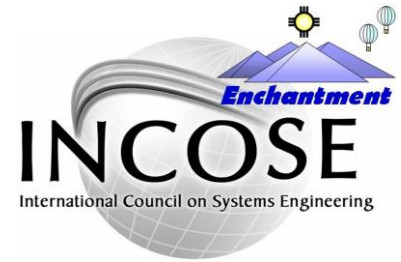


# Enchantment Chapter Monthly Meeting



**13 May, 2015 – 4:45-6:00 pm:**

## **NDIA: A Place for Systems Engineers to Move the Needle**

Dr. Beth Wilson, Raytheon Company, Senior Principal Engineering Fellow.  
Beth\_J\_Wilson@Raytheon.com (978) 440-3073

**Abstract:** The presentation summarizes some of the National Defense Industrial Association (NDIA) Systems Engineering Division (SED) activities. Dr. Wilson is co-chair for the Developmental Test & Evaluation Committee and the Systems Security Engineering Committee, and active in the Modeling and Simulation, Architecture, and Systems of Systems Committees. She champions joint projects between committees and INCOSE. Project summaries will include "Erasing the Line with Title 10: Best Practices in Integrated Testing," "Test and Evaluation Issues for Systems of Systems (SoS): Creating Sleep Aids for Those Sleepless Nights," "Test Perspectives for Architecture," "Partnering for Success: The Chief Developmental Tester and Industry Test Lead," "Reference Architectures for Model Based Distributed Integration and Test," and "Cyber Testing Guidelines Recommendations."

Download slides today-only from GlobalMeetFifteen file library or anytime from the Library at [www.incose.org/enchantment](http://www.incose.org/enchantment)

**NOTE: This meeting will be recorded**

[www.incose.org/enchantment](http://www.incose.org/enchantment)

## A Few Words First

Courtesy – Please mute your phone (\*6 toggle)

Full day tutorial June 19 – *Systems Thinking* – James Martin.

Full day tutorial October 23 – *Applying MBSE to Interface Design & Management* – Mathew Hause.

Workshop: *Discovering Principles of Embraceable System Design*  
Two 3/4-day workshops separated by two weeks, in Albuquerque.  
Dates and place TBD according to interest, May/June target.  
Contact [rick.dove@parshift.com](mailto:rick.dove@parshift.com) for participation and schedule.

### Considering INCOSE SEP accreditation?

details: [www.certificationtraining-int.com/csep-preparation-course/](http://www.certificationtraining-int.com/csep-preparation-course/)

CSEP Preparation 4-Day Course will place you in the best possible position to pass the CSEP exam. To learn how to successfully pass the exam and complete the application, join a course near you:

2015 Course Schedule (close by, others available as well):

Jul 06 - 09 | [Las Vegas, NV](#)

Aug 17 - 20 | [Austin, TX](#)

Nov 02 - 05 | [Las Vegas, NV](#)

# **NDIA: A Place for SEs to Move the Needle**

## **Things to Think About**

**National Defense Industrial Association opportunities?**

**Oct 26-29 Annual SE Conference in Springfield, VA.**

**What can NDIA do for you?**

**Who should you & company get to know there?**

**Interested in NDIA involvement?**

**[www.ndia.org](http://www.ndia.org)**

**[www.ndia.org/Divisions/Divisions/SystemsEngineering](http://www.ndia.org/Divisions/Divisions/SystemsEngineering)**

# Speaker Bio



**Dr. Beth Wilson is a Senior Principal Engineering Fellow who earned her PhD in Electrical Engineering from the University of Rhode Island.**

**Since joining Raytheon in 1983, she has worked as a design engineer, program manager, research scientist, functional manager, and test director on sonar, satellite, and radar programs.**

**She is currently the Mission Systems Integration Technology Area Lead for IDS, responsible for the technology investments related to modeling and simulation, model based engineering, and product line architectures.**

**She is working strategic initiatives across the company in multi-discipline agile techniques and systems security engineering.**

**She is the NDIA Developmental Test and Evaluation committee chair, and co-chair for the INCOSE and NDIA System Security Engineering committees.**

**Previous assignments have included a character-building deployment to Shemya, Alaska as the Test Director for the Cobra Dane Upgrade.**

**Beth is a Raytheon Certified Architect (RCA), INCOSE Expert Systems Engineering Professional (ESEP), and a Raytheon Certified Six Sigma Expert.**

# **NDIA: A Place for Systems Engineers to Move the Needle**

**Beth Wilson, Raytheon  
Industry Co-Chair  
Development Test and Evaluation Committee  
Systems Security Engineering Committee**

**May 13, 2015**

- **NDIA SE Division Overview**
- **Selected Projects:**
  - Integrated Testing
  - SoS Test and Evaluation
  - Chief Developmental Tester
  - Model Based Distributed Integration and Test
  - Cyber Testing Guidelines
  - New Project: Cyber Resilient Design Measures
- **Summary**

Systems Engineering

**NDIA**

# Systems Engineering Division

# SYSTEMS ENGINEERING DIVISION

# National Defense Industrial Association SYSTEMS ENGINEERING DIVISION

**Steering Committee**  
*Div Chairs (Exec Com) plus:*  
 Pete Larkin – GD, Electric Boat  
 Craig Miller – Harris  
 Garry Roedler – Lockheed Martin  
 Mark Schaeffer – ManTech Int'l  
 Chris Orłowski – Northrop Grumman  
 Gary Motchan – Boeing  
 John Gill – BAE Systems  
 (open) – SAIC  
 (open) – United Technologies  
 (open) – Raytheon  
 (open) – Sikorsky  
 Angela Wallace – Booz Allen Hamilton

**CHAIR**  
 Frank Serna  
 Draper Laboratory  
**VICE-CHAIRS:**  
 Joe Elm  
 SEI  
 Chair Emeritus  
 Bob Rassa  
 Raytheon

**Sr Gov't Participation**  
 Steve Welby – DASE(SE)  
 Kevin Fahey – US Army  
 Gretchen Lizza – US Navy  
 Dr. Tom Christian – USAF  
 Jack Zavin – ODASD C3/Cyber  
 (open) – MDA  
 (open) – DCMA  
 (open) – FAA  
 (open) – NASA  
 (open) – OSD/L&MR

**Affiliate Groups**  
 Gery Mras – AIA  
 Dr. Eric Honour – INCOSE  
 Paul Croll – IEEE Computer Society  
 Bob Rassa – IEEE AESSE  
 Les Orledge – IEEE SCC20  
 George Rebovich – MITRE  
 Dr. Ken Nidiffer – SEI  
 (open) – Aerospace

**CMMI WG**  
 Dan Blazer, Leidos  
 Geoff Draper, Harris  
 Bob Rassa, Raytheon

**Agile and SE WG**  
 Open  
 Linda Maness, Harris

**Development Test & Evaluation Committee**  
 Dr. Beth Wilson, Raytheon  
 Steve Scukanec, Northrop  
 Grumman

**System-of Systems Cmte**  
 Rick Poel, Boeing  
 Dr. Judith Dahmann, MITRE

**Automatic Test Committee**  
 Les Orledge, AAI Corp  
 Scott Brown, Boeing  
 Howard Savage, SCI

**ESOH Committee**  
 David Schulte, SAIC  
 Sherman Forbes, USAF

**Human Systems Int Cmte**  
 Matthew Risser, Pacific S&E  
 Noren McQuinn, Boeing

**Systems Engineering Effectiveness Committee**  
 Joe Elm  
 SEI  
 John Gill  
 BAE

**Education & Training Committee**  
 Dr. John Snoderly  
 Defense Acquisition University  
 Dr. Don Gelosh  
 Worcester Polytechnic University  
 Dr. Ken Nidiffer  
 SEI

**Software Committee**  
 Paul Croll  
 Ken Nidiffer

**Modeling & Simulation Committee**  
 Jeff Bergenthal  
 Johns Hopkins APL  
 Dr. Jim Coolahan  
 Coolahan Associates

**Enterprise Health Management Committee**  
 Howard Savage  
 SCI  
 Chris Reisig  
 Boeing (St Louis)

**Systems Security Engineering Committee**  
 Holly Coulter  
 Raytheon  
 Beth Wilson  
 Raytheon

**Architecture Committee**  
 Curtis Potterveld  
 Boeing  
 Dr. Steve Dam  
 Spec Innovations

**NDIA Division Executive: Britt Sullivan**



# SE Conference

## October 26-29, 2015

PROMOTING NATIONAL SECURITY SINCE 1919

# 18<sup>th</sup> ANNUAL SYSTEMS ENGINEERING CONFERENCE

CALL FOR PAPERS AND PROGRAM ANNOUNCEMENT

## SESSION TOPICS

- ▶ *Architecture*
- ▶ *Agile*
- ▶ *Better Buying Power*
- ▶ *DoD Standards*
- ▶ *DT&E*
- ▶ *Engineered Resilient Systems*
- ▶ *Education & Training*
- ▶ *Environmental Safety*
- ▶ *Occupational Health (ESOH)*
- ▶ *Human Services*
- ▶ *Integration (HSI)*
- ▶ *Modeling & Simulation*
- ▶ *Net-Centric Operations (NCO) / Interoperability*
- ▶ *Systems of Systems (SoS)*
- ▶ *Systems Engineering Effectiveness*
- ▶ *Systems Security Engineering (SSE)*



## Location:

Waterford Springfield  
6715 Commerce St.  
Springfield, VA

## Call for Papers:

Due Friday  
May 29, 2015  
5pm EST

<http://www.ndia.org>

# Summary of DT&E Committee Test and Evaluation Efforts



|                | Topic                             | Activity  |
|----------------|-----------------------------------|---|
| DT&E Committee | <b>DoD T&amp;E Policy Study</b>   | 2006 – 2008: Workshops and Study Report<br>Improving T&E in the DoD Acquisition Process   |
|                | <b>Integrated Testing</b>         | 2008 – 2010: Integrated Test Study<br>NDIA presentations and tutorial<br>ITEA journal article   |
|                | <b>RFP Language for T&amp;E</b>   | 2010 – 2011: Comments for Update to OSD Guide<br>Incorporating T&E into DoD Acquisition Contracts   |
|                | <b>Test Optimization</b>          | 2012: Statistical Optimization Conference Thread<br>2013: Scientific Test and Analysis Techniques report<br>Working publications for NDIA National Defense<br>Magazine, ITEA Journal, and CrossTalk |
|                | <b>Cyber Testing</b>              | 2013 – 2014: Industry recommendations for cyber testing   |
|                | <b>Chief Developmental Tester</b> | 2013 – 2014: Industry interaction with new role   |

# Summary of DT&E Committee Systems Engineering Efforts



|                  | SED Committee                             | Activity  |
|------------------|---|---|
| SE Collaboration | Software                                  | 2009: SW T&E Summit Recommendations   |
|                  | System of Systems                         | 2010 – 2011: T&E for SoS Workshop and Initiatives<br>2012: Final Report on Best Practices Model |
|                  | Modeling and Simulation                   | 2011: Effective Use of Modeling and Simulation for T&E<br>2012: Distributed Model-Based Testing |
|                  | Performance Measurement                   | 2012: Leading Indicators for T&E workshop   |
|                  |   | 2013: Requirements Verification leading indicators report                                       |
|                  | Architecture                              | 2014: T&E Perspective for Architecture views  |
| Systems Security | 2015: Cyber resilient design and measures |   |

# Summary of SSE Committee Activities and Plans

|     | Topic                                  | Activity   |
|-----|--|--|
| SSE | PPP Workshop                           | Follow-on to 2012 Workshop scheduled May 19-22<br>Focus on Performance Metrics, Integration of security sub specialties, and contracting SSE and DT&E.   |
|     | Industry perspective                   | Developing an industry perspective report on “Suggested Language to Incorporate System Security Engineering for Trusted Systems and Networks into Department of Defense Requests for Proposals; January 2014” 2 companies provided reports directly to OSD SE, Deputy for System Security and PP |
|     | INCOSE SSE                             | Collaboration with INCOSE SSE on NIST SP 800-160<br>Determined to be a valuable reference for both INCOSE & NDIA.  |
|     | INCOSE & NDIA SSE Education & Training | Testing framework and competency model using SSE   |
|     | Metrics Project                        | 1 Day Systems Security Metrics Workshop October 27 <sup>th</sup> at NDIA facility in Ballston, VA. Report anticipated Q1 CY2015  |
| SED | Developmental Test and Evaluation      | Cyber testing guidelines connections to Program Protection Planning<br>Cyber resilient design and measures   |
|     | Systems of Systems                     | PPP leverage points in the SoS Wave Model  |

Integrated Testing  
SoS Test and Evaluation  
Chief Developmental Tester  
Model Based Distributed Integration and Test  
Cyber Testing Guidelines

New Project: Cyber Resilient Design Measures

# SELECTED PROJECTS

# Integrated Testing (CT/DT/OT) Implementation Framework



NDIA Test and Evaluation Conference  
Paper #7847



## Walking the Line with Title 10: Implementation Strategies for Integrated Testing



2009 ITEA Journal

Integrating Test and Evaluation (September issue)

NDIA Systems Engineering Conference  
Paper #8848



## Integrated Testing: We Can Do It

NDIA Test and Evaluation Conference  
Paper #9565



## Erasing the Line with Title 10: Best Practices in Integrated Testing

**Beth Wilson**

Industry Co-Chair NDIA System Engineering Division, DT&E Committee  
Principal Engineering Fellow, Raytheon Company

**Darlene Mosser-Kerner**

Government Chair NDIA System Engineering Division, DT&E Committee  
OUSD(AT&L)/Developmental Test and Evaluation

**Tom Wissink**

Industry Co-Chair NDIA System Engineering Division, DT&E Committee  
Director of Integration, Test & Evaluation, Lockheed Martin Corporate Engineering & Technology

DT&E Conference Mar 2010

1

ITEA Journal 2009, 30, 375-380  
Copyright © 2009 by the International Test and Evaluation Association

## Integrated Testing: A Necessity, Not Just an Option

Beth Wilson, Ph.D.

Raytheon Company, Sudbury, Massachusetts

*Department of Defense policy states that developmental and operational test activities need to be integrated whenever possible to improve overall test and evaluation efficiency with increased emphasis on operational relevance. The National Defense Industrial Association Systems Engineering Division Developmental Test and Evaluation Committee has been evaluating existing integrated testing policies, methods, and practices to identify an implementation framework with best practices for sharing data, involving developmental test and operational test stakeholders in integrated test planning, and collaboratively executing an integrated test program. Barriers to integrated testing were identified looking at the cultural constraints placed on planning, people, and data. While the definitions and mandates are recent, the practice of integrated testing is not new. The framework described focuses on existing policy and captures*

NDIA Systems Engineering Conference  
Paper #8818



## Integrated Testing: Tutorial

**Beth Wilson**

Industry Co-Chair NDIA System Engineering Division, DT&E Committee  
Principal Engineering Fellow, Raytheon Company

**Darlene Mosser-Kerner**

Government Chair NDIA System Engineering Division, DT&E Committee  
Developmental Test & Evaluation  
OUSD(AT&L)/Systems & Software Engineering

1

NDIA SE Conference Oct 2009

concept as  
n develop-  
operational  
Association  
&E Com-  
mitted testing  
ing the use  
Committee  
an imple-  
tus in the

concept is  
(D&D) has  
on relating  
1970s. In  
ing, many  
mentation  
olicies and  
Force had  
pective  
integrated  
d Services

2008-2010

# Test and Evaluation for Systems of Systems

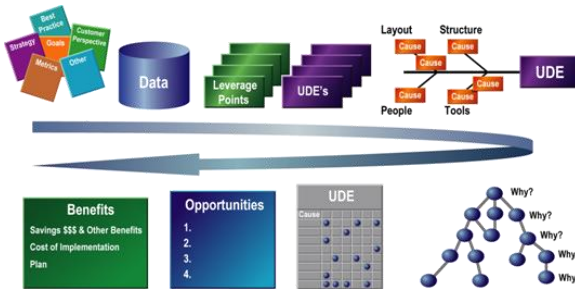
## 2009: "Sleepless Nights" List of Issues



### Systems of Systems and Test & Evaluation

Dr. Judith Dahmann, MITRE  
John Palmer, Boeing  
Dr. JoAnn Lane, USC  
George Rebovich, MITRE

## 2010: Workshop



## 2010: "Somninx" Resulting Initiatives

NDIA Systems Engineering Conference  
Paper #10604

### Test and Evaluation Issues for Systems of Systems: Sleepless Nights to Somninx

Beth Wilson, Raytheon  
Tom Wissink, Lockheed Martin  
NDIA Developmental Test and Evaluation Committee

Judith Dahmann, MITRE

NDIA Test and Evaluation Conference  
Paper #11651



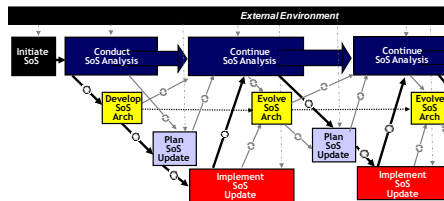
### Test and Evaluation Issues for Systems of Systems: Creating Sleep Aids for Those Sleepless Nights

Beth Wilson, Raytheon  
Tom Wissink, Lockheed Martin  
Darlene Mosser-Kerner, OSD DT&E  
NDIA T&E Division, Developmental Test and Evaluation Committee

Judith Dahmann, MITRE  
John Palmer, Boeing  
NDIA SE Division, Systems of Systems Committee

Rob Heilman, TRMC  
Bob Aaron, ATEC  
Strategic Initiative Co-Leads

## 2011: Best Practices Wave Model



### SoS Systems Engineering (SE) and Test & Evaluation (T&E)

A Report of the NDIA SE Division  
SoS SE and T&E Committees

Judith Dahmann, MITRE  
Rob Heilmann, Test Resource Management Center

John R. Palmer, Boeing  
Jim Buscemi, GBL Systems  
Kathy Smith GBL, Systems  
Ed Romero, NAVAIR, Test and Evaluation  
Paola Pringle, Naval Air Systems Command  
William Rizki, Booz Allen Hamilton

Keith A. Taggart, Spec  
Laura Feinerman, MITRE  
Kent Pickett, MITRE  
Chris Scrapper SAIC  
George Rebovich, MITRE  
P. Michael Guba, Interoptix  
Beth Wilson, Raytheon

January 2012

## 2012: Final Report

2009-2012





# Modeling & Simulation Collaboration Distributed Testing

## Benefits:

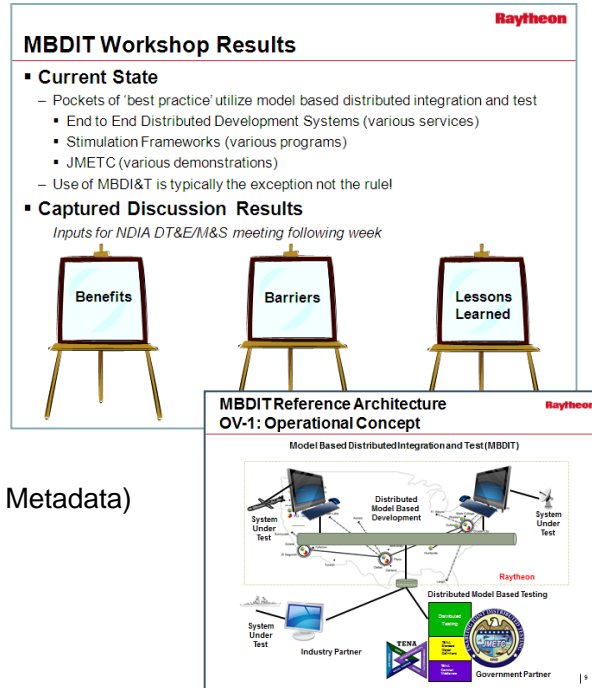
- Find integration issues earlier
- Test to learn in 'safe' environment
- Protect proprietary information
- Facilitate DT to OT transition
- Increase performance testing range in operating environments
- Support end to end studies throughout the program

## Barriers:

- Security
- Lack of persistent network
- Early consideration of technical issues
- Perceived value
- Disconnect between the communities (M&S and T&E)

## Recommendations:

- Harmonize standards for M&S and Test for the life cycle perspective (HLA, TENA, Metadata)
- Create a framework for reusing and repurposing M&S through the product model
- Establish M&S as part of statistical test design
  - Determine what tests are conducted to acquire data for model validation.
  - Fewer test events with better models.
- Recommend the use of M&S to do I&T
- Recommend establishment of JMETC as a persistent node for industry to engage in MBDI&T



**Raytheon**

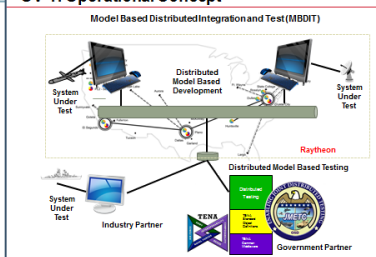
### MBDIT Workshop Results

- **Current State**
  - Pockets of 'best practice' utilize model based distributed integration and test
    - End to End Distributed Development Systems (various services)
    - Stimulation Frameworks (various programs)
    - JMETC (various demonstrations)
  - Use of MBDI&T is typically the exception not the rule
- **Captured Discussion Results**
  - Inputs for NDIA DT&E/M&S meeting following week*

Three easels are shown with the following text on them: Benefits, Barriers, Lessons Learned.

### MBDIT Reference Architecture

**OV-1: Operational Concept**



Model Based Distributed Integration and Test (MBDIT)

The diagram illustrates the operational concept of MBDIT. It shows a central 'Distributed Model Based Development' block connected to 'System Under Test' blocks. Below this, 'Distributed Model Based Testing' is shown, which is connected to 'System Under Test' blocks and 'Industry Partner' and 'Government Partner' blocks. Logos for TENA, JMETC, and other organizations are visible at the bottom.

**Joint Meeting  
August 2012**

**Joint Track  
SE Conference October 2012**

2012

# Cyber DT&E Guidelines Project

| Project Name | Focus   | Project Output   |
|--------------|---|--|
| Cyber DT&E   | Review what industry does for cyber testing, expand focus to include interoperability | <ul style="list-style-type: none"> <li>Recommendations for Cyber Testing guidelines</li> <li>NDIA conference paper 2014</li> </ul> |

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
3030 DEFENSE POSTAVENUE  
WASHINGTON, DC 20301-3008

APR 19 2013

MEMORANDUM FOR DASD(DT&E) STAFF

SUBJECT: DASD(DT&E) Priorities

The purpose of this memorandum is to identify the priorities and actions I believe this office needs to take to be more responsive to acquisition decision makers, program managers, and the developmental test community. The DASD(DT&E) office has established a very positive reputation as an organization dedicated to helping acquisition programs succeed; the priorities discussed in this memorandum are intended to take DT&E, in general, and our organization in particular, to the "next level" by focusing program engagement on test strategies that are simultaneously more efficient and more comprehensive, consistent with the core strategy of Better Buying Power 2.0. Since acquiring the duties as the Acting DASD(DT&E), I have been aggressively advocating the "Shift Left" initiative, and that is the basis for the priorities discussed below.

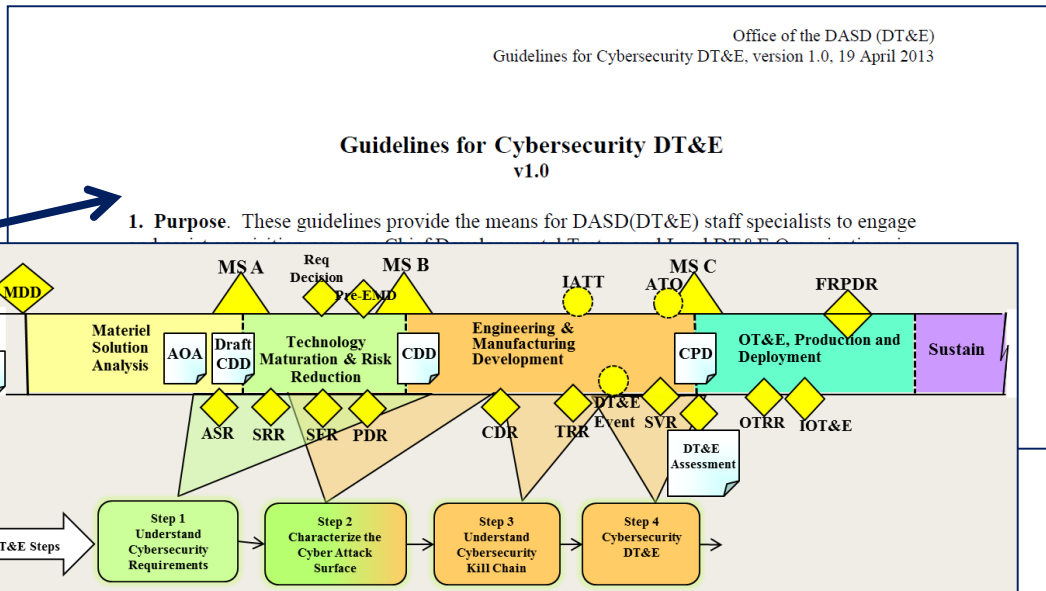
Mission: Right information, right time.

Our primary mission is to provide the USDA(T&E) and the Secretary of Defense with timely and objective assessments of acquisition programs at key decision points, in other words, and in keeping with Mr. Kendall's famous Dunning quote, we "bring data." I believe we can improve the timing, content, and quality of the information we provide. We have to be able to translate deep technical understanding, across a broad spectrum of program requirements, into decision quality information, at the right time. We must develop a continuum of DT&E knowledge as systems are developed and provide our assessment prior to major milestone decisions. The method of delivering this information has been an "Assessment of Operational Test Readiness (AOTR)." The process we follow to create an AOTR provides tremendous value to technical analysis, but its utility is diminished because it does not inform an acquisition decision (i.e., the content should be discussed at a DAB), it has not included sufficient depth in key areas (interoperability and cybersecurity), and it occurs too late in the system life cycle (prior to IOT&E). Therefore, to improve the timing, content, and quality, we will publish a comprehensive DT&E Assessment at each critical decision point, with particular emphasis at Milestone C.

Vision: Improve production readiness.

Because I expect you to work with great autonomy in your engagement with programs, I want you to understand my vision, so that in the absence of detailed guidance, you can take appropriate actions to assist programs in moving forward. My vision for DASD(DT&E) is to help programs set the conditions for improved production readiness.

To reduce discovery of deficiencies late in the acquisition cycle, we must advance test strategies and plans that ensure rigorous developmental testing with greater reliance on test to evaluate performance and reliability, and increase emphasis on interoperability and



Joint Project with ITEA

# Collaboration with Architecture: Test Perspectives

## Program #1 Complexity Feedback

**Raytheon**  
Integrated Defense Systems



Are there changes in the architecture that can simply integration (and design)?

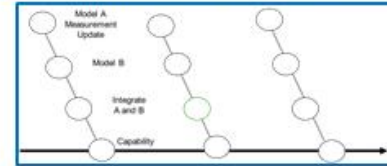


Test Architect Can Simplify

## Program #2 Additional Architecture Products

**Raytheon**  
Integrated Defense Systems

Fishbone from Test Architect



OV-1s from System Architect



Resulting



SV-8 System Evolution

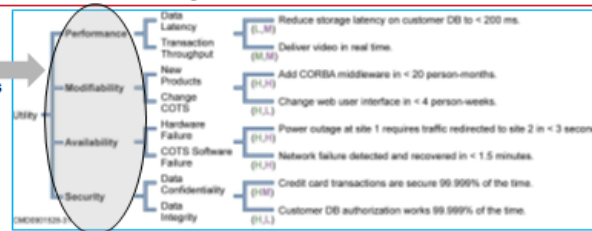
as pursuit win theme

5/8/2015 | 9

## Program #3: IV&V Tactics for Quality Attributes

**Raytheon**  
Integrated Defense Systems

Quality Attributes



| Quality Attribute | HW                                | SW                            | IV&V  |
|-------------------|-----------------------------------|-------------------------------|---|
| Interoperability  | COTS standard hardware            | Open architecture             | Low risk interfaces                                   |
| Usability         | Reduce number of monitors         | Intuitive workflow processing | Early integration of HMI to influence user acceptance |
| Scalability       | Computing environment with growth | Multi-threading               | Focus on integration strategy and capability build up |

5/8/2015 | 10

**MISSION:**  
A WORLD OF INNOVATION

Test Perspectives for Architecture

Joe Manas  
Beth Wilson  
Raytheon

NDIA Systems Engineering Conference  
October 2014

Approved for Public Release  
FOUO OI-2012

Copyright © 2014 Raytheon Company. All rights reserved.  
Customer Success is Our Mission is a registered trademark of Raytheon Company.

2014

# Joint DT&E/SSE Project Cyber Resilient Design Measures

1. Intro
2. Prior Work
3. Relationship of Cyber System Resiliency for Mission Assurance & System Security (Program Protection)
4. Framework
  - A. CONOPS
  - B. Mission Threads
  - C. System Performance Parameters
    - I. Architecting for Cyber Resiliency
    - II. System Security Risk
      - i. Common Scale
      - ii. Normalized Figures of Merit
    - III. System Cyber Availability Measure
    - IV. System Security Assurance Cases
      - i. Validate & Verify
    - V. Programmatic Progress
5. How to use the Framework
6. Conclusion
7. Appendix - Taxonomy

Strawman  
Outline

New Project  
Launched  
April 22, 2015

- **Opportunities to Participate**
  - Committee projects
  - Annual conference
- **Focus on Industry Perspective for DoD**
  - Acquisition policies and program execution
  - Information exchange between industry and government
- **Collaborate with Other SE Entities**
  - INCOSE (International Council on Systems Engineering)
  - IEEE (Institute of Electrical and Electronic Engineers)
  - MORS (Military Operations Research Society)
  - Others

# Abstract

The presentation will summarize some of the National Defense Industrial Association (NDIA) Systems Engineering Division (SED) activities that Dr. Beth Wilson is involved in. She is the co-chair for the Developmental Test and Evaluation Committee and the Systems Security Engineering Committee. She is active in the Modeling and Simulation, Architecture, and Systems of Systems Committees and has championed joint projects between committees and with INCOSE.

NDIA SED meets 5 times a year to discuss systems engineering topics and trends of interest to the DoD Acquisition community. NDIA SED holds an annual conference that has been identified as a critical venue for systems engineering. This conference was one of the few to be held when sequestration caused all the other NDIA conferences to be cancelled.

In between meetings, the committees work projects that move the needle in the way we design and deliver our systems. Among the projects Dr. Wilson will summarize are "Erasing the Line with Title 10: Best Practices in Integrated Testing," "Test and Evaluation Issues for Systems of Systems (SoS): Creating Sleep Aids for Those Sleepless Nights," "Test Perspectives for Architecture," "Partnering for Success: The Chief Developmental Tester and Industry Test Lead," "Reference Architectures for Model Based Distributed Integration and Test," and "Cyber Testing Guidelines Recommendations."

# **NDIA: A Place for SEs to Move the Needle**

## **Things to Think About**

**National Defense Industrial Association opportunities?**

**Oct 26-29 Annual SE Conference in Springfield, VA.**

**What can NDIA do for you?**

**Who should you & company get to know there?**

**Interested in NDIA involvement?**

**[www.ndia.org](http://www.ndia.org)**

**[www.ndia.org/Divisions/Divisions/SystemsEngineering](http://www.ndia.org/Divisions/Divisions/SystemsEngineering)**

# Please

The link for the online survey for this meeting is

[www.surveymonkey.com/r/05\\_13\\_15](http://www.surveymonkey.com/r/05_13_15)

[www.surveymonkey.com/r/05\\_13\\_15](http://www.surveymonkey.com/r/05_13_15)

Slide presentation can be downloaded now/anytime from:

The library page at: [www.incose.org/enchantment](http://www.incose.org/enchantment)

Recording will be in library tomorrow.