

## Minutes - NDIA SE Division Meeting, August 15, 2018

The bimonthly meeting of the NDIA Systems Engineering Division was held on 15-Aug-2018 at the General Dynamics Electric Boat Division in Washington, DC.

### Attendance:

Allsop, David	Boeing	Gelosh, Don	WPI
Bergenthal, Jeff	JHU/APL	Gill, Karen	BAH
Chesebrough, Dave	NDIA	Henry, Steve	DAU
Collahan, Jim	JHU	Ocker, Cory	Raytheon
Daly, John	BAH	Rassa, Bob	Raytheon
Davis, Kenneth	DASD(SE)	Schreiber, Chris	Lockheed Martin
Draper, Geoff	Harris Corp.	Schulte, Dave	SAIC
Elm, Joe	L3 Technologies	Snoderly, John	DAU
Forbes, Sherman	SAF/AQRE	Thompson, Jim	DASD(SE)
Ganj, Howard	Harris Corp.	Werder, Tim	DASD(SE)

### Briefings and materials:

see: [http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Pages/Past\\_Projects.aspx](http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Pages/Past_Projects.aspx)

### Executive Summary:

- Software Design and Acquisition – discussed DSB recommendations, DoD needs and activities, and NDIA support
- INCOSE SE Competency Framework – provided overview of SE competency framework
- Division Elections – elections for Division officers will be held in December. A nominating committee was established

### Introductions: Joe Elm (Vice Chair, NDIA SE Division)

- Org chart: replace Doug Wiltsie and Marty Irvine.

### Sponsor Overview: James Thompson, Director, Major Program Support, DASD (SE)

- DoD going through some changes. NDAA restructured AT&L into A&S (Ellen Lord) and R&E (Dr. Michael Griffin). Continuing to refine organizational roles and responsibilities. Goals to promote innovation and expand engineering rigor. Reshaping to meet the needs of the future.

### Software Acquisition: James Thompson, Director, Major Program Support, DASD (SE)

- Many software challenges – and many successes. Not unlike commercial industry.
- Of 208 programs, ~40 did not mention as one of the top 5 risks. But ~60% of programs did, many of them critical.
- DoD history addressing SW challenges: establishing SEI; Ada; DSB task force reports (1987, 1994, 2000); CMMI level 3.
- Defect injection profiles across the life cycle – a rich topic.
- DSB report on Software Acquisition:
  - Software Factory; Continuous iterative development; Risk Reduction & Metrics (competition; cost/schedule scoping estimation techniques; execution metrics framework); Transition to Current and Legacy programs; Workforce improvement; Software is Immortal – Sustainment; Machine Learning – IV&V, Cyber.
- Program bids need to be based on reliable historical data. Estimates are dependent on valid assumptions, model parameters. Sometimes we “want to believe” and accept optimistic assumptions we should not.
- Opportunities include MBE/MBSE, etc. Challenges include: cyber, vulnerability, performance against plan, SW-driven schedules, SW-HW coupling; workforce capability.
- Agile/Classic concepts. Iterative, incremental, MVP.

### **Agile Software Acquisition Project** (Geoff Draper, Harris)

- NDIA will collaborate with INCOSE and other partners to provide industry recommendations to address the DSB Software Acquisition task force.
- The NDIA WG kickoff is 8/15 pm. This will be a SE Division-level activity involving multiple SED committees.

### **INCOSE Systems Engineering Competency Framework** – Don Gelosh, WPI

- SE Competency Framework: 5 competency groupings, 36 competencies, 5 levels of proficiency
- Groups: SE Management; Professional; Core SE Principles; Integrating; Technical
- Proficiencies: Awareness; Supervised Practitioner; Practitioner; Lead Practitioner; Expert
- Evidence-based tables of proficiencies and competencies

### **NDIA SE Division Elections**

- Elections for division officers (chair, vice-chair(s)) will be at the December planning meeting.
- Assigned a nominating committee: Jeff Bergenthal, Jim Coolahan, Bob Scheurer

### **DHS Systems Engineering Effectiveness Study** – Bob Rassa, Raytheon

- Will conduct a series of workshops and group discussion

### **SED Actions:**

- 2018-01: Digital Engineering – in work
- 2018-03: AT, SSSE, DTE collaboration – change Griffin to Orlidge. Punt to 2019.
- 2018-06: ongoing – close the action.
- 2018-07: inter-divisional activity
- 2018-08: closed - Kay Ortiz
- 2018-09: Semantic Web – push to 2019
- 2018-10: common data environment for models – closed, action is not clear. Re-open for other actions as needed.
- 2018-12: Autonomous Systems and SE challenges workshop – re-assign to Elm, Rassa, Roedler.
- Bob Rassa is coordinating an unclassified Cybersecurity workshop with INCOSE.

### **NDIA SE Conference:** Bob Rassa

- Changed name to Systems & Mission Engineering Conference. Oct 22-25, Grand Hyatt, Tampa Bay.
- 215 abstracts submitted – all accepted. Can accommodate 240 papers.
- Digital Engineering Summit: Mon 1-5 pm (DoD invitation only)
- Digital Engineering / MBSE tools track – w/ vendors
- NDIA can accept additional abstracts

### **Committee Reports:**

- DT&E:
- E&T: published SE Competency Framework
- ESOH: DoD initiative to take on SE, fielded systems. What is the minimum set of ESOH capabilities needed to be supportive of rapid acquisition. Working with MBSE. 18 abstracts for NDIA SE Conference.
- Modeling & Simulation: aligned with DoD Digital Engineering Strategy. Summary of DEIXWG products. Digital artifacts definition (from ISO/IEEE 15288), digital ICD examples (provider and receiver points of view). Seek industry/govt collaboration on redefinition of artifacts (DIDs).
- System Security Engineering (SSE): DoDI 8140 comments in review. USAF seeking industry comments on security documentation. Cyber Resilient Systems Workshop: 85 participants at MITRE; develop new enclosure to DoDI 5000.02. Engineering Workforce Development – challenge to develop skill sets fast enough.
- Architecture (Ed Moshinsky): very active, 50 members with subcommittees including MOSA, Value of Architectures. 15 presentations at SE Conference.
- Mission Engineering: weekly committee meetings, trying to expand company representation. 3 workshops planned.

### **Other Business:**

- Ferguson Award nominations: due by Aug 24
- No Oct SED meeting due to NDIA SE Conference

- December annual planning meeting – GDEB