

AT THE HEART
OF THE MISSION

NDIA



2019 **AGILE IN GOVERNMENT** SUMMIT

Integrating Agile Into Government Business Practices

May 8 – 9 | Washington, DC | NDIA.org/Agile

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WHO WE ARE

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. NDIA is proud to celebrate 100 years in support of our warfighters and national security. The technology used by today's modern warfighter was unimaginable 100 years ago. In 1919, BG Benedict Crowell's vision of a collaborative team working at the intersection of science, industry, government and defense began what was to become the National Defense Industrial Association. For the past century, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise and energy to ensuring our warfighters have the best training, equipment and support. For more information visit NDIA.org



ADAPT WORKING GROUP

AGILE DELIVERY FOR AGENCIES, PROGRAMS & TEAMS

WHO WE ARE

ADAPT is composed of industry and government representatives who are interested in advancing the adoption of agile methods in software acquisition. The purpose of ADAPT is to facilitate industry-government interaction in policy, legal/contractual and technical areas directly related to understanding, assessing and implementing agile methods in programs, projects and procurements.

Such interaction is intended to promote understanding of agile methods, when they are appropriate for use, and how they may be implemented within the context of information system acquisition.

SCHEDULE AT A GLANCE

WEDNESDAY, MAY 8

Registration and Breakfast

Ballroom Foyer
7:30 – 8:30 am

General Session

Ballroom ABC
8:30 – 9:30 am

Networking Break

Ballroom Foyer
9:30 – 10:00 am

General Session

Ballroom ABC
10:00 – 11:40 am

Lunch

Ballroom CD
11:40 am – 12:30 pm

Concurrent Sessions

Ballroom AB, Ballroom CD, Room 4ABC
12:30 – 2:00 pm

Networking Break

Ballroom Foyer
2:00 – 2:30 pm

Concurrent Sessions

Ballroom AB, Ballroom CD, Room 4ABC
2:30 – 5:00 pm

THURSDAY, MAY 9

Registration and Breakfast

Ballroom Foyer
7:30 – 8:30 am

General Session

Ballroom ABC
8:30 – 10:00 am

Networking Break

Ballroom Foyer
10:00 – 10:30 am

General Session

Ballroom ABC
10:30 am – 12:10 pm

Lunch

Ballroom CD
12:10 – 1:00 pm

Concurrent Sessions

Ballroom AB, Ballroom CD, Room 4ABC
1:00 – 3:30 pm

Summit Concludes

3:30 pm

The Leader in Cybersecurity and Software Engineering

We work with government and industry to provide methods, technology, and training to prepare for and solve today's software and cyber challenges:

- data analytics
- incident response
- IoT security
- cyber workforce development
- blockchain and cryptocurrency
- insider threats
- IT governance
- agile methods
- cloud security

As a federally funded research and development center, founded in 1984, we provide neutral third-party insights and expertise in a trusted and confidential environment.

Learn more at sei.cmu.edu or contact us at info@sei.cmu.edu or 888.201.4479

EVENT INFORMATION

WIFI

Network: KelloggHotel WiFi
No password needed, just accept the terms

SURVEY AND PARTICIPANT LIST

You'll receive via email a survey and list of attendees (name and organization) after the conference. Please complete the survey, which helps make our event even more successful in the future.

EVENT CONTACT

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Carnegie Mellon University
- Software Engineering
Institute

Stosh Misiaszek
Scaled Agile

Robin Yeman
Lockheed Martin

SPEAKER GIFTS

In lieu of speaker gifts, a donation is being made to the Fisher House Foundation.

HARASSMENT STATEMENT

NDIA is committed to providing a professional environment free from physical, psychological and verbal harassment. NDIA will not tolerate harassment of any kind, including but not limited to harassment based on ethnicity, religion, disability, physical appearance, gender, or sexual orientation. This policy applies to all participants and attendees at NDIA conferences, meetings and events. Harassment includes offensive gestures and verbal comments, deliberate intimidation, stalking, following, inappropriate photography and recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome attention. Participants requested to cease harassing behavior are expected to comply immediately, and failure will serve as grounds for revoking access to the NDIA event.

ANTI-TRUST

The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.

NDIA reserves the right to change this program at any time without notice

The purpose of ADAPT is to foster better understanding of how government agencies can employ agile software development methods to provide incremental and modular acquisition of information systems.

WEDNESDAY, MAY 8

- 7:30 am **REGISTRATION & NETWORKING BREAKFAST**
BALLROOM FOYER
- 8:30 am **WELCOME REMARKS**
BALLROOM ABC
- 8:40 am **KEYNOTE ADDRESS**
BALLROOM ABC
Maj. Gen. Patrick C. Higby
Director, DevOps and Lethality, Office of the Assistant Secretary of the Air Force Acquisition, Technology and Logistics
- 9:00 am **DEVOPS AT HARRIS CORP – A CONTRACTOR CASE STUDY**
BALLROOM ABC
Jorge Relea-Gonzalez
Senior Director, Software Engineering, Harris Corporation
- 9:30 am **NETWORKING BREAK**
BALLROOM FOYER
- 10:00 am **APPLYING EVM TO AGILE PROGRAMS – AN UPDATE**
BALLROOM ABC
John McGregor
Deputy Director for Earned Value Management, Acquisition, Analytics and Policy, OASD (A)
- 10:30 am **PANEL DISCUSSION: PROGRAM MANAGEMENT (EVM) AND AGILE PROGRAMS**
BALLROOM ABC
Andrea Nibert
Earned Value Management Analyst, Leidos
Moderator
John McGregor
Deputy Director for Earned Value Management, Acquisition, Analytics and Policy, OASD (A)
Eric Ferraro
Professor of Acquisition Management, DAU
Dr. Ann Wong
Professor, Executive Acquisition Management CSM, SPC4, DAU
Dale Gillam
Division Chair (IPM), Leidos
- 11:30 am **SPONSOR LIGHTNING ROUND PRESENTATION**
BALLROOM ABC
- 11:40 am **LUNCH**
BALLROOM CD

SCALED AGILE
Provider of SAFe®

	SESSION 1 Dave Chesebrough, NDIA Ballroom AB	SESSION 2 Suzette Johnson, Northrop Grumman Corporation Ballroom CD	SESSION 3 Eileen Wrubel, Software Engineering Institute Room 4ABC
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12:30 pm

Creating an Effective Agile Acquisition Ecosystem

Dr. Matt Kennedy
Office of the Comptroller of the Currency,
US Department of the Treasury

Makoto Braxton
Director, Contracts and Grants Division,
U.S. Department of Health and Human
Services (HHS), Assistant Secretary for
Preparedness and Response (ASPR),
Office of Resource Management (ORM)

Abstract presentation from 12:30 – 2pm

Agile Processes for Hardware Development

21973
Kevin Thompson
cPrime

Agile Approach to Assuring the Safety-critical Embedded Software for NASA's Orion Spacecraft

22131
Justin Smith
NASA Independent Verification &
Validation
Wes Deadrick
NASA Independent Verification &
Validation

Roadmap for RMF in an Agile Environment

22056
Joseph Brouillard
Lockheed Martin
Daniel Almadani
Lockheed Martin

1:00 pm

Show Me the Money

22040
Josh Seckel
Deloitte

1:30 pm

Migrating a Department of Defense (DoD) Acquisition Program to a Model-Based Environment using a Phased Approach

22021
Gene Rosenthal
Lockheed Martin

The Agile Program Office: Applying Agile Principles and Practices in a High-Stakes Government Acquisition Environment

22115 + 22069
Maj Matthew Getts
Advanced EHF System Program Office,
USAF
Barton Hackemack
Software Engineering Institute, Carnegie
Mellon University

2:00 pm

NETWORKING BREAK
BALLROOM FOYER

WEDNESDAY, MAY 8

	SESSION 4 Dave Chesebrough, NDIA Ballroom AB	SESSION 5 Mark Fabian, Endgoal Group Ballroom CD	SESSION 6 Dennis Ebersole, Perspecta Room 4ABC
2:30 pm	Scaling Agile to Support Business Agility in IT Infrastructure 22143 Melissa Bradshaw Lockheed Martin Beth Linnebur Lockheed Martin	Applying Lean Agile Concepts within a Program Office's Acquisition Process 22123 Timothy Chick Software Engineering Institute David Sweeney Software Engineering Institute	How to Design and Build Agile Team Rooms that Rock! 22072 Dr. Alfred Lorber Sandia National Laboratories Kathryn Aragon Sandia National Laboratories
3:00 pm	Agile Development in Regulated Industries, Challenges and Opportunities 22039 Adam Sandman Inflectra Corporation	Continuous Modernization – Maintaining Long-Lived Federal Systems 22119 Dane Weber Excella	Revealing the Unobvious Social Norms that Impede Agile Adoption 22124 John Ryskowski JFR Consulting
3:30 pm	Collaboration over Competition Leads to Agility and Collective Success for Intelligence, Surveillance, and Reconnaissance (ISR) 22144 Michael Menousek Connexa	Project Controls as Servant Leadership 22128 Robin Pulverenti ADEPT Force Group, Inc. John Johnson ADEPT Force Group, Inc.	A Real-World Roadmap for Organizational Change 22147 Pete Oliver-Krueger LitheSpeed
4:00 pm	Agile and Cybersecurity – Effective Risk Management is the Key 22129 Dr. Carol Woody Software Engineering Institute, Carnegie Mellon University Will Hayes Software Engineering Institute, Carnegie Mellon University	Adoption of Earned Value Management (EVM) Metrics in Federal Agile Contract – How to Fill the Project Monitoring Gap in Agile Projects 22113 Daniel Navarro Abaco Strategy	Managing Agile Teams: A Servant-Leader Based Approach 22050 Scott Grimes Northrop Grumman

4:30 pm	<p>Applying Commercial DevSecOps Best Practices to Federal Programs 22095 Jeff Payne Coveros</p>	<p>Fail-Proof Metrics to Assess Performance of Agile Contracts 22093 Manjit Singh Agilious</p>	<p>How Does Agile Speed Government Development? Using Behavioral Modeling and Simulation to Explore, Refine, and Validate Government Applications of Agile 22141 Andrew Moore Software Engineering Institute, Carnegie Mellon University William Novak Software Engineering Institute, Carnegie Mellon University</p>
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THURSDAY, MAY 9

- 7:30 am **REGISTRATION & NETWORKING BREAKFAST**
BALLROOM FOYER
- 8:30 am **WELCOME REMARKS**
BALLROOM ABC
- 8:40 am **KEYNOTE ADDRESS**
BALLROOM ABC

Dr. Jeff Boleng
Special Assistant for Software Acquisition, OUSD(A&S)
- 9:15 am **FEATURED SPEAKER**
BALLROOM ABC

Sean Brady
Learning Director for Software Acquisition, DAU
- 10:00 am **NETWORKING BREAK**
BALLROOM FOYER
- 10:30 am **AGILE IN THE AIR FORCE – THE FUTURE OF SOFTWARE DEVELOPMENT**
BALLROOM ABC

Steven Wert
Program Executive Officer Digital, Air Force Life Cycle Management Center
- 11:15 am **DEVOPS DYNAMICS – KEY CONCEPTS FOR HIGH-PERFORMING DEVOPS ORGANIZATIONS**
BALLROOM ABC

Firas Glaiel
Enterprise DevOps Champion, Raytheon

12:00 pm

SPONSOR LIGHTNING ROUND PRESENTATIONS

BALLROOM ABC



12:10 pm

LUNCH

BALLROOM CD

SESSION 7 Ken Mills, Collabnet Ballroom AB	SESSION 8 Stosh Misiaszek, Scaled Agile Ballroom CD	SESSION 9 Scott Sinclair, Spectrum Room 4ABC
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1:00 pm

Implementing Agile Program Management to Achieve Mission Success – SMC 2.0

Lt Col Kellie Brownlee, USAF
Air Force Space and Missile Systems Center (SMC)

Mary Stevenson
Stellar Solutions

Applying an Agile Approach with MBSE

22133

Flavius Galiber
Northrop Grumman

Madeline Pantano
Northrop Grumman

Changing F-22 Culture: Digital Transformation of Old Dogs with New Tricks

22125

John Oberkrom
Lockheed Martin

1:30 pm

The Lean Agile Architecture

22140

Lisa Henke
Radiant Solutions

Matthew Reider
Radiant Solutions

Applying Agile and Continuous Delivery to Significant Cyber-Physical Systems

22155

Dr. Suzette Johnson
Northrop Grumman Corporation

Robin Yeman
Lockheed Martin

Agile Test & Evaluation in a SAFe Large Solution Context

22107

Jennifer Rekas
MITRE

Jeff Cook
MITRE

2:00 pm

Agile (SAFe) in Practice - Lessons Learned So Far

22117

Keith Korzec
Software Engineering Institute, Carnegie Mellon University

How Do We Measure Impact of Agile Transformations in Non-software Development Programs?

22078

Rosa Heckle
MITRE

Beyond IT - Making Your Government Delivery as Agile as Your Development!

21982

Claire Atwell
Booz Allen Hamilton

2:30 pm

Adopting AGILE and the Scaled Agile Framework (SAFe) for the Federal Government: A Case Study Application for a Satellite Ground System Acquisition Program.

22112

Dr. Roderick Capili
National Geospatial Intelligence Agency

Challenges of Employing Agile DevOps Practices for Embedded Operational Flight Software

22118

Shawn Taylor
76th Software Maintenance Group, Tinker Air Force Base

MBSE for Agile Development

22152

Thomas Mielke
CACI

Dr. Brian Gallagher
CACI

3:00 pm

**Sparkling Mission Agility with
End to End Value Stream Teams**

22101

Bob Payne
LitheSpeed

**Demonstrating the Value of
DevSecOps in Government
Healthcare Programs**

22114

Matthew Dicks
ManTech

Paul Klinker
ManTech

**Agile and the USMC –
MCRISS II Program**

22130

Joe McNeely
Chenega Decision Sciences, LLC

Jason Glavich
(MCRISS)(OSD)

3:30 pm

ADJOURN

A large graphic celebrating NDIA's 100th anniversary. It features a red shield-shaped logo on the left with the text "AT THE HEART OF THE MISSION" and "NDIA" in large white letters. Below the logo are three circular icons representing the years 1919, 2019, and a central figure. The background is a grayscale image of a large crowd of people in the foreground, with silhouettes of soldiers in the foreground. The text "NDIA CELEBRATES 100 YEARS!" is written in large white letters across the top right of the graphic.

**NDIA CELEBRATES
100 YEARS!**

The technology used by today's modern warfighter was unimaginable 100 years ago. In 1919, BG Benedict Crowell's vision of a collaborative team working at the intersection of science, industry, government and defense began what was to become the National Defense Industrial Association. For the past century, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise and energy to ensuring our warfighters have the best training, equipment and support.

Reflecting on NDIA's history, we embrace the opportunity to emphasize the need for legal and ethical collaboration among military, government, industry and academia to ensure the defense industrial base is prepared for future challenges and conflicts. Just as the early 20th century was characterized by massive transformation in military capabilities, emerging trends in technology and increasing geopolitical challenges demand new strategies and policies in today's national security landscape.

Creating an Effective Agile Acquisition Ecosystem

Kennedy, M. | Braxton, M.

This presentation will discuss key aspects of creating an effective Agile Ecosystem within your organization. Focusing on the contracting component, we will discuss various Firm-Fixed-Price contracting approaches utilized over a 2.5-year period to rapidly deliver capabilities on an IT Program comprised of over 90 servers, geographically distributed databases, and 14 applications (desktop and web-based) that support the agency's core mission. We will address some of the most commonly asked questions including: availability of templates, contractual deliverables (CDRL's), CLIN structures, and using Performance-based contracting. We will also address future considerations such as incorporating the presented approach to DevOps.

Implementing Agile Program Management to Achieve Mission Success – SMC 2.0

Brownlee, K. | Stevenson, M.

Lt Col Brownlee, Chief of the Future Ground Systems Branch of the Remote Sensing Experiment Ground Division, Remote Sensing Systems Directorate at Los Angeles Air Force Base, California will present her teams application of Agile practices for managing their \$2B program. During the presentation, she will layout how they implemented the Lean Agile methodology for program management activities as well as sharing lessons learned and best practices.

Agile Processes for Hardware Development

21973

Thompson, K.

The Agile Hardware Research Project identified the Scrum framework as the appropriate one for managing development of hardware and integrated hardware-software products. Research findings and real-world experiences confirm this prediction, and show how Agile practices must be reformulated to be effective for development of physical products.

Beyond IT - Making your government delivery as agile as your development!

21982

Atwell, C.

Agile development is increasingly popular and often mandated in many government organizations. Anything from services, solutions, logistics, modernization and most commonly IT systems need "agile" development. Agile development in government has not been as challenging as timely delivery to our end users or consumers. Government environments often include a variety of stakeholder, phase gates and other types of compliance that tacked on to the end, after something is developed and before it can be delivered. In this talk, we will help you exam your own environment and the delivery process to manage stakeholders and bring compliance earlier in the development cycle. The ultimate goal is to make our delivery, as agile as our development.

Migrating a Department of Defense (DoD) Acquisition Program to a Model-Based Environment using a Phased Approach

22021

Rosenthal, G.

With the growing need to accommodate fix-priced contracts, be cost affordable, and be faster/agile, the DoD realized the need to transform how systems engineering is being performed. Model-Based Systems Engineering (MBSE) addresses these concerns and can lead to significant cost savings. The DoD System Safety program has been performing safety assessments using a defined set of safety critical functions whenever proposed architecture changes affect safety critical components. These assessments involve generating numerous documents, spreadsheets and analysis. A pilot project was stood up to transition this program to a model-centric program in an effort to transition how systems engineering is being performed. This presentation describes the model-based transition, and discusses the challenges faced along the way.

Agile Development in Regulated Industries, Challenges and Opportunities

22039

Sandman, A.

In this session I would like to discuss my experiences working with clients to apply agile approaches while developing and testing software and systems in industries such as healthcare, medical devices, aviation, and defense.

I shall cover some specific nuances for the different industries – for example how to support FDA CFR Part 11 in life sciences, DO-178B in aviation. We shall also cover the rules, regulations, and reporting requirements, and present ways to harness agile approaches in a regulated environment.

Show me the Money

22040

Seckel, J.

The Agile Manifesto has inspired different interpretations around non-development agile topics. I have been working, living, and now presenting on, the procurement process for the US federal government for the last several years (ranging from \$10k to \$1.5b), both from the contractor and federal employee perspective -- both sides of the procurement process. I have discerned a framework I have found to be efficient and effective in getting the best value from the contracting process, and that has a higher probability of getting a good fit between the federal agency and the contractor.

This session will examine what these values mean, show examples of where they have provided value (and where they haven't), and give recommendations for adopting these into acquisition processes. By the end of this session, you should be able to speed your procurement process so that applying the modern development techniques provide the value they are intended to provide.

Managing Agile Teams: A Servant-Leader Based Approach

22050

Grimes, S.

Product Owner, Team Member, Scrum Master, Facilitator, Coach, Manager? The Work done by managers of agile teams can decide the success or failure of any agile initiative. The Management team must learn to co-create value for the customer in order to succeed and thrive in today's Agile world. How can management and technical leaders contribute to the success of an agile project at all phases of Agile adoption? How can years of experience, research, and knowledge of management principles be leveraged to meet the Agile goal of providing more value quickly. This presentation will provide a fact-based presentation on leadership, interpreting the results of multiple leadership surveys over the past 30+ years in a way that promotes Agility and empowers teams.

Roadmap for RMF in an Agile Environment

22056

Brouillard, J. | Almadani, D.

Adopting Agile methodologies for Risk Management Framework (RMF) has historically been a waterfall-centric and process-driven approach that presents several daunting challenges. Lockheed Martin shares an experience for integrating Agile principals into a project's cybersecurity processes and cultural fabric to help overcome these challenges. The result provides a cyber resilient system that achieves authorization to operate quickly and maintains a continuous security posture.

How to Design and Build Agile Team Rooms that Rock!

22072

Lorber, A. | Aragon, K.

You've heard that working in an Agile team room increases collaboration, fosters a shared culture and increases team productivity. So, exactly how do you design your own Agile team room to reap the benefits you need? There are many challenges, include gathering all requirements from team members, conveying those to designers and working within all your constraints to finally create a space the team will love. In this presentation, we address many common issues and then help you jumpstart the planning of your Agile team room construction/remodeling project. Through our combined twenty-year history of creating and living in dozens of team rooms, will can provide you with practical advice, examples, and a checklist to move you toward success.

How Do we Measure Impact of Agile Transformations in Non-software Development Programs?

22078

Heckle, R.

With the success of agile in software development, more organizations are beginning to apply agile practices, principles and methods to organizational programs to improve organizational agility. Agile transformation efforts take time, resources, and funding to implement and there is a need to measure their effectiveness before organizations continue to invest the time, money and effort to continue them. While metrics to measure ROI for agile software delivery projects have matured, metrics to measure the ROI of agile transformations in other organizational areas are not clearly defined. This presentation's focus is to open a discussion on identifying metrics that can be used to measure the effectiveness and organizational impact of using agile methods.

Fail-Proof Metrics to Assess Performance of Agile Contracts

22093

Singh, M.

Applying Commercial DevSecOps Best Practices to Federal Programs

22095

Payne, J.

DevSecOps is the practice of integrating security staff, practices and automation into a DevOps delivery process. This presentation discusses DevSecOps best practices and how to best apply them to federal programs. A case study for how one federal customer implemented DevSecOps capabilities will be discussed.

Sparking Mission Agility with End to End Value Stream Teams

22101

Payne, B.

Agile Test & Evaluation in a SAFe Large Solution Context

22107

Rekas, J. | Cook, J.

Case study of a large DoD system of systems agile transformation, describing approaches for right-fitting the test and evaluation process to utilize DevSecOps, abide by SAFe large solution structure, and define effective roles and responsibilities amongst system delivery stakeholders

Adopting AGILE and the Scaled Agile Framework (SAFe) for the Federal Government: A case study application for a satellite ground system acquisition program.

22112

Capili, R.

The Systems Program Office is a Joint Major Systems Acquisitions Program (ACAT-1 equivalent) for a Satellite Ground Station. The program office's primary role is to serve as the "Government As The Integrator" (GATI) for a system-of-systems acquisition effort that will provide user capability and access for several National Technical Means (NTM) systems. In 2015, the program office underwent a major restructuring effort to implement Agile and SAFe methodologies in support of its acquisition efforts and the presentation captures the major lessons learned for implementing Agile to a Major Systems Acquisition Program

Adoption of Earned Value Management (EVM) Metrics in Federal Agile Contract – How to Fill the Project Monitoring Gap in Agile Projects

22113

Navarro, D.

Demonstrating the value of DevSecOps in Government Healthcare Programs

22114

Dicks, M. | Klinker, P.

DevSecOps and Continuous Integration and Continuous Delivery (CI/CD) has increased ManTech's customer satisfaction, and reduced costs and deployment errors. We present two Government project case studies outlining our approach, organizational and technical challenges, and benefits and we examine implications and trends in our future DevSecOps use. Following adoption of DevSecOps, our automated build, test, package, and deploy processes eliminated critical findings and reduced provisioning and deployment errors and times from days to minutes. Responding agilely to emerging threats and risk profiles via DevSecOps for these HIPAA compliant systems allowed us to quickly roll out patches and updates through automated processes.

Agile (SAFe) in practice - lessons learned so far

22117

Korzec, K.

What has made the Scaled Agile Framework (SAFe) / agile a success for some programs has been a curse to others. After several years working with multiple DoD programs on Agile adoption and improving design options earlier in the acquisition cycle, I have observed success stories and failures with programs while implementing SAFe. This talk will focus on some of the pitfalls, recommendations, and DoD specific tailoring for adopting SAFe on your program.

Challenges of Employing Agile DevOps Practices for Embedded Operational Flight Software

22118

Taylor, S.

The push toward Agile and DevOps in the US Air Force software portfolio has reached critical mass. There are multiple examples of successful implementations which put capability into the hands of the war fighter more rapidly than ever before. In order to continue this culture shift into the realm of embedded operational flight software, there are numerous obstacles which will need to be addressed and overcome.

Continuous Modernization - Maintaining Long-Lived Federal Systems

22119

Weber, D.

The federal government maintains some IT systems that are over 50 years old and replaces others with ground-up rewrites after 5 years. There are always trade-offs to be made, but some approaches better fit the uniquely long-lived missions that are served by federal IT systems. Continuous modernization can reduce risk and avoid costs while continuing to accrete value.

Applying Lean Agile Concepts within a Program Office's Acquisition Process

22123

Chick, T.

In this presentation, we will present our experience regarding the adoption of Lean Agile tools and concepts to the Navy Cyber Warfare Development Group (NCWDG) Program Office's Procurement Initiating Document (PID) process. We will quantitatively show how the adoption of Lean Agile tools and concepts has enabled the program office to eliminate waste by optimize the whole, thus delivering faster. We will discuss the approach taken, lessons learned, and the resulting process which builds quality in and creates program knowledge.

Revealing the Unobvious Social Norms that Impede Agile Adoption

22124

Ryskowski, J.

As a result of being human, our behavior is tuned by social traditions (or norms), much of the time without our awareness. Some of these norms are impediments to becoming agile. This talk reveals some less obvious social norms and traditional development fantasies from which one must disengage in order to truly be agile. We get help from Pink Floyd, Mel Brooks, store shelving, requirements dementors, a fun exercise, and more.

Changing F-22 Culture: Digital Transformation of Old Dogs with New Tricks

22125

Oberkrom, J.

Today's fighter platforms must develop and deploy new capabilities more rapidly than in the past to remain relevant in today's warfighting environments; thus, new tools and processes must be adopted to counter frequently emerging threats. The F-22 transformation initiatives LM Aeronautics is implementing include commercial practices development/training, cloud migration, metrics definition, value stream governance, systems engineering adjustments, tools/IT infrastructure (Continuous Integration / Continuous Deployment pipeline implementation), team structure, rapid hardware prototyping/production, facilities, automated "lights-out" testing, daily builds and single code baseline, streamlined certification processes and a culture change to unleash the workforce to operate in an agile, self-directed manner. The presentation focuses on many of the key initiatives that have been undertaken and the important lessons learned to move the F-22 enterprise toward developing with speed and agility in a frequently adapting warfighter environment.

Project Controls as Servant Leadership

22128

Pulverenti, R. | Johnson, J.

Project Controls, especially Earned Value Management, has a reputation of being cumbersome, non-value-add, and a burden to development teams. This session looks to change your hearts and minds to see that Project Controls can be used as a tool to inform developers, support project managers, and enable executives to better manage portfolios through the importance of Technical Performance Measures and the alignment of Agile Metrics to conventional Key Performance Indicators.

Agile and Cybersecurity – effective risk management is the key

22129

Woody, C. | Hayes, W.

Cybersecurity and agility can be integrated by effective risk management. By understanding the network of risks in the product vision, work can be sequenced to 'burn down' risk that threatens user value including operational viability, with each incremental delivery of working software. Developers and security experts can work together through this approach to product risk management to achieve both agility and cybersecurity.

Agile and the USMC – MCRISS II Program

22130

McNeely, J. | Glavich, J.

Agile approach to assuring the safety-critical embedded software for NASA's Orion spacecraft

22131

Smith, J. | Deadrick, W

This presentation recounts the journey of the Orion Independent Verification and Validation (IV&V) team as they addressed an agile approach being used to develop the software of NASA's next human rated spacecraft. We will discuss a new agile approach to IV&V, characterized by a sharper focus on critical mission capabilities, matched with a method to dynamically 'follow the risk' as the IV&V team adds more compelling assurance in waves. We explain the concrete steps we took, the principles that motivated our choices, and the results we have achieved to date.

Applying an Agile Approach with MBSE

22133

Galiber, F. | Pantano, M.

The combination of Model-Based Systems Engineering (MBSE) and the Agile process aids in the execution of programs that are constantly changing, are highly complex, and contain uncertainties throughout system development. Establishing an Agile MBSE approach allows teams to manage change and uncertainties, manage the complexity of a system, foster multidisciplinary collaboration between cross-functional teams, and provide a central repository model as the source of truth for system information.

The Lean Agile Architecture

22140

Henke, L. | Reider, M.

Agile architecture refers to both the use of agile methods in developing architectures of various types and levels (enterprise, solution, data, etc.) as well as the architecture necessary to integrate multiple activities for agile development on a large scale. This session will address both perspectives of agile architecture and will provide concepts on how to provide lean principles to agile architecture development. Attendees will learn to appreciate the mutually reinforcing roles of lean, architecture and agility.

How Does Agile Speed Government Development? Using Behavioral Modeling and Simulation to Explore, Refine, and Validate Government Applications of Agile

22141

Moore, A. | Novak, W.

Behavioral modeling and simulation (BModSim) techniques provide a means to construct valid, coherent, and executable characterizations of agile software development to answer key questions of agile concepts and application. BModSim can help to - expose the operation of underlying mechanisms that make agile useful in a government program context, - understand exactly how and when different agile approaches create value, and - test the efficacy of software development policy and process before implementation.

These techniques complement data analytic approaches such as machine learning by describing the larger landscape of organizations' application of agile, putting in context diverse results from data analysis, and identifying the most profitable areas for future data collection. The talk describes a BModSim application grounded in available data as an example of building a rigorous foundation to explore, refine, and validate Government applications of agile.

Scaling Agile to Support Business Agility in IT Infrastructure

22143

Bradshaw, M. | Linnebur, B.

The enterprise hosting team at Lockheed Martin has been on a journey to agile at scale for the last several years while also driving cloud platform adoption across the business. The team shares their "Phoenix Project" moment and how they translated team successes into a repeatable framework for enterprise agile transformation, translated Hollywood style!

Collaboration over Competition Leads to Agility and Collective Success for Intelligence, Surveillance, and Reconnaissance (ISR)

22144

Menousek, M.

Employment of an agile development process has demonstrated the ability to rapidly deliver capability. This development model permits rapid identification of technology gaps and offers robust solutions that grow with tomorrow's expanding mission space. Missions grown; through open standards and open source development, solutions are future proof. Agile software methodologies empower programs to adapt as new risks arise. The advantages of the DoD's Distributed Data Framework, an open and agile architecture, have been demonstrated over 5 years of deployment in operational environments.

A Real-World Roadmap for Organizational Change

22147

Oliver-Krueger, P.

Have you ever rolled out a new technology or a new practice that worked great for one team but fell flat with another? Do you have some teams that just aren't getting any better?

After both succeeding and struggling with multiple teams, I started to notice the pattern, and developed the Agile Team Roadmap™. It maps out 4 levels of industry best practices in Agile, Lean Startup, DevOps, Design Thinking, and Self-Management, and describes why some techniques fail when they were introduced, and what other techniques have to be mastered first. We'll also cover assessment models, and give examples of effective metrics for each level of performance.

MBSE for Agile Development

22152

Mielke, T. | Gallagher, B.

Our presentation will describe how we have established an MBSE/Agile culture within the company, executed MBSE and Agile for large-scale development, and governed MBSE and iterative development across programs.

Applying Agile and Continuous Delivery to Significant CyberPhysical Systems

22155

Johnson, S. | Yeman, R.

The Agile Program Office: Applying Agile Principles and Practices in a High-Stakes Government Acquisition Environment

22115 & 22069

Getts, M. | Hackemack, B.

Agile methods have been used in software development for some time and are becoming mainstream in the government development community. This presentation illustrates the application of lean/agile principles and practices in a satellite production and launch operations context.

BIOGRAPHIES



DR. JEFF BOLENG

Special Assistant for Software Acquisition
OUSD(A&S)

Dr. Jeff Boleng is the Special Assistant for Software Acquisition to the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) where he serves as a key member of the Under Secretary's executive leadership team, providing strategic focus and overall policy guidance on all matters of defense software acquisition. In this role, he leads the formulation of the Department's software acquisition strategy, advises Department leadership on latest

best practices in commercial software development, supports the enterprise to build a team of top-tier software engineers, and works to develop modern software skills in the acquisition workforce.

Jeff has a breadth of experience across the Department of Defense (DOD) and the private sector. Prior to joining DOD, he served as the chief technology officer (acting) and deputy chief technology officer at Carnegie Mellon University Software Engineering Institute. Prior to that, he served more than 21 years in the United States Air Force as a

cyberspace operations officer and software engineer. In his final assignment with the Air Force, Jeff served as the deputy department head, Department of Computer Science at the United States Air Force Academy.

Jeff is a senior member of both the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE), and he holds PhD and MS degrees in Mathematical and Computer Sciences from the Colorado School of Mines and a BS in Computer Science from the U.S. Air Force Academy.

SEAN BRADY

Learning Director for Software Acquisition
Defense Acquisition University

Mr. Sean Brady serves as the Learning Director for Software Acquisition at the Defense Acquisition University. He leads strategy to transform DoD's practices, competencies, training, and workforce-- and accelerate the adoption of modern, commercial software development practices across DoD and the DAU curriculum.

Prior to DAU, Mr. Brady served 9 years as the Deputy Director for Software Engineering (SWE), in the Office of the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)), within the Office of the Secretary of Defense (OSD). He led change, provided oversight of 170+ major programs (a \$1.7T portfolio), and managed governance of Software Acquisition and Development within DoD. He led SWE oversight on DoD's most complex, highest-visibility defense programs (RD&E > \$480M;

procurement > \$2.79 billion). Mr. Brady is an expert in software parametric statistical analysis and assessing large-scale Agile software development efforts. He informed DoD's senior-decision makers, industry CEOs, and Congress on SWE across Army, Navy, Marine Corps and Air Force programs. His strategic duties include leading policy and guidance development; workforce planning; and outreach to optimize the DoD's SWE capability. He launched DoD's largest acquisition workforce modernization initiative (impacting 200K+ professionals). In addition, he championed OSD's efforts to improve performance measurement practices across DoD and industry.

Prior to his role in the Pentagon, he served in the Army's RDECOM/ARDEC as an Armament Software Engineering Center (ASEC) Special Projects Team Lead and as

a Program Manager, Close Combat Systems Project Officer (PO) where he planned and executed high-visibility experimental and rapid fielding programs -- supporting elite special operations and front-line Warfighters. He is the Defense Innovation Board's Software Acquisition workforce co-lead, a member of the Army's Acquisition Corps and has served as a US Delegate to NATO. Mr. Brady holds a Bachelor of Science in Computer and Electrical Engineering from Rutgers University; a Master of Science in Quantitative Software Engineering from Stevens Institute of Technology; is an MBA candidate from the University of Virginia (Class of 2020); and holds a graduate certificate in Entrepreneurship and Innovation from Stanford University.



FIRAS GLAIEL

Enterprise DevOps Champion
Raytheon

Firas Glaiel leads the Raytheon DevOps Center of Excellence. He is a Raytheon Engineering Fellow, in the Raytheon Integrated Defense Systems Software Engineering Technical Staff, with 20 years of experience in software, systems,

and engineering management in the areas of Air Traffic Management, Integrated Air & Missile Defense, and C4I (Command, Control, Communications, Computers and Intelligence). Previously, as the Corporate Technology Area Director for Information Systems and Computing (ISaC), he was responsible for the coordination of the

technology and research efforts in the ISaC domain across Raytheon businesses. Firas holds a B.S. in Computer Systems Engineering from Boston University, and an M.S. in Engineering and in Management from M.I.T.'s School of Engineering and Sloan School of Management.



MAJ GEN PATRICK HIGBY, USAF

Director, DevOps and Lethality

Office of the Assistant Secretary of the Air Force Acquisition, Technology and Logistics

Maj. Gen. Patrick C. Higby is the Director, DevOps and Lethality, Office of the Assistant Secretary of the Air Force Acquisition, Technology and Logistics. In this role, he devises and implements strategies to responsively combat cybersecurity threats while rapidly delivering cyber/digital/IT capabilities to the point of need.

Prior to this assignment, General Higby was the Director, Cyberspace Strategy and Policy, Office of Information Dominance

and Chief Information Officer, Office of the Secretary of the Air Force. As the Cyberspace Operations and Support Career Field Functional Manager, General Higby was responsible for the development of 43,000 officers, enlisted and civilian personnel. He balanced costs and risks for Air Force cybersecurity, as well as led the Air Force in developing cyberspace strategies, policies and enterprise architectures across business, information, weapon system and defense intelligence mission areas.

General Higby was born in the Air Force hospital in Wiesbaden, Germany, and came on active duty in April 1989 as a graduate of the Reserve Officer Training Corps. He previously served in the engineering, intelligence, space, communications and cyber career fields, at base, major command and joint agency levels. He had the opportunity to command at the squadron, group and, twice, at the wing/ installation level.

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JOHN MCGREGOR

Deputy Director

Earned Value Management, Acquisition, Analytics and Policy, OASD (A)

Mr. John S. McGregor is the Deputy Director for Earned Value Management in

the Performance Assessments and Root Cause Analyses organization in the Office of the Assistant Secretary of Defense for Acquisition. Mr. McGregor's office serves as the Department of Defense focal point for all policy, guidance, and competency relating to Earned Value Management. To facilitate consistent EVM implementation across the Department, Mr. McGregor's office is responsible for the development and communication of DoD EVM policy, guidance and interpretation, as well as for managing the EVM Central Repository as the authoritative source of EVM data for the Department.

Mr. McGregor has established and been recognized for a track record of superior performance and leadership resulting in streamlined operations with increased efficiency and effectiveness. Throughout his career, Mr. McGregor has received several prestigious awards to include: the

Department of the Navy Meritorious Civilian Service Award, Office of the Secretary of Defense Award for Excellence, the Navy Commendation Medal (3 Awards), and the Navy Achievement Medal (4 Awards).

During his nearly thirty year career, Mr. McGregor has held various military, contractor, and DoD civilian positions including mission support, program analysis and oversight throughout the entire DoD Acquisition Lifecycle, and policy development. His responsibilities have ranged from air vehicle maintenance and aircraft deployments to budget functions for ship operations programs, to planning, tracking, and control of performance data for major acquisition programs.

Prior to his current position, Mr. McGregor was the Director of the Earned Value Management (EVM) Division of the Cost Engineering and Industrial Analysis Group for the Naval Sea Systems Command (NAVSEA). In this role, Mr. McGregor was responsible for the development and implementation of headquarters oversight policy and processes for Earned Value Management

System surveillance and analysis by NAVSEA Headquarters and field activities. He provided oversight and direction for the analysis and use of contractor earned value management data on major acquisition programs and managed the development and implementation of common EVM analysis tools for use by NAVSEA personnel.

Prior to his Director position at NAVSEA, Mr. McGregor was the Lead Earned Value Management Analyst responsible for development and use of mathematical modeling to compile and analyze data for all ACAT 1 programs at NAVSEA, including multi ship buy scenarios, accelerated and delayed production schedules, industrial base analysis, independent cost estimates, rates analysis, estimates at completion, and numerous cost and schedule profiles. The results of the analysis were used to provide program cost and schedule performance information to Congress, GAO, and OSD.

Mr. McGregor holds a Bachelor's Degree in Business Administration from St. Leo University in Norfolk, Virginia.



JORGE RELEA-GONZALEZ

Senior Director, Software Engineering

Harris Corporation

Jorge Relea is Senior Director, Software Engineering with Harris Corporation,

Space and Intelligence Systems in

Melbourne, FL. In this role, Mr. Relea is responsible for development of technology and common processes in software and image science, personnel management, and program execution. He has a master's

degree in project management from George Washington University and a bachelor's degree in computer engineering from the University of Puerto Rico.



STEVEN WERT

Program Executive Officer Digital
Air Force Life Cycle Management Center

Steven D. Wert, a member of the Senior Executive Service, is Program

Executive Officer Digital, Air Force Life Cycle Management Center, Hanscom Air Force Base, Massachusetts. He leads more than 3,500 Airmen, government civilians and support contractors in the acquisition of software and weapons systems and in the standardization and dissemination of agile software development processes throughout the Air Force. PEO digital also executes a \$19 billion FYDP portfolio of ACAT, non-ACAT, technology transition and Foreign Military Sales programs. He reports directly to the Service Acquisition Executive and is

a milestone decision authority for delegated ACAT-II and all ACAT-III programs in the PEO Digital portfolio.

Wert served as an Air Force officer for nearly 25 years. He led performance engineering on the advanced medium-range air-to-air missile, and he served as program manager for missile integration efforts with the NATO Eurofighter, JAS-39 Gripen and Peace Onyx F-16 programs. Wert later directed the Airborne Warning and Control System Radar Development Team and led the ACAT-I U.S./NATO Radar System Improvement Program.

Wert was on the Air Force Program Executive Officer staff as Director for Surveillance and Control Programs, including the E-3, E-4

and Peace Shield. He subsequently served as Deputy Director for Congressional and Budget Integration, Information Dominance, in the Office of the Assistant Secretary of the Air Force for Acquisition. He was previously assigned to the Electronic Systems Center as executive officer to the commander, and led the Air Force Distributed Common Ground System Program before joining Headquarters Air Force Materiel Command as Deputy Director for Engineering. Following active duty, Wert was employed by SRA International, Inc., supporting the Office of the Air Force Deputy Chief of Staff for ISR. Prior to his current appointment, he was Program Executive Officer for Theater Command and Control, Electronic Systems Center at Hanscom, AFB.

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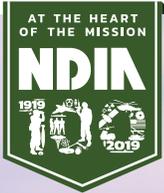
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