systems Engineering Resource Center (SERC)
4. Develop metrics and gather data to show benefits of MS&A framework for NAE programs
5. Broaden application to the Virtual SYSCOM and DoD/Industry Enterprise based upon success achieved

BOTTOMS UP APPROACH TO DOCUMENTING GUIDELINES FOR M&S COMMISSIONED BY DIRECTOR, MODELING & SIMULATION, RDA CHENG

Project restructured in July 2007 with concurrence of M&S Director, ASN RDT&E
IMPORTANCE OF M&S GUIDELINES

• M&S is increasingly an essential element of the systems engineering process, representing the SoS environment as a context for systems engineering to properly design, develop and test individual systems. (DAG)

• The program manager should have an M&S WIPT that develops the program’s M&S strategy. (DAG)
  – The PM shall plan for M&S throughout the acquisition life cycle. (5000.2)
  – The PM shall identify and fund required M&S resources early in the life cycle. (5000.2)

• The M&S IPT lead role can be described as an interdisciplinary approach: “that encompasses the entire technical effort to evolve and verify an integrated and life cycle balanced set of M&S solutions to satisfy customer needs.”
  – A framework (technical and process) is needed for M&S IPT leads
  – Documentation on tasks common across M&S IPTs can provide guidelines on how to plan, organize and conduct M&S IPT activities

NEED A COLLECTION OF “BEST PRACTICES” FOR M&S IPT LEADS
DELIBERABLES TO DATE

Framework consists of documenting key processes for MS&A based on experience with multiple programs (e.g., CVN 21, MMA, BAMS, N-UCAS, etc.):

3. M&S Considerations in SEP/SEMP Development
4. M&S Considerations for T&E Planning
5. M&S Considerations in TEMP Development
6. VV&A Guidance
7. Accreditation Strategy Guidance
8. M&S Risk Management
9. Links to M&S Resources
10. Configuration Management Guidance for M&S
11. Scenario Development Guidance
13. System Integration Lab Guidance

DOCUMENTS IN REVIEW BY NAVAIR M&S FORUM TO BE PLACED ON NAVY SYSTEMS ENGINEERING RESOURCE CENTER (NSERC)
PLACING INFORMATION IN “SYSTEMS ENGINEERING RESOURCES” SECTION
SE RESOURCE PULL-DOWN
MODELING & SIMULATION TAB

CLICK ON NAVAIR TAB
NAVAIR VIEW – M&S IN ACQUISITION
NAVAIR ACQUISITION DIRECTORY

Displays various topics or guidebooks for easy reference.

CLICK ON M&S IN TESTING

- Acquisition Directory
- Best Practices for M&S
  - Configuration Management Guidance
  - Existing Data Set Portfolio
  - Existing Models Portfolio
  - M&S Considerations in SEP/SEMP Development
  - M&S Considerations in TEMD Development
  - M&S Education/Training
  - M&S IDD/ICD Guidance
  - M&S in Testing
- M&S Instruction/Policy/Procedure Guidance
- M&S Integration Standards - Guidance
- M&S Interoperability & Reuse
- M&S Management
- M&S Risk Management
- Modeling & Simulation Support Plan (MSSP) Guidance
- RFP & Contractual Guidance
- Scenario Development Guidance
- System Integration Lab (SIL) Guidance
- Systems Engineering Technical Review (SETR) Design Reviews
- W&V Guidance
M&S IN TESTING DIRECTORY EXAMPLE

CLICK ON INITIAL OPERATIONAL TEST & EVALUATION (IOT&E)
M&S IN TESTING - IOT&E LINK EXAMPLE
ORGANIZATIONS BRIEFED ON EFFORT

- Commander Operational Test Forces (COTF)
  - Technical Director—Mr. Steve Whitehead (SES)

- Naval Research Lab
  - Mr. John Binford

- NAVAIR
  - M&S Forum

- NAVSEA
  - Mr. James Meng (SES)

- MARCORPSYSCOM
  - Col Joseph Smith

- SPAWAR
  - All Directorates

- BMP/COE
  - Mr. Ted Polite

- Naval Post Graduate School (NPS)
  - Ms. Jean Johnson

ACROSS THE BOARD SUPPORT – DESIRE TO EXPAND & CONTINUE EFFORTS
THE WAY FORWARD

1. Once approved by NAVAIR M&S Forum, load onto appropriate places on NSERC Website

2. Deliver final products back to Mr. Bill Zimmerman, Director M&S, RDA CHENG

3. Once products approved by NAVAIR M&S Forum, submit to greater Virtual SYSCOM for review and insertion of comments as appropriate

4. Once approved by Virtual SYSCOM authoritative body, load onto appropriate place on NSERC Website
NEXT STEP – LINK TO SECNAV ACQUISITION GOVERNANCE

SHOW HOW M&S IS USED TO SUPPORT EACH GATE

** DON CIO pre-certification, Investment Review Board certification, and Defense Business System (DBS) Management Committee approval prior to obligation of funding for a DBS program when cost > $1 million
SUMMARY

- Project is on track to deliver listed products
- Review and approval through recently established NAVAIR M&S BOD ongoing
- Other ASN RDA efforts must be integrated (e.g. NMSO ongoing development of SSP guidance, etc.)
- Enterprise Project addresses many areas out of original Acquisition M&S Plan:
  - Provides linkage to SEP, TEMP and Acquisition Strategies, Contracting Practices based upon experience from Selected Programs.
  - Provides guidelines for evaluating capabilities assessed and measured through M&S used to support JCIDS/CBA and subsequent Analysis of Alternatives.
  - Provide best practices guide on “how to” and benefit of integrated MS&A for capabilities assessment.

RECOMMENDING INVESTMENT TO CONTINUE AND WIDEN EFFORT
BACKUP