

Report of 21 April 2010 NDIA SoS SE Committee Meeting

The NDIA SoS SE Committee met in Crystal City on 21 April from 1:30-4:00. The April meeting was co-chaired by John Palmer, Boeing, and Judith Dahmann, MITRE. This meeting focused on the two areas identified at the last meeting that the committee will address in response to the results of the NDIA SE Division Strategic Planning Meeting. A review of action items from the February and April meetings is included at the end of this report.

- Planning for Joint Meeting With DTE Committee to Address Challenges of SoS and T&E - Beth Wilson

At the February meeting, the SoS Committee endorsed the proposal for a joint workshop on SoS and T&E. A working group was formed to develop plans for the workshop. At the April meeting Beth Wilson, co-chair of the DTE committee reported the results of the discussion and plans for the joint meeting.

Specifically, the plan is to host an all day session on 17 August 2010 in McLean sponsored jointly by the DT&E and SoS SE committees to address the challenges of SoS and T&E. Five issues have been identified based on the 2009 SoS SE committee discussion of SoS and T&E issues described in a white paper on this topic [white paper is available on the SharePoint site or by request to jdahmann@mitre.org]. The workshop will follow a facilitated approach to soliciting ideas from a group of participants knowledgeable in the area SoS and T&E. The results will be presented at the October 2010 NDIA SE Division Conference, and a joint meeting of the SoS SE and T&E committees is planned for the Monday afternoon preceding the conference to discuss the results with committee members and begin planning for next steps. An announcement for the August workshop will be sent out in the next month to solicit participants.

- Presentations on SoS Assessment Approaches

At this meeting were two presentations made to the committee as part of the committee's task to lead an effort to support the Director of DDR&E initiatives to: "Identify tools and practices to support architecture level assessment of emerging capabilities in systems-of-systems initiatives". These presentations are available on the SoS SE Committee SharePoint site.

These presentations support the committee efforts to identify and understand current approaches, experiences, and issues with SoS assessments. Once there is an understanding of current approaches and issues, the committee will then identify candidate tools and practices to address these issues.

- o Engineering Systems of Systems: An Integration Perspective - Emmet Maddy (Naval Surface Warfare Center)

This presentation provided a set of use cases of Navy SoS efforts . It described the SE practices applied to SOS in Naval surface warfare planning.

The presentation highlighted the experiences and lessons learned on implementing SE for both systems and SoS.

- o SoS Quality Attribute Specification and Architecture Evaluation - Experiences with Navy and Army SoS Architecture Development Efforts -- Michael Galiardi (SEI)

This presentation provided a set of use cases of Navy SoS efforts . It described the SE practices applied to SoS in Naval surface warfare planning. The presentation highlighted the experiences and lessons learned on implementing SE for both systems and SoS.

This presentation discussed experience with SoS architecture development based on use of augmented mission threads as the basis for identifying quality attributes critical to SoS architectures, including approaches to augment mission threads and the role of these in SoS architecture development. [Action 5, below]

- **Closing**

The committee concluded at 4. The plan for the next meeting is to continue presentations to address issues for the SoS Assessment task. Committee members are asked to identify additional presentations to address the SoS Assessment task, and provide these to either John Palmer or Judith Dahmann

SUMMARY OF ACTIONS:

ACTION 1: [All committee members]: Volunteers to lead SoS SE Discussion areas. Contact: John Palmer [john.r.palmer2@boeing.com] or Judith Dahmann [jdahmann@mitre.org]

The NDIA SoS SE committee SharePoint site offers the opportunity for groups to exchange ideas on a topic of common interest. This action is looking for volunteers who have an interest in a specific SoS topic and would be willing to coordinate a set of online discussions in this area with committee members who share their interest.

ACTION 2: [All committee members]: Identify added candidate SoS SE presentations to John Forbes [john.forbes.ctr@osd.mil]

The SoS SE collaboration forum offers twice monthly presentations on topics related to SoS SE. Additional presentations are sought. Presentations must be publicly releasable and be able to be presented in a 40 minute period followed by questions.

ACTION 3: [Dahmann] Create SoS and T&E discussion area on SharePoint site. This has been completed; action is closed.

ACTION 4: [All committee members]: Looking for participants for the working group to plan for the SoS and T&E workshop. Contact Tom Wissink

[tom.wissink@lmco.com] or Judith Dahmann [jdahmann@mitre.org]
This action is closed.

ACTION 5: [All committee members]: Identify candidate SoS assessments to be invited to present to the committee their approach to addressing the questions of interest. Contact John Palmer [john.r.palmer2@boeing.com] or Judith Dahmann [jdahmann@mitre.org]

As noted above the SoS SE Committee has a tasker to lead an effort in collaboration with the Architecture Working Group and the Mission Analysis Committee to support the Director of DDR&E initiatives to: "Identify tools and practices to support architecture level assessment of emerging capabilities in systems-of-systems initiatives"

In particular this task is based on the fact that AT&L needs the ability to assess risk and review progress on programs where the significant capability is provided by investment in SoS, not by any one of the individual systems. To do this, there is interest in the following questions:

- How do we capture a coherent picture of the capabilities provided by a SoS?
- How do we characterize and capture the sub-allocated requirements, risks and interfaces visible at the individual program level that contribute to SoS level capabilities?
- How do we assess progress and risk associated with building toward these SoS capabilities?
- How do we manage change in a SoS environment, etc.?
- What are emerging industry practices/issues/challenges in this area?
- As we move away from using LSIs, the government will be increasingly serving as SoS integrator... how can we assure that we have the tools and policies in place to perform (and assess performance) in this role?

Based on the committee discussions, the next steps are to identify and understand current experiences with SoS assessments to establish an understanding of current approaches and issues. It was agreed that committee members would identify current instances of SoS assessments and representatives of these would be invited to present to the committee their approaches to addressing the questions. Once there is an understanding of current approaches and issues, the committee will then identify candidate tools and practices to address these issues.

Gaining Access to NDIA SoS SE SharePoint Site

This is a 2-step process.

Step 1: Request a new account.

- Go to <https://partners.mitre.org/accountsetup/new/default.html>
- Once there, you'll be required to enter information. After you've submitted the following information, your account will need to be verified by email using the security question and answer you will be asked to provide during the request process.

- Enter your email address.
- Create a password.
- Enter a security question and answer (such as your mother's maiden name).
- Fill in the name of our extranet community: NDIA SoS
- Provide George Rebovich's email address for the Community owner:
grebovic@mitre.org

Step 2: Validate your email address with your security answer.

- You will receive an email with a link to verify your email address.
- You will be asked to provide the answer to your security question.

Once you have successfully done this, the registration process is complete. You will be notified by email when your account has been successfully created. (This can take up to three business days to complete).