

NDIA Systems Engineering Division Annual Planning Meeting

2014 Summary and 2015 Plans

Action Plan Status Committee Reports

December 10, 2014

With placeholders for inputs from OSD and Services - TBD

NDIA SED 2014 Actions

#	NDIA SED 2013 Tasks	Committee	Status	Plan / Status
1	Brief the existing M&S life cycle cost model report at the NDIA SED February meeting	M&S (Bergenthal, Coolahan)	Closed (2/14)	Briefed at Feb 2014 NDIA SED meeting.
2	Review the Top 5 SE issues report on technical authority and consider if any NDIA actions are appropriate. Consider best practices (industry or government) to implement technical authority.	NDIA SED (Henry, Rassa, Draper, Serna)	Open	Subsumed in 2015 task plan.
3	Request DoD briefing on how program startups work (Dave Ahern). Provide industry best practices on program startup/assist teams.	NDIA SED (Henry)	Closed	Schedule for NDIA SED meeting briefings. NDIA PM Division (formerly ICPM) briefing June '14.
4	Support MORS affordability handbook development and community of practice initiatives.	Affordability WG / NDIA SED	Open (ongoing)	MORS workshop outbrief 4/14. Affordability handbook drafts in work, continuing.
5	NDIA to provide recommendations on deployment of SE 15288.1 and 15288.2 standards (e.g., RFP language, transition, governance, compliance).	NDIA SED (Draper / Rassa / Roedler / Henry)	Open (2/15)	Joint NDIA/DoD WG established. Tasks: RFP language; tailoring guidance; compliance strategy
6	Assess new DoDI 5000.02 and provide recommendations on any NDIA implementation actions needed.	SEEC (Brown) or short term WG	Closed	No actions
7	Collect industry best practices for quantitative risk management.	NDIA SED (Rassa)	On Hold	Pending release of DoD Risk Guide updates and coordination w/ Jim Thompson.
8	Support Engineered Resilient Systems (ERS) initiatives.	NDIA SED (Rassa)	Closed	Track at NDIA SE Conference.

NDIA SED 2014 Actions

#	NDIA SED 2013 Tasks	Committee	Status	Plan / Status
9	Schedule committees for special topics and detailed briefs at NDIA SED meetings.	NDIA SED (Henry)	Closed	Feb: SoS April: SSE (PPP) June: M&S August: E&T October (SE Conf plenary?): DT&E
10	Consider ways to increase NDIA SED collaboration internally (committees, other NDIA divisions) as well as externally (other organizations, company representatives)	NDIA SED	Open	Consider a consolidated and managed list of NDIA external stakeholders at the SED level. 12/14: ongoing action for 2015
11	Several committees could use more industry and government participation – consider ways to build more involvement, given current constraints.	NDIA SED	Closed	Collect all needs and descriptions in a consolidated request to Eng VPs?
12	Document and publicize the procedures for releasing reports through NDIA. Identify which committee products are in draft form that need to be formalized.	NDIA SED	Closed	Wrote and implemented procedure for steering committee review/approval. Briefed at SED meeting. 4 documents published. Established SharePoint repository.
13	Britt to provide a copy of the NDIA SED charter.	NDIA	Closed	Charter provided. Redline updates drafted, not finalized. Action for Q1 2015.
14	Look at M&S use assessment and identify areas for further tasks to support MBSE.	M&S	Closed	No actions identified.

NDIA SED 2014 Actions

#	NDIA SED 2013 Tasks	Committee	Status	Plan / Status
15	Some NDIA SED web pages are badly out of date – SED leadership and committee to update web pages under their areas of control.	NDIA SED / Committee Leads	Open	Ongoing
16	ODASD(SE) to provide guidance on next steps for SE Effectiveness study (e.g., briefing SAEs)	ODASD(SE)	Closed	Briefings delivered to OSD AT&L, international panel.
17	Consider a follow-on to the root cause analysis study of PSR findings.	ODASD(SE)	Closed	Potential POCs: Bob Rassa, Jim Thompson, Pete Nolte, Gary Bliss, ... See 2015 task plan.

NDIA SED 2015 Actions

#	NDIA SED 2013 Tasks	Committee	Status	Plan / Status
1	NDIA SED to engage with Navy (Gretchen Lizzy) for participation with SE Connects forums with commands.	NDIA SED	Open	Sep 2015 forum.
2	Establish a focused NDIA SED outreach initiative for engagement with other internal and external organizations. Include publicity on NDIA SE Conference.	NDIA SED	Open	
3	All NDIA committees evaluate BBP 3.0 and bring recommendations for action to Feb 2015 NDIA SED meeting.	All Committees	Open	Due Feb SED meeting
4	Restructure Agile and SE WG, charter, objectives, and participation. Consider engagement model with other organizations.	NDIA SED	Open	
5	Discontinue Mission Analysis and migrate as a component of SoS Committee	NDIA SED / SoS	Open	
6	Contact leads of HIS & EHM committees for 2015 plans	NDIA SED	Open	
7	Review memberships in NDIA SED Steering Group and Government Liaisons	NDIA SED	Open	

Committee/Working Group Inputs

- 2014 Task Progress / 2015 Task Plans

Committees

- Architecture (Arch)
- Automatic Test (ATC)
- Development Test and Evaluation (DT&E)
- Education and Training (E&T)
- Enterprise Health Mgmt (EHM)
- Environment, Safety, and Occupational Health (ESOH)
- Human-System Integration (HSI)
- Modeling and Simulation (M&S)
- Mission Analysis (MA)
- Systems Engineering Effectiveness Committee (SEEC)
- Software Committee
- System of Systems (SoS)
- Systems Security Engineering (SSE)

Working Groups

- Agile and SE WG
- CMMI WG
- DoD Standardization WG

**NDIA Systems Engineering Division
Annual Planning Meeting
December 10, 2014**

Committee Status and Plans

NDIA SE Division: 2014 Summary

- Automatic Test Committee



2013 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
Semi-annual Government/Industry Liaison Reports	Complete	Status: <ul style="list-style-type: none">• June and September Meeting Liaison Reports complete and posted on ATC Web-site
Detail, Staff, Schedule & Initiate new ATC tasks: <ul style="list-style-type: none">• Software Architecture for Synthetic Instrumentation	Ongoing	Status: <ul style="list-style-type: none">• Project initiated during June meeting• Requirements document and detailed schedule in work• Planned completion December 2015
.Detail, Staff, Schedule & Initiate new ATC tasks: <ul style="list-style-type: none">• Industry Survey for Smart Automatic Test System Opportunities	.Deferred	Status <ul style="list-style-type: none">• Project deferred due to insufficient staff and lower priority project• Will reevaluate at September 2015 ATC meeting

Automatic Test Committee - 2015 Project Plan



Proposed 2015 Tasks:

- Government/Industry Liaison Reports
- ATC projects:
 - Complete Software Architecture for Synthetic Instrumentation project
 - Re-evaluate project goals and restart Industry Survey for Smart Automatic Test System Opportunities project

Deliverables/Products

- Semi-annual Reports posted on ATC Web-site:
 - US Army ATS Liaison Report
 - USAF ATS Liaison Report
 - US Navy/USMC-Air ATS Liaison Report
 - USMC-Ground ATS Liaison Report
 - DoD AMB Liaison Report
 - Commercial ATS Liaison Report
- Deliverables from new tasks: TBD

Schedule / Resources

Status/Review/Present at regular ATC meetings:

- April (adjacent DoD ATS Management Board (AMB) Meeting – Gov't participating committee) at NDIA HQ
- September
- December with SED (TBD)

No resource issues or support anticipated

Issues / Concerns:

- Limited Budget/resources:
 - ATC is focusing on high value projects, deferring lower priority projects.

Developmental Test and Evaluation Committee Status and Plans December 2014

Joe Manas, Raytheon
for
Beth Wilson, Raytheon
Steve Scukanec, Northrop Grumman
Industry Co-Chairs

DT&E Committee

2014 Status

Activity	Plans for 2014	Status/Plans
NDIA T&E Conf	Panel members, CDT project awareness & status	Manas participated as panel member, CDT project also briefed at conference by Joe Manas.
NDIA SE Conf	DT&E tracks, Test Perspectives for Architecture	12 papers presented included joint tracks w/ M&S & Interoperability, Joe Manas presented (for Beth Wilson) “Test Perspectives for Architecture” paper
Cyber DT&E	Develop recommendations for Cyber Guidelines 2.0 in 2014	Completed paper, submitted to DASD-DT&E / DASD-SE, well received: <i>“Wish to express my thanks for this excellent feedback... thoughtful review.”</i> –DASD-DT&E
Chief Developmental Tester Project	Develop recommendations for industry interaction with Chief Developmental Tester role	Completed 17 page white paper (reviewed & approved by (DT&E, ICOTE, T&E committees), in process with NDIA leadership for formal submittal to Mr. Kendall’s office.

Proposed 2015 Tasks:

1. Chief Developmental Tester Pilot Programs
2. Collaboration with Architecture Committee
3. Agile SE / DT&E project
4. Shifting left on Cybersecurity DT&E (w/ Systems Security Engineering committee)

Deliverables/Products

1. CDT/ITL Best Practices, Developmental Evaluation Framework (DEF)
2. Arch/DT&E – TBD
3. Touch points - Where T&E and SE Meet in Agile SE
4. DT&E committee input to PPP / PPIP guidelines, Journal Paper?

Schedule / Resources

1. 2014Q4-2015Q1 – Programs being identified for potential pilots to study CDT/ITL
2. Joint meetings Arch & DT&E TBD
3. Agile SE/DT&E project - TBD
4. Cybersecurity project - TBD

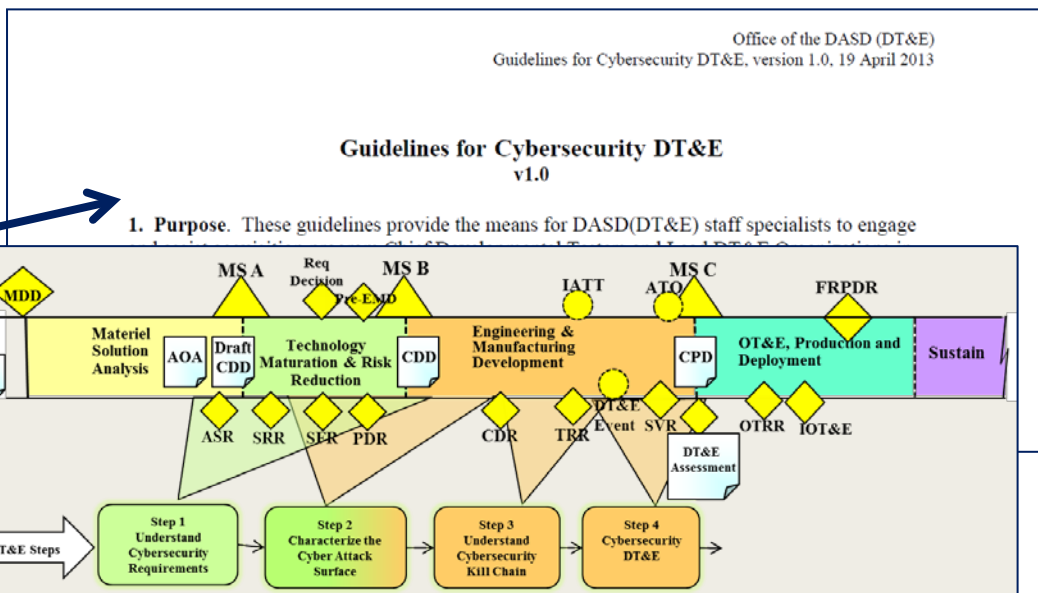
Issues / Concerns:

1. CDT pilot - Need to define scope (boiling the ocean)
2. Arch/DT&E – Project Definition
3. Agile SE – POC for SE Division?
4. Cybersecurity – project definition

DT&E Committee 2014 Project Details

Cyber DT&E Guidelines Project

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



**Project Lead: Dave Desjardins
Joint Project with ITEA**

Cyber DT&E Project – Completed

- **Team comprised of Gov/Industry members**
 - Pete Christianson (MITRE) lead Gov rep.
- **Guideline paper completed by team & submitted to DASD-DT&E (Patrick Clancy) via Pete Christianson in March 2014**
- **Response from DASD(DT&E) was very positive**
 - *“Wish to express my thanks for this excellent feedback...thoughtful review.”*
- **Additional Comments from DASD(DT&E)**
 - DASD(DT&E) in collaboration with DASD (SE) and DOT&E are in the process of refining the initial Cybersecurity T&E guidance in order to support T&E across the acquisition lifecycle.
 - That guidance will ultimately be published in the upcoming updates to Chapter 9 of the Defense Acquisition Guidebook as well as the AT&L sponsored PM Cybersecurity Guidebook.
 - Mr Clancy has forwarded the suggested revisions to them for consideration as they finalize this guidance
- **Project team is exploring venues for paper/journal publishing on project (ITEA Journal 2015)**

Chief Developmental Tester Project

Project Name	Activities 2014	Project Output
Chief Developmental Tester	Review service policies for new role and industry implementations	<ul style="list-style-type: none"> Propose model for industry interaction White paper T&E/SE conference presentations

December 1, 2011

Ordered to be printed as passed

In the Senate

Resolved, That the titles (H.R. 1540) entitled "Department of Defense, for the fiscal year 2011, for the activities of the Department of Defense, for the personnel strengths for purposes.", do pass with the

AM

Strike out all

1 SECTION 1. SHORT TITLE
2 This Act may be cited as the
3 "Chief Developmental Tester and Lead Developmental Test and Evaluation Organization Act for Fiscal Year 2011."

3 SEC. 806. MANAGEMENT OF DEVELOPMENTAL TEST AND EVALUATION FOR MAJOR ACQUISITION PROGRAMS.
4 EVALUATION FOR MAJOR ACQUISITION PROGRAMS.
5 TION PROGRAMS.
6 (a) CHIEF DEVELOPMENTAL TESTER.—Section 139b of title 10, United States Code, as amended by section 805(c) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 110-181; 123 Stat. 2403), is further amended—
7 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109-364; 120 Stat. 2530),
8 Fiscal Year 2007 (Public Law 109-364; 120 Stat. 2530),
9 as amended by section 805(c) of the National Defense Au-
10 thorization Act for Fiscal Year 2010 (Public Law 110-181;
11 123 Stat. 2403), is further amended—
12 (1) by redesignating paragraph (6) as para-
13 graph (7); and
14 (2) by inserting after paragraph (5) the fol-
15 lowing new paragraph (6):
16 "(6) Chief developmental tester."
17 (b) RESPONSIBILITIES OF CHIEF DEVELOPMENTAL
18 TESTER AND LEAD DEVELOPMENTAL TEST AND EVALUA-
19 TION ORGANIZATION.—Section 139b of title 10, United
20 States Code, is amended—

The Secretary of Defense shall require that each major defense acquisition program be supported by—
“(A) a **Chief Developmental Tester**; and
“(B) a governmental test agency, serving as **Lead Developmental Test and Evaluation organization** for the program.

- Coordinating DT&E activities
- Insight into Contractor activities
- Oversee T&E activities
- Inform government PM about contractor DT&E results

**Project Lead:
Joe Manas**

CDT Project Status – Dec 2014

• DT&E Committee Project team:

- Joe Manas (Lead) – Raytheon
- Sandi Gianotas – Boeing (BTE)
- Tom Simms – DASD(DT&E)
- Joe Wascavage – NAVAIR
- Brendan Rhatigan – Lockheed Martin
- Steve Scukanec – Northrop Grumman
- Paul Alfieri – DAU
- Bram Lillard – DOT&E

• Power Point paper version completed in July 2014

Paper accepted to the following conferences:

NDIA 29th Annual National Test & Evaluation Conference ✓

07/21/2014 — 07/23/2014

The Westin Washington, DC City Center
Washington, DC

NDIA ICOTE Meeting ✓

7/21/2014

The Westin Washington, DC City Center
Washington, DC

ITEA 31st Annual International Test and Evaluation Symposium ✓

10/6/2014 — 10/9/2014

Crystal Gateway Marriott
Arlington, Virginia

NDIA 17th Annual Systems Engineering Conference ✓

10/27/2014 — 10/30/2014

Waterford at Springfield
Springfield, VA

• White paper completed – November 14 ✓

- Incorporated feedback received from ICOTE and T&E Division presentations
- Paper focuses on specific recommendations to shape future RFPs
- Key Personnel Clauses around the Industry Test Lead
- Key interaction between CDT & ITL and the output products
 - Developmental Evaluation Framework (DEF) – Recommend Workshop w/ key stakeholders
 - Continue to update and review the DEF / TEMP as needed during development

• Final Review of with DT&E Committee & ICOTE Dec 4th 2014 completed ✓

ESOH Committee – 2014 Status

2014 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
Improving implementation of current DoD Acquisition ESOH policy – Teaming with Aerospace Industries Association (AIA) and DoD Acquisition ESOH IPT	In Work	Updating 2014 Oct 2013 National Aerospace Standard (NAS) 411-1, “Hazardous Materials Target List” with detailed listing of "Tracked" hazardous materials (in addition to current lists of DoD and AIA agreed to lists of "Prohibited" and "Restricted" hazardous materials)
Improving implementation of current DoD Acquisition ESOH policy - DoD Memo based on 15 Nov 2013 Army CAE memo on MIL-STD-882E implementation requirements	Cancelled	

2014 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
Improving implementation of current DoD Acquisition ESOH policy – MIL-STD-882E Implementation work	In Work	<ol style="list-style-type: none"> 1. Updated Defense Acquisition Guidebook (DAU) Chapters 4, Systems Engineering, and Chapter 9, Test & Evaluation, to align them with the current Interim DoDI 5000.02 2. Major revision to DAU Acquisition Community Connection ESOH Site that includes web resources, policy & guidance, documents, and 25 specific topics on ESOH best practices and lessons learned 3. 2014 NDIA Systems Engineering Conference ESOH Track: 12 presentations addressed DoD Policy, ESOH risk assessment and acceptance, software system safety, HAZMAT management, occupational health, and National Environmental Policy Act

ESOH Committee – 2014 Status

2014 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
Improving implementation of current DoD Acquisition ESOH policy - Develop mechanism and collect Industry and Government feedback on policy and guidance	In Work	Seeking partners
Improving implementation of current DoD Acquisition ESOH policy - Quarterly webinars	In Work	Held ESOH Committee Meetings in conjunction with each NDIA SED meeting using telecoms and DCO Connect On-line

ESOH Committee - 2015 Task Plan

Proposed 2015 Tasks:

Focus still on improving implementation of current DoD Acquisition ESOH policy

1. Continue work with AIA on NAS 411-1 list of Tracked hazardous materials and guidance on use of MIL-STD-882E methodology
2. Work with new DoD Three-Star Safety and Occupational Health Steering Group
3. Develop mechanism and collect Industry and Government feedback on MIL-STD-882E
4. 2015 NDIA SE Conference ESOH Track

Schedule / Resources

1. ECD Dec 2015 / AIA and DoD participants
2. ECD June 2015 / Potential funding from Three-Star Steering Group (formerly DSOC)
3. ECD Dec 2015 / ESOH Committee participants
4. ECD Oct 2015 / ESOH Committee participants

Deliverables / Products

1. List of "Tracked" Hazardous Materials published as revised NAS 411-1 and published AIA guidance on application of MIL-STD-882E methodology to hazardous materials mgmt
2. Include Acquisition ESOH Goal in Three-Star Safety & Occupational Health Strategic Plan
3. Develop questionnaire and request NDIA SED distribute to Industry and ODUSD (I&E) distribute to DoD PEOs and Program Offices
4. Plan for and hold ESOH track at the 2015 NDIA SE Conference

Issues / Concerns:

1. Different perspectives of DoD and AIA on objective of the proposed guidance on use of MIL-STD-882E methodology for hazardous materials management
2. DoD Three-Star Safety and Occupational Health Steering Group willingness to fund implementation of an Acquisition ESOH Goal
3. Availability of time to work
4. Availability of time to work

Mission Analysis Committee – 2014 Task Summary

- Collaborated with ASD R&E/Research on the integration of S&T/IR&D
 - Significantly increased the involvement of Industry at the Multidisciplinary University Research Initiative (MURI) Review
 - Increase Industry awareness and use of Defense Innovation Marketplace
- Submitted whitepaper to the NDIA SE Division Steering Committee on “The Role of Architecture in the Development Planning Trade Space” (joint effort with the Architecture Committee)
- Organizational Conflict of Interest (OCI) Task (Not completed)
 - Collaborate with the Government DPWG to address OCI
 - Develop a clear and concise understanding of the FAR / DFARS language
 - Communicate findings across Gov’t/ Industry
 - Status: “04/18/2014 CAAC Chair tasked Acquisition Ethics and International Law Team to review additional public comments, revise draft final rule as necessary, and draft supplemental report. Supplemental report due 08/27/2014. Due date extended to 12/03/2014.”

Proposed 2015 Tasks:

- Recommend dissolving Mission Analysis Committee and NDIA Development Planning Working Group.

Deliverables/Products

- None

Schedule / Resources

- None

Issues / Concerns:

- Developing Planning instantiation across Government and Industry has been largely successful. There were no ad hoc issues which arose in 2014.
- OCI task remains incomplete. Need to discuss the value of completing this. Gov't/Industry engagement is a tenant of BBP 3.0.

M&S Committee – 2014 Status

2014 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
ID of M&S by Acquisition Life Cycle Phase Study	Complete	Report and data workbook approved by NDIA and posted on Committee website
Essential Elements of the System Model Study	In Process	<ul style="list-style-type: none">• Data gathering completed and modeled.• Briefing on work given at October 2014 Systems Engineering Conference• Expect to complete report in April 2015
Committee Meetings	Complete	<ul style="list-style-type: none">• Meetings held in February, April, May, and August 2014• Presentations posted on committee web site

Proposed 2014 Tasks:

- Complete study to determine essential elements of a “System Model” that evolves over the life cycle
- Conduct System Model workshop
- Provide continuing situational awareness for M&S Committee members (ongoing)
- Motivate submittal of abstracts to populate full-length M&S track at 2015 SE Conference

Deliverables/Products:

- Final report on essential elements of a System Model
- Report on System Model workshop
- Committee meeting presentations posted on committee web site

Schedule / Resources:

- Final report on essential elements of a System Model – April 2015
 - Have sufficient volunteers
- Committee meetings in February, April, June, and August 2015
 - Need organizations to volunteer to host

Issues / Concerns:

- Finding volunteers to work on unfunded study efforts is getting much more difficult in current fiscal environment
 - Shifted 2015 focus to a workshop

Software Committee – 2014/2015 Task Plan

Proposed 2014/2015 Tasks:

- Develop a set of seven to eight recommendations where OSD/DASD (SE) could make a difference regarding improving the state of DoD software

Deliverables/Products

- Ranked candidate issues/recommendation list
- 3x3 chart showing Payoff vs. Ease of Implementation
- Summary chart for each issue

Schedule / Resources

- Preliminary issue identification and ranking by 19 Dec 2014, refinement and recommendations by 30 Jan 2015
- Resources:
 - Paul Croll, PR Croll, LLC, Panel Lead
 - JoAn Ferguson, General Dynamics
 - Gary Hafen, Retired Lockheed Martin
 - Cheryl McIntyre, Lockheed Martin.
 - Cindy Molin, Raytheon
 - Ken Nidiffer, SEI
 - Shawn Rahmani, Boeing
 - Rick Selby, Northrop Grumman

Issues / Concerns:

- Will need close collaboration with DASD/SE to refine list of issues and recommendations

Software Committee -

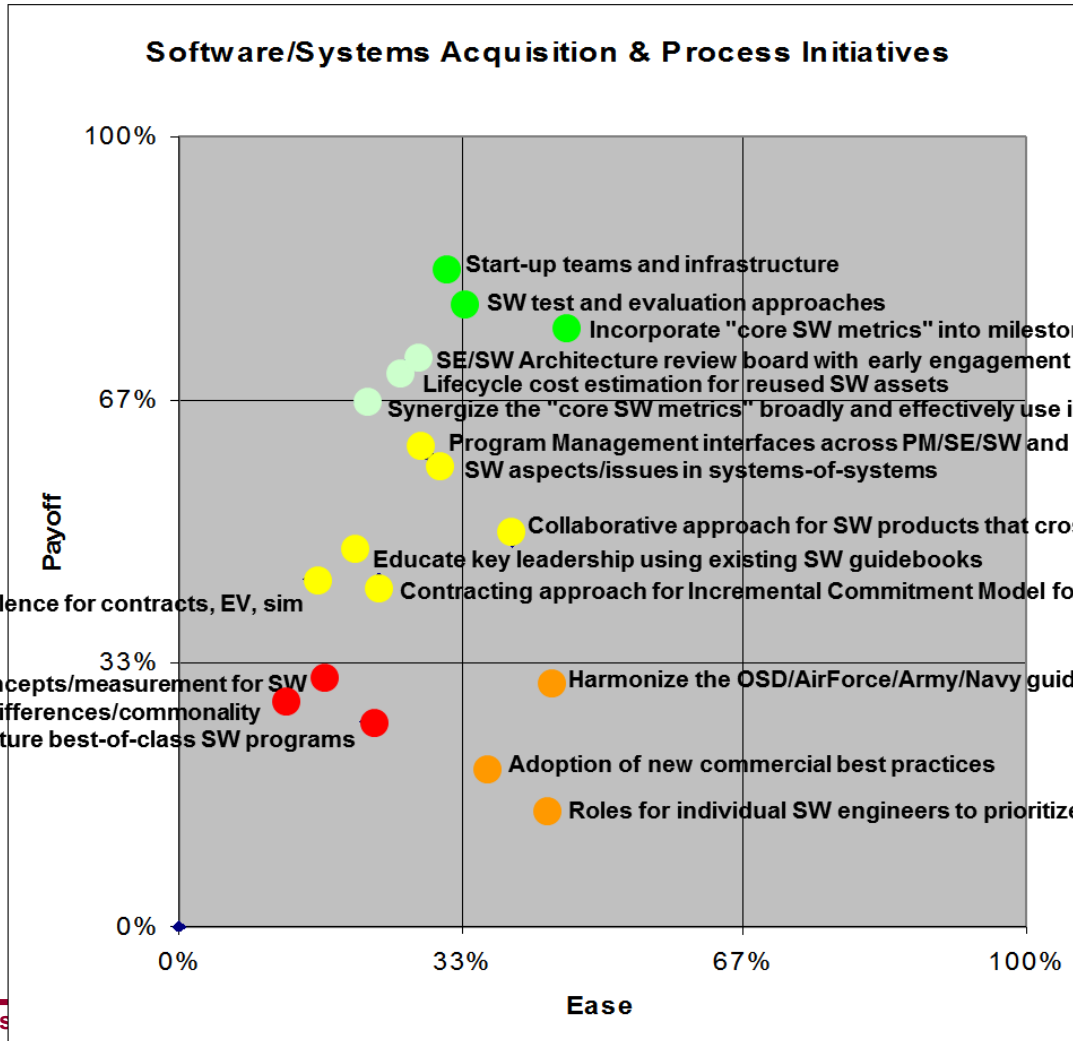
Title: Issue/Problem Statement

- Background
 - How did we get here?
 - Where are we now?
- Desired State: [Where would we like to be?]
 - Bottom Line Up Front
- Path to Closure: [How do we get there]
- Metric [How do we know we have arrived?]
- Potential Contribution: [What can OSD/DASD(SE) accomplish to make a difference?]

Title: Predictive Software Metrics for Project Lifecycle

- Background
 - SW indicators are mostly lagging and not leading
 - DoD SW intensive programs have faced execution issues
- Desired State: [Where would we like to be?]
 - Standard collection and use of predictive SW metrics (technical/cost/quality/schedule) by DoD and contractors
 - Should also link to SW estimating BOE/metrics
- Path to Closure: [How do we get there]
 - Define and mandate use of std SW predictive metrics
- Metric [How do we know we have arrived?]
 - Track actual vs predictive metrics to improve effectiveness
- Potential Contribution: [What can OSD/DASD(SE) accomplish to make a difference?]
 - Form a team to define predictive SW metrics
 - Mandate metrics in RFPs, collect data to improve effectiveness

Example: Software/Systems Acquisition and Process Initiatives



Example: Software/Systems Acquisition and Process Initiatives: Summary

Initiative	Action	Key Players	Payoff			Ease			Ease	Payoff	Ease	Payoff	
			Low	Med	High	Diff	Med	Easy					#voters
			1	3	9	1	3	9					
Synergize/Harmonize the OSD, Air Force, Army, Navy SW Guidebooks for broad use and benefits			6	19	1	1	22	5		44%	31%	28	26
Approach to take advantage of existing SW assets/guidebooks and get them into the hands of decision makers (Educate the key leadership)			0	21	6	19	7	1		20%	48%	27	27
Synergize/Harmonize the "core SW metrics" broadly, how to use the information, and enable effective program/acquisition management	Distribute; then working group	SSA collab telecon, SW ExpPanel	2	11	14	18	9	1		21%	66%	28	27
Approach for incorporating "core SW metrics" into milestones/reviews/processes/EV (assumes definition of "core SW metrics"; line #7)	Distribute; then working group	SSA collab telecon, SW ExpPanel	0	10	17	8	10	7		45%	75%	25	27
Establish centers-of-excellence for key SW/SE engineering areas, such as for EV, contract language, and simulation			2	20	5	20	5	0		16%	44%	25	27
Organize start-up teams and infrastructure to facilitate mission/program/acquisition success	Working group	SSA, STSC, Mitre, SW ExpPanel	0	7	21	12	13	3		31%	83%	28	28
Approach for addressing "program management" cross-fertilization across PM/SE/SW, including interface between PM and their funding/decision source			0	15	10	9	15	1		28%	60%	25	25
Identify and capture example best-of-class successful SW programs, including during start-up phase			12	14	1	13	13	0		22%	26%	26	27
Establish architecture review board ("friendly review") who engage early and provide constructive suggestions; architecture view is broad SE/SW (see AT&T article IEEE Software Mar/Apr 2005)	[Existing] task / Working group? (see USC scope)	JPL, SEI	2	9	16	14	11	2		27%	71%	27	27

Candidate Issues to Date

1. Based on the lifecycle models contained in the new released interim version of DoD 5000.2, what are the appropriate software life cycles?
2. Systems/Software Requirements tracking
3. Software Estimation Techniques for Large DoD Systems using Iterative/ Agile Development Approaches
4. Recommended Software Practices: System of Systems Software Considerations in the Engineering of Systems
5. Recommended Software Practices in Support of the Better Buying Power 3.0 initiative
6. Effective Implementation of Software Quality Assurance in the Engineering of Systems and Systems of Systems
7. Adapt the acquisition processes and educate the acquisition workforce on optimizing the use of agile software development approaches
8. Accelerate bringing new college graduates into the workforce by communicating needed skill sets to academia, promoting federal contracting work at STEM events, and identifying approaches to deal with security clearances for new college graduates
9. Support the development of software estimation approaches that work with new technologies and approaches; adapt the acquisition processes and educate the acquisition workforce to encourage use of these approaches
10. Executable improvements for software, including Predictive metrics. Need to be relevant to agile
11. Integration of Systems Engineering and Software Engineering, more specifically in the area of incremental development. For example “Big V” perspective of Systems Engineering versus software/agile incremental mindset.
12. Use of Analytics to provide visibility of progress, trends, issues.
13. Impact of Mobile (hand held devices), including ripple effects on security, training, etc.
14. A DoD app store, with a layered architecture which allows innovation at various levels
15. Effective implementation of Cloud technology

2014 Activities

– SE Effectiveness Study Outreach

- INCOSE Working Groups and Chapters
- OSD International SE Panel
- IEEE Metrocon (Arlington, TX)
- PMI International Congress
- NDIA SE Conference

– Research & Publications

- Studied SE Effectiveness of Defense vs. non-Defense projects
- Published “The Business Case for Systems Engineering: Comparison of Defense Domain vs. Non-Defense Projects” CMU/SEI-2014-SR-013

2015 Planned Activities


– Continue SE Effectiveness Study outreach

**Systems Security Engineering
Committee
December 2014**

Holly Coulter Dunlap, Raytheon
Beth Wilson, Raytheon
Industry Co-Chairs

Summary of SSE Committee 2014

Achievements, Current Efforts, & Plans

	Topic	Activity
SSE	PPP Workshop	Follow-on to 2012 Workshop scheduled May 19-22 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 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 th at NDIA facility in Ballston, VA. Report anticipated Q1 CY2015 
	PPP Workshop 2015???	Level of interest in having a PPP Workshop???
SED	Systems of Systems	2014: PPP leverage points in the SoS Wave Model
	Developmental Test and Evaluation	2014: Cyber testing guidelines connections to Program Protection Planning (after PPP workshop and DT&E cyber testing guidelines project completion)

On Hold

- System Security Metrics & Measures Workshop (Monday, October 27th)
- Report anticipated Q1 CY2015
- Key Discussion Topics
- The goal of metrics and associated measures is to provide insight.
 - Insight is the understanding of a specific cause and effect in a specific **context**.
 - To develop valuable metrics, we must develop a set of questions to be answered that will contribute to gaining insight.
 - Questions then need to be translated into well-defined, measurable quantitative and qualitative responses.
 - The collection of questions and responses could be the framework used to build system security assurance cases.
 - **Assurance Cases**
 - Performance (technical)
 - Artifacts (Evidence)
 - Activities, (processes)

NDIA Systems Engineering Division Annual Planning Meeting

December 10, 2014

Working Group Status and Plans

Agile and SE Working Group

Linda Maness (Harris)
Geoff Draper (Harris)

NDIA SE Division Meeting
10 December 2014

Proposed 2014 Tasks:

- Form SE Agile WG team
- Establish interfaces and partnerships with existing initiatives focused on Agile in SE and defense acquisition (SEI, INCOSE, ADAPT, Stevens SERC, ...)
- Support SEI Agile Collaboration Group for defense industry engagement
- Establish action plan for NDIA Agile SE initiatives
- Consider RFP section L&M criteria

Deliverables/Products

- NDIA bibliography of existing guidance on adapting Agile to SE and defense acquisition (*not completed*)
- Draft RFP, Section L&M criteria (Q4 CY14) (*not completed*)

Schedule / Resources

- Q2 CY14: Form team, initiate partnerships
- Q3 CY14: Conduct research, data gathering
- Q4 CY14: Summarize NDIA findings with references and recommendations.
- Establish plans for CY14 follow-on activities.

Status:

- Aligned with SEI Agile Collaboration WG
- Held several WG teleconferences w/ speakers
- Participated regularly in SEI Agile WG
- No progress on tasks for Agile RFP language, L&M criteria
- Held “Agile and SE” track at NDIA SE Conf
- *2015: Participation and engagement has declined.*
- *Recommendation – discontinuation of group or different Agile pursuit topic*

NDIA CMMI Working Group – 2014 Status

2014 Tasks Planned	Status	Accomplishments (deliverables, etc.) - Comments
Support CMMI project and CMMI Institute	Ongoing	<ul style="list-style-type: none"> •CMMI WG extended, charter updated •Participation in Client Advisory Board (CAB) •Participation in CMMI Next Generation projects (CMMI model, SCAMPI method, performance)
Deploy SCAMPI Action Plan Reappraisal (APR) (aka “Delta Appraisal”)	Complete (Dec ‘14)	<ul style="list-style-type: none"> •Delivered APR method to CMMI Institute. Release planned Dec ‘14. Supporting training. •Concept: close rating gaps within 4 mos.
SCAMPI Extension Appraisal (SCAMPI E)	On Hold	<ul style="list-style-type: none"> •Concept: extend current ratings thru sampling •Deferred by CMMI Institute > Next Gen?
CMMI Performance	Merge w/ Next Gen	<ul style="list-style-type: none"> •ID’d model changes emphasizing performance •Merging inputs into CMMI Next Gen team
Standards Mappings (CMMI, IEEE 15288, AS9100)	Feb-Mar ‘15	<ul style="list-style-type: none"> •Concept: ease migration to DoD SE standards via leverage of consensus industry mappings •Prioritizing new IEEE/DoD 15288:2015 stds

Proposed 2015 Tasks:

- Publish NDIA consensus mapping for current versions of IEEE 15288.x, AS9100, CMMI with guidance for integration/adoption
- Support release, training, deployment, and support of SCAMPI Action Plan Reappraisal
- Support CMMI Next Generation project teams (model, appraisal method, performance)

Deliverables/Products

- Consensus standards mappings (Excel and ISD Model Wizard DB), extensible for company-specific mapping
- SCAMPI method APR updates, training material
- CMMI Next Generation products

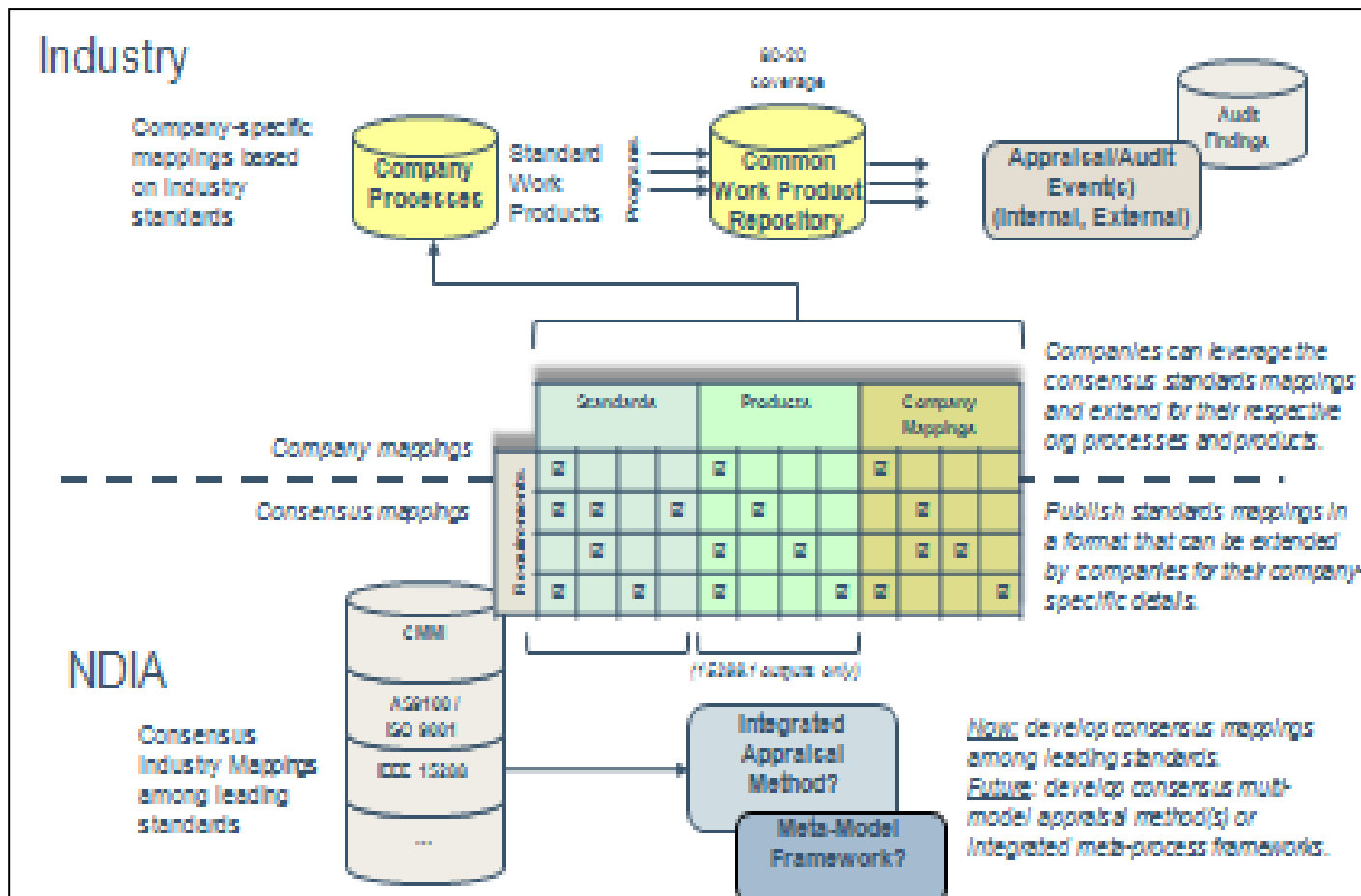
Schedule / Resources

- SCAMPI APR: release by CMMI Institute 12/14
- Standards mappings: Feb-Mar 2015 (to coincide closely with release of IEEE 15288.x)

Issues / Concerns:

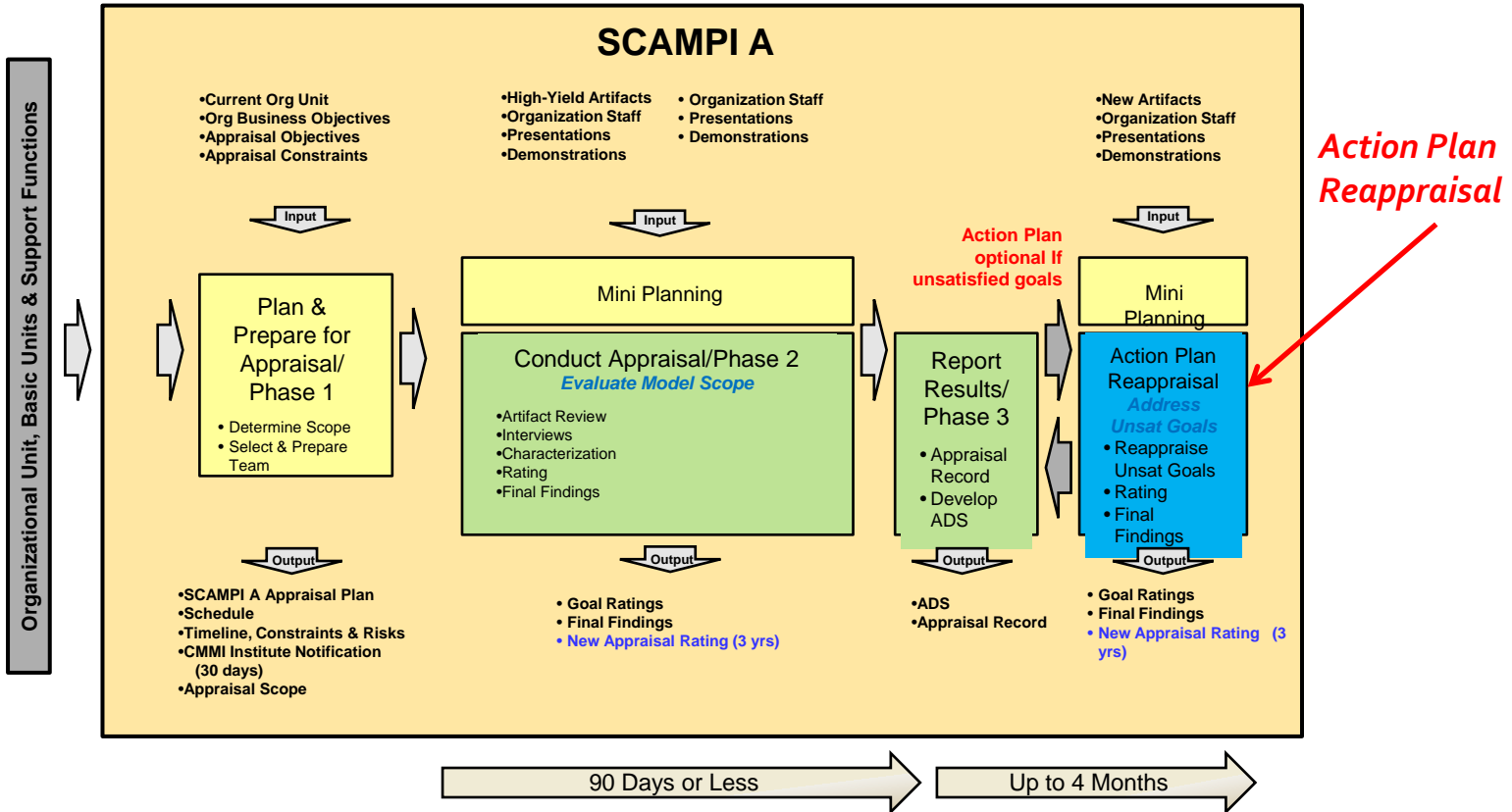
- Ongoing integration and liaison coordination between CMMI WG and NDIA SE Division

Conops – Integrated Standards Mapping and Appraisals



Action Plan Reappraisal

– Operational Concept



The Action Plan Reappraisal allows for a single 4 month period in which to fix, institutionalize and reassess process-related problems.