

National Software Strategy Steering Group (NSG)

Minutes of May 25, 2006 Meeting

The sixth meeting of the NSG was convened on 25 May 2006 and hosted by the Software Engineering Institute in Arlington, Virginia. Thanks to Hal Stevens for hosting the meeting and Anita Hinchliffe for coordinating logistics.

Attendees

Attendees included Hal Stevens (SEI), Jan Vargas (SEI), Jeannine Siviya (SEI), Joe Jarzombek (DHS), Shashi Phoha (NIST), Don O'Neill (CNSS), Jeff Voas (SAIC), Bruce Mahone (AIA), and John Marciniak (CNSS).

NSG Web Page Update

The NSG web page residing within the CNSS web page at <http://www.CNsoftware.org> is updated with recent NSG information thanks to John Marciniak (CNSS) and Ryan MacMichael (Cigital). The NSG meeting minutes through March 2006 are now posted.

Agenda

Following opening remarks by Don O'Neill (CNSS) and the SEI welcome by Hal Stevens (SEI), the meeting included two speakers and a workshop planning session. Jan Vargas (SEI) introduced the "DHS Build Security-in Web Site: Workforce Development for Secure Software", and Jeannine Siviya of the SEI previewed the "Availability of Software Workforce Special Report".

Opening

Don O'Neill reported that Marjorie Bynum has departed ITAA and that Jeff Lande will succeed her as the ITAA representative on the NSG. Don reported that he had conducted the first session of the Team Innovation Management Course and Lab for Fraunhofer Center - Maryland. He also reported that Shashi Phoha has a new book entitled "Sensor Network Operations" which provides important technology foundations for the Cyber Security Grand Challenge. Finally Don passed around a letter to the President of the United States from the Innovation Coalition exhorting action on the innovation initiatives working their way through the political process. The CNSS and numerous others are signed on to the letter.

SEI Welcome

Hal Stevens welcomed the NSG to the SEI and highlighted two SEI activities that complement the National Software Strategy. One is a senior leadership course being conducted at the SEI in Pittsburgh for senior acquisition officials (Program Executive Officers and Program Managers) to provide necessary insights on software to senior people. Joe Jarzombek recalled the earlier Bold Stroke program with a similar objective. The second is a study activity on Ultra large Scale Systems, on the order of a billion lines of code, being conducted for the Army and promises to identify potential research areas. Don O'Neill pointed out the possible application of such research on systems of systems to the nation's critical infrastructure.

Build Security In (BSI) Web Resource

Jan Vargas (SEI) walked the NSG through the DHS Build Security-in (BSI) web site. This is evolving as a one stop shop for software security information. Launched in

October 2005 significant effort has gone into the production of this resource, and it has just been reorganized for improved ease of use and ease of maintenance. Don O'Neill suggested that NIST has useful security information that could be made available through BSI, better fulfilling the one stop shop objective. Joe Jarzombek acknowledged that he is the sponsor of both the BSI and the NIST work. Don also noted that the number of hits on the web page since October has been modest and that the user forum is not active and the entries are sparse. Joe observed that many view themselves as spectators. This points to a challenge in making the BSI the go to site for software security. Shashi Phoha asked whether the essentials of building security in were sufficiently available and highlighted on the site. A final suggestion was to be certain that the steps needed to build security in are clearly identified for users and not buried too deeply within the material. A roadmap to this material is needed.

Software Workforce Report

Jeannine Sivy (SEI) presented the highlights of the special report on "Anticipated Availability of Software Engineers to Meet DOD Future Program Needs". Will there be enough software engineers to meet DOD needs? Various data sources were tapped for this study including the defense contractor community, the DOD employee base, and the Bureau of Labor Statistics. Metrics on engineering degrees, foreign nationals, certain demographic distributions, Baby Boomer retirement, and women and minority shortfalls are included in the report. Certain defense related factors, such as long process cycles for security clearances, specialized domain knowledge, resistance to defense work and weapons of mass destruction, and geographic location were cited as limiting the defense workforce pool.

While the aggregate supply in industry appears adequate to meet the demand as revealed in open requisitions, the degree to which defense related factors diminish the effective aggregate supply for defense is uncertain due to the immaturity of metrics collection and the lack of precision of the metrics collected. John Marciniak pointed out that the core competencies that need to be retained have yet to be pinpointed. What impact will Next Generation software engineering tools have on the mix of competencies? The study recommendations address these issues and others needing attention.

Cyber Security Grand Challenge Update

Shashi Phoha (NIST) summarized the Cyber Security Grand Challenge as looking at the Cyber Security problem in a way not done before. The Grand Challenge treats the critical infrastructure as a system of systems and anticipates complex behaviors that can be functionally modeled, monitored and probed at different levels of abstraction.

As discussed in earlier sessions, these probes would reveal the state of the system in its day to day activities and provide the basis for anticipating a disruption to the Banking System and the potential cascading and propagation of impacts to societal systems... and importantly the speed with which this disruption unfolds. Armed with this knowledge, what are the distributed supervisory control actions needed to control the system of systems?

As reported in earlier sessions, meetings have occurred with DHS, NIST, Treasury, and IEEE. The IEEE is poised to provide concrete support sufficient to launch the Grand Challenge. A key and influential individual who is an industry executive, an active participant in technology policy, and a leader in the IEEE is highly interested and is

providing the momentum for this IEEE commitment. Discussions among the stakeholders are being planned.

Need for Workshops

A discussion of workshop planning produced the need for two workshops. For each, the mission and objectives need to be framed, the location confirmed, a date selected, invited attendees identified, and a draft agenda composed.

1. Workforce Workshop

Jeannine Sivi (SEI) was suggested as the chairperson. Jeannine will discuss this chairperson assignment with Paul Nielsen (SEI). The location suggested is the SEI Arlington, VA office. Joe Jarzombek suggested nominating a knowledgeable individual from DHS as a possible co-chair.

2. Next Generation Software Engineering

Shashi Phoha was suggested as the chairperson and accepted the role. Rick Linger was suggested as a possible co-chair (to be confirmed). The location suggested was NIST.

Next Meeting Date and Place

The sixth meeting of the NSG is schedule for 27 July 2006 and will be hosted by Pete Kind and the Institute for Defense Analysis in Alexandria, Virginia. The address is Institute for Defense Analysis at 4850 Mark Center Drive, Alexandria, VA 22311-1882 [703-845-2000]. <http://www.ida.org/IDANew/Directions/index.html>

The NSG schedule for 2006 is as follows:

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| 1. 1/26/06 | SAIC, McLean, VA |
| 2. 3/23/06 | Mitretek Systems, Falls Church, VA |
| 3. 5/25/06 | Software Engineering Institute, Arlington, VA |
| 4. 7/27/06 | IDA, Alexandria, VA |
| 5. 9/28/06 | |
| 6. 11/16/06 | |

Don O'Neill
NSG Co-Chair