



M&S ENTERPRISE INITIATIVE

Presented to NDIA M&S Committee

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M&S ENTERPRISE PROJECT

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

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



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



DELIVERABLES 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.):

1. Best Practices Guide for M&S
2. M&S Simulation Support Plan (MSSP) Guidance
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
12. Systems Engineering Technical Review (SETR) Design Review
13. System Integration Lab Guidance

**DOCUMENTS IN REVIEW BY NAVAIR M&S FORUM TO BE PLACED ON
NAVY SYSTEMS ENGINEERING RESOURCE CENTER (NSERC)**



NSERC WEB SITE

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NSERC
NAVAL Systems Engineering Resource Center

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V-SYSCOM SE Websites

- SESG
- MARCOR
- NAVAIR
- NAVFAC
- NAVSEA
- NAVSUP
- SPAWAR
- NPGS
- ASNRDA CHENG

Welcome to the NSERC!

The NSERC provides an environment for data/information sharing and document collaboration among the SYSCOM user community. The NSERC provides Systems Engineering Tools to facilitate the development of Engineering data, places to

Engineering Guidebook

This Guide defines the systems engineering (SE) requirements and tasks; their implementation and products; and explains the tools and techniques used throughout a product life cycle. This Guide documents a common Naval Systems Engineering Process

Systems Engineering Technical Review Timeline

To access the Systems Engineering Technical Review (SETR) Timeline documentation please [click here](#).

Systems Engineering Tool Suite

For detailed tool descriptions [click here](#).

- CORE - Simulation & Modeling
- Doors - Requirements
- System Architect - Architecture
- Vision Strategist - Roadmapping
- Mathcad - Mathematical Analysis
- Rational Rose Modeler - UML Modeling
- iUML Modeler
- Synergy CM - Confirmation Management
- Change - Change Management
- Risk Exchange - Risk Management

CLICK ON SE RESOURCES

PLACING INFORMATION IN "SYSTEMS ENGINEERING RESOURCES" SECTION

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MODELING & SIMULATION TAB

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MARCOR

NAVSEA

SPAWAR

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CLICK ON NAVAIR TAB

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NAVAIR VIEW – M&S IN ACQUISITION



NAVAIR ACQUISITION DIRECTORY

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Acquisition Directory

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Configuration Management Guidance
M&S Software Development
Programmatic Execution of MSSP

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Subtopic Final Page

Existing Models Portfolio
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M&S Considerations in SEP/SEMP Development
Subtopic Final Page

M&S Considerations in TEMP Development
Subtopic Final Page

M&S Education/Training
Subtopic Final Page

M&S IDD/ICD Guidance
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M&S in Testing
Developmental Test (DT)
Initial Operational Test & Evaluation (IOT&E)
Live Fire Test & Evaluation

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 TEMP 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
VV&A Guidance

Microsoft Windows SharePoint Services

CLICK ON M&S IN TESTING

DISPLAYS VARIOUS TOPICS OR GUIDEBOOKS FOR EASY REFERENCE



M&S IN TESTING DIRECTORY EXAMPLE



M&S IN TESTING - IOT&E LINK EXAMPLE

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- Programmatic Examples

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Discussions

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Announcements

There are currently no active announcements. To add a new announcement, click "Add new announcement" below.

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VV&A Contacts

Last Name	First Name	Business Phone	E-mail Address
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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

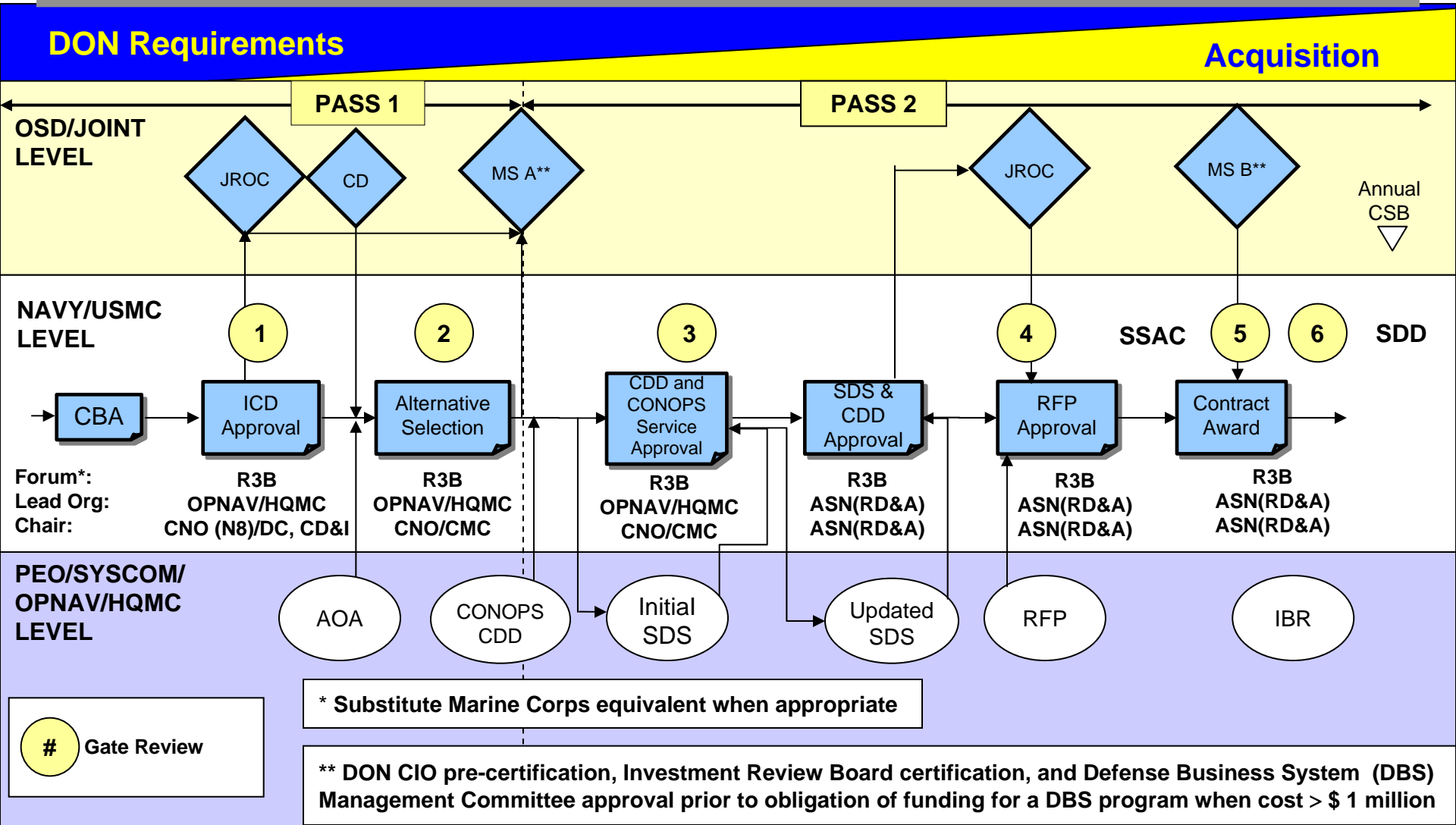


THE WAY FORWARD

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



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